

# **Exhibit H**

## **Geologic and Soil Stability**

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**Wheatridge Renewable Energy Facility East  
January 2024**

**Prepared for  
Wheatridge East Wind, LLC**

**Prepared by**



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## Acronyms and Abbreviations

ASC	Application for Site Certificate
BMP	Best Management Practices
Certificate Holder	Wheatridge East Wind, LLC
DOGAMI	Oregon Department of Geology and Mineral Industries
ESCP	Erosion and Sediment Control Plan
Facility	Wheatridge Renewable Energy Facility East
IBC	International Building Code
FEMA	Federal Emergency Management Agency
kV	kilovolt
MW	megawatts
O&M	operations and maintenance
OSSC	Oregon Structural Specialty Code
PGA	peak ground acceleration
RFA	Request for Amendment
SLIDO	Statewide Landslide Information Database for Oregon
USGS	U.S. Geological Survey

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## 1.0 Introduction

The Wheatridge Renewable Energy Facility East (Facility) is an approved, but not yet constructed, wind energy generation facility consisting of up to 66 turbines and related or supporting facilities with a peak generating capacity of up to 200 megawatts (MW), to be located in an Approved Site Boundary of approximately 4,582 acres on over 42,000 acres of leased land in Morrow and Umatilla counties, Oregon. As part of Request for Amendment (RFA) 1 to the Facility Site Certificate, Wheatridge East Wind, LLC (Certificate Holder) is proposing to expand wind power generation at the Facility to provide the opportunity for increased power capacity and availability. This includes expanding the Site Boundary and micrositing corridors, increasing the peak generating capacity by adding more and newer turbines, changing the intraconnection routes, and extending the construction date. See the RFA 1's Division 27 document (*Request for Amendment #1 for the Wheatridge Renewable Energy Facility East*) for a more detailed summary of the proposed changes.

This Exhibit H was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(h). Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate (ASC), previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 1, continues to comply with applicable Site Certificate conditions and the approval standard in OAR 345-022-0020.

## 2.0 Analysis Area

The Analysis Area for structural standards is the Amended Site Boundary (Figure H-1). The Amended Site Boundary is inclusive of portions of the Approved Site Boundary. The Analysis Area for historical and potentially active faults included a 50-mile buffer around the Amended Site Boundary.

## 3.0 Geologic Report – OAR 345-021-0010(1)(h)(A)

*OAR 345-021-0010(1)(h) Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:*

*OAR 345-021-0010(1)(h)(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines must be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as described in paragraph (B) of this subsection.*

OAR 345-021-0010(1)(h)(A) requires the Certificate Holder to submit a geological report following the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines shall be determined in consultation with the Oregon Department of Geology and Mineral Industries (DOGAMI).

### **3.1 Topographic Setting**

The Amended Site Boundary is in Morrow and Umatilla counties, approximately 5 miles northeast of Lexington and 7 miles northeast of Heppner. Morrow County spans from its northern border along the Columbia River south to the Blue Mountains. Morrow County topography varies from gently rolling plains adjoining the Columbia River to broad plateaus and rounded ridges in the county center. It merges with the more rugged terrain of a forested spur of the Blue Mountains in the southern part of the county (Morrow County Oregon 2017). Umatilla County topography also varies from gently rolling plains adjoining the Columbia River on its northern boundary, to steep Blue Mountain terrain along its eastern and southern boundaries. The Amended Site Boundary is in the gently rolling plains along Umatilla County's western edge.

The Facility occupies slopes from 0 to 76 percent, with an average of 20 percent. Elevations within the Amended Site Boundary range from 761 to 3,225 feet above mean sea level.

### **3.2 Geologic Setting**

The geologic setting of the Facility is mostly weathered basalt bedrock overlying more competent basalt, with lesser areas of weak sedimentary rock overlying basalt bedrock. There are narrow alluvial deposits along drainages and streams throughout the Amended Site Boundary. The geologic descriptions below are summarized from a U.S. Geological Survey (USGS) geologic map prepared for the state of Oregon (USGS 2002) and two DOGAMI geologic maps (DOGAMI 2007, DOGAMI 2015). The geologic units within the Amended Site Boundary are shown in Figure H-1.

#### ***3.2.1 Bedrock Geologic Units***

Basalt flows near the Amended Site Boundary include the Tertiary Grande Ronde Basalt formation and small sections of the Tertiary Wanapum Basalt formation in the northern and southwestern areas. The Grande Ronde Basalt is typically black, aphyric, and dense, with even grain size. The Wanapum Basalt is fine- to coarse-grained basalt, with reversed magnetic polarity. The basalt varies from intact to weathered. The Tertiary Alkali Canyon formation is in the northern portion of the Amended Site Boundary. It consists of vitric tuff, silty clay, silt, basalt gravel, and alluvial fan and braided stream deposits.

#### ***3.2.2 Unconsolidated Geologic Units***

Quaternary alluvial deposits are located along drainages and streams throughout the Amended Site Boundary (Figure H-1). Alluvial deposits consist of loess, sand, and gravel from local, parent-material bedrock. The Oregon Statewide Landslide Database (SLIDO 4.4; DOGAMI 2022a) indicates



an alluvial fan northwest of the Amended Site Boundary (Figure H-1). Alluvial fans are triangular deposits of gravel, sand, and smaller sediments. Loess (wind-deposited fine sand and silt) mantles the uplands and flatter plateaus, including much of the Columbia Plateau. Most loess is between 15 and 30 feet thick but can be less than 3 feet thick in upland areas.

#### **4.0 Evidence of Consultation with DOGAMI – OAR 345-021-0010(1)(h)(B)**

*OAR 345-021-0010(1)(h)(B) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.*

The Certificate Holder consulted DOGAMI while preparing the ASC (Wheatridge 2015). In addition, DOGAMI was consulted concerning RFA 1 on October 21, 2022. The results of the RFA 1 consultation discussion with Jason McClaughry, DOGAMI, the Certificate Holder, and Tetra Tech (Konkol, 2022, pers. comm.) are detailed in Attachment H-1.<sup>1</sup>

#### **5.0 Site-Specific Geotechnical Investigation – OAR 345-021-0010(1)(h)(C)**

*OAR 345-021-0010(1)(h)(C) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.*

Tetra Tech completed a detailed literature review of the local and regional geology within the Analysis Area. This included evaluating existing reports for adjacent sites and reviewing other published literature and geologic mapping. The literature review included a detailed evaluation of seismic hazards at the Facility (see Section 7.0).

Consistent with Condition PRE-SS-01, the Certificate Holder will conduct a site-specific geological and geotechnical investigation before beginning construction and shall report its findings to DOGAMI and ODOE. This investigation will include consideration of any active faults, slope instability, and swelling/collapsing potential of loess soil (per Conditions PRE-SS-02, PRE-SS-03, and PRE-SS-04). ODOE shall review the report, in consultation with DOGAMI, to confirm that it adequately addresses the requirements in Condition PRE-SS-01. This report will guide the final Facility layout and design.

The site-specific geological and geotechnical investigation will address subsurface exploration plans, testing plans, and proposed methods of how the structures would tolerate long-duration

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<sup>1</sup> Consultation with DOGAMI is ongoing.

ground motions. Subsurface exploration will be considered at faults, fault zones, and locations where ground shaking can influence the site response, such as near drainages with softer soil and areas with thick loess, as requested by DOGAMI.

## **6.0 Transmission Lines and Pipelines – OAR 345-021-0010(1)(h)(D)**

*OAR 345-021-0010(1)(h)(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility's operation.*

The Facility would be electrically connected by the Intraconnection Line, either single or a double circuit 230-kV transmission line, approximately 27 miles in length. The Intraconnection Line will run between the substations and the existing Blue Ridge Substation. The Intraconnection Line will be constructed with 1) A single circuit made of either H-frame or monopole structures or 2) Two circuits with either one monopole structure carrying both circuits, or two parallel monopole structures each carrying one circuit each.

Along the Intraconnection Line, the Certificate Holder will perform site-specific geotechnical work where other site studies indicate existing landslides, marginally stable slopes, or liquefiable soils that could be made unstable by construction. This work will inform the final design.

The Facility does not include pipelines carrying hazardous substances as described in OAR 345-021-0010(1)(h)(E).

## **7.0 Seismic Hazard Assessment – OAR 345-021-0010(1)(h)(E)**

*OAR 345-021-0010(1)(h)(E) An assessment of seismic hazards, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection, and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. The applicant must include proposed design and engineering features,*

*applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone.*

## **7.1 Methods**

Available reference materials were reviewed, and a desktop seismic-hazard assessment was performed for the ASC. Topographic and geologic conditions and hazards within the Amended Site Boundary were evaluated using topographic and geologic maps, aerial photographs, existing geologic reports, and data from DOGAMI, the Oregon Water Resources Department, the USGS, and the Natural Resources Conservation Service.

A desktop seismic-hazard analysis characterized seismicity in the Facility's vicinity to evaluate potential seismic impacts. This work was based on the potential regional and local seismic activity described in the existing scientific literature and on subsurface soil and groundwater conditions found in the desktop evaluations. The seismic-hazard analysis consisted of the following tasks:

1. Detailed review of USGS, National Geophysical Data Center, and DOGAMI literature and databases.
2. Identification of potential seismic events and characterization of those events in terms of a series of design events.
3. Evaluation of seismic hazards, including potential fault rupture, earthquake-induced landslides, liquefaction and lateral spread, settlement, and subsidence.
4. Mitigation recommendations based on the characteristics of the subsurface soils and design earthquakes, including specific seismic events that might have a significant effect on the site, potential for seismic energy amplification at the site, and the site-specific acceleration response spectrum.

As described in Section 5.0, a site-specific geotechnical investigation will be conducted by a qualified engineer using current code requirements and state-of-practice methods to inform the final design. It will be reported to DOGAMI and ODOE following the 2014 Oregon State Board of Engineering Geology Reports guidelines.

## **7.2 Maximum Considered Earthquake Ground Motion**

Overall, the DOGAMI HazView mapping tool (DOGAMI 2022) indicates that the Cascadia earthquake hazard is moderate, as is the general earthquake hazard in the Amended Site Boundary, except for the narrow alluvial deposits along drainages/streams that are mapped as very strong and landslides that are mapped as severe. The USGS Seismic Hazard Mapping Facility (USGS 2022a) developed ground motions using a probabilistic seismic hazard analysis that covered the Facility site. Though these motions are not site-specific, they reasonably estimate the ground motions within the Amended Site Boundary. For new construction, the site should be designed for the maximum considered earthquake, according to the most recently updated International Building Code (IBC; IBC 2021) supplemented by the Oregon Structural Specialty Code (OSSC; OSSC 2019; per

Condition GEN-SS-01). The USGS unified hazard tool analysis was re-run for the Amended Site Boundary, and the design event has a 2 percent probability of exceedance in 50 years (or a 2,475-year return period). This event has a peak ground acceleration (PGA) of 0.1854 acceleration from gravity at the bedrock surface for the Amended Site Boundary. The values of PGA on rock are an average representation of the acceleration most likely to occur at the site for all seismic events (crustal, intraplate, or subduction).

Seismic design parameters were developed following the IBC 2015. Using current information, the Facility would be designed for Site Class C, according to IBC requirements (Table H-1).

**Table H-1. Seismic Design Parameters – Maximum Considered Earthquake**

Location	Site Class	Earthquake Magnitude	Peak Horizontal Ground Acceleration	Return Period
Facility Amended Site Boundary	C	6.3	0.1854g	2,475 years
Facility Amended Site Boundary	B	6.35	0.3397g	2,475 years
Facility Amended Site Boundary	C	6.41	0.0746g	475 years
Facility Amended Site Boundary	B	6.47	0.0536g	475 years

Source: USGS 2022a.

### 7.2.1 Earthquake Sources

In northern Oregon, seismicity is generated when the Juan de Fuca Plate and the North American Plate converge at the Cascadia Subduction Zone. These plates converge at a rate of 1 to 2 inches per year, accumulating large amounts of stress that release abruptly in earthquake events. The four sources of earthquakes and seismic activity in this region are crustal, intraplate, volcanic, and the deep subduction zone (DOGAMI 2010).

Overall, earthquakes in Oregon are associated with active faults in four regional seismicity zones: the Cascade seismic zone, the Portland Hills zone (the Portland, Oregon and Vancouver, Washington metropolitan area), the south-central zone (Klamath Falls), and northeastern Oregon zone (Niewendorp and Neuhaus 2003). Faults are considered active if there has been displacement in the last 10,000 years, and potentially active if there has been movement over the last Quaternary Period (1.6 million years). Regionally, seismicity has been attributed to crustal deformation from the Cascadia Subduction Zone and volcanism.

Earthquakes caused by movements along crustal faults, generally in the upper 10 to 15 miles of the earth’s crust. In the vicinity of the Amended Site Boundary, earthquakes occur within the crust of

the North American tectonic plate when built-up stresses near the surface are released through fault rupture.

There are no known active faults within the Amended Site Boundary (USGS 2022b; Figure H-2). Faults shown in Figure H-1 are based on available scanned geologic maps (USGS 1996 and 1991). Most faults indicate shallow depths in unconsolidated materials, except fault #389 in the northern portion of the Amended Site Boundary, which shows contacts between rock units. Several undifferentiated, Quaternary-age faults are mapped within 50 miles of the Amended Site Boundary (Figure H-2). The DOGAMI Oregon HazVu: Statewide Geohazards Viewer earthquake hazard layer (DOGAMI 2022) and the USGS Geologic Hazards Science Center (USGS 2022b; Figure H-2) show that the nearest active faults (mid to late Quaternary) are about 20 miles northwest of the Amended Site Boundary. The faults in Figure H-2, within 50 miles of the Amended Site Boundary, present the largest potential for seismic contribution to the Facility. The site-specific geotechnical investigation will assess active faults within the Amended Site Boundary, as described in Section 5.0. The investigation will include a description of any potentially active faults, their potential risk to the Facility, and any additional mitigation measures the Certificate Holder will employ to design, construct, and operate the Facility safely.

The 2013 Oregon Resilience Plan by the Oregon Seismic Safety Policy Advisory Commission (OSSPAC 2013) simulated the impact of a magnitude 9.0 Cascadia earthquake scenario. This plan places the Amended Site Boundary into the “very light” shaking category. Meaning that a magnitude 9.0 Cascadia scenario earthquake would produce a very light shaking event that would be felt outdoors, wake sleepers, disturb or spill liquids, upset small unstable objects, and potentially swing doors or move pictures (OSSPAC 2013).

Probabilistic seismic-hazard deaggregation at 475-year intervals is shown in Attachment H-2 and at 2,475-year intervals in Attachment H-3.

### ***7.2.2 Recorded Earthquakes***

Recorded earthquake data agrees with what was reported in the ASC and is restated below for ease of reference. Figure H-2 displays the location and approximate magnitude of all recorded earthquakes within approximately 50 miles of the Amended Site Boundary. The seismic events are grouped by magnitude and displayed with differently-sized symbols based on the event’s strength.

Table H-2 summarizes the earthquakes greater than magnitude 3.0 recorded within 50 miles of the Amended Site Boundary. Most of these earthquakes were between magnitude 3 and 4 and a Modified Mercalli Intensity (MMI) III associated with shaking that is “noticeable indoors but may not be recognized as an earthquake” (USGS 2022b).

**Table H-2. Significant Historical Earthquakes within 50 Miles of the Amended Site Boundary**

<b>Year</b>	<b>Month</b>	<b>Day</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Moment Magnitude</b>	<b>Miles from Amended Site Boundary</b>
2013	12	23	45.3602	-118.206	3.0	49.87
1993	12	16	45.1958	-120.0898	3.0	31.76
1986	01	16	46.2515	-119.618	3.0	42.00
1998	02	03	45.8138	-120.1922	3.1	32.55
1997	03	23	45.2463	-120.0493	3.1	28.06
1997	03	23	45.1952	-120.0508	3.1	30.34
1995	11	02	46.15	-119.5643	3.1	34.53
1995	08	29	46.2082	-119.9055	3.1	46.14
1989	03	27	45.8158	-120.2615	3.1	35.49
1987	09	08	45.1912	-120.072	3.1	31.30
1985	03	20	45.9632	-119.9047	3.1	30.91
1984	06	18	45.2308	-118.6875	3.1	29.74
1977	03	11	45.8992	-119.6657	3.1	22.46
1976	07	23	46.0853	-118.7497	3.1	37.79
1975	06	15	46.234	-119.1132	3.1	38.94
1971	01	04	46.2308	-119.3632	3.1	37.96
2012	04	10	46.0455	-118.7123	3.2	37.12
2000	08	17	45.312	-120.0415	3.2	25.29
1997	04	17	45.1885	-120.082	3.2	31.79
1986	02	04	46.044	-118.81	3.2	33.73
1982	11	23	45.9973	-119.2887	3.2	21.76
1978	02	20	45.8965	-119.65	3.2	21.79
2011	05	01	46.4045	-119.2553	3.3	49.90
2004	02	28	46.0363	-119.0205	3.3	27.47
1995	06	12	46.4045	-119.2628	3.3	49.89
1984	03	23	45.996	-119.2922	3.3	21.66
1975	06	28	46.1053	-119.7037	3.3	34.79
2006	12	20	46.0948	-118.513	3.4	46.67
2000	01	30	45.1832	-120.1028	3.4	32.81
2015	01	23	45.711	-118.5503	3.5	35.34
1999	09	31	45.1863	-120.0908	3.5	32.22
1988	09	29	45.8498	-120.2597	3.5	36.63
1975	07	01	45.628	-120.002	3.5	18.84

Year	Month	Day	Latitude	Longitude	Moment Magnitude	Miles from Amended Site Boundary
2000	02	01	45.19	-120.1127	3.6	32.88
1979	02	17	46.1642	-119.9327	3.6	44.24
1976	10	10	45.2703	-120.4995	3.6	46.95
1975	07	01	45.6053	-120.0162	3.6	19.20
2008	05	18	46.1677	-119.5502	3.7	35.44
1983	03	22	45.992	-118.403	3.8	47.41
1975	06	28	46.099	-119.706	3.8	34.48
1997	03	22	45.1973	-120.0672	3.9	30.85
1992	08	07	45.8603	-119.5895	3.9	17.96
1985	02	10	45.7045	-119.6345	3.9	9.89
2000	01	30	45.1972	-120.1248	4.1	33.04
1979	04	08	45.9913	-118.3992	4.3	47.55
1936	07	16	46.031	-118.429	6.0	47.58
Source: USGS 2022b.						

The Ground Response Spectra Assessment (Attachments H-4 and H-5) assessed the design response spectrum given in the 2015/2018 IBC using the ASCE 7 Hazard Tool (ASCE 2022). Response spectra are provided for the maximum considered earthquake at the Facility location. For the maximum considered earthquake, separate response spectra modified by the amplification factors for Site Class C are provided. Due to the presence of unconsolidated deposits in the Amended Site Boundary, the Facility should be designed for the most conservative Site Class C. However, an examination of the geology mapped for the site suggests that shallow bedrock formations (Wanapum Basalt and Grande Ronde Basalt) exist in most portions of the Amended Site Boundary, where the Site Class B response spectra would apply.

**7.2.3 Hazards Resulting from Seismic Events**

Potential seismic hazards from a design seismic event for this Facility include seismic shaking or ground motion, fault displacement, instability from landslides or subsurface movement, and adverse effects from groundwater or surface water. These risks are anticipated to be low, as discussed below. Since the Facility is far from the Oregon coast, and not in a DOGAMI-defined tsunami evacuation zone (DOGAMI 2022b), tsunami inundation is not considered a hazard.

### ***7.2.4 Seismic Shaking or Ground Motion***

The Facility will be designed to withstand the maximum risk-based design earthquake ground motions developed for the Facility site. The design seismic event has a 2,475-year recurrence interval. The State of Oregon has adopted the IBC 2018 code for structural design. Specifically, this is Section 1613 (Earthquake Loads) of the 2019 OSSC, which is in Chapter 16. Building codes are frequently updated; the IBC is updated every three years. The Certificate Holder will design, engineer, and construct the Facility following the latest IBC, OSSC, and building codes adopted by the State of Oregon at the time of construction (per Condition GEN-SS-01).

Based on geotechnical and geological information the soil/bedrock in the Amended Site Boundary is Site Class C. As described in Section 7.2.1, Site Class C (very dense soil to soft rock) is appropriate for the Facility.

Based on site-specific analyses, the original equipment manufacturer will provide the structural engineer with site-specific foundation loads and requirements. The structural engineer then completes the foundation analyses based on the design site-specific parameters. Generally, these include the following loads for turbine foundation design: extreme loads, load cases for up-lift, shear failure, tension loads (for pile foundations), earthquake loads, fatigue loads, subsoil properties, spring constants, verification procedures, and maximum allowable inclination. The geotechnical studies and analyses provide site-specific parameters, including but not limited to moisture content and density, soil/bedrock bearing capacity, bedrock depth, settlement characteristics, structural backfill characteristics, soil improvement (if required), and dynamic soil/bedrock properties, including shear modulus and Poisson's Ratio of the subgrade. The foundation design engineer will use these parameters to design a suitable foundation and verify that the foundation/soil interaction meets or exceeds the original equipment manufacturer's site-specific, minimum requirements.

### ***7.2.5 Fault Rupture***

Fault displacement is unlikely because there are no active faults within the Amended Site Boundary, and the nearest known or potentially active faults are over 25 miles away (Figure H-2). Unknown faults could exist, or new fault ruptures could form during a significant seismic event, but geologic investigations indicate that the likelihood is very low.

### ***7.2.6 Liquefaction***

Liquefaction is when saturated and cohesionless soils are subjected to dynamic forces like intense or prolonged ground shaking and temporarily lose their strength and liquefy. The soils in the Amended Site Boundary are not saturated and are generally cohesive. Along with the relatively low seismic event potential, this indicates that soil liquefaction within the Amended Site Boundary is unlikely. However, as discussed in Section 7.2, narrow areas along drainages/streams within the



Amended Site Boundary could have saturated alluvial deposits that would be susceptible to liquefaction.

### ***7.2.7 Seismically Induced Landslides***

While regional seismicity could potentially trigger landslides and mass wasting processes in the Amended Site Boundary, the risk is considered low to moderate for expected shaking in a Cascadia 9.0 magnitude event (DOGAMI 2022c). Figure H-1 shows several small historic landslides in the western portion of the Amended Site Boundary, mainly in drainages. Construction will avoid historic landslide areas and steep slopes. In addition, a review of HazView mapping (DOGAMI 2022) and slope data indicates that large portions of the Amended Site Boundary are in moderate to high landslide hazard areas. The site-specific geotechnical investigation will review evidence of active faults and landslides, which will inform the final Facility design and layout. More detailed discussion on the location and type of landslides is included in Section 8.1.

### ***7.2.8 Subsidence***

Subsidence is the sudden sinking or gradual downward settling of surface land, often caused by groundwater drawdown, compaction, tectonic movements, mining, or explosive activity. Subsidence due to a seismic event is highly unlikely in the Amended Site Boundary as the bedrock is relatively shallow and the overlying soils unsaturated.

### ***7.2.9 Seismic Hazard Mitigation***

The State of Oregon uses the 2018 IBC, with current amendments by the OSSC (State of Oregon 2019). Pertinent design codes relating to geology, seismicity, and near-surface soil are found in IBC Chapter 16, Section 1613, with slight modifications for current State amendments. Facility infrastructure will be designed to meet or exceed all current design code standards. Substation equipment will meet all requirements in the latest version of IEEE 693. Although the region has only a moderate seismicity potential, the wind turbines are designed to tolerate large wind loads, giving them ample capacity to resist seismic loads.

As discussed in Section 5.0, site-specific geotechnical exploration will provide data that will guide the Facility infrastructure design to mitigate potential seismic-event hazards. The hazard of a surficial rupture along a fault is low, given the seismic history of the site displayed in geologic mapping, and the low probability that a fault rupture would actually displace the ground surface at the location of one of the wind turbine structures. Because the Facility will be in a sparsely populated area, there is minimal human safety and environmental risk. Mitigation for potential fault rupture is not needed. No structures will be built on steep slopes prone to instability, thus avoiding potential impacts. Disaster resilience design guidelines are further described in Section 9.0.

The Certificate Holder will implement Condition GEN-GS-08 to ensure the Facility is designed, engineered, and constructed to avoid dangers to human safety presented by seismic hazards.

## 8.0 Non-Seismic Geological Hazards – OAR 345-021-0010(1)(h)(F)

*OAR 345-021-0010(1)(h)(G) An assessment of geology and soil-related hazards which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility, in accordance with standard-of-practice methods and best practices, that address all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection. An explanation of how the applicant will design, engineer, construct and operate the facility to adequately avoid dangers to human safety and the environment presented by these hazards, as well as:*

- (i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters; and*
- (ii) An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility.*

Non-seismic geologic hazards in the Columbia Plateau region include landslides, volcanic eruptions, collapsing soils, and erosion. The area in the Amended Site Boundary is relatively flat-lying basalt with a loess cover. The Facility will be constructed on the flat-lying part within the Amended Site Boundary. It will avoid steep slopes and drainages that could experience landslides and soil creep. A discussion of potential non-seismic geologic hazards is presented below.

### 8.1 Landslides

In 2021, DOGAMI released an update to the Statewide Landslide Information Database for Oregon (SLIDO-4.4; DOGAMI 2022). SLIDO is a statewide database of known landslides compiled from published maps. The database includes landslides, debris flows, alluvial fans, and colluvium or talus. The primary sources of this historical landslide information are published geologic reports and geologic hazard studies by the USGS and DOGAMI. The SLIDO-4.4 landslide database was used to overlay landslide areas or landslide-related features on Figure H-1. As seen on Figure H-1, there are small landslides identified in the southwestern portion of the Amended Site Boundary. In addition, a review of HazView mapping (DOGAMI 2022) indicates that large portions of the Amended Site Boundary are in moderate to high landslide hazard areas based on slope data.

If slope stability issues are identified in the final design geotechnical investigations, the structures will either be relocated during the micrositing process, or remedial measures to improve slope stability will be implemented.

### 8.2 Volcanic Activity

Volcanic activity in the Cascade Range is driven by the subduction of the Juan de Fuca Plate beneath the North American Plate. The closest volcanoes to the Amended Site Boundary are Mount Hood

and Mount Adams, each located approximately 100 miles away. Most of the potential volcanic hazard impacts would occur within a 50-mile radius of the erupting volcano. Depending on the prevailing wind direction at the time of the eruption and the source of the eruption, ash fallout in the region surrounding the Facility may occur. Because of the distance to the nearest volcanoes, the Facility's impacts from volcanic activity would be indirect and likely limited to ash fallout. In addition, the Facility is not located near any streams that would be subject to pyroclastic flows from a volcanic eruption from these close volcanoes. It is unlikely that there would be any adverse effects from volcanic activity on the construction or operation of the Facility.

### **8.3 Erosion**

As discussed in Exhibit I, erosion can occur when soils are increasingly exposed to wind or water. Wind erosion is influenced by wind intensity, vegetative cover, soil texture, soil moisture, the grain size of the unprotected soil surface, topography, and the frequency of soil disturbance. Control measures will be implemented to mitigate wind erosion potential as identified in Exhibit I. Water erosion is primarily a function of soil type, vegetative cover, precipitation, and slope inclination. If left unmitigated, erosion from rainfall would be a hazard during construction. The runoff potential and water erosion hazard for site soils range from low to high. Steeper slopes, especially those exceeding 25 percent (see Exhibit I), have higher erosion risk. U.S. Climate Data (2022) reports that the site area receives approximately 14 inches of rain per year. The erosion potential and available precipitation make site soils sensitive to water erosion during winter and spring, particularly on steep slopes. A draft Erosion and Sediment Control Plan (ESCP) has been developed to reduce the potential for soil erosion. The ESCP includes structural and nonstructural Best Management Practices (BMP). Structural BMPs include the installation of silt fences or other physical controls to divert flows from exposed soils or otherwise limit runoff and pollutants from exposed areas. Nonstructural BMPs include the implementation of materials handling procedures, disposal requirements, and spill prevention methods.

The Certificate Holder will apply for a National Pollutant Discharge Elimination System stormwater construction permit through the Your DEQ Online platform (the draft ESCP is an attachment to Exhibit I). In addition, Exhibit I contains a comprehensive list of mitigation measures to avoid wind and water erosion and soil impacts.

### **8.4 Flooding**

Federal Emergency Management Agency (FEMA) National Flood Hazard data (FEMA 2022) were compared to the temporary and permanent disturbance areas in the Amended Site Boundary to evaluate flood hazards. The Amended Site Boundary is not within an identified FEMA 100-year or 500-year floodplain (Figure H-3). However, DOGAMI HazVu Mapping (DOGAMI 2022) indicates that Morrow County has 100-year floodplains along the narrow alluvial deposits of major drainages/streams. Figure H-3 includes flood hazard areas including zones A, AE, AE Floodway, D, X/0.2, and X/minimal flood hazard. Zones A, AE, and AE Floodway indicate areas of 0.1 percent chance of annual flooding. These zones are located along drainages in the Analysis Area. Zone D

indicates areas that have undetermined flood risk. The northeastern portion of the Facility is located in zone D. Most of the Facility is located in zone X/minimal flood hazard. MCZO 3.100.4.1-1 specifies that a floodplain development permit is required for all structures that impact mapped floodplains. A floodplain development permit will be obtained from Morrow County for portions of the Facility that impact Special Flood Hazard Areas (as directed by the County requirements).

Seasonal thunderstorms can result in concentrated stormwater runoff and localized flooding. The Facility will be designed and engineered to comply with zoning ordinances and building codes that establish flood protection standards for all construction to avoid dangers to the infrastructure, as well as human safety and the environment, including criteria to ensure that the foundation will withstand flood forces. The engineered access roads and drainages will direct stormwater runoff away from structures and into drainage ditches and culverts as required in the ESCP. Therefore, the risks and potential impacts to the Facility, human safety, and the environment from flood hazards are expected to be low.

### **8.5 Shrinking and Swelling Soils**

Clayey soils are the most susceptible to shrinking and swelling. These soils were not found in the Facility soil data (see Exhibit I). The shrink-swell potential of the soils will be evaluated during the site-specific geotechnical investigations and laboratory testing and analysis during the final Facility design phase. If shrinking or swelling soils are present at foundation locations or along road alignments, soil improvement will be necessary. Soil improvement can include reworking and compacting onsite soils, over-excavating soils with shrink-swell potential and replacing with compacted structural fill, constructing impermeable barriers to prevent saturation, or mixing soils to reduce the potential for shrinking and swelling.

### **8.6 Collapsing Soils**

Soil properties will be evaluated by laboratory testing and analysis. Subsurface soil conditions, such as loess or collapsing soils, will be identified during the site-specific geotechnical investigation and will inform the final design of turbine foundations. If collapsible soils are found, collapse potential will be mitigated by construction techniques (over-excavating and replacing with structural fill, wetting, and compacting) during subgrade preparation.

## **9.0 Disaster Resilience**

The State of Oregon uses IBC 2021, with current amendments by the OSSC and local agencies. Pertinent design codes related to geology, seismicity, and near-surface soils are contained in IBC Chapter 16, Section 1613, with slight modifications by the current amendments of the State of Oregon and local agencies. The Facility will be designed to meet or exceed the minimum standards required by these design codes. The Certificate Holder acknowledges that DOGAMI encourages, but does not require, applicants to design and build for disaster resilience and future climate conditions using science, data, and community wisdom to protect against and adapt to risks. With this in mind,

the Certificate Holder has extensive experience building energy facilities and designing projects to withstand non-seismic geologic hazards from a structural perspective.

The Facility will be designed, engineered, and constructed to meet all current standards to adequately avoid potential dangers to human safety presented by seismic hazards. A qualified engineer will assess and review the seismic, geologic, and soil hazards associated with the Facility infrastructure construction. Construction requirements will be modified, as needed, based on the site-specific characterization of seismic, geologic, and soil hazards. Substation structures will be designed under the current version of the OSSC. Substation, transmission lines, and collector line equipment will be specified by the latest version of the Institute of Electrical and Electronics Engineers. The Facility infrastructure will be in sparsely populated areas; therefore, the risks to human safety and the environment due to seismic hazards will be minimal.

The Facility infrastructure will be designed, engineered, and constructed to meet or exceed all current standards. The Certificate Holder proposes to design, engineer, and construct the Facility to avoid dangers to human safety-related and non-seismic hazards in many ways, including conducting site-specific geotechnical evaluations for the facilities (see Section 5.0). Typical mitigation measures for non-seismic hazards include: avoiding potential hazards, conducting subsurface investigations to characterize the soils to adequately plan and design appropriate mitigation measures, creating detailed geologic hazard maps to aid in laying out facilities, providing warnings in the event of hazards, and purchasing insurance to cover the Facility in the event of hazards. In addition, structures meeting height limits will have lighting according to FAA standards. Each turbine and substation will be monitored by a Supervisory Control and Data Acquisition system for the Facility to come back online in the event of a disaster. Should Facility elements like access roads be damaged, they will be assessed, and repairs made quickly to ensure recovery of operations after a major storm event.

## **10.0 Climate Change**

The University of Washington conducted a study to assess climate vulnerability and adaptation in the Columbia River Plateau, where the Facility is located (Michalak et al. 2014). The study involved downscaling five climate models (CCM3, CGM3.1, GISS-ER, MIROC3.2, and Hadley). Climate projections were downscaled to approximately a 1-kilometer resolution for over 40 different direct (mean annual temperature/precipitation) and derived (number of growing-degree days, actual and potential evapotranspiration) climate variables (Michalak et al. 2014). The downscaling of the climate models for this area led to future projections of greater annual average and summer temperatures, and more severe storm events and wildfires, among other changes. These specific changes are expected to increase stress on power lines in the region.

Reinforcing the local electric grid with wind power and new transmission lines increases energy grid resilience in this part of Oregon. This reinforcement will be direct, by upgrading a system that is anticipated to experience higher loads under rising temperatures and related increases in power demand for summer cooling. It is also indirect, by supporting the delivery of power generated

through various sources, minimizing the potential reduction in hydro power's role under future conditions. All aspects of this Facility support resiliency in the face of future climate change. The Facility will be designed to withstand extreme events as explained above in Section 9.0.

Future climate conditions may include increased variability in precipitation and severity of storm events that will impact landslide risk, erosion hazard, and flooding; however, the severity is difficult to determine and to predict. Greater intensity rainfall events or a reduction in annual precipitation coupled with warmer average temperatures could result in increases in the potential for geologic hazards. Any change in the annual precipitation could impact erosion. Warmer and drier periods can increase fire hazards in forested areas, which could lead to increased erosion and debris flows in steep drainages adjacent to the Facility. Dust during periods of dry weather and high wind can also result in deposition of loess at the Facility. Wetter periods with higher-than-normal precipitation can increase flooding hazards in the drainages.

These potential impacts are not expected to adversely affect the Facility, or they would be mitigated by Facility design and measures (i.e., watering for dust abatement, terracing for slope stability, BMPs). Development of renewable energy sources to displace fossil fuel generation may have a positive impact on climate conditions.

## **11.0 Conclusions**

The risk of seismic hazards to human safety at the Facility is low. The Certificate Holder reviewed regional geologic information and performed a site-specific desktop analysis of potential seismic, geologic, and soils hazards. In addition, a site-specific geotechnical investigation will be conducted, allowing the Certificate Holder to design, engineer, and construct the Facility to the most current standards at the time of construction (Condition PRE-SS-01). The site-specific geotechnical investigation will enforce Conditions PRE-SS-01, PRE-SS-02, PRE-SS-03, and PRE-SS-04. This exhibit reflects input from DOGAMI and demonstrates that the Certificate Holder can design, engineer, and construct the Facility to avoid dangers to human safety. The following supporting evidence is provided, with the remaining evidence to be provided before construction:

- The risk of seismic hazards to human safety at the proposed Facility is considered low. The Certificate Holder has adequately characterized the seismic hazard risk of the site under OAR 345-022-0020(1)(a) and considered seismic events and amplification for the Facility's site-specific subsurface profile. Facility components include wind turbine generators, site access roads, Intraconnection Line structures, meteorological data collection towers, a battery energy storage system, and two substations with equipment. The shared/existing Operations and Maintenance (O&M) building will be staffed; however, the probability of a large seismic event occurring while the shared/existing O&M building is occupied is much lower than for a typical building or facility. This very low probability results in minimal risk to human safety. During preconstruction geotechnical investigations, any potentially active faults in the vicinity will be surveyed (per Condition PRE-SS-02).

- The Certificate Holder has demonstrated that the Facility can be designed, engineered, and constructed to avoid dangers to human safety and the environment in case of a design seismic event by adhering to the most recently updated IBC requirements, following OAR 345- 022-0020(1)(b) and per Conditions GEN-GS-08 and GEN-SS-01. These standards require that for the design seismic event, the factors of safety used in the Facility design exceed specific values. For example, in the case of slope design, a factor of safety of at least 1.1 is usually required during seismic stability evaluation. This safety factor is introduced to account for uncertainties in the design process and ensure that performance is acceptable. If slope stability safety factors are not met, the Facility components will either be relocated during the micrositing process or remedial measures to improve slope stability will be implemented. For slope stability, the remedial measures could include the use of ground improvement methods (such as retaining structures) to limit the movement to acceptable levels. Given the relatively low level of risk for the Facility, adherence to the IBC requirements will ensure that appropriate protection measures for human safety are taken.
- The Certificate Holder has provided appropriate site-specific information and demonstrated (per OAR 345-022-0020(1)(c)) that the construction and operation of the proposed Facility, in the absence of a seismic event, will not adversely affect or aggravate the geological or soil conditions of the Facility site or vicinity. The risks posed by non-seismic geologic hazards are generally considered low because the Facility can be designed to minimize or avoid the hazards of landslides and soil erosion. Landslide and slope stability issues will be identified during the final design and mitigated. Erosion hazard resulting from soil and wind action will be minimized by implementing erosion control plan. The Certificate Holder shall notify ODOE in the event that site investigations or trenching reveal conditions in the foundation rock different from what was evaluated, or if shear zones, artesian aquifers, deformations, or clastic dikes are found in the vicinity of the site (per Conditions GEN-GS-09 and GEN-GS-10).
- The Certificate Holder has demonstrated that the Facility can be designed, engineered, and constructed to avoid human safety and environment impacts from geological and soil hazards, per OAR 345-022-0020(1)(d). Accordingly, given the relatively small risks these hazards pose to human safety, standard methods of practice (including implementation of the current IBC) will be adequate for the design and construction of the Facility. Site-specific studies will be conducted, additional geotechnical work will be completed once the final locations of the structures are selected, and adequate measures will be implemented to control erosion (in adherence with Condition PRE-SS-01, PRE-SS-02, PRE-SS-03, and PRE-SS-04).
- Finally, the Certificate Holder has assessed future climate conditions for the expected life span of the Facility, and the potential impacts of those conditions on the Facility.

Therefore, for the reasons outlines in this Exhibit, the construction and operation will comply with the structural standards as outlined in OAR 345-022-0020.

## 12.0 References

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USGS 1996 and 1991. The National Mapping Division of the U.S. Geological Survey scanned and vectorized mylar compilation sheets and converted the files to ArcInfo; Gary L. Raines and Katherine A. Connors added a data model and additional attribute data for an initial digital edition (Raines and others, 1996) of the Walker and MacLeod (1991) geologic map of Oregon. This second digital edition, prepared by Robert J. Miller, represents further revision of Raines and others' (1996) first edition.

Wheatridge (Wheatridge Wind Energy, LLC). 2015. Wheatridge Wind Energy Facility Application for Site Certificate. Prepared by Tetra Tech, Inc. July 2015.

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# Figures

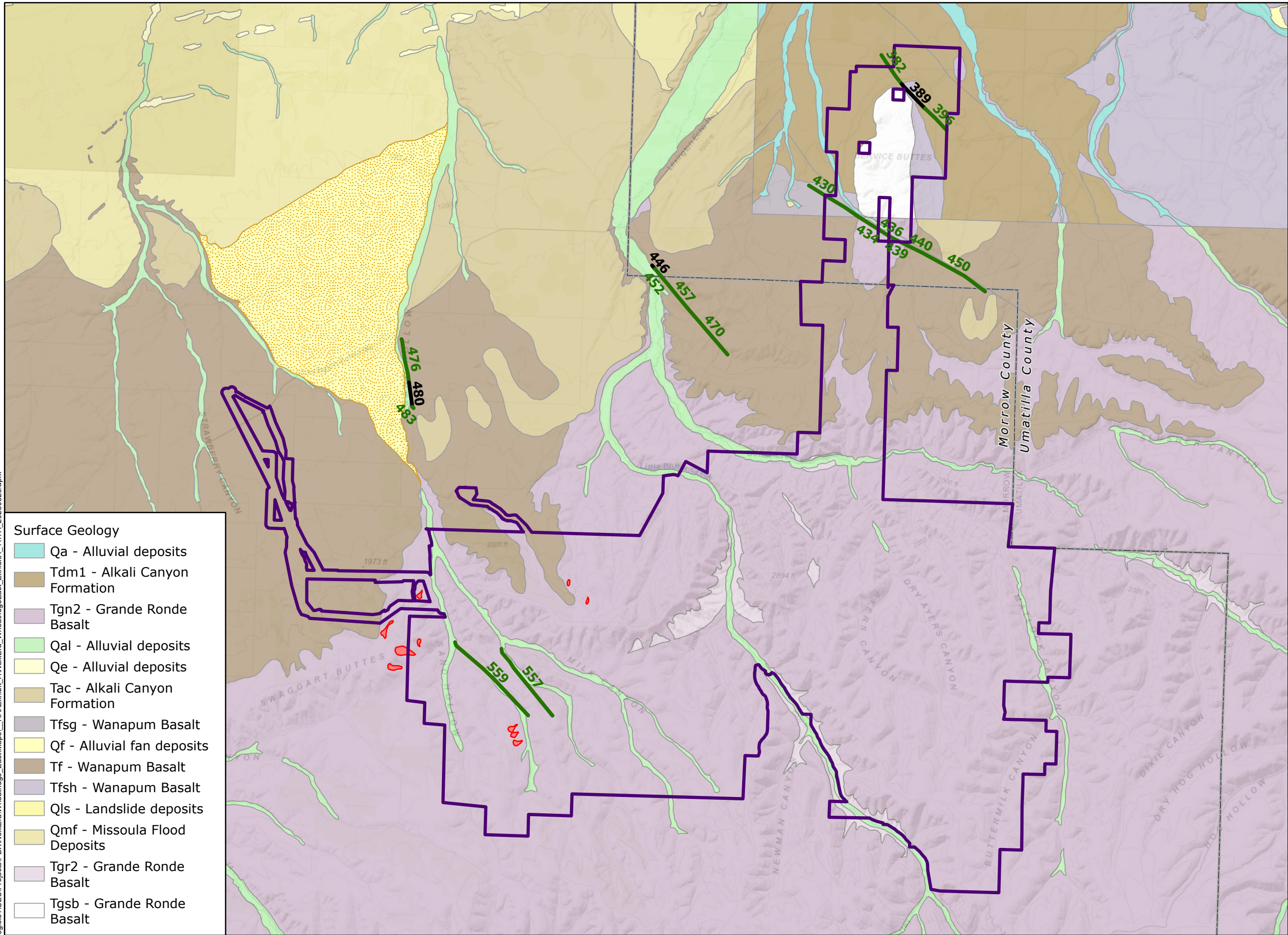
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













# Wheatridge Renewable Energy Facility East

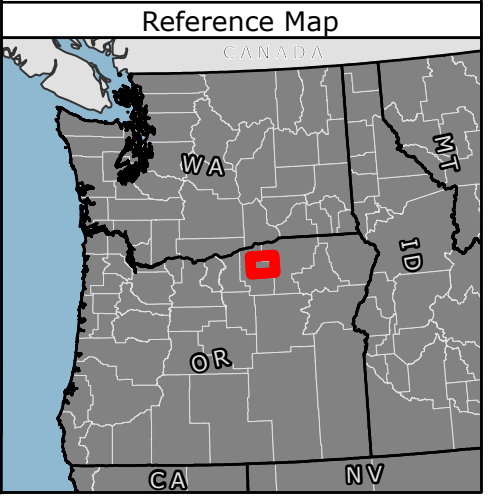
## Figure H-1 Geologic Map

MORROW AND UMATILLA COUNTIES, OR

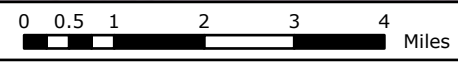
-  Amended Site Boundary
-  Fan
-  Landslide
- Fault Line**
-  Yes
-  No



- Surface Geology**
-  Qa - Alluvial deposits
  -  Tdm1 - Alkali Canyon Formation
  -  Tgn2 - Grande Ronde Basalt
  -  Qal - Alluvial deposits
  -  Qe - Alluvial deposits
  -  Tac - Alkali Canyon Formation
  -  Tfsg - Wanapum Basalt
  -  Qf - Alluvial fan deposits
  -  Tf - Wanapum Basalt
  -  Tfsh - Wanapum Basalt
  -  Qls - Landslide deposits
  -  Qmf - Missoula Flood Deposits
  -  Tgr2 - Grande Ronde Basalt
  -  Tgsb - Grande Ronde Basalt



1:135,000 WGS 1984 UTM Zone 10N





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# Wheatridge Renewable Energy Facility East






## Figure H-2 Historical Seismicity and Potentially Active Faults

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  Analysis Area (50-mile Buffer)




### Faults

#### Age

-  class B
-  late Quaternary
-  latest Quaternary
-  middle and late Quaternary
-  undifferentiated Quaternary

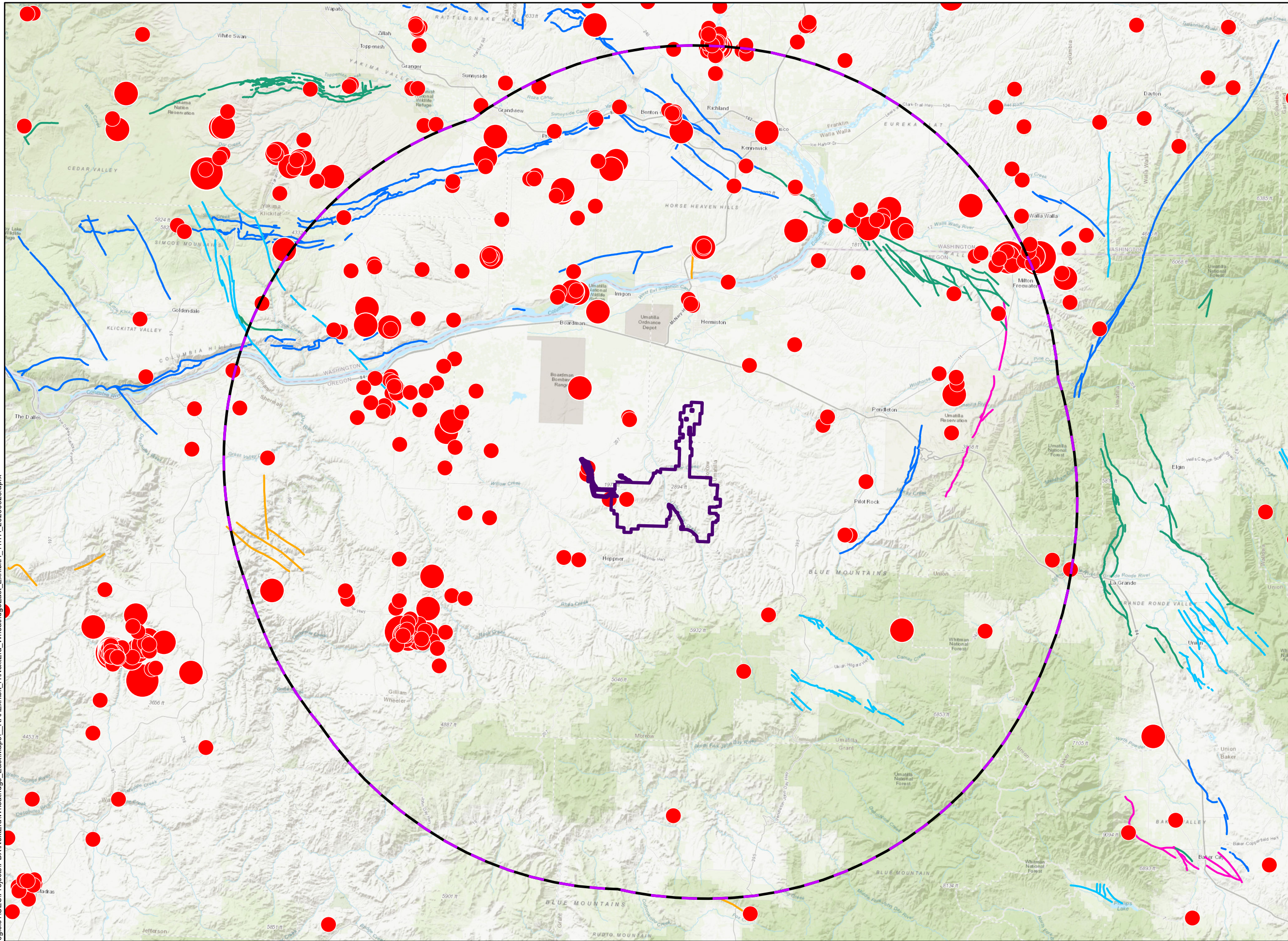
### Earthquakes

#### Magnitude

-  2.5 - 3.0
-  3.1 - 4.0
-  4.1 - 5.0



### Reference Map












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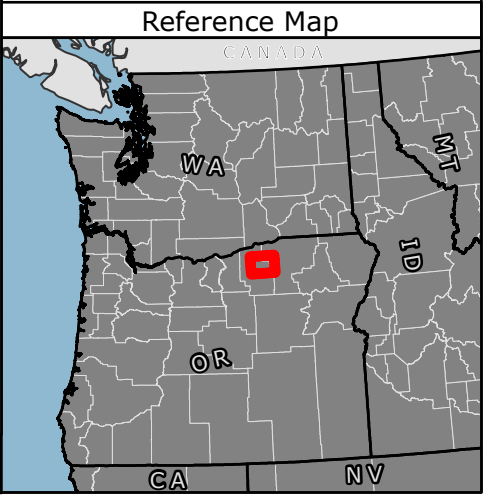
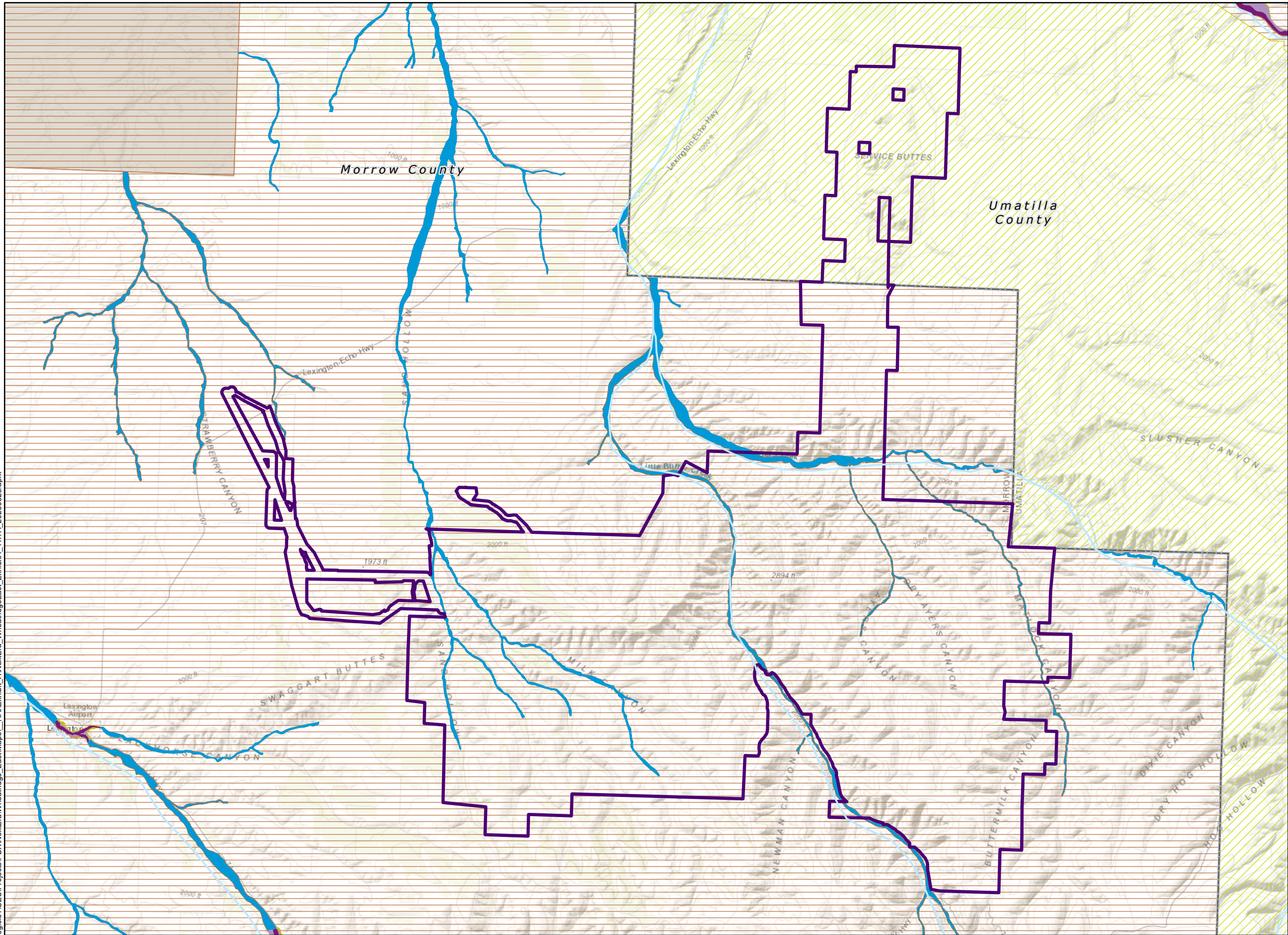
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# Wheatridge Renewable Energy Facility East

## Figure H-3 Special Flood Hazard Areas

MORROW AND UMATILLA COUNTIES, OR

-  Amended Site Boundary
-  County Boundary
-  River/Stream
- Flood Zone**
-  A
-  AE
-  AE, FLOODWAY
-  D
-  X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
-  X, AREA OF MINIMAL FLOOD HAZARD



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**Attachment H-1.**  
**Record of Correspondence with DOGAMI**



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# AGENDA

## Wheatridge Renewable Energy Facility East – DOGAMI Consultation

**October 21, 2022**

**Teleconference**

**1:30 p.m. – 2:00 p.m.**

**Attendees:** Jason McClaughry/DOGAMI  
Reina Ferrer/NextEra  
Carrie Konkol/Tetra Tech  
Rachel Miller/Tetra Tech

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### Introductions

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**Meeting Purpose**

- OAR 345-021-0010(1)(h)(B) requires pre-application consultation with DOGAMI for new energy facilities
- Meeting notes will be developed and included into Exhibit H of the Request for Amendment to the Application for Site Certificate

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**Project Overview**  
(see slide deck)

- Project location and background
- Permitting approach
- Schedule
- Geotechnical work scheduled for early spring 2023

---

**Site Characteristics**  
(see slide deck)

- Project description (Carrie)
- Geology

---

**Geotechnical Requirements**

- Appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments per OAR 345-021-0010(1)(h)(B))
- DOGAMI recommends using the geologic resources guide (see attachment) to review all resources available, HazVu in particular
- DOGAMI indicated that the GIS is limited in detail for this area. HazView (<https://www.oregongeology.org/hazvu/index.htm>) has the following information:
  - \* Near and distant earthquake potential
  - \* Liquefaction
  - \* Flood hazards
  - \* Shaking potential
  - \* Landslide susceptibility maps (Lidar-based)

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**From:** [MCCLAUGHRY Jason \\* DGMI](#)  
**To:** [Konkol, Carrie](#)  
**Subject:** list of DOGAMI resources  
**Date:** Friday, October 21, 2022 1:55:54 PM  
**Attachments:** [Helpful geologic resources for Geotechnical site investigations in Oregon.docx](#)

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You don't often get email from [jason.mcclaughry@dogami.oregon.gov](mailto:jason.mcclaughry@dogami.oregon.gov). [Learn why this is important](#)

**CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments.

As mentioned in the meeting.

*Best Regards,*  
*Jason*

**\*\*Note:** DOGAMI staff have been assigned new email addresses. I can be reached at [jason.mcclaughry@dogami.oregon.gov](mailto:jason.mcclaughry@dogami.oregon.gov). Please update your address lists to ensure timely delivery.

---

**Jason D. McClaughry, RG**  
**Interim Geological Survey and Services Program Manager |**  
**Eastern Oregon Regional Geologist |**  
**National Cooperative Geologic Mapping Program (STATEMAP) Coordinator for Oregon |**  
**Oregon Department of Geology and Mineral Industries | Baker City Field Office**  
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[jason.mcclaughry@dogami.oregon.gov](mailto:jason.mcclaughry@dogami.oregon.gov) | <https://www.oregongeology.org>

*Unless otherwise indicated, all information in this correspondence is classified as Level 1, "Published" according to State of Oregon statute and administrative policy.*

Helpful geologic resources for Geotechnical site investigations in Oregon:  
V1, June 10<sup>th</sup>, 2021

USGS Quaternary fault and fold database includes mapped potentially active faults

<https://pubs.usgs.gov/fs/2004/3033/fs-2004-3033.html>

Interactive fault map for the United States

<https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412ff>

2008 USGS National Seismic Hazards Mapping, updated 2014

[https://earthquake.usgs.gov/cfusion/hazfaults\\_2014\\_search/query\\_main.cfm](https://earthquake.usgs.gov/cfusion/hazfaults_2014_search/query_main.cfm)

2016 USGS Earthquake Hazards Program, National Seismic Hazard Mapping Project; Earthquake Search Database

<https://earthquake.usgs.gov/earthquakes/search/>

2014 OSSC, Updated 2019, with amendments in 2021

<https://www.oregon.gov/bcd/codes-stand/code-adoption/Pages/2019-osscc-adoption.aspx>

The USGS national geologic map database is a good place to find detailed geologic maps published in your map area.

[https://ngmdb.usgs.gov/ngmdb/ngmdb\\_home.html](https://ngmdb.usgs.gov/ngmdb/ngmdb_home.html)

Specific DOGAMI maps in the area can be found by using our publications center and doing a publication search.

<https://www.oregongeology.org/pubs/index.htm>

DOGAMI's interactive maps are here

<https://www.oregongeology.org/gis/index.htm>

Maps include viewers for all types of hazards (HazVu) including earthquake, flood, landslide, volcano.

<https://www.oregongeology.org/hazvu/index.htm>

Statewide Landslide Information Database for Oregon (SLIDO)

<https://www.oregongeology.org/slido/data.htm>

Geologic Map of Oregon, Oregon Geologic Data Compilation release 7 (OGDC-7)

<https://www.oregongeology.org/geologicmap/index.htm>

Franczyk, J. J., Madin, I. P., Duda, C. J. M., and McClaughry, J. D., 2020, Oregon geologic data compilation, release 7 [OGDC-7] (statewide): Oregon Department of Geology and Mineral Industries Digital Data Series OGDC-7, Esri geodatabase.

<https://www.oregongeology.org/pubs/dds/p-OGDC-7.htm>

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# **Attachment H-2. Probabilistic Seismic Hazard Deaggregation - 475-Year Return Time**

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\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (v4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.73 %

Mean (over all sources):

m: 6.47

r: 77.16 km

$\epsilon_0$ : 0.17  $\sigma$

Mode (largest m-r bin):

m: 5.1

r: 11.99 km

$\epsilon_0$ : -0.17  $\sigma$

Contribution: 4.65 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5

r: 23.85 km

$\epsilon_0$ : 0.27  $\sigma$

Contribution: 1.49 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)    Magnitude (Mw)    ALL\_ $\epsilon$      $\epsilon$ =(- $\infty$ , -2.5)     $\epsilon$ =[-2.5, -2)     $\epsilon$ =[-2, -1.5)     $\epsilon$ =[-1.5, -1)     $\epsilon$ =[-1, -0.5)     $\epsilon$ =[-0.5, 0)     $\epsilon$ =[0, 0.5)     $\epsilon$ =[0.5, 1)     $\epsilon$ =[1, 1.5)     $\epsilon$ =[1.5, 2)     $\epsilon$ =[2, 2.5)     $\epsilon$ =[2.5,  $\infty$ )



590 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
570 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
570 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
550 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
550 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
530 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
530 0.000	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
530 0.000	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
510 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
510 0.000	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
510 0.000	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
490 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
490 0.000	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
490 0.000	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
490 0.000	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
470 0.000	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
470 0.000	8.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003
470 0.000	8.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
470 0.000	8.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
450 0.000	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
450 0.000	8.1	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.000
450 0.000	8.3	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.000
450 0.000	8.5	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.000
430 0.000	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
430 0.000	8.1	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
430 0.000	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
430 0.000	8.5	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.009	0.000
410 0.000	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000
410	8.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.000

0.000													
410	8.3	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.000
0.001													
410	8.5	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.004	0.001
0.002													
410	8.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.001
0.000													
390	7.9	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000
0.000													
390	8.1	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.032	0.000
0.000													
390	8.3	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.124	0.006	0.000
0.005													
390	8.5	0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.176	0.000	0.008
0.003													
390	8.7	0.723	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.656	0.000	0.067
0.000													
390	9.1	0.434	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.362	0.000	0.071	0.000
0.001													
370	7.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000
0.000													
370	8.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.012	0.000
0.001													
370	8.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.000	0.000
0.001													
370	8.5	0.237	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.215	0.000	0.022
0.000													
370	8.7	1.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.098	0.768	0.139	0.000
0.000													
370	8.9	1.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.855	0.000	0.171	0.000
0.000													
370	9.1	1.588	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.197	0.373	0.000	0.000
0.017													
350	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000
0.000													
350	8.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.001
0.000													
350	8.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.001
0.000													
350	8.5	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.073	0.018	0.018	0.001
0.000													
350	8.7	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077	0.000	0.021	0.000
0.000													
350	8.9	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.095	0.037	0.000	0.000
0.002													
330	7.9	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.000	0.002
0.000													
330	8.1	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.000	0.005
0.000													
330	8.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.004	0.000
0.000													
330	8.5	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.139	0.010	0.036	0.000
0.001													
330	8.7	0.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.182	0.063	0.001	0.000
0.002													
330	8.9	1.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.883	0.383	0.000	0.018
0.000													

330 0.000	9.1	1.562	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.009	0.517	0.000	0.000	0.035
330 0.000	9.3	2.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.239	0.819	0.000	0.119	0.000
310 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290 0.001	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290 0.013	6.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
290 0.001	6.9	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.060
290 0.001	7.1	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.122	0.013
290 0.000	7.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000
290 0.000	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.005	0.000	0.001
290 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270 0.005	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270 0.007	6.7	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
270 0.000	6.9	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.037
270 0.005	7.1	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.127	0.002
270 0.000	7.3	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.029	0.001	0.002
270 0.000	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.006	0.002	0.001
270 0.000	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000
270 0.000	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000
250 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250 0.004	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
250 0.000	6.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.021
250 0.002	6.9	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.004
250 0.002	7.1	0.147	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.101	0.034	0.010
250 0.000	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.012	0.002	0.001
250 0.000	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.001	0.003	0.000
250 0.000	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.000	0.000
250	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.000	0.000	0.000

0.000													
230	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
230	6.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001													
230	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.000													
230	6.7	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.006
0.001													
230	6.9	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.023	0.004
0.001													
230	7.1	0.102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.071	0.008	0.007
0.000													
230	7.3	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.002	0.002	0.000
0.000													
230	7.5	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.003	0.003	0.000	0.000
0.001													
230	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.001
0.000													
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.001	0.004	0.000	0.000	0.000	0.000
0.000													
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
210	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
210	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000													
210	6.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
0.000													
210	6.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.001	0.001
0.000													
210	7.1	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.003	0.000
0.000													
210	7.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.000	0.000
0.003													
210	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.003
0.004													
210	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001
0.000													
210	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.001	0.000
0.000													
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
0.000													
190	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000
0.000													
190	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000
0.004													
190	7.3	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.008
0.009													

190 0.003	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.012
190 0.000	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.002
190 0.000	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000
170 0.000	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.004	6.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.012	7.1	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
170 0.004	7.3	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.034
170 0.000	7.5	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.019	0.018
170 0.000	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.005	0.001
170 0.000	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.000
150 0.000	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.002	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.012	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.018	6.9	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
150 0.005	7.1	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.057
150 0.000	7.3	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.063	0.031
150 0.000	7.5	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.048	0.004
150 0.000	7.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.007	0.003	0.000
150 0.000	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000
130	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.000														
130	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.3	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.010														
130	6.5	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.012
0.020														
130	6.7	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.041	0.041
0.015														
130	6.9	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.076	0.076
0.000														
130	7.1	0.161	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.130	0.026	0.026
0.000														
130	7.3	0.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.105	0.129	0.001	0.001
0.000														
130	7.5	0.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.110	0.025	0.000	0.000
0.000														
130	7.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.012	0.011	0.000	0.000	0.000
0.000														
130	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.001	0.000	0.000	0.000
0.000														
110	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
110	5.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														
110	6.1	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003
0.023														
110	6.3	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.061	0.061
0.023														
110	6.5	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.088	0.088
0.006														
110	6.7	0.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.109	0.071	0.071
0.000														
110	6.9	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.057	0.196	0.009	0.009
0.000														
110	7.1	0.344	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.248	0.096	0.000	0.000
0.000														
110	7.3	0.356	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.114	0.232	0.010	0.000	0.000
0.000														
110	7.5	0.208	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.136	0.063	0.000	0.000	0.000
0.000														
110	7.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.015	0.001	0.000	0.000	0.000
0.000														
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.001	0.005	0.002	0.000	0.000	0.000	0.000
0.000														
90	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
90	5.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.009														
90	5.7	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004
0.033														

90	5.9	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055
0.039														
90	6.1	0.197	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340	0.1470	0.016
90	6.3	0.3420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0320	0.2120	0.0980	0.000
90	6.5	0.4040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1300	0.2420	0.0320	0.000
90	6.7	0.4240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.2310	0.1750	0.0020	0.000
90	6.9	0.5070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1100	0.3580	0.0400	0.0000	0.000
90	7.1	0.5580	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.3500	0.2030	0.0000	0.0000	0.000
90	7.3	0.5850	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1270	0.4140	0.0440	0.0000	0.0000	0.000
90	7.5	0.3100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.1680	0.1400	0.0000	0.0000	0.0000	0.000
90	7.7	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090	0.0270	0.0040	0.0000	0.0000	0.0000	0.000
90	7.9	0.0100	0.0000	0.0000	0.0000	0.0010	0.0050	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
70	5.1	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.020
70	5.3	0.0640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0230	0.042
70	5.5	0.1960	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.1300	0.054	
70	5.7	0.3240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0970	0.2040	0.023
70	5.9	0.4640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3020	0.1600	0.003
70	6.1	0.6750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2150	0.4230	0.0370	0.000
70	6.3	0.9200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1190	0.5990	0.2020	0.0000	0.000
70	6.5	1.1150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4670	0.5870	0.0600	0.0000	0.000
70	6.7	1.1660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0730	0.7420	0.3460	0.0060	0.0000	0.000
70	6.9	1.1020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2950	0.7370	0.0700	0.0000	0.0000	0.000
70	7.1	1.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.7780	0.3670	0.0000	0.0000	0.0000	0.000
70	7.3	1.0350	0.0000	0.0000	0.0000	0.0000	0.0000	0.2190	0.7480	0.0670	0.0000	0.0000	0.0000	0.000
70	7.5	0.5130	0.0000	0.0000	0.0000	0.0000	0.0020	0.2730	0.2360	0.0020	0.0000	0.0000	0.0000	0.000
70	7.7	0.0790	0.0000	0.0000	0.0000	0.0000	0.0110	0.0610	0.0060	0.0000	0.0000	0.0000	0.0000	0.000
70	7.9	0.0140	0.0000	0.0000	0.0000	0.0000	0.0060	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	5.1	0.3150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0790	0.1800	0.056
50	5.3	0.5820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.2890	0.2580	0.030
50	5.5	1.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3060	0.5470	0.1550	0.002
50	5.7	1.2170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0560	0.6650	0.4560	0.0400	0.000
50	5.9	1.3610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3340	0.8210	0.2030	0.0020	0.000
50	6.1	1.7450	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1000	0.9600	0.6520	0.0330	0.0000	0.000
50	6.3	1.8520	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.5961	0.0420	0.1980	0.0000	0.0000	0.000
50	6.5	1.7380	0.0000	0.0000	0.0000	0.0000	0.0000	0.1780	0.9030	0.6370	0.0190	0.0000	0.0000	0.000
50	6.7	1.5160	0.0000	0.0000	0.0000	0.0000	0.0000	0.2760	0.9050	0.3340	0.0000	0.0000	0.0000	0.000
50	6.9	1.3510	0.0000	0.0000	0.0000	0.0000	0.0130	0.5670	0.7310	0.0390	0.0000	0.0000	0.0000	0.000
50	7.1	1.1790	0.0000	0.0000	0.0000	0.0000	0.1180	0.7600	0.3000	0.0000	0.0000	0.0000	0.0000	0.000
50	7.3	0.9950	0.0000	0.0000	0.0000	0.0010	0.3390	0.5970	0.0580	0.0000	0.0000	0.0000	0.0000	0.000
50	7.5	0.4760	0.0000	0.0000	0.0000	0.0220	0.2630	0.1920	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	7.7	0.0540	0.0000	0.0000	0.0000	0.0110	0.0370	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	7.9	0.0140	0.0000	0.0000	0.0010	0.0060	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	5.1	2.7720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0880	0.8531	0.1100	0.5850	0.1360	0.001
30	5.3	3.4640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5561	1.4521	0.1080	0.3350	0.0130	0.000
30	5.5	4.0830	0.0000	0.0000	0.0000	0.0000	0.0000	0.3981	1.4871	1.4030	0.7180	0.0780	0.0000	0.000
30	5.7	3.8150	0.0000	0.0000	0.0000	0.0000	0.0000	0.8801	1.4211	1.2210	0.2930	0.0000	0.0000	0.000
30	5.9	3.3760	0.0000	0.0000	0.0000	0.0000	0.1901	0.0991	2.250	0.8110	0.0490	0.0000	0.0000	0.000
30	6.1	3.2460	0.0000	0.0000	0.0000	0.0210	0.5951	0.2321	0.2020	0.1960	0.0000	0.0000	0.0000	0.000
30	6.3	2.8700	0.0000	0.0000	0.0000	0.1990	0.8491	0.1430	0.6760	0.0030	0.0000	0.0000	0.0000	0.000
30	6.5	2.2320	0.0000	0.0000	0.0140	0.3190	0.8120	0.8670	0.2200	0.0000	0.0000	0.0000	0.0000	0.000
30	6.7	1.7290	0.0000	0.0000	0.0380	0.3010	0.7070	0.6490	0.0340	0.0000	0.0000	0.0000	0.0000	0.000
30	6.9	1.5120	0.0000	0.0000	0.0970	0.4260	0.6760	0.3130	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.1	1.2580	0.0000	0.0130	0.1480	0.4570	0.5650	0.0750	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.3	1.0700	0.0000	0.0300	0.2020	0.4860	0.3510	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.5	0.5130	0.0000	0.0210	0.1330	0.2640	0.0940	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.7	0.0470	0.0000	0.0040	0.0170	0.0250	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.9	0.0090	0.0000	0.0010	0.0040	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

10 5.1 4.6460.0000.0000.0000.3430.9981.3901.3340.5820.0000.0000.0000.000  
10 5.3 4.1480.0000.0000.1720.7171.0901.3070.8470.0150.0000.0000.0000.000  
10 5.5 3.4550.0000.1380.3960.7611.1140.9340.1120.0000.0000.0000.0000.000  
10 5.7 2.6010.0100.1530.4500.6250.9720.3920.0000.0000.0000.0000.0000.000  
10 5.9 1.9120.0510.1440.3770.5850.6800.0750.0000.0000.0000.0000.0000.000  
10 6.1 2.0010.1450.3310.4530.6690.4030.0000.0000.0000.0000.0000.0000.000  
10 6.3 1.5250.2000.3130.4430.4820.0870.0000.0000.0000.0000.0000.0000.000  
10 6.5 1.2250.2410.2680.3700.3090.0370.0000.0000.0000.0000.0000.0000.000  
10 6.7 0.9970.2180.2400.3150.2250.0000.0000.0000.0000.0000.0000.0000.000  
10 6.9 0.7360.1980.2110.2500.0760.0000.0000.0000.0000.0000.0000.0000.000  
10 7.1 0.5870.1680.2030.1850.0310.0000.0000.0000.0000.0000.0000.0000.000  
10 7.3 0.4490.1440.1570.1420.0070.0000.0000.0000.0000.0000.0000.0000.000  
10 7.5 0.1830.0660.0730.0450.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.7 0.0140.0060.0060.0020.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.9 0.0030.0010.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 10.94

Distance (km): 37.312266

Magnitude: 6.1258702

Epsilon (mean values): 0.06914528

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 10.94

Distance (km): 37.309824

Magnitude: 6.1258497

Epsilon (mean values): 0.069107888

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 10.78

Distance (km): 36.767892

Magnitude: 6.114525

Epsilon (mean values): 0.058758927

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 10.78

Distance (km): 36.765413

Magnitude: 6.114504

Epsilon (mean values): 0.058720926

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 8.12

Distance (km): 35.272385

Magnitude: 6.0872008

Epsilon (mean values): 0.0051946978

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 8.11

Distance (km): 35.260964

Magnitude: 6.0870309

Epsilon (mean values): 0.0049332663

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 8.03

Distance (km): 34.851915

Magnitude: 6.0784171

Epsilon (mean values): -0.0031147868

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 8.02

Distance (km): 34.841384

Magnitude: 6.0782613

Epsilon (mean values): -0.0033576799

sub0\_ch\_bot.in:



Percent Contributed: 4.85  
Distance (km): 323.70483  
Magnitude: 9.1185201  
Epsilon (mean values): 0.61677308  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 4.85  
Distance (km): 323.70483  
Magnitude: 9.1185201  
Epsilon (mean values): 0.61677308  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:  
Percent Contributed: 3.46  
Distance (km): 377.23061  
Magnitude: 8.9260255  
Epsilon (mean values): 1.0332049  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 3.46  
Distance (km): 377.23061  
Magnitude: 8.9260255  
Epsilon (mean values): 1.0332049  
Azimuth: 285.79267  
Latitude: 46.3  
Longitude: -124.13677

WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.69  
Distance (km): 40.319287  
Magnitude: 6.2528578  
Epsilon (mean values): 0.039773571

noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.69  
Distance (km): 40.300304  
Magnitude: 6.252687  
Epsilon (mean values): 0.039537404

noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.98  
Distance (km): 38.170618  
Magnitude: 6.2069219  
Epsilon (mean values): -0.018933532

WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.98  
Distance (km): 38.161299  
Magnitude: 6.2067046  
Epsilon (mean values): -0.019147537

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g  
 Recovered targets:  
 Return period: 482.15757 yrs  
 Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:  
 Binned: 22.76 %  
 Residual: 0 %  
 Trace: 0.22 %

Mean (over all sources):  
 m: 6.07  
 r: 37.31 km  
 ε<sub>0</sub>: 0.17 σ

Mode (largest m-r bin):  
 m: 5.1  
 r: 12.34 km  
 ε<sub>0</sub>: -0.34 σ  
 Contribution: 1.39 %

Mode (largest m-r-ε<sub>0</sub> bin):  
 m: 5.1  
 r: 23.51 km  
 ε<sub>0</sub>: 0.77 σ  
 Contribution: 0.56 %

Discretization:  
 r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
 ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞]

	Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
290	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
210	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
210	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
190	7.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
190	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050

190 7.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000  
190 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
170 7.1 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.003  
170 7.3 0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.001  
170 7.5 0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.0050.000  
170 7.7 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0000.000  
170 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000  
150 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
150 6.7 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004  
150 6.9 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.006  
150 7.1 0.0190.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.001  
150 7.3 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0190.0070.000  
150 7.5 0.0190.0000.0000.0000.0000.0000.0000.0000.0000.0010.0180.0000.000  
150 7.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0030.0000.0000.000  
150 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.000  
130 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
130 6.3 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004  
130 6.5 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.006  
130 6.7 0.0140.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0100.004  
130 6.9 0.0250.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.0200.000  
130 7.1 0.0390.0000.0000.0000.0000.0000.0000.0000.0000.0000.0330.0060.000  
130 7.3 0.0570.0000.0000.0000.0000.0000.0000.0000.0000.0190.0390.0000.000  
130 7.5 0.0390.0000.0000.0000.0000.0000.0000.0000.0000.0370.0010.0000.000  
130 7.7 0.0060.0000.0000.0000.0000.0000.0000.0000.0030.0030.0000.0000.000  
130 7.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000  
110 5.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
110 6.1 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.008  
110 6.3 0.0270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.004  
110 6.5 0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.0290.001  
110 6.7 0.0430.0000.0000.0000.0000.0000.0000.0000.0000.0000.0240.0190.000  
110 6.9 0.0630.0000.0000.0000.0000.0000.0000.0000.0000.0050.0580.0010.000  
110 7.1 0.0830.0000.0000.0000.0000.0000.0000.0000.0000.0560.0260.0000.000  
110 7.3 0.0870.0000.0000.0000.0000.0000.0000.0000.0140.0730.0000.0000.000  
110 7.5 0.0520.0000.0000.0000.0000.0000.0000.0000.0390.0130.0000.0000.000  
110 7.7 0.0070.0000.0000.0000.0000.0000.0000.0020.0050.0000.0000.0000.000  
110 7.9 0.0020.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.000  
90 5.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 5.5 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
90 5.7 0.0130.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.013  
90 5.9 0.0290.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.011  
90 6.1 0.0540.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0440.002  
90 6.3 0.0920.0000.0000.0000.0000.0000.0000.0000.0000.0000.0700.0220.000  
90 6.5 0.0970.0000.0000.0000.0000.0000.0000.0000.0000.0140.0800.0030.000  
90 6.7 0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0450.0510.0000.000  
90 6.9 0.1190.0000.0000.0000.0000.0000.0000.0000.0080.1050.0060.0000.000  
90 7.1 0.1320.0000.0000.0000.0000.0000.0000.0000.0740.0580.0000.0000.000  
90 7.3 0.1410.0000.0000.0000.0000.0000.0000.0100.1260.0050.0000.0000.000  
90 7.5 0.0760.0000.0000.0000.0000.0000.0000.0380.0380.0000.0000.0000.000  
90 7.7 0.0100.0000.0000.0000.0000.0000.0010.0090.0000.0000.0000.0000.000  
90 7.9 0.0020.0000.0000.0000.0000.0000.0020.0010.0000.0000.0000.0000.000  
70 5.1 0.0200.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.020  
70 5.3 0.0400.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0170.023  
70 5.5 0.0660.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0500.015  
70 5.7 0.0950.0000.0000.0000.0000.0000.0000.0000.0000.0000.0250.0670.003

70	5.9	0.1280.0000.0000.0000.0000.0000.0000.0000.0000.0000.0870.0400.000
70	6.1	0.1770.0000.0000.0000.0000.0000.0000.0000.0000.0000.0520.1210.0050.000
70	6.3	0.2400.0000.0000.0000.0000.0000.0000.0000.0000.0100.1850.0450.0000.000
70	6.5	0.2650.0000.0000.0000.0000.0000.0000.0000.0840.1730.0080.0000.000
70	6.7	0.2680.0000.0000.0000.0000.0000.0000.0000.1670.1010.0000.0000.000
70	6.9	0.2580.0000.0000.0000.0000.0000.0000.0000.0240.2190.0140.0000.0000.000
70	7.1	0.2680.0000.0000.0000.0000.0000.0000.0000.1540.1150.0000.0000.0000.000
70	7.3	0.2460.0000.0000.0000.0000.0000.0000.0120.2250.0090.0000.0000.0000.000
70	7.5	0.1240.0000.0000.0000.0000.0000.0000.0530.0710.0000.0000.0000.0000.000
70	7.7	0.0190.0000.0000.0000.0000.0000.0000.0180.0010.0000.0000.0000.0000.000
70	7.9	0.0030.0000.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.000
50	5.1	0.2040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0790.1160.008
50	5.3	0.2470.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.1650.0770.000
50	5.5	0.2900.0000.0000.0000.0000.0000.0000.0000.0000.0000.0730.1830.0340.000
50	5.7	0.3260.0000.0000.0000.0000.0000.0000.0000.0000.0000.1940.1330.0000.000
50	5.9	0.3580.0000.0000.0000.0000.0000.0000.0000.0720.2410.0450.0000.000
50	6.1	0.4490.0000.0000.0000.0000.0000.0000.0000.0130.2650.1710.0000.0000.000
50	6.3	0.4760.0000.0000.0000.0000.0000.0000.0000.1510.2970.0270.0000.0000.000
50	6.5	0.4200.0000.0000.0000.0000.0000.0000.0000.2250.1950.0000.0000.0000.000
50	6.7	0.3560.0000.0000.0000.0000.0000.0220.2300.1040.0000.0000.0000.0000.000
50	6.9	0.3240.0000.0000.0000.0000.0000.1120.2040.0070.0000.0000.0000.0000.000
50	7.1	0.2850.0000.0000.0000.0000.0000.1910.0940.0000.0000.0000.0000.0000.000
50	7.3	0.2430.0000.0000.0000.0000.0000.0600.1710.0120.0000.0000.0000.0000.000
50	7.5	0.1170.0000.0000.0000.0000.0000.0610.0560.0000.0000.0000.0000.0000.000
50	7.7	0.0130.0000.0000.0000.0000.0010.0110.0010.0000.0000.0000.0000.0000.000
50	7.9	0.0030.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.000
30	5.1	1.1800.0000.0000.0000.0000.0000.0000.0880.5570.3850.1500.0000.000
30	5.3	1.1050.0000.0000.0000.0000.0000.0000.2510.4490.3700.0350.0000.000
30	5.5	1.0200.0000.0000.0000.0000.0000.0000.4260.3730.2210.0000.0000.000
30	5.7	0.9280.0000.0000.0000.0000.0000.1460.3680.3470.0670.0000.0000.000
30	5.9	0.8280.0000.0000.0000.0000.0000.2740.3300.2240.0000.0000.0000.000
30	6.1	0.7940.0000.0000.0000.0000.1080.3100.3370.0390.0000.0000.0000.000
30	6.3	0.7030.0000.0000.0000.0000.2060.3160.1810.0000.0000.0000.0000.000
30	6.5	0.5320.0000.0000.0000.0270.1830.2620.0590.0000.0000.0000.0000.000
30	6.7	0.4080.0000.0000.0000.0300.1590.2100.0090.0000.0000.0000.0000.000
30	6.9	0.3630.0000.0000.0000.0770.1740.1120.0000.0000.0000.0000.0000.000
30	7.1	0.3040.0000.0000.0030.1080.1730.0200.0000.0000.0000.0000.0000.000
30	7.3	0.2610.0000.0000.0170.1300.1130.0000.0000.0000.0000.0000.0000.000
30	7.5	0.1260.0000.0000.0190.0740.0330.0000.0000.0000.0000.0000.0000.000
30	7.7	0.0120.0000.0000.0030.0080.0000.0000.0000.0000.0000.0000.0000.000
30	7.9	0.0020.0000.0000.0010.0010.0000.0000.0000.0000.0000.0000.0000.000
10	5.1	1.3900.0000.0000.0000.1770.3480.4120.4530.0000.0000.0000.0000.000
10	5.3	1.0750.0000.0000.0000.2100.3240.3770.1640.0000.0000.0000.0000.000
10	5.5	0.8220.0000.0000.0610.1420.2740.3360.0080.0000.0000.0000.0000.000
10	5.7	0.6200.0000.0000.0830.1450.2230.1690.0000.0000.0000.0000.0000.000
10	5.9	0.4620.0000.0140.0740.1270.2150.0320.0000.0000.0000.0000.0000.000
10	6.1	0.4870.0000.0670.1090.1560.1540.0000.0000.0000.0000.0000.0000.000
10	6.3	0.3740.0150.0760.0920.1610.0300.0000.0000.0000.0000.0000.0000.000
10	6.5	0.3000.0260.0570.0780.1170.0220.0000.0000.0000.0000.0000.0000.000
10	6.7	0.2450.0280.0490.0730.0950.0000.0000.0000.0000.0000.0000.0000.000
10	6.9	0.1820.0290.0430.0790.0310.0000.0000.0000.0000.0000.0000.0000.000
10	7.1	0.1450.0220.0380.0730.0120.0000.0000.0000.0000.0000.0000.0000.000
10	7.3	0.1110.0190.0340.0590.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.5	0.0450.0090.0180.0180.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.7	0.0030.0010.0020.0010.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution)

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.86

Distance (km): 37.161879

Magnitude: 6.062282

Epsilon (mean values): 0.18612108

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.86

Distance (km): 37.159717

Magnitude: 6.0622626

Epsilon (mean values): 0.18608855

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.83

Distance (km): 36.672189

Magnitude: 6.0512098

Epsilon (mean values): 0.17758171

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.83

Distance (km): 36.669994

Magnitude: 6.05119

Epsilon (mean values): 0.17754867

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.13

Distance (km): 35.171879

Magnitude: 6.0251269

Epsilon (mean values): 0.12379329

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.12

Distance (km): 35.160797

Magnitude: 6.0249585

Epsilon (mean values): 0.12354779

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.11

Distance (km): 34.794117

Magnitude: 6.0166002

Epsilon (mean values): 0.11692947

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.1

Distance (km): 34.783856

Magnitude: 6.0164459

Epsilon (mean values): 0.11669992

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 22.05 %  
 Residual: 0 %  
 Trace: 0.18 %  
 Mean (over all sources):  
 m: 6.08  
 r: 35.74 km  
 $\epsilon_0$ : 0.07  $\sigma$   
 Mode (largest m-r bin):  
 m: 5.5  
 r: 28.48 km  
 $\epsilon_0$ : 0.4  $\sigma$   
 Contribution: 1.36 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 5.5  
 r: 26.1 km  
 $\epsilon_0$ : 0.26  $\sigma$   
 Contribution: 0.5 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$   $\epsilon=(-\infty,-2.5)$   $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
210	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
190	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0001
190	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
170	7.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
170	7.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0002
170	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0000
170	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000



70	7.7	0.0170.0000.0000.0000.0000.0000.0110.0060.0000.0000.0000.0000.0000.0000
70	7.9	0.0030.0000.0000.0000.0000.0000.0030.0000.0000.0000.0000.0000.0000.0000
50	5.1	0.0510.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0340.017
50	5.3	0.1790.0000.0000.0000.0000.0000.0000.0000.0000.0000.1000.0740.005
50	5.5	0.4100.0000.0000.0000.0000.0000.0000.0000.0000.0000.2170.1790.0140.000
50	5.7	0.4480.0000.0000.0000.0000.0000.0000.0000.0560.2910.1010.0000.000
50	5.9	0.4290.0000.0000.0000.0000.0000.0000.0000.1620.2450.0210.0000.000
50	6.1	0.4600.0000.0000.0000.0000.0000.0000.0120.2780.1710.0000.0000.000
50	6.3	0.4210.0000.0000.0000.0000.0000.0000.0830.2720.0660.0000.0000.000
50	6.5	0.3920.0000.0000.0000.0000.0000.0000.1880.2040.0000.0000.0000.000
50	6.7	0.3560.0000.0000.0000.0000.0000.0230.2330.1010.0000.0000.0000.000
50	6.9	0.3090.0000.0000.0000.0000.0000.0820.2120.0150.0000.0000.0000.000
50	7.1	0.2670.0000.0000.0000.0000.0000.1460.1200.0000.0000.0000.0000.000
50	7.3	0.2250.0000.0000.0000.0000.0240.1600.0410.0000.0000.0000.0000.000
50	7.5	0.1080.0000.0000.0000.0000.0350.0730.0000.0000.0000.0000.0000.000
50	7.7	0.0120.0000.0000.0000.0000.0080.0050.0000.0000.0000.0000.0000.000
50	7.9	0.0030.0000.0000.0000.0000.0030.0000.0000.0000.0000.0000.0000.000
30	5.1	0.5720.0000.0000.0000.0000.0000.0000.0000.0990.2600.1710.0410.000
30	5.3	0.9740.0000.0000.0000.0000.0000.0000.1890.4280.2930.0640.0000.000
30	5.5	1.3560.0000.0000.0000.0000.0000.3020.4950.4450.1140.0000.0000.000
30	5.7	1.1800.0000.0000.0000.0000.0000.3880.4550.3370.0000.0000.0000.000
30	5.9	0.9460.0000.0000.0000.0000.0670.3660.3340.1790.0000.0000.0000.000
30	6.1	0.8230.0000.0000.0000.0000.1460.3330.3130.0310.0000.0000.0000.000
30	6.3	0.6770.0000.0000.0000.0090.1820.2620.2240.0000.0000.0000.0000.000
30	6.5	0.5250.0000.0000.0000.0180.1940.2450.0680.0000.0000.0000.0000.000
30	6.7	0.4150.0000.0000.0000.0400.1630.2060.0060.0000.0000.0000.0000.000
30	6.9	0.3600.0000.0000.0050.0830.1570.1150.0000.0000.0000.0000.0000.000
30	7.1	0.3000.0000.0000.0130.0910.1500.0450.0000.0000.0000.0000.0000.000
30	7.3	0.2560.0000.0000.0180.1050.1310.0010.0000.0000.0000.0000.0000.000
30	7.5	0.1230.0000.0000.0140.0640.0460.0000.0000.0000.0000.0000.0000.000
30	7.7	0.0110.0000.0000.0020.0070.0020.0000.0000.0000.0000.0000.0000.000
30	7.9	0.0020.0000.0000.0010.0010.0000.0000.0000.0000.0000.0000.0000.000
10	5.1	1.0850.0000.0000.0000.1120.1610.3270.2930.1910.0000.0000.0000.000
10	5.3	1.0820.0000.0000.1330.1790.2200.3770.1730.0000.0000.0000.0000.000
10	5.5	0.9470.0000.0950.1360.2480.3220.1460.0000.0000.0000.0000.0000.000
10	5.7	0.6910.0100.0660.1560.1730.2850.0000.0000.0000.0000.0000.0000.000
10	5.9	0.4910.0290.0470.1080.1430.1640.0000.0000.0000.0000.0000.0000.000
10	6.1	0.5000.0530.0770.0910.1560.1230.0000.0000.0000.0000.0000.0000.000
10	6.3	0.3760.0450.0640.0860.1380.0430.0000.0000.0000.0000.0000.0000.000
10	6.5	0.3010.0330.0580.0840.1100.0150.0000.0000.0000.0000.0000.0000.000
10	6.7	0.2450.0280.0540.0800.0830.0000.0000.0000.0000.0000.0000.0000.000
10	6.9	0.1810.0260.0420.0700.0420.0000.0000.0000.0000.0000.0000.0000.000
10	7.1	0.1450.0230.0360.0660.0190.0000.0000.0000.0000.0000.0000.0000.000
10	7.3	0.1110.0180.0320.0550.0060.0000.0000.0000.0000.0000.0000.0000.000
10	7.5	0.0450.0080.0160.0220.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.7	0.0030.0010.0010.0010.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution)

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.78

Distance (km): 35.749907

Magnitude: 6.0649981

Epsilon (mean values): 0.093721976

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.78

Distance (km): 35.748925

Magnitude: 6.0649891



Epsilon (mean values): 0.093705311  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.75  
Distance (km): 35.296571  
Magnitude: 6.055004  
Epsilon (mean values): 0.083968386  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 2.75  
Distance (km): 35.295575  
Magnitude: 6.0549949  
Epsilon (mean values): 0.083951488  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.07  
Distance (km): 33.858672  
Magnitude: 6.0311604  
Epsilon (mean values): 0.024079053  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.07  
Distance (km): 33.849789  
Magnitude: 6.0310263  
Epsilon (mean values): 0.023838536  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.05  
Distance (km): 33.509931  
Magnitude: 6.0234765  
Epsilon (mean values): 0.016312902  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.05  
Distance (km): 33.501769  
Magnitude: 6.0233546  
Epsilon (mean values): 0.01608875  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.053600771 g  
Recovered targets:  
Return period: 482.15757 yrs  
Exceedance rate: 0.0020740108 yr<sup>-1</sup>  
Totals:  
Binned: 23.48 %  
Residual: 0 %  
Trace: 0.27 %  
Mean (over all sources):  
m: 6.2  
r: 39.33 km  
 $\epsilon_0$ : -0.07  $\sigma$   
Mode (largest m-r bin):  
m: 5.1

r: 11.85 km  
 $\epsilon_0$ : -0.07  $\sigma$   
Contribution: 1.07 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5  
r: 23.5 km  
 $\epsilon_0$ : 0.25  $\sigma$   
Contribution: 0.4 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$      $\epsilon=(-\infty,-2.5)$      $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
190	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
190	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
170	7.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
170	7.3	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.070
170	7.5	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.060
170	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
170	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
150	6.7	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.005
150	6.9	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.070
150	7.1	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010	0.150
150	7.3	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120	0.090
150	7.5	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.000
150	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000

150	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000												
130	6.1	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000												
130	6.3	0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0004												
130	6.5	0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0090.006												
130	6.7	0.0210.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.002												
130	6.9	0.0320.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.0190.000												
130	7.1	0.0440.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0400.0040.000												
130	7.3	0.0570.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.0370.0000.000												
130	7.5	0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0300.0060.0000.000												
130	7.7	0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0040.0000.0000.000												
130	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000												
110	5.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000												
110	6.1	0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.006												
110	6.3	0.0340.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0270.003												
110	6.5	0.0580.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0340.0240.000												
110	6.7	0.0710.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0630.0080.000												
110	6.9	0.0890.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0420.0460.0000.000												
110	7.1	0.1030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0900.0140.0000.000												
110	7.3	0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0340.0620.0000.000												
110	7.5	0.0530.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0380.0140.0000.000												
110	7.7	0.0060.0000.0000.0000.0000.0000.0000.0000.0010.0050.0000.0000.0000.0000.000												
110	7.9	0.0020.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.0000.0000.000												
90	5.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000												
90	5.7	0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004												
90	5.9	0.0230.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0140.009												
90	6.1	0.0680.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0240.0410.002												
90	6.3	0.1370.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0320.0950.0100.000												
90	6.5	0.1740.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.1160.0570.0000.000												
90	6.7	0.1670.0000.0000.0000.0000.0000.0000.0000.0000.0000.0160.1380.0130.0000.000												
90	6.9	0.1770.0000.0000.0000.0000.0000.0000.0000.0000.0000.0900.0860.0000.0000.000												
90	7.1	0.1750.0000.0000.0000.0000.0000.0000.0000.0050.1480.0220.0000.0000.000												
90	7.3	0.1680.0000.0000.0000.0000.0000.0000.0000.0580.1110.0000.0000.0000.000												
90	7.5	0.0840.0000.0000.0000.0000.0000.0000.0000.0550.0300.0000.0000.0000.000												
90	7.7	0.0100.0000.0000.0000.0000.0000.0000.0020.0090.0000.0000.0000.0000.000												
90	7.9	0.0020.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.0000.0000.000												
70	5.3	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002												
70	5.5	0.0230.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0090.014												
70	5.7	0.0630.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0060.0500.008												
70	5.9	0.1230.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0830.0390.000												
70	6.1	0.2230.0000.0000.0000.0000.0000.0000.0000.0000.0000.1110.1110.0000.000												
70	6.3	0.3410.0000.0000.0000.0000.0000.0000.0000.1080.2260.0070.0000.000												
70	6.5	0.4340.0000.0000.0000.0000.0000.0000.0000.3560.0790.0000.0000.000												
70	6.7	0.4190.0000.0000.0000.0000.0000.0000.0000.0730.3390.0070.0000.000												
70	6.9	0.3580.0000.0000.0000.0000.0000.0000.0000.2300.1280.0000.0000.000												
70	7.1	0.3440.0000.0000.0000.0000.0000.0020.3260.0160.0000.0000.0000.000												
70	7.3	0.2890.0000.0000.0000.0000.0000.0980.1910.0000.0000.0000.0000.000												
70	7.5	0.1380.0000.0000.0000.0000.0000.0960.0410.0000.0000.0000.0000.000												
70	7.7	0.0200.0000.0000.0000.0000.0010.0200.0000.0000.0000.0000.0000.000												
70	7.9	0.0040.0000.0000.0000.0000.0020.0020.0000.0000.0000.0000.0000.000												
50	5.1	0.0230.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.013	
50	5.3	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.050	
0.012														
50	5.5	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.119	0.050	
0.000														
50	5.7	0.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.147	0.119	0.010	
0.000														
50	5.9	0.363	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.215	0.048	0.000	

0.000													
50	6.1	0.531	0.000	0.000	0.000	0.000	0.000	0.000	0.075	0.319	0.136	0.000	0.000
0.000													
50	6.3	0.605	0.000	0.000	0.000	0.000	0.000	0.016	0.341	0.248	0.000	0.000	0.000
0.000													
50	6.5	0.581	0.000	0.000	0.000	0.000	0.000	0.178	0.364	0.039	0.000	0.000	0.000
0.000													
50	6.7	0.478	0.000	0.000	0.000	0.000	0.000	0.213	0.265	0.000	0.000	0.000	0.000
0.000													
50	6.9	0.395	0.000	0.000	0.000	0.000	0.013	0.252	0.130	0.000	0.000	0.000	0.000
0.000													
50	7.1	0.325	0.000	0.000	0.000	0.000	0.076	0.226	0.023	0.000	0.000	0.000	0.000
0.000													
50	7.3	0.263	0.000	0.000	0.000	0.000	0.120	0.143	0.000	0.000	0.000	0.000	0.000
0.000													
50	7.5	0.123	0.000	0.000	0.000	0.000	0.083	0.040	0.000	0.000	0.000	0.000	0.000
0.000													
50	7.7	0.014	0.000	0.000	0.000	0.002	0.011	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
50	7.9	0.003	0.000	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	5.1	0.482	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.216	0.120	0.045
0.001													
30	5.3	0.737	0.000	0.000	0.000	0.000	0.000	0.000	0.096	0.308	0.214	0.111	0.008
0.000													
30	5.5	1.012	0.000	0.000	0.000	0.000	0.000	0.096	0.401	0.306	0.192	0.017	0.000
0.000													
30	5.7	1.010	0.000	0.000	0.000	0.000	0.000	0.294	0.336	0.307	0.073	0.000	0.000
0.000													
30	5.9	0.932	0.000	0.000	0.000	0.000	0.123	0.307	0.315	0.187	0.000	0.000	0.000
0.000													
30	6.1	0.928	0.000	0.000	0.000	0.021	0.287	0.325	0.294	0.000	0.000	0.000	0.000
0.000													
30	6.3	0.831	0.000	0.000	0.000	0.175	0.272	0.343	0.041	0.000	0.000	0.000	0.000
0.000													
30	6.5	0.646	0.000	0.000	0.014	0.205	0.266	0.160	0.000	0.000	0.000	0.000	0.000
0.000													
30	6.7	0.485	0.000	0.000	0.030	0.158	0.230	0.067	0.000	0.000	0.000	0.000	0.000
0.000													
30	6.9	0.407	0.000	0.000	0.058	0.149	0.191	0.010	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.1	0.330	0.000	0.004	0.070	0.134	0.122	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.3	0.275	0.000	0.010	0.079	0.124	0.062	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.5	0.131	0.000	0.005	0.047	0.071	0.008	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.7	0.012	0.000	0.001	0.005	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.9	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	5.1	1.074	0.000	0.000	0.000	0.027	0.254	0.303	0.291	0.200	0.000	0.000	0.000
0.000													
10	5.3	1.044	0.000	0.000	0.040	0.186	0.293	0.298	0.226	0.000	0.000	0.000	0.000
0.000													
10	5.5	0.916	0.000	0.043	0.155	0.226	0.303	0.190	0.000	0.000	0.000	0.000	0.000
0.000													

10	5.7	0.689	0.000	0.086	0.137	0.153	0.304	0.008	0.000	0.000	0.000	0.000	0.000
0.000													
10	5.9	0.502	0.022	0.062	0.122	0.188	0.109	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.1	0.521	0.083	0.098	0.149	0.182	0.009	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.3	0.394	0.097	0.100	0.148	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.5	0.316	0.114	0.086	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.7	0.255	0.096	0.076	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.9	0.187	0.078	0.066	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.1	0.148	0.062	0.067	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.3	0.113	0.050	0.047	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.5	0.046	0.021	0.022	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.7	0.003	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.95

Distance (km): 39.224667

Magnitude: 6.1886182

Epsilon (mean values): -0.049814401

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.95

Distance (km): 39.223611

Magnitude: 6.1886091

Epsilon (mean values): -0.049833515

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.9

Distance (km): 38.582404

Magnitude: 6.1762986

Epsilon (mean values): -0.062324548

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.9

Distance (km): 38.581325

Magnitude: 6.1762892

Epsilon (mean values): -0.062344045

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.17

Distance (km): 37.033648

Magnitude: 6.1481844

Epsilon (mean values): -0.11588046

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.17

Distance (km): 37.021388

Magnitude: 6.1480117

Epsilon (mean values): -0.11617469

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.14

Distance (km): 36.53237  
Magnitude: 6.1385091  
Epsilon (mean values): -0.12595745  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.14  
Distance (km): 36.521138  
Magnitude: 6.1383514  
Epsilon (mean values): -0.12622968  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.053600771 g  
Recovered targets:  
Return period: 482.15757 yrs  
Exceedance rate: 0.0020740108 yr<sup>-1</sup>  
Totals:  
Binned: 18.85 %  
Residual: 0 %  
Trace: 0.27 %  
Mean (over all sources):  
m: 6.21  
r: 37.53 km  
 $\epsilon_0$ : 0.03  $\sigma$   
Mode (largest m-r bin):  
m: 5.1  
r: 11.9 km  
 $\epsilon_0$ : -0.08  $\sigma$   
Contribution: 1.1 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.1  
r: 10.43 km  
 $\epsilon_0$ : -0.24  $\sigma$   
Contribution: 0.35 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)

ε10: [2.0 .. 2.5)

ε11: [2.5 .. +∞]

	Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	
	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
290	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
210	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
190	7.5	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
190	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
190	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
170	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.1	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050
170	7.3	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
170	7.5	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
170	7.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
170	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
150	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.9	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
150	7.1	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
150	7.3	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0280
150	7.5	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0180
150	7.7	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
150	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
130	6.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	6.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	6.7	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050
130	6.9	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
130	7.1	0.0510	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050
130	7.3	0.0830	0.0000	0.0000	0.0000	0.0000	0.0000	0.0660
130	7.5	0.0580	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210
130	7.7	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
130	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
110	5.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	6.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	6.3	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
110	6.5	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150
110	6.7	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110
110	6.9	0.0630	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100
110	7.1	0.0980	0.0000	0.0000	0.0000	0.0000	0.0000	0.0830
110	7.3	0.1120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0660

110 7.5 0.0690.0000.0000.0000.0000.0000.0000.0000.0090.0560.0040.0000.0000.0000.0000  
110 7.7 0.0090.0000.0000.0000.0000.0000.0000.0000.0070.0020.0000.0000.0000.0000.0000  
110 7.9 0.0030.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.0000.0000.0000  
90 5.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000  
90 5.7 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
90 5.9 0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.009  
90 6.1 0.0270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0190.008  
90 6.3 0.0500.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0140.0360.000  
90 6.5 0.0580.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0410.0180.000  
90 6.7 0.0740.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.0550.0010.000  
90 6.9 0.1130.0000.0000.0000.0000.0000.0000.0000.0120.0890.0120.0000.000  
90 7.1 0.1460.0000.0000.0000.0000.0000.0000.0000.1020.0440.0000.0000.000  
90 7.3 0.1660.0000.0000.0000.0000.0000.0000.0000.0590.1030.0050.0000.0000.000  
90 7.5 0.0920.0000.0000.0000.0000.0000.0020.0740.0160.0000.0000.0000.0000.000  
90 7.7 0.0120.0000.0000.0000.0000.0000.0070.0050.0000.0000.0000.0000.0000.0000.000  
90 7.9 0.0030.0000.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.000  
70 5.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 5.3 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
70 5.5 0.0160.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.013  
70 5.7 0.0360.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0240.012  
70 5.9 0.0620.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.0460.003  
70 6.1 0.1010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0750.0260.000  
70 6.3 0.1480.0000.0000.0000.0000.0000.0000.0000.0000.0000.0640.0840.0000.000  
70 6.5 0.1850.0000.0000.0000.0000.0000.0000.0000.0030.1460.0360.0000.000  
70 6.7 0.2250.0000.0000.0000.0000.0000.0000.0000.0980.1220.0050.0000.000  
70 6.9 0.2530.0000.0000.0000.0000.0000.0000.0350.1930.0250.0000.0000.000  
70 7.1 0.2950.0000.0000.0000.0000.0000.0020.2150.0770.0000.0000.0000.0000.000  
70 7.3 0.2840.0000.0000.0000.0000.0000.1090.1690.0050.0000.0000.0000.0000.000  
70 7.5 0.1440.0000.0000.0000.0000.0020.1160.0270.0000.0000.0000.0000.0000.000  
70 7.7 0.0230.0000.0000.0000.0000.0100.0120.0000.0000.0000.0000.0000.0000.000  
70 7.9 0.0040.0000.0000.0000.0000.0030.0000.0000.0000.0000.0000.0000.0000.000  
50 5.1 0.0360.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.018  
50 5.3 0.0790.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0580.013  
50 5.5 0.1250.0000.0000.0000.0000.0000.0000.0000.0000.0000.0660.0570.002  
50 5.7 0.1680.0000.0000.0000.0000.0000.0000.0000.0000.0340.1040.0300.000  
50 5.9 0.2110.0000.0000.0000.0000.0000.0000.0000.1190.0900.0020.000  
50 6.1 0.3050.0000.0000.0000.0000.0000.0000.0980.1740.0330.0000.000  
50 6.3 0.3500.0000.0000.0000.0000.0000.0210.2250.1050.0000.0000.000  
50 6.5 0.3440.0000.0000.0000.0000.0000.1260.1990.0190.0000.0000.000  
50 6.7 0.3250.0000.0000.0000.0000.0190.1780.1290.0000.0000.0000.000  
50 6.9 0.3230.0000.0000.0000.0000.1220.1840.0170.0000.0000.0000.000  
50 7.1 0.3020.0000.0000.0000.0000.0420.1970.0630.0000.0000.0000.0000.000  
50 7.3 0.2640.0000.0000.0000.0010.1350.1230.0060.0000.0000.0000.0000.000  
50 7.5 0.1280.0000.0000.0000.0220.0830.0230.0000.0000.0000.0000.0000.000  
50 7.7 0.0140.0000.0000.0000.0070.0070.0000.0000.0000.0000.0000.0000.0000.000  
50 7.9 0.0040.0000.0000.0010.0030.0010.0000.0000.0000.0000.0000.0000.0000.000  
30 5.1 0.5380.0000.0000.0000.0000.0000.0000.0000.0960.2480.1440.0500.000  
30 5.3 0.6480.0000.0000.0000.0000.0000.0000.0210.2670.2310.1240.0060.000  
30 5.5 0.6950.0000.0000.0000.0000.0000.1640.2800.1910.0600.0000.000  
30 5.7 0.6970.0000.0000.0000.0000.0520.2620.2300.1540.0000.0000.000  
30 5.9 0.6710.0000.0000.0000.0000.1530.2470.2210.0490.0000.0000.000  
30 6.1 0.7020.0000.0000.0000.0000.0540.2640.2580.1250.0000.0000.0000.000  
30 6.3 0.6590.0000.0000.0150.1900.2220.2300.0030.0000.0000.0000.0000.000  
30 6.5 0.5300.0000.0000.0680.1690.2000.0930.0000.0000.0000.0000.0000.000  
30 6.7 0.4220.0000.0000.0080.0730.1560.1660.0190.0000.0000.0000.0000.000  
30 6.9 0.3820.0000.0000.0350.1160.1550.0760.0000.0000.0000.0000.0000.000  
30 7.1 0.3240.0000.0090.0610.1240.1200.0100.0000.0000.0000.0000.0000.000





Distance (km): 34.416719  
Magnitude: 6.1441115  
Epsilon (mean values): -0.020208171  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs  
Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 0.19 %  
Residual: 0 %  
Trace: 0 %

Mean (over all sources):

m: 9.2  
r: 328.92 km  
ε<sub>0</sub>: 2 σ

Mode (largest m-r bin):

m: 9.34  
r: 323.7 km  
ε<sub>0</sub>: 1.75 σ  
Contribution: 0.12 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34  
r: 323.7 km  
ε<sub>0</sub>: 1.75 σ  
Contribution: 0.12 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)  
ε<sub>3</sub>: [-1.5 .. -1.0)  
ε<sub>4</sub>: [-1.0 .. -0.5)  
ε<sub>5</sub>: [-0.5 .. 0.0)  
ε<sub>6</sub>: [0.0 .. 0.5)  
ε<sub>7</sub>: [0.5 .. 1.0)  
ε<sub>8</sub>: [1.0 .. 1.5)  
ε<sub>9</sub>: [1.5 .. 2.0)  
ε<sub>10</sub>: [2.0 .. 2.5)  
ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

390 9.1 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001

370 9.1 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.017  
350 8.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
350 8.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
350 8.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
330 8.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
330 8.7 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
330 8.9 0.0180.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.018  
330 9.1 0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.035  
330 9.3 0.1190.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.119

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 8.69 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 8.88

r: 359.36 km

$\epsilon_0$ : 0.8  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 323.7 km

$\epsilon_0$ : 0.24  $\sigma$

Contribution: 1.24 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 323.7 km

$\epsilon_0$ : 0.24  $\sigma$

Contribution: 1.24 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞)

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε      ε=(-∞,-2.5)      ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
 ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

590	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
530	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
530	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
530	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
510	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
510	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
510	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	8.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000
490	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
470	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
470	8.1	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0030
470	8.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000
470	8.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000
450	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
450	8.1	0.0390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0380	0.0000
450	8.3	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340	0.0000
450	8.5	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0380	0.0000
430	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000
430	8.1	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090	0.0000
430	8.3	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000
430	8.5	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0090	0.0000
410	7.9	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0000
410	8.1	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170	0.0000
410	8.3	0.0390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0000
410	8.5	0.0600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0560	0.0040	0.0000
410	8.7	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0000	0.0000
390	7.9	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.0000
390	8.1	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0320	0.0000
390	8.3	0.1300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1240	0.0060	0.0000
390	8.5	0.1760	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1760	0.0000	0.0000
390	8.7	0.6560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6560	0.0000	0.0000
390	9.1	0.3620	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3620	0.0000	0.0000
370	7.9	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120	0.0000
370	8.1	0.0290	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170	0.0120	0.0000
370	8.3	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0180	0.0000	0.0000
370	8.5	0.2150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2150	0.0000	0.0000
370	8.7	0.8660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0980	0.7680	0.0000	0.0000
370	8.9	0.8550	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8550	0.0000	0.0000	0.0000
370	9.1	1.1970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1970	0.0000	0.0000	0.0000
350	7.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0010	0.0000
350	8.1	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0000	0.0000
350	8.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0000	0.0000
350	8.5	0.0910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0730	0.0180	0.0000	0.0000
350	8.7	0.0770	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0770	0.0000	0.0000	0.0000
350	8.9	0.0950	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0950	0.0000	0.0000	0.0000

330 7.9 0.0180.0000.0000.0000.0000.0000.0000.0000.0000.0180.0000.0000.000  
330 8.1 0.0400.0000.0000.0000.0000.0000.0000.0000.0000.0400.0000.0000.000  
330 8.3 0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0240.0000.0000.000  
330 8.5 0.1450.0000.0000.0000.0000.0000.0000.0000.1390.0060.0000.0000.000  
330 8.7 0.1820.0000.0000.0000.0000.0000.0000.0000.1820.0000.0000.0000.000  
330 8.9 0.8830.0000.0000.0000.0000.0000.0000.0000.8830.0000.0000.0000.000  
330 9.1 1.0090.0000.0000.0000.0000.0000.0001.0090.0000.0000.0000.0000.000  
330 9.3 1.2390.0000.0000.0000.0000.0000.0001.2390.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 3.02

Distance (km): 323.70483

Magnitude: 9.1016722

Epsilon (mean values): 0.41710256

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.02

Distance (km): 323.70483

Magnitude: 9.1016722

Epsilon (mean values): 0.41710256

Azimuth: 287.96053

Latitude: 46.3

Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.78

Distance (km): 377.23061

Magnitude: 8.9150328

Epsilon (mean values): 0.88162676

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.78

Distance (km): 377.23061

Magnitude: 8.9150328

Epsilon (mean values): 0.88162676

Azimuth: 285.79267

Latitude: 46.3

Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 1.1 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 7.07

r: 260.14 km  
 $\epsilon_0$ : 1.57  $\sigma$   
Mode (largest m-r bin):  
m: 7.11  
r: 270.19 km  
 $\epsilon_0$ : 1.6  $\sigma$   
Contribution: 0.18 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.09  
r: 271.6 km  
 $\epsilon_0$ : 1.67  $\sigma$   
Contribution: 0.13 %

Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$        $\epsilon=(-\infty,-2.5)$        $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

310	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	6.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	6.7	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.013
290	6.9	0.0660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0600
290	7.1	0.1340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1220	0.0130
290	7.3	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0040
290	7.5	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0050	0.0000	0.0000	0.0000	0.0000
270	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	6.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
270	6.7	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210
270	6.9	0.0760	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0400	0.0370
270	7.1	0.1820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0550	0.1270	0.0000	0.0000	0.0000
270	7.3	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0290	0.0010	0.0000	0.0000	0.0000
270	7.5	0.0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0180	0.0060	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	6.5	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
250	6.7	0.0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0210
250	6.9	0.0620	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0590	0.0040
250	7.1	0.1350	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1010	0.0340	0.0000	0.0000	0.0000
250	7.3	0.0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120	0.0120	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	6.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

230 6.3 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
230 6.5 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.000  
230 6.7 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.0060.000  
230 6.9 0.0410.0000.0000.0000.0000.0000.0000.0000.0000.0180.0230.0000.000  
230 7.1 0.0880.0000.0000.0000.0000.0000.0000.0000.0170.0710.0000.0000.000  
230 7.3 0.0140.0000.0000.0000.0000.0000.0000.0000.0130.0010.0000.0000.000  
230 7.5 0.0100.0000.0000.0000.0000.0000.0000.0070.0030.0000.0000.0000.000  
230 7.7 0.0020.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.000  
230 7.9 0.0030.0000.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.000  
210 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
210 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
210 6.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.000  
210 6.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0000.000  
210 6.9 0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0070.0000.0000.000  
210 7.1 0.0140.0000.0000.0000.0000.0000.0000.0000.0120.0030.0000.0000.000  
210 7.3 0.0040.0000.0000.0000.0000.0000.0000.0020.0020.0000.0000.0000.000  
210 7.5 0.0030.0000.0000.0000.0000.0000.0000.0030.0000.0000.0000.0000.000  
210 7.7 0.0010.0000.0000.0000.0000.0000.0010.0000.0000.0000.0000.0000.000  
210 7.9 0.0010.0000.0000.0000.0000.0000.0010.0000.0000.0000.0000.0000.000  
190 5.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 6.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 6.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000  
190 6.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.000  
190 7.1 0.0030.0000.0000.0000.0000.0000.0000.0000.0030.0000.0000.0000.000  
190 7.3 0.0010.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.0000.000  
190 7.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 7.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
190 7.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 5.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 7.1 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 7.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 7.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 7.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 7.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 5.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 5.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 7.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 7.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 7.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 7.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 7.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
130 5.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
130 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000





ε0: [-∞ .. -2.5)  
 ε1: [-2.5 .. -2.0)  
 ε2: [-2.0 .. -1.5)  
 ε3: [-1.5 .. -1.0)  
 ε4: [-1.0 .. -0.5)  
 ε5: [-0.5 .. 0.0)  
 ε6: [0.0 .. 0.5)  
 ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞)

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
 ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

450	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
410	8.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.002
410	8.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
390	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
390	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
390	8.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.005
390	8.5	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.003
390	8.7	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0670	0.000
390	9.1	0.0710	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0710	0.000
370	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
370	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
370	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
370	8.5	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0220	0.000
370	8.7	0.1390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1390	0.000
370	8.9	0.1710	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1710	0.000
370	9.1	0.3730	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3730	0.000	0.000
350	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
350	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
350	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
350	8.5	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0180	0.0010
350	8.7	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210	0.000
350	8.9	0.0370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0370	0.000
330	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.000
330	8.1	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.000
330	8.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.000
330	8.5	0.0390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0360	0.000
330	8.7	0.0640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0630	0.0010	0.000
330	8.9	0.3830	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3830	0.0000	0.000
330	9.1	0.5170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5170	0.0000	0.000
330	9.3	0.8190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8190	0.0000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution sub0\_ch\_bot.in:

Percent Contributed: 1.66

Distance (km): 323.70483

Magnitude: 9.1380666

Epsilon (mean values): 0.8471818

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.66

Distance (km): 323.70483

Magnitude: 9.1380666  
Epsilon (mean values): 0.8471818  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 0.09 %

Residual: 0 %

Trace: 0.1 %

Mean (over all sources):

m: 7.26

r: 239.83 km

$\epsilon_0$ : 1.85  $\sigma$

Mode (largest m-r bin):

m: 7.11

r: 230.1 km

$\epsilon_0$ : 1.98  $\sigma$

Contribution: 0.01 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.13

r: 248.28 km

$\epsilon_0$ : 2.28  $\sigma$

Contribution: 0.01 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$

$\epsilon = (-\infty, -2.5)$

$\epsilon = [-2.5, -2)$   $\epsilon = [-2, -1.5)$   $\epsilon = [-1.5, -1)$

$\epsilon = [-1, -0.5)$   $\epsilon = [-0.5, 0)$   $\epsilon = [0, 0.5)$   $\epsilon = [0.5, 1)$   $\epsilon = [1, 1.5)$   $\epsilon = [1.5, 2)$   $\epsilon = [2, 2.5)$   $\epsilon = [2.5, \infty)$

290	7.1	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001
290	7.3	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
290	7.5	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.000
270	6.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
270	7.1	0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.005
270	7.3	0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.000
270	7.5	0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0010.000
270	7.7	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000
270	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
250	6.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
250	6.9	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002
250	7.1	0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0100.002
250	7.3	0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0010.000
250	7.5	0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0010.0030.0000.000
250	7.7	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000
250	7.9	0.0030.0000.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.000
230	6.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
230	6.7	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001
230	6.9	0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.001
230	7.1	0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0070.000
230	7.3	0.0030.0000.0000.0000.0000.0000.0000.0000.0010.0020.0000.000
230	7.5	0.0030.0000.0000.0000.0000.0000.0000.0000.0030.0000.0000.000
230	7.7	0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000
230	7.9	0.0020.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.000
210	6.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
210	6.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
210	6.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
210	6.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0010.000
210	7.1	0.0040.0000.0000.0000.0000.0000.0000.0000.0010.0030.0000.000
210	7.3	0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000
210	7.5	0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000
210	7.7	0.0010.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.0000.000
210	7.9	0.0010.0000.0000.0000.0000.0000.0010.0000.0000.0000.0000.0000.000
190	6.1	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	6.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	6.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	6.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	6.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	7.1	0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000
190	7.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	7.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	7.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
190	7.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	5.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	5.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	6.1	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	6.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	6.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	6.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	6.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	7.1	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	7.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	7.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	7.7	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
170	7.9	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000
150	5.5	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000



Mode (largest m-r bin):

m: 5.1  
r: 11.99 km  
 $\epsilon_0$ : -0.17  $\sigma$   
Contribution: 4.65 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5  
r: 23.85 km  
 $\epsilon_0$ : 0.27  $\sigma$   
Contribution: 1.49 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty .. -2.5)$   
 $\epsilon_1$ :  $[-2.5 .. -2.0)$   
 $\epsilon_2$ :  $[-2.0 .. -1.5)$   
 $\epsilon_3$ :  $[-1.5 .. -1.0)$   
 $\epsilon_4$ :  $[-1.0 .. -0.5)$   
 $\epsilon_5$ :  $[-0.5 .. 0.0)$   
 $\epsilon_6$ :  $[0.0 .. 0.5)$   
 $\epsilon_7$ :  $[0.5 .. 1.0)$   
 $\epsilon_8$ :  $[1.0 .. 1.5)$   
 $\epsilon_9$ :  $[1.5 .. 2.0)$   
 $\epsilon_{10}$ :  $[2.0 .. 2.5)$   
 $\epsilon_{11}$ :  $[2.5 .. +\infty)$

Closest Distance, rRup (km) Magnitude (Mw) ALL\_  $\epsilon$   $\epsilon=(-\infty,-2.5)$   $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

290	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
230	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.003
210	7.5	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.004	0.004
210	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.0000	0.0000
210	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
190	7.3	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.009	0.009
190	7.5	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0120	0.003	0.003
190	7.7	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0020	0.000	0.000
190	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.0000	0.000	0.000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	6.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
170	7.1	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.012	0.012
170	7.3	0.0460	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0340	0.004	0.004
170	7.5	0.0390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0190	0.0180	0.000	0.000
170	7.7	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0050	0.0010	0.000	0.000

170 7.9 0.0040.0000.0000.0000.0000.0000.0000.0000.0010.0020.0010.0000.000  
150 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.5 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
150 6.7 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.008  
150 6.9 0.0280.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0150.013  
150 7.1 0.0560.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.0470.002  
150 7.3 0.0930.0000.0000.0000.0000.0000.0000.0000.0000.0050.0620.0260.000  
150 7.5 0.0690.0000.0000.0000.0000.0000.0000.0000.0000.0190.0470.0030.000  
150 7.7 0.0130.0000.0000.0000.0000.0000.0000.0000.0020.0070.0030.0000.000  
150 7.9 0.0050.0000.0000.0000.0000.0000.0000.0000.0020.0020.0000.0000.000  
130 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
130 6.3 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.010  
130 6.5 0.0300.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.019  
130 6.7 0.0480.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0360.012  
130 6.9 0.0880.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.0650.000  
130 7.1 0.1300.0000.0000.0000.0000.0000.0000.0000.0000.0050.1060.0190.000  
130 7.3 0.1770.0000.0000.0000.0000.0000.0000.0000.0000.0850.0910.0010.000  
130 7.5 0.1160.0000.0000.0000.0000.0000.0000.0000.0160.0820.0180.0000.000  
130 7.7 0.0180.0000.0000.0000.0000.0000.0000.0010.0100.0070.0000.0000.000  
130 7.9 0.0060.0000.0000.0000.0000.0000.0000.0020.0030.0010.0000.0000.000  
110 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
110 5.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
110 6.1 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.023  
110 6.3 0.0870.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0610.023  
110 6.5 0.1270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0360.0840.006  
110 6.7 0.1570.0000.0000.0000.0000.0000.0000.0000.0000.0000.0920.0640.000  
110 6.9 0.2190.0000.0000.0000.0000.0000.0000.0000.0000.0450.1670.0080.000  
110 7.1 0.2910.0000.0000.0000.0000.0000.0000.0000.0000.2060.0850.0000.000  
110 7.3 0.3270.0000.0000.0000.0000.0000.0000.0000.1040.2130.0100.0000.000  
110 7.5 0.2040.0000.0000.0000.0000.0000.0000.0080.1330.0630.0000.0000.000  
110 7.7 0.0260.0000.0000.0000.0000.0000.0000.0100.0150.0010.0000.0000.000  
110 7.9 0.0080.0000.0000.0000.0000.0000.0010.0050.0020.0000.0000.0000.000  
90 5.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 5.5 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.009  
90 5.7 0.0370.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.033  
90 5.9 0.0940.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0550.039  
90 6.1 0.1970.0000.0000.0000.0000.0000.0000.0000.0000.0000.0340.1470.016  
90 6.3 0.3420.0000.0000.0000.0000.0000.0000.0000.0000.0320.2120.0980.000  
90 6.5 0.4030.0000.0000.0000.0000.0000.0000.0000.1300.2410.0310.000  
90 6.7 0.4220.0000.0000.0000.0000.0000.0000.0160.2300.1740.0010.000  
90 6.9 0.5030.0000.0000.0000.0000.0000.0000.1100.3540.0390.0000.000  
90 7.1 0.5430.0000.0000.0000.0000.0000.0050.3470.1910.0000.0000.000  
90 7.3 0.5580.0000.0000.0000.0000.0000.1270.3950.0360.0000.0000.000  
90 7.5 0.2930.0000.0000.0000.0000.0000.0020.1680.1240.0000.0000.0000.000  
90 7.7 0.0370.0000.0000.0000.0000.0000.0090.0250.0030.0000.0000.0000.000  
90 7.9 0.0100.0000.0000.0000.0000.0010.0050.0040.0000.0000.0000.0000.000  
70 5.1 0.0200.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.020  
70 5.3 0.0640.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.042  
70 5.5 0.1960.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.1300.054  
70 5.7 0.3240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0970.2040.023  
70 5.9 0.4640.0000.0000.0000.0000.0000.0000.0000.0000.0000.3020.1600.003  
70 6.1 0.6750.0000.0000.0000.0000.0000.0000.0000.2150.4230.0370.000  
70 6.3 0.9200.0000.0000.0000.0000.0000.1190.5990.2020.0000.000  
70 6.5 0.9640.0000.0000.0000.0000.0000.3990.5070.0590.0000.000  
70 6.7 0.8500.0000.0000.0000.0000.0000.0500.5060.2880.0060.0000.000  
70 6.9 0.8650.0000.0000.0000.0000.0000.2040.5900.0700.0000.0000.000  
70 7.1 0.8350.0000.0000.0000.0000.0000.0040.5350.2960.0000.0000.0000.000

70	7.3	0.7980.0000.0000.0000.0000.0000.1530.5790.0670.0000.0000.0000.000											
70	7.5	0.4080.0000.0000.0000.0000.0020.2050.1990.0020.0000.0000.0000.000											
70	7.7	0.0470.0000.0000.0000.0000.0070.0350.0050.0000.0000.0000.0000.000											
70	7.9	0.0120.0000.0000.0000.0000.0050.0060.0000.0000.0000.0000.0000.000											
50	5.1	0.3150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0790.1800.056											
50	5.3	0.5820.0000.0000.0000.0000.0000.0000.0000.0000.0050.2890.2580.030											
50	5.5	1.0090.0000.0000.0000.0000.0000.0000.0000.0000.3060.5470.1550.002											
50	5.7	1.2170.0000.0000.0000.0000.0000.0000.0000.0560.6650.4560.0400.000											
50	5.9	1.3610.0000.0000.0000.0000.0000.0000.0000.3340.8210.2030.0020.000											
50	6.1	1.7450.0000.0000.0000.0000.0000.0000.1000.9600.6520.0330.0000.000											
50	6.3	1.8520.0000.0000.0000.0000.0000.0160.5961.0420.1980.0000.0000.000											
50	6.5	1.7380.0000.0000.0000.0000.0000.1780.9030.6370.0190.0000.0000.000											
50	6.7	1.5160.0000.0000.0000.0000.0000.2760.9050.3340.0000.0000.0000.000											
50	6.9	1.3510.0000.0000.0000.0000.0130.5670.7310.0390.0000.0000.0000.000											
50	7.1	1.1790.0000.0000.0000.0000.1180.7600.3000.0000.0000.0000.0000.000											
50	7.3	0.9950.0000.0000.0000.0010.3390.5970.0580.0000.0000.0000.0000.000											
50	7.5	0.4760.0000.0000.0000.0220.2630.1920.0000.0000.0000.0000.0000.000											
50	7.7	0.0540.0000.0000.0000.0110.0370.0060.0000.0000.0000.0000.0000.000											
50	7.9	0.0140.0000.0000.0010.0060.0070.0000.0000.0000.0000.0000.0000.000											
30	5.1	2.7720.0000.0000.0000.0000.0000.0000.0880.8531.1100.5850.1360.001											
30	5.3	3.4640.0000.0000.0000.0000.0000.0000.5561.4521.1080.3350.0130.000											
30	5.5	4.0830.0000.0000.0000.0000.0000.3981.4871.4030.7180.0780.0000.000											
30	5.7	3.8150.0000.0000.0000.0000.0000.8801.4211.2210.2930.0000.0000.000											
30	5.9	3.3760.0000.0000.0000.0000.1901.0991.2250.8110.0490.0000.0000.000											
30	6.1	3.2460.0000.0000.0000.0210.5951.2321.2020.1960.0000.0000.0000.000											
30	6.3	2.8700.0000.0000.0000.1990.8491.1430.6760.0030.0000.0000.0000.000											
30	6.5	2.2320.0000.0000.0140.3190.8120.8670.2200.0000.0000.0000.0000.000											
30	6.7	1.7290.0000.0000.0380.3010.7070.6490.0340.0000.0000.0000.0000.000											
30	6.9	1.5120.0000.0000.0970.4260.6760.3130.0000.0000.0000.0000.0000.000											
30	7.1	1.2580.0000.0130.1480.4570.5650.0750.0000.0000.0000.0000.0000.000											
30	7.3	1.0700.0000.0300.2020.4860.3510.0010.0000.0000.0000.0000.0000.000											
30	7.5	0.5130.0000.0210.1330.2640.0940.0000.0000.0000.0000.0000.0000.000											
30	7.7	0.0470.0000.0040.0170.0250.0020.0000.0000.0000.0000.0000.0000.000											
30	7.9	0.0090.0000.0010.0040.0040.0000.0000.0000.0000.0000.0000.0000.000											
10	5.1	4.6460.0000.0000.0000.3430.9981.3901.3340.5820.0000.0000.0000.000											
10	5.3	4.1480.0000.0000.1720.7171.0901.3070.8470.0150.0000.0000.0000.000											
10	5.5	3.4550.0000.1380.3960.7611.1140.9340.1120.0000.0000.0000.0000.000											
10	5.7	2.6010.0100.1530.4500.6250.9720.3920.0000.0000.0000.0000.0000.000											
10	5.9	1.9120.0510.1440.3770.5850.6800.0750.0000.0000.0000.0000.0000.000											
10	6.1	2.001 0.145 0.331 0.453 0.669 0.403 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	6.3	1.525 0.200 0.313 0.443 0.482 0.087 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	6.5	1.225 0.241 0.268 0.370 0.309 0.037 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	6.7	0.997 0.218 0.240 0.315 0.225 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	6.9	0.736 0.198 0.211 0.250 0.076 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	7.1	0.587 0.168 0.203 0.185 0.031 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	7.3	0.449 0.144 0.157 0.142 0.007 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	7.5	0.183 0.066 0.073 0.045 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													
10	7.7	0.014 0.006 0.006 0.002 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000											
0.000													

10 7.9 0.003 0.001 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 10.94  
Distance (km): 37.312266  
Magnitude: 6.1258702  
Epsilon (mean values): 0.06914528

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 10.94  
Distance (km): 37.309824  
Magnitude: 6.1258497  
Epsilon (mean values): 0.069107888

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 10.78  
Distance (km): 36.767892  
Magnitude: 6.114525  
Epsilon (mean values): 0.058758927

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 10.78  
Distance (km): 36.765413  
Magnitude: 6.114504  
Epsilon (mean values): 0.058720926

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 8.12  
Distance (km): 35.272385  
Magnitude: 6.0872008  
Epsilon (mean values): 0.0051946978

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 8.11  
Distance (km): 35.260964  
Magnitude: 6.0870309  
Epsilon (mean values): 0.0049332663

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 8.03  
Distance (km): 34.851915  
Magnitude: 6.0784171  
Epsilon (mean values): -0.0031147868

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 8.02  
Distance (km): 34.841384  
Magnitude: 6.0782613  
Epsilon (mean values): -0.0033576799

WUSmap\_2014\_fixSm\_M8.in (opt):

Percent Contributed: 2.69  
Distance (km): 40.319287  
Magnitude: 6.2528578  
Epsilon (mean values): 0.039773571

noPuget\_2014\_fixSm\_M8.in (opt):

Percent Contributed: 2.69  
Distance (km): 40.300304  
Magnitude: 6.252687  
Epsilon (mean values): 0.039537404

noPuget\_2014\_adSm\_M8.in (opt):

Percent Contributed: 1.98  
Distance (km): 38.170618  
Magnitude: 6.2069219



Epsilon (mean values): -0.018933532  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 1.98  
Distance (km): 38.161299  
Magnitude: 6.2067046  
Epsilon (mean values): -0.019147537  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.053600771 g  
Recovered targets:  
Return period: 482.15757 yrs  
Exceedance rate: 0.0020740108 yr<sup>-1</sup>  
Totals:  
Binned: 1.19 %  
Residual: 0 %  
Trace: 0.15 %  
Mean (over all sources):  
m: 7.08  
r: 258.67 km  
 $\epsilon_0$ : 1.59  $\sigma$   
Mode (largest m-r bin):  
m: 7.11  
r: 270.11 km  
 $\epsilon_0$ : 1.63  $\sigma$   
Contribution: 0.19 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.09  
r: 271.6 km  
 $\epsilon_0$ : 1.67  $\sigma$   
Contribution: 0.13 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
310	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.7	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
290	6.9	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.060
290	7.1	0.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.122	0.013
290	7.3	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000
290	7.5	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.005	0.000	0.001
270	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	6.5	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270	6.7	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
270	6.9	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.037
270	7.1	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.127	0.002
270	7.3	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.029	0.001	0.002
270	7.5	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.006	0.002	0.001
270	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
250	6.7	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.021
250	6.9	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.004
250	7.1	0.147	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.101	0.034	0.010
250	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.012	0.002	0.001
250	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.001	0.003	0.000
250	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.000	0.000
250	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.000	0.000	0.000
230	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	6.3	0.001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
230	6.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.000







370 9.1 1.5880.0000.0000.0000.0000.0000.0000.0000.0001.1970.3730.0000.0000.017  
350 7.9 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0010.0000.000  
350 8.1 0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.0000.0010.000  
350 8.3 0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.0000.0010.000  
350 8.5 0.1100.0000.0000.0000.0000.0000.0000.0000.0000.0730.0180.0180.0010.000  
350 8.7 0.0980.0000.0000.0000.0000.0000.0000.0000.0000.0770.0000.0210.0000.000  
350 8.9 0.1340.0000.0000.0000.0000.0000.0000.0000.0000.0950.0370.0000.0000.002  
330 7.9 0.0190.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.0000.0020.000  
330 8.1 0.0460.0000.0000.0000.0000.0000.0000.0000.0000.0000.0400.0000.0050.000  
330 8.3 0.0280.0000.0000.0000.0000.0000.0000.0000.0000.0000.0240.0040.0000.000  
330 8.5 0.1850.0000.0000.0000.0000.0000.0000.0000.0000.1390.0100.0360.0000.001  
330 8.7 0.2480.0000.0000.0000.0000.0000.0000.0000.0000.1820.0630.0010.0000.002  
330 8.9 1.2850.0000.0000.0000.0000.0000.0000.0000.0000.8830.3830.0000.0180.000  
330 9.1 1.5620.0000.0000.0000.0000.0000.0000.0001.0090.5170.0000.0000.0350.000  
330 9.3 2.1770.0000.0000.0000.0000.0000.0000.0001.2390.8190.0000.1190.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 4.85

Distance (km): 323.70483

Magnitude: 9.1185201

Epsilon (mean values): 0.61677308

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 4.85

Distance (km): 323.70483

Magnitude: 9.1185201

Epsilon (mean values): 0.61677308

Azimuth: 287.96053

Latitude: 46.3

Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 3.46

Distance (km): 377.23061

Magnitude: 8.9260255

Epsilon (mean values): 1.0332049

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.46

Distance (km): 377.23061

Magnitude: 8.9260255

Epsilon (mean values): 1.0332049

Azimuth: 285.79267

Latitude: 46.3

Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.053600771 g

Recovered targets:

Return period: 482.15757 yrs

Exceedance rate: 0.0020740108 yr<sup>-1</sup>

Totals:

Binned: 1.82 %

Residual: 0 %

Trace: 0.04 %

Mean (over all sources):

m: 7.04

r: 79.32 km

ε<sub>0</sub>: 0.72 σ

Mode (largest m-r bin):

m: 6.73

r: 68.38 km

ε<sub>0</sub>: 0.81 σ

Contribution: 0.32 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.11

r: 66.64 km

ε<sub>0</sub>: 0.31 σ

Contribution: 0.24 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2) ε=[-2,-1.5) ε=[-1.5,-1)  
ε=[-1,-0.5) ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
150	6.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
150	6.9	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.005
150	7.1	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0100	0.003
150	7.3	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0050	0.000
150	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
130	6.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.001
130	6.7	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.002

130	6.9	0.0130.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0110.000
130	7.1	0.0310.0000.0000.0000.0000.0000.0000.0000.0000.0000.0240.0070.000
130	7.3	0.0570.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.0370.0000.000
130	7.5	0.0390.0000.0000.0000.0000.0000.0000.0000.0050.0280.0070.0000.000
130	7.7	0.0060.0000.0000.0000.0000.0000.0000.0000.0030.0030.0000.0000.000
110	6.5	0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0040.000
110	6.7	0.0230.0000.0000.0000.0000.0000.0000.0000.0000.0000.0160.0070.000
110	6.9	0.0430.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.0290.0010.000
110	7.1	0.0520.0000.0000.0000.0000.0000.0000.0000.0000.0000.0420.0100.0000.000
110	7.3	0.0290.0000.0000.0000.0000.0000.0000.0000.0100.0190.0000.0000.000
110	7.5	0.0040.0000.0000.0000.0000.0000.0000.0000.0030.0010.0000.0000.000
90	6.5	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000
90	6.7	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.000
90	6.9	0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0030.0010.0000.000
90	7.1	0.0150.0000.0000.0000.0000.0000.0000.0000.0030.0120.0000.0000.000
90	7.3	0.0270.0000.0000.0000.0000.0000.0000.0000.0190.0080.0000.0000.000
90	7.5	0.0170.0000.0000.0000.0000.0000.0000.0010.0160.0000.0000.0000.000
90	7.7	0.0020.0000.0000.0000.0000.0000.0000.0020.0010.0000.0000.0000.000
70	6.5	0.1510.0000.0000.0000.0000.0000.0000.0000.0690.0810.0020.0000.000
70	6.7	0.3170.0000.0000.0000.0000.0000.0000.0220.2360.0580.0000.0000.000
70	6.9	0.2380.0000.0000.0000.0000.0000.0000.0910.1470.0000.0000.0000.000
70	7.1	0.3140.0000.0000.0000.0000.0000.0000.2430.0710.0000.0000.0000.000
70	7.3	0.2360.0000.0000.0000.0000.0000.0670.1690.0000.0000.0000.0000.000
70	7.5	0.1050.0000.0000.0000.0000.0000.0680.0370.0000.0000.0000.0000.000
70	7.7	0.0320.0000.0000.0000.0000.0040.0270.0010.0000.0000.0000.0000.000
70	7.9	0.0020.0000.0000.0000.0000.0010.0010.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution)



\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (v4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.7 %

Mean (over all sources):

m: 6.41

r: 70.8 km

$\epsilon_0$ : 0.17  $\sigma$

Mode (largest m-r bin):

m: 5.1

r: 12.03 km

$\epsilon_0$ : -0.19  $\sigma$

Contribution: 4.69 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.51

r: 24.66 km

$\epsilon_0$ : 0.25  $\sigma$

Contribution: 1.54 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km)    Magnitude (Mw)    ALL\_ $\epsilon$      $\epsilon$ =(- $\infty$ , -2.5)     $\epsilon$ =[-2.5, -2)     $\epsilon$ =[-2, -1.5)     $\epsilon$ =[-1.5, -1)     $\epsilon$ =[-1, -0.5)     $\epsilon$ =[-0.5, 0)     $\epsilon$ =[0, 0.5)     $\epsilon$ =[0.5, 1)     $\epsilon$ =[1, 1.5)     $\epsilon$ =[1.5, 2)     $\epsilon$ =[2, 2.5)     $\epsilon$ =[2.5,  $\infty$ )

590 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
570 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
570 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
550 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
550 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
530 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
530 0.000	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
530 0.000	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
510 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
510 0.000	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
510 0.000	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
490 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
490 0.000	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
490 0.000	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
490 0.000	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
470 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
470 0.000	8.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
470 0.000	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
470 0.000	8.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
450 0.000	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
450 0.000	8.1	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.012
450 0.000	8.3	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.000
450 0.000	8.5	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.000
430 0.000	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
430 0.000	8.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000
430 0.000	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
430 0.000	8.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.010	0.000
410 0.000	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
410	8.1	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000

0.000													
410	8.3	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.000
0.000													
410	8.5	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.014	0.000
0.002													
410	8.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000
0.000													
390	7.9	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000
0.000													
390	8.1	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.000
0.000													
390	8.3	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.105	0.000
0.003													
390	8.5	0.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.097	0.047	0.003
0.004													
390	8.7	0.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.542	0.000	0.045
0.000													
390	9.1	0.357	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.305	0.052	0.000
0.000													
370	7.9	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
0.000													
370	8.1	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.022	0.000
0.000													
370	8.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.001	0.000
0.001													
370	8.5	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.000	0.014
0.001													
370	8.7	0.821	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.723	0.006	0.092
0.000													
370	8.9	0.842	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.124	0.000
0.000													
370	9.1	1.322	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.023	0.000	0.285	0.000
0.014													
350	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
0.000													
350	8.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.001	0.000
0.000													
350	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.001
0.000													
350	8.5	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.076	0.012	0.002
0.000													
350	8.7	0.081	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.065	0.000	0.015	0.000
0.000													
350	8.9	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.082	0.029	0.000	0.000
0.001													
330	7.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.001
0.000													
330	8.1	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033	0.000	0.004
0.000													
330	8.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.003
0.000													
330	8.5	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.036	0.029	0.000
0.000													
330	8.7	0.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.155	0.017	0.033	0.000
0.001													
330	8.9	1.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.761	0.302	0.000	0.001
0.014													

330 0.000	9.1	1.324	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.876	0.417	0.000	0.030
330 0.000	9.3	1.887	0.000	0.000	0.000	0.000	0.000	0.000	1.094	0.687	0.000	0.105	0.000
290 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290 0.011	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
290 0.005	6.9	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044
290 0.000	7.1	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.084	0.022
290 0.000	7.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.006	0.000
290 0.000	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000
290 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270 0.002	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
270 0.008	6.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
270 0.000	6.9	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.041
270 0.003	7.1	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.127	0.005
270 0.000	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.003	0.001
270 0.000	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.011	0.000	0.002
270 0.000	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.001	0.000
270 0.000	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
250 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250 0.003	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
250 0.001	6.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017
250 0.001	6.9	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.010
250 0.003	7.1	0.117	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.053	0.005
250 0.000	7.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.015	0.001	0.002
250 0.000	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.001	0.002	0.000
250 0.000	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.001	0.000	0.000
250 0.000	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000
230 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
230	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003

0.001													
230	6.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.007
0.000													
230	6.9	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.027	0.002
0.001													
230	7.1	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.005	0.007
0.000													
230	7.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.002	0.002	0.000
0.000													
230	7.5	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.006	0.002	0.001	0.000
0.002													
230	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.001
0.000													
230	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000
0.000													
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
210	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
210	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000													
210	6.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
0.000													
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.001
0.000													
210	7.1	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.005	0.003	0.000
0.000													
210	7.3	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.001
0.004													
210	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.001	0.000	0.004
0.004													
210	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.002
0.000													
210	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000
0.000													
190	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
0.000													
190	7.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.001
0.006													
190	7.3	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
0.009													
190	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.015
0.002													
190	7.7	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.002
0.000													
190	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.001	0.000
0.000													

170 0.000	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.001	6.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.007	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.010	7.1	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014
170 0.003	7.3	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.036
170 0.001	7.5	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.026	0.015
170 0.000	7.7	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.005	0.001
170 0.000	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.000
150 0.000	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.003	6.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.015	6.7	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
150 0.016	6.9	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.029
150 0.005	7.1	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.057
150 0.000	7.3	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.071	0.027
150 0.000	7.5	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.044	0.004
150 0.000	7.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.007	0.003	0.000
150 0.000	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000
130 0.000	5.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130 0.000	5.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130 0.000	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.000													
130	6.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001													
130	6.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.014													
130	6.5	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011
0.024													
130	6.7	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048
0.013													
130	6.9	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.075
0.001													
130	7.1	0.174	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.140	0.023
0.000													
130	7.3	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.123	0.120	0.001
0.000													
130	7.5	0.164	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.105	0.023	0.000
0.000													
130	7.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.012	0.011	0.000	0.000
0.000													
130	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.001	0.000	0.000
0.000													
110	5.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001													
110	5.9	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008													
110	6.1	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.027													
110	6.3	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.072
0.021													
110	6.5	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.111
0.002													
110	6.7	0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.119	0.068
0.000													
110	6.9	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.224	0.004
0.000													
110	7.1	0.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.267	0.082	0.000
0.000													
110	7.3	0.369	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.121	0.243	0.005	0.000
0.000													
110	7.5	0.215	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.135	0.060	0.000	0.000
0.000													
110	7.7	0.027	0.000	0.000	0.000	0.000	0.000	0.001	0.010	0.015	0.001	0.000	0.000
0.000													
110	7.9	0.008	0.000	0.000	0.000	0.000	0.000	0.002	0.004	0.002	0.000	0.000	0.000
0.000													
90	5.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001													
90	5.5	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.019													
90	5.7	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031
0.032													
90	5.9	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.083
0.035													
90	6.1	0.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054	0.149
0.013													
90	6.3	0.350	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.258	0.092
0.000													

90	6.5	0.406	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.094	0.298	0.014
0.000														
90	6.7	0.432	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	0.0000	0.2540	0.1780	0.010
90	6.9	0.5190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0740	0.4280	0.0160	0.0000	0.000	0.000
90	7.1	0.5720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.3680	0.1980	0.0000	0.0000	0.000
90	7.3	0.5980	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1240	0.4510	0.0220	0.0000	0.0000	0.000
90	7.5	0.3160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.1700	0.1390	0.0000	0.0000	0.0000	0.000
90	7.7	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0280	0.0030	0.0000	0.0000	0.0000	0.000
90	7.9	0.0100	0.0000	0.0000	0.0000	0.0000	0.0010	0.0050	0.0040	0.0000	0.0000	0.0000	0.0000	0.000
70	5.1	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.027
70	5.3	0.0960	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0460
70	5.5	0.2640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0680	0.1520	0.044
70	5.7	0.3940	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1960	0.1740	0.024
70	5.9	0.5230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0710	0.3060	0.1420
70	6.1	0.7140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2680	0.4150	0.0310
70	6.3	0.9370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0630	0.6940	0.1800
70	6.5	1.1260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4380	0.6570	0.0300
70	6.7	1.1850	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.8560	0.3250	0.0020	0.0000	0.000
70	6.9	1.1210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2380	0.8640	0.0200	0.0000	0.0000	0.000
70	7.1	1.1670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.8080	0.3500	0.0000	0.0000	0.0000	0.000
70	7.3	1.0480	0.0000	0.0000	0.0000	0.0000	0.0000	0.1900	0.8330	0.0250	0.0000	0.0000	0.0000	0.000
70	7.5	0.5180	0.0000	0.0000	0.0000	0.0060	0.2640	0.2470	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
70	7.7	0.0790	0.0000	0.0000	0.0000	0.0190	0.0560	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
70	7.9	0.0140	0.0000	0.0000	0.0000	0.0010	0.0050	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	5.1	0.3740	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1070	0.2140	0.052
50	5.3	0.6860	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0600	0.3590	0.2430
50	5.5	1.1620	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0860	0.4590	0.4810	0.1320	0.004
50	5.7	1.3420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2490	0.6520	0.3930	0.0490	0.000
50	5.9	1.4460	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090	0.4790	0.7470	0.2110	0.0000	0.000
50	6.1	1.8010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1470	0.9930	0.6320	0.0280	0.0000	0.000
50	6.3	1.8820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6261	1.1140	0.1420	0.0000	0.0000	0.000
50	6.5	1.7600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0341	0.0420	0.6770	0.0060	0.0000	0.0000	0.000
50	6.7	1.5360	0.0000	0.0000	0.0000	0.0000	0.0000	0.2550	0.9910	0.2900	0.0000	0.0000	0.0000	0.000
50	6.9	1.3660	0.0000	0.0000	0.0000	0.0000	0.0040	0.5970	0.7570	0.0080	0.0000	0.0000	0.0000	0.000
50	7.1	1.1890	0.0000	0.0000	0.0000	0.0000	0.1000	0.7920	0.2980	0.0000	0.0000	0.0000	0.0000	0.000
50	7.3	1.0010	0.0000	0.0000	0.0000	0.0110	0.3350	0.6240	0.0310	0.0000	0.0000	0.0000	0.0000	0.000
50	7.5	0.4780	0.0000	0.0000	0.0000	0.0300	0.2660	0.1810	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	7.7	0.0540	0.0000	0.0000	0.0010	0.0120	0.0350	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	7.9	0.0140	0.0000	0.0000	0.0010	0.0050	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	5.1	2.9520	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0901	0.0551	1.1000	0.5940	0.1090	0.003
30	5.3	3.6490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7641	0.4691	0.0840	0.3120	0.0200	0.000
30	5.5	4.2210	0.0000	0.0000	0.0000	0.0000	0.0300	0.4651	0.5431	0.4690	0.6270	0.0880	0.0000	0.000
30	5.7	3.8960	0.0000	0.0000	0.0000	0.0000	0.1630	0.8911	0.4171	1.1000	0.3250	0.0000	0.0000	0.000
30	5.9	3.4220	0.0000	0.0000	0.0000	0.0000	0.2121	1.1101	0.3230	0.7300	0.0470	0.0000	0.0000	0.000
30	6.1	3.2760	0.0000	0.0000	0.0000	0.0000	0.6281	0.2501	0.1950	0.2030	0.0000	0.0000	0.0000	0.000
30	6.3	2.8930	0.0000	0.0000	0.0000	0.1190	0.9591	0.1490	0.6660	0.0000	0.0000	0.0000	0.0000	0.000
30	6.5	2.2490	0.0000	0.0000	0.0000	0.3260	0.7851	0.0240	0.1140	0.0000	0.0000	0.0000	0.0000	0.000
30	6.7	1.7400	0.0000	0.0000	0.0210	0.3050	0.7290	0.6690	0.0170	0.0000	0.0000	0.0000	0.0000	0.000
30	6.9	1.5180	0.0000	0.0000	0.0770	0.4380	0.7020	0.3020	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.1	1.2610	0.0000	0.0140	0.1340	0.4770	0.5940	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.3	1.0700	0.0000	0.0280	0.1890	0.4950	0.3580	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.5	0.5130	0.0010	0.0230	0.1360	0.2600	0.0930	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.7	0.0470	0.0010	0.0040	0.0170	0.0230	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
30	7.9	0.0090	0.0000	0.0010	0.0040	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
10	5.1	4.6860	0.0000	0.0000	0.0000	0.4340	0.9321	0.4151	0.3890	0.4960	0.0200	0.0000	0.0000	0.000
10	5.3	4.1590	0.0000	0.0620	0.0930	0.7091	0.1511	0.2630	0.8370	0.0440	0.0000	0.0000	0.0000	0.000
10	5.5	3.4510	0.0430	0.0970	0.4320	0.6751	0.1370	0.9730	0.0930	0.0000	0.0000	0.0000	0.0000	0.000





Epsilon (mean values): 0.73028588  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 4.14  
Distance (km): 323.70483  
Magnitude: 9.1214301  
Epsilon (mean values): 0.73028588  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.85  
Distance (km): 377.23061  
Magnitude: 8.9276131  
Epsilon (mean values): 1.1316907

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.85  
Distance (km): 377.23061  
Magnitude: 8.9276131  
Epsilon (mean values): 1.1316907  
Azimuth: 285.79267  
Latitude: 46.3  
Longitude: -124.13677

WUSmap\_2014\_fixSm\_M8.in (opt):

Percent Contributed: 2.76  
Distance (km): 40.815209  
Magnitude: 6.2451749  
Epsilon (mean values): 0.050179141

noPuget\_2014\_fixSm\_M8.in (opt):

Percent Contributed: 2.76  
Distance (km): 40.792648  
Magnitude: 6.2449745  
Epsilon (mean values): 0.049906461

noPuget\_2014\_adSm\_M8.in (opt):

Percent Contributed: 2.03  
Distance (km): 38.663199  
Magnitude: 6.2002038  
Epsilon (mean values): -0.0094228471

WUSmap\_2014\_adSm\_M8.in (opt):

Percent Contributed: 2.03  
Distance (km): 38.655477  
Magnitude: 6.1999991  
Epsilon (mean values): -0.0096208589

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 23.37 %

Residual: 0 %

Trace: 0.28 %

Mean (over all sources):

m: 6.07

r: 37.79 km

ε<sub>0</sub>: 0.16 σ

Mode (largest m-r bin):

m: 5.1

r: 12.36 km

ε<sub>0</sub>: -0.36 σ

Contribution: 1.4 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.09

r: 23.65 km

ε<sub>0</sub>: 0.76 σ

Contribution: 0.61 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	
ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)

290	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
210	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
210	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
190	7.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
190	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050
190	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010

190 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000  
170 6.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
170 6.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
170 7.1 0.0060.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.003  
170 7.3 0.0130.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.000  
170 7.5 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.0050.000  
170 7.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0010.0020.0000.000  
170 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000  
150 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
150 6.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
150 6.7 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004  
150 6.9 0.0130.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.005  
150 7.1 0.0210.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0190.000  
150 7.3 0.0280.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.0060.000  
150 7.5 0.0200.0000.0000.0000.0000.0000.0000.0000.0000.0020.0180.0000.000  
150 7.7 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0030.0000.0000.000  
150 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.0000.000  
130 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
130 6.3 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.005  
130 6.5 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.007  
130 6.7 0.0160.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.003  
130 6.9 0.0270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.0200.000  
130 7.1 0.0420.0000.0000.0000.0000.0000.0000.0000.0000.0000.0370.0060.000  
130 7.3 0.0610.0000.0000.0000.0000.0000.0000.0000.0000.0270.0340.0000.000  
130 7.5 0.0410.0000.0000.0000.0000.0000.0000.0000.0010.0390.0010.0000.000  
130 7.7 0.0070.0000.0000.0000.0000.0000.0000.0000.0040.0030.0000.0000.000  
130 7.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000  
110 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
110 5.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
110 6.1 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.009  
110 6.3 0.0300.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0260.004  
110 6.5 0.0380.0000.0000.0000.0000.0000.0000.0000.0000.0000.0090.0290.000  
110 6.7 0.0470.0000.0000.0000.0000.0000.0000.0000.0000.0000.0300.0170.000  
110 6.9 0.0680.0000.0000.0000.0000.0000.0000.0000.0000.0090.0580.0000.000  
110 7.1 0.0870.0000.0000.0000.0000.0000.0000.0000.0000.0670.0200.0000.000  
110 7.3 0.0920.0000.0000.0000.0000.0000.0000.0000.0210.0710.0000.0000.000  
110 7.5 0.0540.0000.0000.0000.0000.0000.0000.0000.0420.0120.0000.0000.000  
110 7.7 0.0070.0000.0000.0000.0000.0000.0020.0050.0000.0000.0000.0000.000  
110 7.9 0.0020.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.0000.000  
90 5.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 5.5 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.005  
90 5.7 0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.013  
90 5.9 0.0320.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0210.011  
90 6.1 0.0590.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.0450.002  
90 6.3 0.0990.0000.0000.0000.0000.0000.0000.0000.0000.0000.0790.0200.000  
90 6.5 0.1040.0000.0000.0000.0000.0000.0000.0000.0000.0220.0800.0020.000  
90 6.7 0.1020.0000.0000.0000.0000.0000.0000.0000.0000.0540.0480.0000.000  
90 6.9 0.1250.0000.0000.0000.0000.0000.0000.0000.0120.1090.0050.0000.000  
90 7.1 0.1380.0000.0000.0000.0000.0000.0000.0000.0840.0550.0000.0000.000  
90 7.3 0.1460.0000.0000.0000.0000.0000.0000.0160.1290.0010.0000.0000.000  
90 7.5 0.0780.0000.0000.0000.0000.0000.0000.0430.0350.0000.0000.0000.000  
90 7.7 0.0100.0000.0000.0000.0000.0000.0010.0090.0000.0000.0000.0000.000  
90 7.9 0.0030.0000.0000.0000.0000.0000.0020.0010.0000.0000.0000.0000.000  
70 5.1 0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.024  
70 5.3 0.0460.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0230.023  
70 5.5 0.0730.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0580.015  
70 5.7 0.1030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0330.0680.002

70	5.9	0.1370.0000.0000.0000.0000.0000.0000.0000.0000.0000.0980.0390.000
70	6.1	0.1890.0000.0000.0000.0000.0000.0000.0000.0000.0000.0710.1160.0020.000
70	6.3	0.2530.0000.0000.0000.0000.0000.0000.0000.0000.0200.1980.0350.0000.000
70	6.5	0.2780.0000.0000.0000.0000.0000.0000.0000.0950.1770.0050.0000.000
70	6.7	0.2790.0000.0000.0000.0000.0000.0000.0000.1860.0930.0000.0000.000
70	6.9	0.2670.0000.0000.0000.0000.0000.0000.0000.0330.2260.0080.0000.0000.000
70	7.1	0.2760.0000.0000.0000.0000.0000.0000.1690.1070.0000.0000.0000.000
70	7.3	0.2520.0000.0000.0000.0000.0000.0170.2310.0040.0000.0000.0000.000
70	7.5	0.1260.0000.0000.0000.0000.0000.0570.0690.0000.0000.0000.0000.000
70	7.7	0.0190.0000.0000.0000.0000.0010.0180.0000.0000.0000.0000.0000.000
70	7.9	0.0040.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.000
50	5.1	0.2200.0000.0000.0000.0000.0000.0000.0000.0000.0000.0950.1190.006
50	5.3	0.2640.0000.0000.0000.0000.0000.0000.0000.0000.0070.1790.0780.000
50	5.5	0.3080.0000.0000.0000.0000.0000.0000.0000.0000.1050.1780.0250.000
50	5.7	0.3450.0000.0000.0000.0000.0000.0000.0000.0000.2150.1290.0000.000
50	5.9	0.3760.0000.0000.0000.0000.0000.0000.0000.1060.2310.0380.0000.000
50	6.1	0.4670.0000.0000.0000.0000.0000.0000.0240.2750.1680.0000.0000.000
50	6.3	0.4910.0000.0000.0000.0000.0000.0000.1790.2950.0170.0000.0000.000
50	6.5	0.4320.0000.0000.0000.0000.0000.0000.2540.1790.0000.0000.0000.000
50	6.7	0.3650.0000.0000.0000.0000.0000.0310.2460.0890.0000.0000.0000.000
50	6.9	0.3300.0000.0000.0000.0000.0000.1240.2070.0000.0000.0000.0000.000
50	7.1	0.2890.0000.0000.0000.0000.0020.1980.0900.0000.0000.0000.0000.000
50	7.3	0.2460.0000.0000.0000.0000.00670.1740.0050.0000.0000.0000.0000.000
50	7.5	0.1180.0000.0000.0000.0000.00680.0500.0000.0000.0000.0000.0000.000
50	7.7	0.0130.0000.0000.0000.0020.0110.0010.0000.0000.0000.0000.0000.000
50	7.9	0.0030.0000.0000.0000.0020.0020.0000.0000.0000.0000.0000.0000.000
30	5.1	1.2240.0000.0000.0000.0000.0000.0000.0900.6050.3710.1590.0000.000
30	5.3	1.1420.0000.0000.0000.0000.0000.0000.2850.4750.3460.0370.0000.000
30	5.5	1.0500.0000.0000.0000.0000.0000.0000.4340.4030.2130.0000.0000.000
30	5.7	0.9520.0000.0000.0000.0000.0000.1740.3570.3670.0540.0000.0000.000
30	5.9	0.8460.0000.0000.0000.0000.0000.2780.3550.2130.0000.0000.0000.000
30	6.1	0.8070.0000.0000.0000.0000.1080.3300.3320.0370.0000.0000.0000.000
30	6.3	0.7120.0000.0000.0000.0000.2380.3030.1710.0000.0000.0000.0000.000
30	6.5	0.5380.0000.0000.0000.0300.1910.2730.0450.0000.0000.0000.0000.000
30	6.7	0.4120.0000.0000.0000.0300.1750.1990.0080.0000.0000.0000.0000.000
30	6.9	0.3650.0000.0000.0000.0800.1890.0960.0000.0000.0000.0000.0000.000
30	7.1	0.3060.0000.0000.0070.1060.1760.0160.0000.0000.0000.0000.0000.000
30	7.3	0.2620.0000.0000.0210.1280.1130.0000.0000.0000.0000.0000.0000.000
30	7.5	0.1260.0000.0000.0230.0760.0270.0000.0000.0000.0000.0000.0000.000
30	7.7	0.0120.0000.0000.0040.0080.0000.0000.0000.0000.0000.0000.0000.000
30	7.9	0.0020.0000.0000.0010.0010.0000.0000.0000.0000.0000.0000.0000.000
10	5.1	1.4050.0000.0000.0000.1780.3500.4500.4270.0000.0000.0000.0000.000
10	5.3	1.0850.0000.0000.0000.2100.3260.3820.1660.0000.0000.0000.0000.000
10	5.5	0.8280.0000.0000.0740.1290.2760.3490.0000.0000.0000.0000.0000.000
10	5.7	0.6240.0000.0000.0840.1630.2070.1710.0000.0000.0000.0000.0000.000
10	5.9	0.4640.0000.0300.0580.1390.2190.0170.0000.0000.0000.0000.0000.000
10	6.1	0.4880.0000.0760.1000.1810.1310.0000.0000.0000.0000.0000.0000.000
10	6.3	0.3740.0180.0720.1010.1590.0240.0000.0000.0000.0000.0000.0000.000
10	6.5	0.3000.0300.0620.0860.1000.0220.0000.0000.0000.0000.0000.0000.000
10	6.7	0.2450.0350.0490.0730.0890.0000.0000.0000.0000.0000.0000.0000.000
10	6.9	0.1820.0290.0460.0770.0300.0000.0000.0000.0000.0000.0000.0000.000
10	7.1	0.1450.0240.0450.0680.0080.0000.0000.0000.0000.0000.0000.0000.000
10	7.3	0.1110.0210.0350.0550.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.5	0.0450.0100.0190.0170.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.7	0.0030.0010.0020.0010.0000.0000.0000.0000.0000.0000.0000.0000.000
10	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.94

Distance (km): 37.63147

Magnitude: 6.0607443

Epsilon (mean values): 0.18423576

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.94

Distance (km): 37.629005

Magnitude: 6.0607223

Epsilon (mean values): 0.18419902

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.9

Distance (km): 37.136558

Magnitude: 6.0495159

Epsilon (mean values): 0.17578597

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.9

Distance (km): 37.134055

Magnitude: 6.0494935

Epsilon (mean values): 0.17574866

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.18

Distance (km): 35.624293

Magnitude: 6.0238013

Epsilon (mean values): 0.12148404

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.18

Distance (km): 35.612866

Magnitude: 6.0236296

Epsilon (mean values): 0.12123283

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.16

Distance (km): 35.24159

Magnitude: 6.0151447

Epsilon (mean values): 0.11466243

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.16

Distance (km): 35.231008

Magnitude: 6.0149873

Epsilon (mean values): 0.11442735

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:







70 6.1 0.2580.0000.0000.0000.0000.0000.0000.0000.0000.1630.0950.0000.000  
70 6.3 0.2720.0000.0000.0000.0000.0000.0000.0000.0000.0290.2130.0310.0000.000  
70 6.5 0.3150.0000.0000.0000.0000.0000.0000.0000.1630.1530.0000.0000.000  
70 6.7 0.3360.0000.0000.0000.0000.0000.0000.0010.2770.0570.0000.0000.000  
70 6.9 0.2980.0000.0000.0000.0000.0000.0000.0090.2040.0000.0000.0000.000  
70 7.1 0.2980.0000.0000.0000.0000.0000.0000.2210.0770.0000.0000.0000.000  
70 7.3 0.2580.0000.0000.0000.0000.0000.0250.2290.0040.0000.0000.0000.000  
70 7.5 0.1250.0000.0000.0000.0000.0000.0590.0660.0000.0000.0000.0000.000  
70 7.7 0.0190.0000.0000.0000.0000.0000.0180.0010.0000.0000.0000.0000.000  
70 7.9 0.0030.0000.0000.0000.0000.0010.0030.0000.0000.0000.0000.0000.000  
50 5.1 0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.0650.020  
50 5.3 0.2820.0000.0000.0000.0000.0000.0000.0000.0000.0530.1570.0720.000  
50 5.5 0.5910.0000.0000.0000.0000.0000.0000.0000.0860.3540.1510.0000.000  
50 5.7 0.6210.0000.0000.0000.0000.0000.0000.0000.2490.3410.0320.0000.000  
50 5.9 0.5760.0000.0000.0000.0000.0000.0000.0090.3510.2170.0000.0000.000  
50 6.1 0.5990.0000.0000.0000.0000.0000.1210.3730.1040.0000.0000.0000.000  
50 6.3 0.5320.0000.0000.0000.0000.0000.2340.2950.0030.0000.0000.0000.000  
50 6.5 0.4810.0000.0000.0000.0000.0000.0220.3160.1430.0000.0000.0000.000  
50 6.7 0.4250.0000.0000.0000.0000.1210.2740.0300.0000.0000.0000.0000.000  
50 6.9 0.3600.0000.0000.0000.0000.1880.1720.0000.0000.0000.0000.0000.000  
50 7.1 0.3040.0000.0000.0000.0240.2240.0560.0000.0000.0000.0000.0000.000  
50 7.3 0.2510.0000.0000.0000.0830.1660.0020.0000.0000.0000.0000.0000.000  
50 7.5 0.1190.0000.0000.0000.0700.0490.0000.0000.0000.0000.0000.0000.000  
50 7.7 0.0130.0000.0000.0010.0110.0010.0000.0000.0000.0000.0000.0000.000  
50 7.9 0.0030.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.0000.000  
30 5.1 0.7820.0000.0000.0000.0000.0000.0000.0000.2620.3220.1780.0200.000  
30 5.3 1.2490.0000.0000.0000.0000.0000.3920.4950.3170.0450.0000.0000.000  
30 5.5 1.6370.0000.0000.0000.0300.4650.6420.4910.0090.0000.0000.0000.000  
30 5.7 1.3900.0000.0000.0000.1630.4980.4820.2470.0000.0000.0000.0000.000  
30 5.9 1.0940.0000.0000.0000.1970.3990.4580.0400.0000.0000.0000.0000.000  
30 6.1 0.9340.0000.0000.0000.2750.3630.2950.0000.0000.0000.0000.0000.000  
30 6.3 0.7550.0000.0000.0310.2750.3240.1240.0000.0000.0000.0000.0000.000  
30 6.5 0.5750.0000.0000.0840.2180.2690.0050.0000.0000.0000.0000.0000.000  
30 6.7 0.4490.0000.0000.0050.0830.2060.1550.0000.0000.0000.0000.0000.000  
30 6.9 0.3840.0000.0000.0150.1190.1870.0630.0000.0000.0000.0000.0000.000  
30 7.1 0.3160.0000.0000.0250.1310.1570.0030.0000.0000.0000.0000.0000.000  
30 7.3 0.2670.0000.0000.0390.1360.0920.0000.0000.0000.0000.0000.0000.000  
30 7.5 0.1280.0000.0010.0310.0720.0230.0000.0000.0000.0000.0000.0000.000  
30 7.7 0.0120.0000.0000.0040.0070.0000.0000.0000.0000.0000.0000.0000.000  
30 7.9 0.0020.0000.0000.0010.0010.0000.0000.0000.0000.0000.0000.0000.000  
10 5.1 1.2180.0000.0000.0000.1790.2240.3410.3650.1090.0000.0000.0000.000  
10 5.3 1.1680.0000.0620.0930.2160.3120.3810.1050.0000.0000.0000.0000.000  
10 5.5 0.9890.0430.0970.1790.2220.4140.0340.0000.0000.0000.0000.0000.000  
10 5.7 0.7150.0660.0680.1610.2100.2090.0000.0000.0000.0000.0000.0000.000  
10 5.9 0.5050.0460.0470.1280.1820.1020.0000.0000.0000.0000.0000.0000.000  
10 6.1 0.5110.0650.0920.1090.2080.0390.0000.0000.0000.0000.0000.0000.000  
10 6.3 0.3820.0580.0630.1280.1330.0000.0000.0000.0000.0000.0000.0000.000  
10 6.5 0.3060.0550.0580.0990.0950.0000.0000.0000.0000.0000.0000.0000.000  
10 6.7 0.2490.0450.0600.0780.0650.0000.0000.0000.0000.0000.0000.0000.000  
10 6.9 0.1830.0360.0550.0750.0160.0000.0000.0000.0000.0000.0000.0000.000  
10 7.1 0.1460.0270.0530.0640.0020.0000.0000.0000.0000.0000.0000.0000.000  
10 7.3 0.1120.0230.0420.0460.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.5 0.0450.0110.0190.0160.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.7 0.0030.0010.0020.0010.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.34  
Distance (km): 38.509919  
Magnitude: 6.0544189  
Epsilon (mean values): 0.070539747  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 3.34  
Distance (km): 38.507838  
Magnitude: 6.0544006  
Epsilon (mean values): 0.070506073  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.3  
Distance (km): 38.026617  
Magnitude: 6.0434594  
Epsilon (mean values): 0.061287231  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 3.3  
Distance (km): 38.024504  
Magnitude: 6.0434406  
Epsilon (mean values): 0.06125303  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.47  
Distance (km): 36.518676  
Magnitude: 6.021451  
Epsilon (mean values): -0.00067835045  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 2.46  
Distance (km): 36.507968  
Magnitude: 6.0212994  
Epsilon (mean values): -0.00095351696  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.44  
Distance (km): 36.141781  
Magnitude: 6.0129667  
Epsilon (mean values): -0.0082112795  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.44  
Distance (km): 36.131912  
Magnitude: 6.0128293  
Epsilon (mean values): -0.0084689918  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.074598628 g  
Recovered targets:  
Return period: 481.13078 yrs  
Exceedance rate: 0.002078437 yr<sup>-1</sup>  
Totals:  
Binned: 19.38 %

Residual: 0 %  
 Trace: 0.21 %  
 Mean (over all sources):  
 m: 6.21  
 r: 36.72 km  
 $\epsilon_0$ : -0.01  $\sigma$   
 Mode (largest m-r bin):  
 m: 5.3  
 r: 12.24 km  
 $\epsilon_0$ : -0.35  $\sigma$   
 Contribution: 0.93 %  
 Mode (largest m-r- $\epsilon_0$  bin):  
 m: 6.1  
 r: 26.24 km  
 $\epsilon_0$ : -0.26  $\sigma$   
 Contribution: 0.3 %

Discretization:  
 r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
 m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ )

	Closest Distance	rRup (km)	Magnitude (Mw)	ALL_ $\epsilon$	$\epsilon=(-\infty,-2.5)$	$\epsilon=[-2.5,-2)$	$\epsilon=[-2,-1.5)$	$\epsilon=[-1.5,-1)$	$\epsilon=[-1,-0.5)$	$\epsilon=[-0.5,0)$	$\epsilon=[0,0.5)$	$\epsilon=[0.5,1)$	$\epsilon=[1,1.5)$	$\epsilon=[1.5,2)$	$\epsilon=[2,2.5)$	$\epsilon=[2.5,\infty)$
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
170	7.5	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
170	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
150	6.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
150	7.1	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
150	7.3	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0110

150	7.5	0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.0030.000											
150	7.7	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000											
150	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000											
130	6.3	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001											
130	6.5	0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.006											
130	6.7	0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0070.004											
130	6.9	0.0190.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0170.001											
130	7.1	0.0270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0150.0130.000											
130	7.3	0.0370.0000.0000.0000.0000.0000.0000.0000.0000.0000.0360.0010.000											
130	7.5	0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0160.0000.000											
130	7.7	0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0000.0000.000											
130	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.000											
110	6.1	0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003											
110	6.3	0.0180.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.006											
110	6.5	0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.0290.000											
110	6.7	0.0440.0000.0000.0000.0000.0000.0000.0000.0000.0000.0260.0180.000											
110	6.9	0.0580.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0530.0030.000											
110	7.1	0.0710.0000.0000.0000.0000.0000.0000.0000.0000.0000.0400.0310.0000.000											
110	7.3	0.0680.0000.0000.0000.0000.0000.0000.0000.0000.0000.0630.0050.0000.000											
110	7.5	0.0380.0000.0000.0000.0000.0000.0000.0000.0120.0260.0000.0000.000											
110	7.7	0.0050.0000.0000.0000.0000.0000.0000.0000.0040.0010.0000.0000.000											
110	7.9	0.0010.0000.0000.0000.0000.0000.0000.0000.0010.0000.0000.0000.000											
90	5.7	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001											
90	5.9	0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.007											
90	6.1	0.0390.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0300.006											
90	6.3	0.0880.0000.0000.0000.0000.0000.0000.0000.0000.0000.0640.0230.000											
90	6.5	0.1170.0000.0000.0000.0000.0000.0000.0000.0000.0420.0750.0000.000											
90	6.7	0.1160.0000.0000.0000.0000.0000.0000.0000.0000.0740.0420.0000.000											
90	6.9	0.1270.0000.0000.0000.0000.0000.0000.0000.0160.1040.0060.0000.000											
90	7.1	0.1300.0000.0000.0000.0000.0000.0000.0000.0690.0600.0000.0000.000											
90	7.3	0.1280.0000.0000.0000.0000.0000.0000.0030.1100.0150.0000.0000.000											
90	7.5	0.0660.0000.0000.0000.0000.0000.0000.0180.0480.0000.0000.0000.000											
90	7.7	0.0080.0000.0000.0000.0000.0000.0000.0060.0020.0000.0000.0000.000											
90	7.9	0.0020.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.000											
70	5.3	0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000											
70	5.5	0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.009											
70	5.7	0.0330.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.011											
70	5.9	0.0740.0000.0000.0000.0000.0000.0000.0000.0000.0000.0260.0460.002											
70	6.1	0.1470.0000.0000.0000.0000.0000.0000.0000.0000.0270.1090.0110.000											
70	6.3	0.2410.0000.0000.0000.0000.0000.0000.0000.0150.1860.0400.0000.000											
70	6.5	0.3200.0000.0000.0000.0000.0000.0000.0000.1620.1590.0000.0000.000											
70	6.7	0.3170.0000.0000.0000.0000.0000.0000.0000.2500.0660.0000.0000.000											
70	6.9	0.2790.0000.0000.0000.0000.0000.0000.0420.2360.0000.0000.0000.000											
70	7.1	0.2750.0000.0000.0000.0000.0000.0000.1620.1130.0000.0000.0000.000											
70	7.3	0.2370.0000.0000.0000.0000.0000.0000.2230.0140.0000.0000.0000.000											
70	7.5	0.1150.0000.0000.0000.0000.0000.0210.0940.0000.0000.0000.0000.000											
70	7.7	0.0180.0000.0000.0000.0000.0000.0150.0030.0000.0000.0000.0000.000											
70	7.9	0.0030.0000.0000.0000.0000.0000.0030.0000.0000.0000.0000.0000.000											
50	5.1	0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.009											
50	5.3	0.0430.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.012											
50	5.5	0.114 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.060 0.051											
0.003													
50	5.7	0.181 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.046 0.108 0.027											
0.000													
50	5.9	0.253 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.017 0.153 0.082 0.000											
0.000													
50	6.1	0.393 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.002 0.210 0.172 0.009 0.000											

0.000													
50	6.3	0.473	0.000	0.000	0.000	0.000	0.000	0.000	0.153	0.286	0.034	0.000	0.000
0.000													
50	6.5	0.471	0.000	0.000	0.000	0.000	0.000	0.013	0.304	0.154	0.000	0.000	0.000
0.000													
50	6.7	0.394	0.000	0.000	0.000	0.000	0.000	0.072	0.259	0.063	0.000	0.000	0.000
0.000													
50	6.9	0.333	0.000	0.000	0.000	0.000	0.000	0.132	0.201	0.000	0.000	0.000	0.000
0.000													
50	7.1	0.280	0.000	0.000	0.000	0.000	0.002	0.177	0.101	0.000	0.000	0.000	0.000
0.000													
50	7.3	0.231	0.000	0.000	0.000	0.000	0.034	0.176	0.022	0.000	0.000	0.000	0.000
0.000													
50	7.5	0.110	0.000	0.000	0.000	0.000	0.042	0.068	0.000	0.000	0.000	0.000	0.000
0.000													
50	7.7	0.012	0.000	0.000	0.000	0.000	0.008	0.004	0.000	0.000	0.000	0.000	0.000
0.000													
50	7.9	0.003	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	5.1	0.344	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.159	0.110	0.049
0.003													
30	5.3	0.543	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.197	0.200	0.106	0.020
0.000													
30	5.5	0.777	0.000	0.000	0.000	0.000	0.000	0.000	0.257	0.283	0.186	0.050	0.000
0.000													
30	5.7	0.802	0.000	0.000	0.000	0.000	0.000	0.147	0.287	0.235	0.133	0.000	0.000
0.000													
30	5.9	0.765	0.000	0.000	0.000	0.000	0.015	0.242	0.254	0.234	0.020	0.000	0.000
0.000													
30	6.1	0.794	0.000	0.000	0.000	0.000	0.135	0.304	0.300	0.054	0.000	0.000	0.000
0.000													
30	6.3	0.738	0.000	0.000	0.000	0.064	0.239	0.276	0.159	0.000	0.000	0.000	0.000
0.000													
30	6.5	0.587	0.000	0.000	0.000	0.119	0.204	0.264	0.000	0.000	0.000	0.000	0.000
0.000													
30	6.7	0.445	0.000	0.000	0.005	0.107	0.180	0.153	0.000	0.000	0.000	0.000	0.000
0.000													
30	6.9	0.379	0.000	0.000	0.015	0.115	0.166	0.083	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.1	0.310	0.000	0.000	0.033	0.107	0.151	0.019	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.3	0.261	0.000	0.000	0.041	0.102	0.119	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.5	0.125	0.000	0.001	0.022	0.063	0.039	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.7	0.011	0.000	0.000	0.003	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
30	7.9	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	5.1	0.922	0.000	0.000	0.000	0.000	0.149	0.271	0.260	0.221	0.020	0.000	0.000
0.000													
10	5.3	0.928	0.000	0.000	0.000	0.140	0.238	0.244	0.263	0.044	0.000	0.000	0.000
0.000													
10	5.5	0.845	0.000	0.000	0.121	0.191	0.218	0.290	0.024	0.000	0.000	0.000	0.000
0.000													
10	5.7	0.647	0.000	0.043	0.094	0.173	0.226	0.110	0.000	0.000	0.000	0.000	0.000
0.000													

10	5.9	0.478	0.000	0.060	0.101	0.127	0.185	0.005	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.1	0.505	0.052	0.087	0.108	0.168	0.091	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.3	0.387	0.075	0.081	0.113	0.118	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.5	0.311	0.084	0.073	0.097	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.7	0.252	0.077	0.061	0.082	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	6.9	0.185	0.057	0.060	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.1	0.147	0.049	0.049	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.3	0.112	0.036	0.040	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.5	0.046	0.016	0.018	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.7	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.43

Distance (km): 36.657462

Magnitude: 6.1985921

Epsilon (mean values): 0.005321079

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.43

Distance (km): 36.656928

Magnitude: 6.1985873

Epsilon (mean values): 0.0053111168

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.39

Distance (km): 36.051191

Magnitude: 6.1873492

Epsilon (mean values): -0.0078244302

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.39

Distance (km): 36.050647

Magnitude: 6.1873443

Epsilon (mean values): -0.0078345665

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.8

Distance (km): 34.547198

Magnitude: 6.1580096

Epsilon (mean values): -0.060213695

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 1.8

Distance (km): 34.536792

Magnitude: 6.1578564

Epsilon (mean values): -0.060475301

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 1.78

Distance (km): 34.079391

Magnitude: 6.1492354

Epsilon (mean values): -0.07061664  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 1.78  
Distance (km): 34.069894  
Magnitude: 6.1490954  
Epsilon (mean values): -0.070857362  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.074598628 g  
Recovered targets:  
Return period: 481.13078 yrs  
Exceedance rate: 0.002078437 yr<sup>-1</sup>  
Totals:  
Binned: 20.13 %  
Residual: 0 %  
Trace: 0.28 %  
Mean (over all sources):  
m: 6.21  
r: 38.72 km  
ε<sub>0</sub>: 0.03 σ  
Mode (largest m-r bin):  
m: 5.1  
r: 11.97 km  
ε<sub>0</sub>: -0.12 σ  
Contribution: 1.14 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.1  
r: 10.58 km  
ε<sub>0</sub>: -0.27 σ  
Contribution: 0.35 %  
Discretization:  
r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ  
Epsilon keys:  
ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)  
ε<sub>3</sub>: [-1.5 .. -1.0)  
ε<sub>4</sub>: [-1.0 .. -0.5)  
ε<sub>5</sub>: [-0.5 .. 0.0)  
ε<sub>6</sub>: [0.0 .. 0.5)  
ε<sub>7</sub>: [0.5 .. 1.0)  
ε<sub>8</sub>: [1.0 .. 1.5)  
ε<sub>9</sub>: [1.5 .. 2.0)  
ε<sub>10</sub>: [2.0 .. 2.5)  
ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
290	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
230	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
230	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
210	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
190	7.3	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090
190	7.5	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0050
190	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0020
190	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
170	7.1	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080
170	7.3	0.0230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0100
170	7.5	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0170
170	7.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0010
170	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010
150	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
150	6.9	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100
150	7.1	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.0120
150	7.3	0.0430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0300
150	7.5	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0260	0.0060
150	7.7	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0020
150	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
130	6.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
130	6.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
130	6.7	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090
130	6.9	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.0170
130	7.1	0.0610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0490
130	7.3	0.0960	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0820
130	7.5	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0360	0.0290
130	7.7	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0070
130	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
110	5.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	6.1	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
110	6.3	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090
110	6.5	0.0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0220
110	6.7	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0200	0.0200
110	6.9	0.0740	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0200	0.0530
110	7.1	0.1120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090	0.0940
110	7.3	0.1260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0900	0.0360



110 7.5 0.0750.0000.0000.0000.0000.0000.0000.0000.0200.0540.0020.0000.0000.0000.0000  
110 7.7 0.0100.0000.0000.0000.0000.0000.0000.0010.0080.0010.0000.0000.0000.0000.0000  
110 7.9 0.0030.0000.0000.0000.0000.0000.0000.0020.0010.0000.0000.0000.0000.0000.0000  
90 5.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000  
90 5.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
90 5.9 0.0140.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.011  
90 6.1 0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0290.006  
90 6.3 0.0610.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0300.0320.000  
90 6.5 0.0710.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0590.0120.000  
90 6.7 0.0880.0000.0000.0000.0000.0000.0000.0000.0000.0000.0350.0520.0010.000  
90 6.9 0.1300.0000.0000.0000.0000.0000.0000.0000.0220.1030.0050.0000.0000.0000  
90 7.1 0.1620.0000.0000.0000.0000.0000.0000.0000.0050.1250.0310.0000.0000.0000.000  
90 7.3 0.1810.0000.0000.0000.0000.0000.0000.0000.0950.0850.0010.0000.0000.0000.000  
90 7.5 0.0980.0000.0000.0000.0000.0000.0000.0060.0790.0130.0000.0000.0000.0000.000  
90 7.7 0.0130.0000.0000.0000.0000.0000.0000.0080.0040.0000.0000.0000.0000.0000.000  
90 7.9 0.0030.0000.0000.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.000  
70 5.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 5.3 0.0060.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.006  
70 5.5 0.0220.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.015  
70 5.7 0.0460.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0360.011  
70 5.9 0.0760.0000.0000.0000.0000.0000.0000.0000.0000.0000.0260.0480.001  
70 6.1 0.1210.0000.0000.0000.0000.0000.0000.0000.0000.0070.0960.0180.000  
70 6.3 0.1720.0000.0000.0000.0000.0000.0000.0000.0000.0970.0750.0000.000  
70 6.5 0.2120.0000.0000.0000.0000.0000.0000.0000.0180.1690.0250.0000.000  
70 6.7 0.2530.0000.0000.0000.0000.0000.0000.0000.1430.1080.0020.0000.000  
70 6.9 0.2780.0000.0000.0000.0000.0000.0000.0690.1970.0110.0000.0000.000  
70 7.1 0.3180.0000.0000.0000.0000.0000.0100.2550.0530.0000.0000.0000.0000.000  
70 7.3 0.3010.0000.0000.0000.0000.0000.1490.1500.0020.0000.0000.0000.0000.000  
70 7.5 0.1510.0000.0000.0000.0000.0060.1260.0180.0000.0000.0000.0000.0000.000  
70 7.7 0.0230.0000.0000.0000.0000.0180.0050.0000.0000.0000.0000.0000.0000.000  
70 7.9 0.0040.0000.0000.0000.0010.0030.0000.0000.0000.0000.0000.0000.0000.000  
50 5.1 0.0470.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0290.018  
50 5.3 0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0000.0230.0630.011  
50 5.5 0.1480.0000.0000.0000.0000.0000.0000.0000.0000.0000.0910.0570.000  
50 5.7 0.1950.0000.0000.0000.0000.0000.0000.0000.0000.0490.1240.0220.000  
50 5.9 0.2420.0000.0000.0000.0000.0000.0000.0000.0050.1460.0910.0000.000  
50 6.1 0.3420.0000.0000.0000.0000.0000.0000.0000.1340.1890.0190.0000.000  
50 6.3 0.3870.0000.0000.0000.0000.0000.0000.0610.2380.0880.0000.0000.000  
50 6.5 0.3760.0000.0000.0000.0000.0000.0000.1680.2020.0060.0000.0000.000  
50 6.7 0.3510.0000.0000.0000.0000.0000.0310.2120.1080.0000.0000.0000.000  
50 6.9 0.3430.0000.0000.0000.0000.0040.1540.1780.0070.0000.0000.0000.000  
50 7.1 0.3160.0000.0000.0000.0000.0710.1940.0510.0000.0000.0000.0000.000  
50 7.3 0.2730.0000.0000.0000.0110.1520.1090.0020.0000.0000.0000.0000.000  
50 7.5 0.1310.0000.0000.0000.0300.0870.0140.0000.0000.0000.0000.0000.000  
50 7.7 0.0150.0000.0000.0010.0090.0050.0000.0000.0000.0000.0000.0000.000  
50 7.9 0.0040.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.0000.000  
30 5.1 0.6020.0000.0000.0000.0000.0000.0000.0000.1660.2490.1470.0400.000  
30 5.3 0.7140.0000.0000.0000.0000.0000.0000.0670.3020.2210.1230.0000.000  
30 5.5 0.7580.0000.0000.0000.0000.0000.0000.2090.2920.2190.0370.0000.000  
30 5.7 0.7520.0000.0000.0000.0000.0000.0720.2910.2510.1380.0000.0000.000  
30 5.9 0.7160.0000.0000.0000.0000.0000.1910.2560.2420.0270.0000.0000.000  
30 6.1 0.7400.0000.0000.0000.0000.1080.2530.2670.1110.0000.0000.0000.000  
30 6.3 0.6870.0000.0000.0000.0240.2070.2450.2110.0000.0000.0000.0000.000  
30 6.5 0.5490.0000.0000.0000.0940.1720.2180.0650.0000.0000.0000.0000.000  
30 6.7 0.4340.0000.0000.0120.0840.1690.1610.0080.0000.0000.0000.0000.000  
30 6.9 0.3900.0000.0000.0460.1230.1610.0600.0000.0000.0000.0000.0000.000  
30 7.1 0.3290.0000.0140.0690.1320.1090.0050.0000.0000.0000.0000.0000.000





370 9.1 0.0140.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.014  
350 8.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
350 8.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
350 8.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
330 8.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
330 8.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
330 8.9 0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.014  
330 9.1 0.0300.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0300.000  
330 9.3 0.1050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.1050.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 7.38 %

Residual: 0 %

Trace: 0.05 %

Mean (over all sources):

m: 8.89

r: 358.62 km

$\epsilon_0$ : 0.91  $\sigma$

Mode (largest m-r bin):

m: 9.34

r: 323.7 km

$\epsilon_0$ : 0.36  $\sigma$

Contribution: 1.09 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 9.34

r: 323.7 km

$\epsilon_0$ : 0.36  $\sigma$

Contribution: 1.09 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε     ε=(-∞,-2.5)     ε=[-2.5,-2) ε=[-2,-1.5) ε=[-1.5,-1)  
 ε=[-1,-0.5) ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

590	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
530	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
530	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
530	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
510	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
510	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
510	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
490	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
490	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
470	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
470	8.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000
470	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010
470	8.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
450	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
450	8.1	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170	0.0120
450	8.3	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270	0.0000
450	8.5	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0300	0.0000
430	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000
430	8.1	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0000
430	8.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000
430	8.5	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0000
410	7.9	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000
410	8.1	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0000
410	8.3	0.0310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310	0.0000
410	8.5	0.0490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340	0.0140	0.0000
410	8.7	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000	0.0000
390	7.9	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120	0.0000
390	8.1	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270	0.0000
390	8.3	0.1050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1050	0.0000
390	8.5	0.1440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0970	0.0470	0.0000
390	8.7	0.5420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5420	0.0000	0.0000
390	9.1	0.3050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3050	0.0000	0.0000
370	7.9	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0000
370	8.1	0.0230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0220	0.0000
370	8.3	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0010	0.0000
370	8.5	0.1770	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1770	0.0000	0.0000
370	8.7	0.7230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7230	0.0000	0.0000
370	8.9	0.7190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7190	0.0000	0.0000
370	9.1	1.0230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0230	0.0000	0.0000
350	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000
350	8.1	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.0010	0.0000
350	8.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0000	0.0000
350	8.5	0.0760	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0760	0.0000	0.0000
350	8.7	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.0000	0.0000
350	8.9	0.0820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0820	0.0000	0.0000

330 7.9 0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0150.0000.0000.000  
330 8.1 0.0330.0000.0000.0000.0000.0000.0000.0000.0000.0330.0000.0000.000  
330 8.3 0.0200.0000.0000.0000.0000.0000.0000.0000.0000.0200.0000.0000.000  
330 8.5 0.1220.0000.0000.0000.0000.0000.0000.0000.0860.0360.0000.0000.000  
330 8.7 0.1550.0000.0000.0000.0000.0000.0000.0000.1550.0000.0000.0000.000  
330 8.9 0.7610.0000.0000.0000.0000.0000.0000.0000.7610.0000.0000.0000.000  
330 9.1 0.8760.0000.0000.0000.0000.0000.0000.0000.8760.0000.0000.0000.000  
330 9.3 1.0940.0000.0000.0000.0000.0000.0001.0940.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 2.63

Distance (km): 323.70483

Magnitude: 9.103877

Epsilon (mean values): 0.53449475

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.63

Distance (km): 323.70483

Magnitude: 9.103877

Epsilon (mean values): 0.53449475

Azimuth: 287.96053

Latitude: 46.3

Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.35

Distance (km): 377.23061

Magnitude: 8.9169924

Epsilon (mean values): 0.99204368

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.35

Distance (km): 377.23061

Magnitude: 8.9169924

Epsilon (mean values): 0.99204368

Azimuth: 285.79267

Latitude: 46.3

Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 0.87 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 7.08











longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 475 yrs

Exceedance rate: 0.0021052632 yr<sup>-1</sup>

PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs

Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 0.06 %

Residual: 0 %

Trace: 0.1 %

Mean (over all sources):

m: 7.3

r: 237.41 km

ε<sub>0</sub>: 1.87 σ

Mode (largest m-r bin):

m: 7.11

r: 229.95 km

ε<sub>0</sub>: 2.12 σ

Contribution: 0.01 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.1

r: 231.82 km

ε<sub>0</sub>: 2.17 σ

Contribution: 0.01 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞)

Closest	Distance, r	Rup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)
ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)	

290 7.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000

290 7.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000

290 7.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000

270 6.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000

270 7.1 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0003

270 7.3 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000







150 7.7 0.0140.0000.0000.0000.0000.0000.0000.0000.0040.0070.0030.0000.000  
150 7.9 0.0050.0000.0000.0000.0000.0000.0000.0000.0020.0020.0000.0000.000  
130 6.1 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
130 6.3 0.0140.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.014  
130 6.5 0.0320.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0100.023  
130 6.7 0.0530.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0420.011  
130 6.9 0.0950.0000.0000.0000.0000.0000.0000.0000.0000.0000.0310.0640.000  
130 7.1 0.1400.0000.0000.0000.0000.0000.0000.0000.0000.0100.1130.0170.000  
130 7.3 0.1880.0000.0000.0000.0000.0000.0000.0000.0050.0970.0860.0010.000  
130 7.5 0.1220.0000.0000.0000.0000.0000.0000.0000.0250.0810.0160.0000.000  
130 7.7 0.0190.0000.0000.0000.0000.0000.0000.0020.0090.0070.0000.0000.000  
130 7.9 0.0060.0000.0000.0000.0000.0000.0000.0020.0030.0010.0000.0000.000  
110 5.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
110 5.9 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.008  
110 6.1 0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0090.027  
110 6.3 0.0930.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0720.021  
110 6.5 0.1300.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.1060.002  
110 6.7 0.1630.0000.0000.0000.0000.0000.0000.0000.0000.0000.1010.0620.000  
110 6.9 0.2290.0000.0000.0000.0000.0000.0000.0000.0370.1880.0040.000  
110 7.1 0.3040.0000.0000.0000.0000.0000.0000.0000.0090.2170.0770.0000.000  
110 7.3 0.3390.0000.0000.0000.0000.0000.0000.0000.1110.2230.0050.0000.000  
110 7.5 0.2110.0000.0000.0000.0000.0000.0000.0190.1320.0600.0000.0000.000  
110 7.7 0.0270.0000.0000.0000.0000.0000.0010.0100.0150.0010.0000.0000.000  
110 7.9 0.0080.0000.0000.0000.0000.0000.0020.0040.0020.0000.0000.0000.000  
90 5.3 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
90 5.5 0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.019  
90 5.7 0.0620.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0310.032  
90 5.9 0.1200.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0830.035  
90 6.1 0.2170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0540.1490.013  
90 6.3 0.3500.0000.0000.0000.0000.0000.0000.0000.0000.0000.2580.0920.000  
90 6.5 0.4050.0000.0000.0000.0000.0000.0000.0000.0000.0930.2970.0140.000  
90 6.7 0.4290.0000.0000.0000.0000.0000.0000.0000.0000.2540.1750.0010.000  
90 6.9 0.5140.0000.0000.0000.0000.0000.0000.0000.0740.4240.0160.0000.000  
90 7.1 0.5560.0000.0000.0000.0000.0000.0000.0050.3680.1830.0000.0000.000  
90 7.3 0.5700.0000.0000.0000.0000.0000.0000.1240.4290.0170.0000.0000.000  
90 7.5 0.2980.0000.0000.0000.0000.0000.0060.1690.1230.0000.0000.0000.000  
90 7.7 0.0380.0000.0000.0000.0000.0000.0100.0250.0030.0000.0000.0000.000  
90 7.9 0.0100.0000.0000.0000.0000.0010.0050.0040.0000.0000.0000.0000.000  
70 5.1 0.0270.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.027  
70 5.3 0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0460.050  
70 5.5 0.2640.0000.0000.0000.0000.0000.0000.0000.0000.0000.0680.1520.044  
70 5.7 0.3940.0000.0000.0000.0000.0000.0000.0000.0000.0000.1960.1740.024  
70 5.9 0.5230.0000.0000.0000.0000.0000.0000.0000.0000.0710.3060.1420.003  
70 6.1 0.7140.0000.0000.0000.0000.0000.0000.0000.0000.2680.4150.0310.000  
70 6.3 0.9370.0000.0000.0000.0000.0000.0000.0000.0630.6940.1800.0000.000  
70 6.5 0.9730.0000.0000.0000.0000.0000.0000.0000.3610.5820.0300.0000.000  
70 6.7 0.8630.0000.0000.0000.0000.0000.0010.5630.2970.0020.0000.000  
70 6.9 0.8800.0000.0000.0000.0000.0000.1770.6830.0200.0000.0000.000  
70 7.1 0.8480.0000.0000.0000.0000.0000.0100.5320.3070.0000.0000.0000.000  
70 7.3 0.8090.0000.0000.0000.0000.0000.1380.6460.0250.0000.0000.0000.000  
70 7.5 0.4120.0000.0000.0000.0000.0060.1990.2060.0000.0000.0000.0000.000  
70 7.7 0.0470.0000.0000.0000.0000.0090.0330.0050.0000.0000.0000.0000.000  
70 7.9 0.0120.0000.0000.0000.0010.0050.0060.0000.0000.0000.0000.0000.000  
50 5.1 0.3740.0000.0000.0000.0000.0000.0000.0000.0000.1070.2140.052  
50 5.3 0.6860.0000.0000.0000.0000.0000.0000.0000.0600.3590.2430.023  
50 5.5 1.1620.0000.0000.0000.0000.0000.0000.0860.4590.4810.1320.004  
50 5.7 1.3420.0000.0000.0000.0000.0000.0000.2490.6520.3930.0490.000

50 5.9 1.4460.0000.0000.0000.0000.0000.0000.0090.4790.7470.2110.0000.000  
50 6.1 1.8010.0000.0000.0000.0000.0000.0000.0000.1470.9930.6320.0280.0000.000  
50 6.3 1.8820.0000.0000.0000.0000.0000.0000.0000.6261.1140.1420.0000.0000.000  
50 6.5 1.7600.0000.0000.0000.0000.0000.0341.0420.6770.0060.0000.0000.0000.000  
50 6.7 1.5360.0000.0000.0000.0000.0000.2550.9910.2900.0000.0000.0000.0000.000  
50 6.9 1.3660.0000.0000.0000.0000.0040.5970.7570.0080.0000.0000.0000.0000.000  
50 7.1 1.1890.0000.0000.0000.0000.1000.7920.2980.0000.0000.0000.0000.0000.000  
50 7.3 1.0010.0000.0000.0000.0110.3350.6240.0310.0000.0000.0000.0000.0000.000  
50 7.5 0.4780.0000.0000.0000.0300.2660.1810.0000.0000.0000.0000.0000.0000.000  
50 7.7 0.0540.0000.0000.0010.0120.0350.0060.0000.0000.0000.0000.0000.0000.000  
50 7.9 0.0140.0000.0000.0010.0050.0070.0000.0000.0000.0000.0000.0000.0000.000  
30 5.1 2.9520.0000.0000.0000.0000.0000.0000.0000.0901.0551.1000.5940.1090.003  
30 5.3 3.6490.0000.0000.0000.0000.0000.0000.0000.7641.4691.0840.3120.0200.000  
30 5.5 4.2210.0000.0000.0000.0000.0300.4651.5431.4690.6270.0880.0000.0000.000  
30 5.7 3.8960.0000.0000.0000.0000.1630.8911.4171.1000.3250.0000.0000.0000.000  
30 5.9 3.4220.0000.0000.0000.0000.2121.1101.3230.7300.0470.0000.0000.0000.000  
30 6.1 3.2760.0000.0000.0000.0000.6281.2501.1950.2030.0000.0000.0000.0000.000  
30 6.3 2.8930.0000.0000.0000.1190.9591.1490.6660.0000.0000.0000.0000.0000.000  
30 6.5 2.2490.0000.0000.0000.3260.7851.0240.1140.0000.0000.0000.0000.0000.000  
30 6.7 1.7400.0000.0000.0210.3050.7290.6690.0170.0000.0000.0000.0000.0000.000  
30 6.9 1.5180.0000.0000.0770.4380.7020.3020.0000.0000.0000.0000.0000.0000.000  
30 7.1 1.2610.0000.0140.1340.4770.5940.0420.0000.0000.0000.0000.0000.0000.000  
30 7.3 1.0700.0000.0280.1890.4950.3580.0000.0000.0000.0000.0000.0000.0000.000  
30 7.5 0.5130.0010.0230.1360.2600.0930.0000.0000.0000.0000.0000.0000.0000.000  
30 7.7 0.0470.0010.0040.0170.0230.0020.0000.0000.0000.0000.0000.0000.0000.000  
30 7.9 0.0090.0000.0010.0040.0040.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 5.1 4.6860.0000.0000.0000.4340.9321.4151.3890.4960.0200.0000.0000.0000.000  
10 5.3 4.1590.0000.0620.0930.7091.1511.2630.8370.0440.0000.0000.0000.0000.000  
10 5.5 3.4510.0430.0970.4320.6751.1370.9730.0930.0000.0000.0000.0000.0000.000  
10 5.7 2.5990.0660.1120.4220.7090.8290.4600.0000.0000.0000.0000.0000.0000.000  
10 5.9 1.9110.0460.1660.3690.5820.6880.0620.0000.0000.0000.0000.0000.0000.000  
10 6.1 2.0020.1270.3530.4170.7310.3740.0000.0000.0000.0000.0000.0000.0000.000  
10 6.3 1.5270.2050.2980.4580.5270.0390.0000.0000.0000.0000.0000.0000.0000.000  
10 6.5 1.2270.2410.2700.3740.3190.0220.0000.0000.0000.0000.0000.0000.0000.000  
10 6.7 0.9970.2270.2370.3080.2250.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 6.9 0.7360.1900.2280.2720.0460.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.1 0.5860.1660.2070.2040.0100.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.3 0.4480.1430.1590.1470.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
10 7.5 0.1830.0670.0710.0440.0000.0000.000 0.000 0.000 0.000 0.000 0.000 0.000  
10 7.7 0.014 0.006 0.006 0.002 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
0.000  
10 7.9 0.003 0.001 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.22  
Distance (km): 37.785283  
Magnitude: 6.1185152  
Epsilon (mean values): 0.079824356

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.22  
Distance (km): 37.782069  
Magnitude: 6.1184888  
Epsilon (mean values): 0.079776745

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.06  
Distance (km): 37.246499



Magnitude: 6.10712  
Epsilon (mean values): 0.069546909  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.06  
Distance (km): 37.24324  
Magnitude: 6.107093  
Epsilon (mean values): 0.069498581  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.31  
Distance (km): 35.738938  
Magnitude: 6.0807212  
Epsilon (mean values): 0.014875818  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 8.31  
Distance (km): 35.7273  
Magnitude: 6.0805502  
Epsilon (mean values): 0.014608897  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.23  
Distance (km): 35.32157  
Magnitude: 6.0718959  
Epsilon (mean values): 0.0066201199  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 8.22  
Distance (km): 35.310829  
Magnitude: 6.0717392  
Epsilon (mean values): 0.0063718065  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.76  
Distance (km): 40.815209  
Magnitude: 6.2451749  
Epsilon (mean values): 0.050179141  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.76  
Distance (km): 40.792648  
Magnitude: 6.2449745  
Epsilon (mean values): 0.049906461  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.03  
Distance (km): 38.663199  
Magnitude: 6.2002038  
Epsilon (mean values): -0.0094228471  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.03  
Distance (km): 38.655477  
Magnitude: 6.1999991  
Epsilon (mean values): -0.0096208589  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:

Return period: 475 yrs  
 Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
 PGA ground motion: 0.074598628 g  
 Recovered targets:  
 Return period: 481.13078 yrs  
 Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:  
 Binned: 0.93 %  
 Residual: 0 %  
 Trace: 0.17 %

Mean (over all sources):  
 m: 7.09  
 r: 258.13 km  
 ε<sub>0</sub>: 1.66 σ

Mode (largest m-r bin):  
 m: 7.11  
 r: 270.09 km  
 ε<sub>0</sub>: 1.72 σ  
 Contribution: 0.15 %

Mode (largest m-r-ε<sub>0</sub> bin):  
 m: 7.11  
 r: 270.79 km  
 ε<sub>0</sub>: 1.71 σ  
 Contribution: 0.13 %

Discretization:  
 r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
 ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
290	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
290	6.7	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.011
290	6.9	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.005
290	7.1	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.084	0.022	0.000
290	7.3	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.006	0.000	0.000
290	7.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000
270	6.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.002														
270	6.7	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	
0.008														
270	6.9	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.041	
0.000														
270	7.1	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.127	0.005	
0.003														
270	7.3	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.003	0.001	
0.000														
270	7.5	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.011	0.000	0.002	
0.000														
270	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.001	0.000	
0.000														
270	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	
0.000														
250	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0.000														
250	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
0.003														
250	6.7	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	
0.001														
250	6.9	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.010	
0.001														
250	7.1	0.117	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056	0.053	0.005	
0.003														
250	7.3	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.015	0.001	0.002	
0.000														
250	7.5	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.001	0.002	0.000	
0.000														
250	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.001	0.000	0.000	
0.000														
250	7.9	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	
0.000														
230	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0.000														
230	6.5	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	
0.001														
230	6.7	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.007	
0.000														
230	6.9	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.027	0.002	
0.001														
230	7.1	0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.005	0.007	
0.000														
230	7.3	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.002	0.002	0.000	
0.000														
230	7.5	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.006	0.002	0.001	0.000	
0.000														
230	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	
0.000														
230	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	
0.000														
210	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0.000														
210	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
210	6.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.01	0.000	
210	6.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	
210	6.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.01	0.000	





	$\varepsilon=[-1,-0.5)$	$\varepsilon=[-0.5,0)$	$\varepsilon=[0,0.5)$	$\varepsilon=[0.5,1)$	$\varepsilon=[1,1.5)$	$\varepsilon=[1.5,2)$	$\varepsilon=[2,2.5)$	$\varepsilon=[2.5,\infty)$
590	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
570	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
550	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
530	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
530	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
530	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
510	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
510	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
510	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
490	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
490	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
490	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
490	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
470	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
470	8.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
470	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
470	8.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
450	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
450	8.1	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170
450	8.3	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270
450	8.5	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0300
430	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
430	8.1	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
430	8.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
430	8.5	0.0110	0.0000	0.0000	0.0000	0.0000	0.0010	0.0100
410	7.9	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
410	8.1	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
410	8.3	0.0310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310
410	8.5	0.0500	0.0000	0.0000	0.0000	0.0000	0.0340	0.0140
410	8.7	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000
390	7.9	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120
390	8.1	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270
390	8.3	0.1080	0.0000	0.0000	0.0000	0.0000	0.0000	0.1050
390	8.5	0.1510	0.0000	0.0000	0.0000	0.0000	0.0970	0.0470
390	8.7	0.5860	0.0000	0.0000	0.0000	0.0000	0.5420	0.0450
390	9.1	0.3570	0.0000	0.0000	0.0000	0.0000	0.3050	0.0520
370	7.9	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100
370	8.1	0.0240	0.0000	0.0000	0.0000	0.0000	0.0010	0.0220
370	8.3	0.0150	0.0000	0.0000	0.0000	0.0000	0.0140	0.0010
370	8.5	0.1920	0.0000	0.0000	0.0000	0.0000	0.1770	0.0140
370	8.7	0.8210	0.0000	0.0000	0.0000	0.0000	0.7230	0.0920
370	8.9	0.8420	0.0000	0.0000	0.0000	0.0000	0.7190	0.1240
370	9.1	1.3220	0.0000	0.0000	0.0000	0.0001	1.0230	0.2850
350	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
350	8.1	0.0100	0.0000	0.0000	0.0000	0.0000	0.0080	0.0010
350	8.3	0.0060	0.0000	0.0000	0.0000	0.0000	0.0050	0.0010
350	8.5	0.0900	0.0000	0.0000	0.0000	0.0000	0.0760	0.0120
350	8.7	0.0810	0.0000	0.0000	0.0000	0.0000	0.0650	0.0150
350	8.9	0.1120	0.0000	0.0000	0.0000	0.0000	0.0820	0.0290
330	7.9	0.0160	0.0000	0.0000	0.0000	0.0000	0.0150	0.0010
330	8.1	0.0370	0.0000	0.0000	0.0000	0.0000	0.0330	0.0040
330	8.3	0.0230	0.0000	0.0000	0.0000	0.0000	0.0200	0.0030
330	8.5	0.1520	0.0000	0.0000	0.0000	0.0000	0.0860	0.0360
330	8.7	0.2060	0.0000	0.0000	0.0000	0.0000	0.1550	0.0170

330 8.9 1.0780.0000.0000.0000.0000.0000.0000.0000.7610.3020.0000.0010.014  
330 9.1 1.3240.0000.0000.0000.0000.0000.0000.0000.8760.4170.0000.0300.000  
330 9.3 1.8870.0000.0000.0000.0000.0000.0001.0940.6870.0000.1050.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 4.14  
Distance (km): 323.70483  
Magnitude: 9.1214301  
Epsilon (mean values): 0.73028588

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 4.14  
Distance (km): 323.70483  
Magnitude: 9.1214301  
Epsilon (mean values): 0.73028588  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 2.85  
Distance (km): 377.23061  
Magnitude: 8.9276131  
Epsilon (mean values): 1.1316907

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.85  
Distance (km): 377.23061  
Magnitude: 8.9276131  
Epsilon (mean values): 1.1316907  
Azimuth: 285.79267  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 475 yrs  
Exceedance rate: 0.0021052632 yr<sup>-1</sup>  
PGA ground motion: 0.074598628 g

Recovered targets:

Return period: 481.13078 yrs  
Exceedance rate: 0.002078437 yr<sup>-1</sup>

Totals:

Binned: 1.86 %  
Residual: 0 %  
Trace: 0.05 %

Mean (over all sources):

m: 7.04  
r: 79.79 km  
 $\epsilon_0$ : 0.73  $\sigma$

Mode (largest m-r bin):

m: 6.73  
r: 68.38 km





110	7.5	0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0030.0000.0000.0000.000
90	6.5	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.000
90	6.7	0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0000.000
90	6.9	0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0010.0000.000
90	7.1	0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0150.0000.0000.000
90	7.3	0.0280.0000.0000.0000.0000.0000.0000.0000.0000.0230.0050.0000.0000.000
90	7.5	0.0170.0000.0000.0000.0000.0000.0000.0000.0010.0170.0000.0000.0000.000
90	7.7	0.0030.0000.0000.0000.0000.0000.0000.0000.0020.0000.0000.0000.0000.000
70	6.5	0.1520.0000.0000.0000.0000.0000.0000.0000.0000.0770.0750.0010.0000.000
70	6.7	0.3220.0000.0000.0000.0000.0000.0000.0000.0000.2940.0280.0000.0000.000
70	6.9	0.2420.0000.0000.0000.0000.0000.0000.0000.0610.1800.0000.0000.0000.000
70	7.1	0.3190.0000.0000.0000.0000.0000.0000.0000.2760.0430.0000.0000.0000.000
70	7.3	0.2390.0000.0000.0000.0000.0000.0520.1870.0000.0000.0000.0000.0000.000
70	7.5	0.1060.0000.0000.0000.0000.0000.0640.0410.0000.0000.0000.0000.0000.000
70	7.7	0.0320.0000.0000.0000.0000.0100.0230.0000.0000.0000.0000.0000.0000.000
70	7.9	0.0020.0000.0000.0000.0000.0010.0010.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

**Attachment H-3. Probabilistic Seismic  
Hazard Deaggregation – 2,475-Year  
Return Time**

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\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (v4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.13397286 g

Recovered targets:

Return period: 2548.853 yrs

Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.38 %

Mean (over all sources):

m: 6.35

r: 38.11 km

$\epsilon_0$ : 0.52  $\sigma$

Mode (largest m-r bin):

m: 5.5

r: 11.34 km

$\epsilon_0$ : 0.31  $\sigma$

Contribution: 6.9 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.5

r: 10.43 km

$\epsilon_0$ : 0.25  $\sigma$

Contribution: 2.07 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)    Magnitude (Mw)    ALL\_ $\epsilon$      $\epsilon$ =(- $\infty$ , -2.5)     $\epsilon$ =[-2.5, -2)     $\epsilon$ =[-2, -1.5)     $\epsilon$ =[-1.5, -1)     $\epsilon$ =[-1, -0.5)     $\epsilon$ =[-0.5, 0)     $\epsilon$ =[0, 0.5)     $\epsilon$ =[0.5, 1)     $\epsilon$ =[1, 1.5)     $\epsilon$ =[1.5, 2)     $\epsilon$ =[2, 2.5)     $\epsilon$ =[2.5,  $\infty$ )

470 0.000	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
450 0.000	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
450 0.000	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430 0.000	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430 0.002	8.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.001	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.001	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.007	8.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.000	8.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
390 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.003	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.021	8.3	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.028	8.5	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
390 0.000	8.7	0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.187
390 0.000	9.1	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.152
370 0.001	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.004	8.1	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.004	8.3	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.020	8.5	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039
370 0.000	8.7	0.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.304
370 0.000	8.9	0.343	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.343
370 0.055	9.1	0.698	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.000
350 0.001	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350 0.002	8.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350 0.000	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
350 0.000	8.5	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.035
350 0.001	8.7	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034
350	8.9	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.000

0.008													
330	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004													
330	8.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011
0.001													
330	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.000													
330	8.5	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064
0.003													
330	8.7	0.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.069	0.027
0.011													
330	8.9	0.639	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.538	0.101
0.000													
330	9.1	0.886	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.703	0.184
0.000													
330	9.3	1.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.114	0.463	0.000
0.000													
290	7.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003													
290	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.002													
290	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.000													
270	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
270	7.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.017													
270	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.002													
270	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.009
0.000													
270	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000													
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000													
250	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002													
250	7.1	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.017													
250	7.3	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
0.000													
250	7.5	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.002
0.000													
250	7.7	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
0.000													
250	7.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.001
0.000													
230	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
230	6.9	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.005													
230	7.1	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023
0.004													
230	7.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.003
0.000													
230	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000
0.000													

230 0.000	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000
230 0.000	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000
210 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
210 0.001	6.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
210 0.000	7.1	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.005
210 0.000	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
210 0.000	7.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000
210 0.000	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
210 0.000	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.000	0.000
190 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
190 0.000	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
190 0.000	7.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
190 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
170 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.000														
150	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
150	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
150	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
150	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
150	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
150	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003														
130	7.5	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.008														
130	7.7	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003
0.001														
130	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
0.000														
110	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
110	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
110	7.1	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.013														
110	7.3	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.015
0.024														
110	7.5	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.030
0.008														
110	7.7	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004	0.004
0.000														
110	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001
0.000														
90	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
90	6.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006														
90	6.7	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.014														
90	6.9	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.017
0.030														



90 0.026	7.1	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070
90 0.006	7.3	0.154	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.035	0.113
90 0.000	7.5	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.067	0.045
90 0.000	7.7	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.015	0.001
90 0.000	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.002	0.000
70 0.000	5.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70 0.010	6.1	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70 0.052	6.3	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020
70 0.055	6.5	0.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.103
70 0.041	6.7	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.178
70 0.010	6.9	0.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.099	0.202
70 0.000	7.1	0.444	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.316	0.128
70 0.000	7.3	0.546	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.450	0.022
70 0.000	7.5	0.343	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.153	0.001
70 0.000	7.7	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.059	0.005	0.000
70 0.000	7.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.008	0.000	0.000
50 0.000	5.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 0.007	5.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 0.034	5.5	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 0.062	5.7	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
50 0.076	5.9	0.164	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.087
50 0.066	6.1	0.365	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.259
50 0.022	6.3	0.594	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.288	0.281
50 0.006	6.5	0.731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.108	0.439	0.178
50 0.001	6.7	0.759	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.184	0.480	0.093
50 0.000	6.9	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.438	0.402	0.019
50 0.000	7.1	0.961	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.082	0.673	0.206	0.000
50 0.000	7.3	1.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.383	0.609	0.039	0.000
50	7.5	0.595	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.367	0.212	0.000	0.000

0.000													
50	7.7	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.059	0.007	0.000	0.000
0.000													
50	7.9	0.026	0.000	0.000	0.000	0.000	0.000	0.001	0.012	0.013	0.000	0.000	0.000
0.000													
30	5.1	0.829	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.305	0.401
0.124													
30	5.3	1.231	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.646	0.435
0.104													
30	5.5	1.862	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.496	0.888	0.411
0.068													
30	5.7	2.117	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.944	0.817	0.325
0.030													
30	5.9	2.265	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263	1.113	0.655	0.230
0.004													
30	6.1	2.774	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.832	1.219	0.653	0.053
0.000													
30	6.3	3.133	0.000	0.000	0.000	0.000	0.000	0.000	0.318	1.371	1.073	0.367	0.004
0.000													
30	6.5	2.843	0.000	0.000	0.000	0.000	0.000	0.021	0.630	1.194	0.862	0.136	0.000
0.000													
30	6.7	2.434	0.000	0.000	0.000	0.000	0.000	0.075	0.607	1.076	0.645	0.031	0.000
0.000													
30	6.9	2.544	0.000	0.000	0.000	0.000	0.000	0.221	0.937	1.032	0.354	0.000	0.000
0.000													
30	7.1	2.457	0.000	0.000	0.000	0.000	0.012	0.387	1.037	0.932	0.090	0.000	0.000
0.000													
30	7.3	2.388	0.000	0.000	0.000	0.000	0.068	0.568	1.097	0.652	0.004	0.000	0.000
0.000													
30	7.5	1.265	0.000	0.000	0.000	0.000	0.065	0.376	0.655	0.168	0.000	0.000	0.000
0.000													
30	7.7	0.128	0.000	0.000	0.000	0.001	0.010	0.051	0.062	0.004	0.000	0.000	0.000
0.000													
30	7.9	0.028	0.000	0.000	0.000	0.000	0.004	0.014	0.010	0.000	0.000	0.000	0.000
0.000													
10	5.1	6.459	0.000	0.000	0.000	0.000	0.000	0.366	1.662	2.016	1.720	0.619	0.075
0.000													
10	5.3	6.815	0.000	0.000	0.000	0.000	0.000	1.106	2.057	1.957	1.387	0.307	0.000
0.000													
10	5.5	6.903	0.000	0.000	0.000	0.000	0.516	1.603	2.067	1.756	0.949	0.011	0.000
0.000													
10	5.7	5.826	0.000	0.000	0.000	0.045	0.627	1.484	1.769	1.658	0.244	0.000	0.000
0.000													
10	5.9	4.748	0.000	0.000	0.000	0.194	0.744	1.302	1.335	1.161	0.012	0.000	0.000
0.000													
10	6.1	5.844	0.000	0.000	0.000	0.675	1.441	1.412	1.689	0.628	0.000	0.000	0.000
0.000													
10	6.3	4.981	0.000	0.000	0.125	0.856	1.234	1.450	1.192	0.124	0.000	0.000	0.000
0.000													
10	6.5	4.243	0.000	0.024	0.284	0.788	1.054	1.240	0.747	0.106	0.000	0.000	0.000
0.000													
10	6.7	3.564	0.000	0.045	0.303	0.646	0.931	1.073	0.559	0.006	0.000	0.000	0.000
0.000													
10	6.9	2.826	0.000	0.038	0.228	0.593	0.877	0.884	0.205	0.000	0.000	0.000	0.000
0.000													
10	7.1	2.314	0.000	0.039	0.204	0.487	0.851	0.673	0.060	0.000	0.000	0.000	0.000
0.000													

10 7.3 1.813 0.000 0.043 0.181 0.404 0.644 0.513 0.027 0.000 0.000 0.000 0.000  
0.000  
10 7.5 0.762 0.000 0.018 0.089 0.191 0.288 0.176 0.000 0.000 0.000 0.000 0.000  
0.000  
10 7.7 0.060 0.0000.0020.0080.0180.0260.0070.0000.0000.0000.0000.0000.0000  
10 7.9 0.0120.0000.0010.0020.0040.0050.0010.0000.0000.0000.0000.0000.0000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.68  
Distance (km): 20.651257  
Magnitude: 6.1914307  
Epsilon (mean values): 0.44746269  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.68  
Distance (km): 20.651255  
Magnitude: 6.1914306  
Epsilon (mean values): 0.44746265  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.64  
Distance (km): 20.489823  
Magnitude: 6.1884239  
Epsilon (mean values): 0.44216881  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.64  
Distance (km): 20.489821  
Magnitude: 6.1884239  
Epsilon (mean values): 0.44216876  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0

Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.21  
Distance (km): 19.661014  
Magnitude: 6.1611344  
Epsilon (mean values): 0.40843475  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.2  
Distance (km): 19.658829  
Magnitude: 6.1610789  
Epsilon (mean values): 0.40836037  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.18  
Distance (km): 19.544746  
Magnitude: 6.1589336  
Epsilon (mean values): 0.40456697  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.18  
Distance (km): 19.542722  
Magnitude: 6.1588809  
Epsilon (mean values): 0.40449803  
sub0\_ch\_bot.in:  
Percent Contributed: 3.01  
Distance (km): 323.70483  
Magnitude: 9.1514414  
Epsilon (mean values): 1.7290075  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 3.01  
Distance (km): 323.70483  
Magnitude: 9.1514414  
Epsilon (mean values): 1.7290075  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.91  
Distance (km): 22.65582  
Magnitude: 6.3290955  
Epsilon (mean values): 0.43483655  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.91  
Distance (km): 22.655659  
Magnitude: 6.3290937  
Epsilon (mean values): 0.43483397  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.27  
Distance (km): 21.399473  
Magnitude: 6.2874446  
Epsilon (mean values): 0.39345627  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.27  
Distance (km): 21.395285  
Magnitude: 6.2873378  
Epsilon (mean values): 0.39334686  
sub0\_ch\_mid.in:  
Percent Contributed: 1.29

Distance (km): 377.23061  
Magnitude: 8.9563842  
Epsilon (mean values): 2.1182919  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 1.29  
Distance (km): 377.23061  
Magnitude: 8.9563842  
Epsilon (mean values): 2.1182919  
Azimuth: 285.79267  
Latitude: 46.3  
Longitude: -124.13677  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g  
Recovered targets:  
Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>  
Totals:  
Binned: 25.35 %  
Residual: 0 %  
Trace: 0.11 %  
Mean (over all sources):  
m: 6.12  
r: 21.1 km  
 $\epsilon_0$ : 0.57  $\sigma$   
Mode (largest m-r bin):  
m: 5.1  
r: 10.9 km  
 $\epsilon_0$ : 0.65  $\sigma$   
Contribution: 2.44 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.1  
r: 10.99 km  
 $\epsilon_0$ : 0.71  $\sigma$   
Contribution: 0.8 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)

ε7: [0.5 .. 1.0)  
 ε8: [1.0 .. 1.5)  
 ε9: [1.5 .. 2.0)  
 ε10: [2.0 .. 2.5)  
 ε11: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
 ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
130	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.003
130	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
130	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
110	7.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
110	7.3	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.008
110	7.5	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.002
110	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.000
110	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
90	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
90	6.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
90	6.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
90	6.9	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.011
90	7.1	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210	0.007
90	7.3	0.0440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.0360
90	7.5	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210	0.0110	0.000
90	7.7	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0050	0.000
90	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.000
70	5.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
70	6.1	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.006
70	6.3	0.0280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.021
70	6.5	0.0470	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0290	0.018
70	6.7	0.0610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0500	0.011
70	6.9	0.0830	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0190	0.0630	0.001
70	7.1	0.1150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0830	0.0320	0.000
70	7.3	0.1440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170	0.1270	0.000
70	7.5	0.0910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0520	0.0400	0.000
70	7.7	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0170	0.000
70	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0020	0.000
50	5.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	5.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.007
50	5.5	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.020
50	5.7	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.027
50	5.9	0.0660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0430	0.023
50	6.1	0.1270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170	0.0940	0.016
50	6.3	0.1940	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1140	0.0800	0.000
50	6.5	0.2060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.1430	0.0480
50	6.7	0.1970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0320	0.1440	0.0220
50	6.9	0.2270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1160	0.1110	0.0000
50	7.1	0.2510	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120	0.1910	0.0480	0.0000	0.000
50	7.3	0.2700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1060	0.1650	0.0000	0.0000	0.000
50	7.5	0.1560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1080	0.0480	0.0000	0.0000	0.000
50	7.7	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0170	0.0000	0.0000	0.000

50	7.9	0.0070.0000.0000.0000.0000.0000.0000.0000.0040.0030.0000.0000.0000.000
30	5.1	0.5410.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.2930.2010.046
30	5.3	0.5760.0000.0000.0000.0000.0000.0000.0000.0000.0000.0460.3550.1410.034
30	5.5	0.6040.0000.0000.0000.0000.0000.0000.0000.0000.0000.1770.2780.1360.013
30	5.7	0.6260.0000.0000.0000.0000.0000.0000.0000.0000.0000.2730.2560.0970.000
30	5.9	0.6420.0000.0000.0000.0000.0000.0000.0000.0000.0520.3520.1820.0570.000
30	6.1	0.7500.0000.0000.0000.0000.0000.0000.0000.0000.2260.3390.1850.0000.000
30	6.3	0.8290.0000.0000.0000.0000.0000.0000.0000.0060.4210.3330.0700.0000.000
30	6.5	0.6920.0000.0000.0000.0000.0000.0000.0000.0930.3240.2570.0180.0000.000
30	6.7	0.5620.0000.0000.0000.0000.0000.0000.0000.0950.2850.1830.0000.0000.000
30	6.9	0.5990.0000.0000.0000.0000.0000.0000.2170.2840.0970.0000.0000.000
30	7.1	0.5800.0000.0000.0000.0000.0000.0260.2770.2680.0100.0000.0000.000
30	7.3	0.5690.0000.0000.0000.0000.0000.0860.3050.1780.0000.0000.0000.000
30	7.5	0.3040.0000.0000.0000.0000.0000.0730.1930.0390.0000.0000.0000.000
30	7.7	0.0310.0000.0000.0000.0000.0010.0120.0180.0000.0000.0000.0000.000
30	7.9	0.0070.0000.0000.0000.0000.0000.0040.0030.0000.0000.0000.0000.000
10	5.1	2.4360.0000.0000.0000.0000.0000.3660.5790.7960.6630.0320.0000.000
10	5.3	2.0260.0000.0000.0000.0000.0000.4120.5850.5470.4830.0000.0000.000
10	5.5	1.6750.0000.0000.0000.0000.0000.3960.5500.4610.2680.0000.0000.000
10	5.7	1.3780.0000.0000.0000.0000.0760.3000.5030.4450.0530.0000.0000.000
10	5.9	1.1250.0000.0000.0000.0000.1490.3040.3590.3130.0000.0000.0000.000
10	6.1	1.3780.0000.0000.0000.0430.3480.3480.4500.1890.0000.0000.0000.000
10	6.3	1.1800.0000.0000.0000.1330.2950.3630.3890.0000.0000.0000.0000.000
10	6.5	0.9890.0000.0000.0230.1440.2580.2750.2500.0400.0000.0000.0000.000
10	6.7	0.8340.0000.0000.0350.1370.2000.2530.2090.0000.0000.0000.0000.000
10	6.9	0.6690.0000.0000.0250.1150.1960.2680.0650.0000.0000.0000.0000.000
10	7.1	0.5510.0000.0000.0290.0950.1780.2380.0110.0000.0000.0000.0000.000
10	7.3	0.4340.0000.0000.0300.0760.1460.1820.0000.0000.0000.0000.0000.000
10	7.5	0.1830.0000.0000.0120.0380.0720.0610.0000.0000.0000.0000.0000.000
10	7.7	0.0150.0000.0000.0010.0040.0070.0020.0000.0000.0000.0000.0000.000
10	7.9	0.0030.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.14

Distance (km): 21.1412

Magnitude: 6.1099151

Epsilon (mean values): 0.58777965

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.14

Distance (km): 21.141198

Magnitude: 6.1099151

Epsilon (mean values): 0.5877796

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.12

Distance (km): 20.980484

Magnitude: 6.1065747

Epsilon (mean values): 0.58299683

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.12

Distance (km): 20.980482

Magnitude: 6.1065747

Epsilon (mean values): 0.58299678

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.47

Distance (km): 20.129747

Magnitude: 6.079008

Epsilon (mean values): 0.54972628

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.47

Distance (km): 20.12747

Magnitude: 6.078949

Epsilon (mean values): 0.54965404

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.46

Distance (km): 20.014022

Magnitude: 6.0765681

Epsilon (mean values): 0.54622675

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.46

Distance (km): 20.011906

Magnitude: 6.0765122

Epsilon (mean values): 0.54615946

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)

Summary statistics for PSHA PGA deaggregation,  $r$ =distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.13397286 g

Recovered targets:

Return period: 2548.853 yrs

Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:

Binned: 22.41 %

Residual: 0 %

Trace: 0.08 %

Mean (over all sources):

$m$ : 6.14

$r$ : 19.44 km

$\epsilon_0$ : 0.46  $\sigma$

Mode (largest  $m$ - $r$  bin):

$m$ : 5.5

$r$ : 11.39 km

$\epsilon_0$ : 0.12  $\sigma$

Contribution: 2.06 %

Mode (largest  $m$ - $r$ - $\epsilon_0$  bin):

$m$ : 5.49

$r$ : 11.28 km

$\epsilon_0$ : 0.22  $\sigma$

Contribution: 0.54 %

Discretization:

$r$ : min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

$m$ : min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)



- ε3: [-1.5 .. -1.0)
- ε4: [-1.0 .. -0.5)
- ε5: [-0.5 .. 0.0)
- ε6: [0.0 .. 0.5)
- ε7: [0.5 .. 1.0)
- ε8: [1.0 .. 1.5)
- ε9: [1.5 .. 2.0)
- ε10: [2.0 .. 2.5)
- ε11: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1) ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
150	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
150	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
130	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
130	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
130	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
130	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
110	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
110	7.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
110	7.5	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
110	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	
110	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
90	6.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
90	6.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
90	7.1	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.008	
90	7.3	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.005	
90	7.5	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.000	
90	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010	0.000	
90	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000	
70	5.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	
70	6.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	
70	6.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.007	
70	6.5	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.017	
70	6.7	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270	0.014	
70	6.9	0.0550	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0500	0.005	
70	7.1	0.0780	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310	0.0470	0.000	
70	7.3	0.0920	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0760	0.0170	0.000	
70	7.5	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0520	0.0010	0.000
70	7.7	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0050	0.0000	0.000
70	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.0000	0.000
50	5.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	5.5	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.014
50	5.7	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.026
50	5.9	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310	0.023
50	6.1	0.0890	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0670	0.017	0.000
50	6.3	0.1110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0290	0.0730	0.009	0.000
50	6.5	0.1390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0810	0.0580	0.000	0.000
50	6.7	0.1630	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.100	0.1210	0.0320	0.000
50	6.9	0.1770	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0630	0.1070	0.0060	0.000
50	7.1	0.1910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1200	0.0710	0.0000	0.000
50	7.3	0.2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0240	0.1470	0.0290	0.0000	0.000	0.000
50	7.5	0.1150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0440	0.0700	0.0000	0.0000	0.000	0.000
50	7.7	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0050	0.0000	0.0000	0.000	0.000
50	7.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0040	0.0000	0.0000	0.0000	0.000	0.000
30	5.1	0.0850	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0590	0.026	0.000
30	5.3	0.2740	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1400	0.1090	0.025	0.000

30 5.5 0.6290.0000.0000.0000.0000.0000.0000.0000.0000.2380.2610.1150.015  
30 5.7 0.6710.0000.0000.0000.0000.0000.0000.0000.0000.0000.3500.2320.0890.000  
30 5.9 0.6300.0000.0000.0000.0000.0000.0000.0000.0000.0850.3260.1660.0540.000  
30 6.1 0.6540.0000.0000.0000.0000.0000.0000.0000.1500.3240.1700.0110.000  
30 6.3 0.6380.0000.0000.0000.0000.0000.0000.0110.2600.2300.1380.0000.000  
30 6.5 0.5790.0000.0000.0000.0000.0000.0000.0380.2500.2390.0520.0000.000  
30 6.7 0.5320.0000.0000.0000.0000.0000.0000.0830.2460.1970.0050.0000.000  
30 6.9 0.5420.0000.0000.0000.0000.0000.0140.1610.2490.1170.0000.0000.000  
30 7.1 0.5180.0000.0000.0000.0000.0000.0400.1840.2390.0560.0000.0000.000  
30 7.3 0.5020.0000.0000.0000.0000.0000.0490.2360.2120.0040.0000.0000.000  
30 7.5 0.2660.0000.0000.0000.0000.0000.0420.1470.0770.0000.0000.0000.000  
30 7.7 0.0270.0000.0000.0000.0000.0000.0070.0160.0040.0000.0000.0000.000  
30 7.9 0.0060.0000.0000.0000.0000.0000.0020.0040.0000.0000.0000.0000.000  
10 5.1 1.2980.0000.0000.0000.0000.0000.0000.4340.3360.3150.1790.0350.000  
10 5.3 1.7500.0000.0000.0000.0000.0000.4510.4240.4700.3220.0830.0000.000  
10 5.5 2.0640.0000.0000.0000.0000.4030.4420.5420.5180.1590.0000.0000.000  
10 5.7 1.6590.0000.0000.0000.0450.2470.4580.4230.4870.0000.0000.0000.000  
10 5.9 1.2520.0000.0000.0000.1310.1880.3420.3090.2820.0000.0000.0000.000  
10 6.1 1.4290.0000.0000.0000.2460.3110.2590.4020.2110.0000.0000.0000.000  
10 6.3 1.1470.0000.0000.0000.2100.2610.2750.3180.0820.0000.0000.0000.000  
10 6.5 0.9570.0000.0000.0000.1570.2220.2920.2380.0480.0000.0000.0000.000  
10 6.7 0.8050.0000.0000.0000.1320.2140.2650.1870.0060.0000.0000.0000.000  
10 6.9 0.6360.0000.0000.0060.1100.1810.2310.1090.0000.0000.0000.0000.000  
10 7.1 0.5200.0000.0000.0160.0870.1530.2150.0490.0000.0000.0000.0000.000  
10 7.3 0.4090.0000.0000.0180.0660.1310.1680.0270.0000.0000.0000.0000.000  
10 7.5 0.1730.0000.0000.0070.0290.0650.0720.0000.0000.0000.0000.0000.000  
10 7.7 0.0140.0000.0000.0010.0030.0060.0040.0000.0000.0000.0000.0000.000  
10 7.9 0.0030.0000.0000.0000.0010.0010.0010.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.77

Distance (km): 19.506989

Magnitude: 6.1377969

Epsilon (mean values): 0.47025054

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.77

Distance (km): 19.506988

Magnitude: 6.1377969

Epsilon (mean values): 0.47025053

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.76

Distance (km): 19.387056

Magnitude: 6.1354255

Epsilon (mean values): 0.46602148

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.76

Distance (km): 19.387056

Magnitude: 6.1354255

Epsilon (mean values): 0.46602147

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.2

Distance (km): 18.656467

Magnitude: 6.1110141

Epsilon (mean values): 0.43055495

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.2

Distance (km): 18.654852

Magnitude: 6.1109693  
Epsilon (mean values): 0.43049008  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.19  
Distance (km): 18.569848  
Magnitude: 6.1092825  
Epsilon (mean values): 0.42745541  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.19  
Distance (km): 18.568351  
Magnitude: 6.1092399  
Epsilon (mean values): 0.42739481  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Campbell & Bozorgnia (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g  
Recovered targets:  
Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>  
Totals:  
Binned: 25.89 %  
Residual: 0 %  
Trace: 0.12 %  
Mean (over all sources):  
m: 6.28  
r: 21.82 km  
ε<sub>0</sub>: 0.31 σ  
Mode (largest m-r bin):  
m: 5.5  
r: 11.26 km  
ε<sub>0</sub>: 0.29 σ  
Contribution: 1.77 %  
Mode (largest m-r-ε<sub>0</sub> bin):  
m: 5.5  
r: 10.79 km  
ε<sub>0</sub>: 0.25 σ  
Contribution: 0.58 %  
Discretization:  
r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ  
Epsilon keys:  
ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)  
ε<sub>3</sub>: [-1.5 .. -1.0)  
ε<sub>4</sub>: [-1.0 .. -0.5)  
ε<sub>5</sub>: [-0.5 .. 0.0)



30 5.7 0.4750.0000.0000.0000.0000.0000.0000.0000.0000.0000.2150.1710.0740.014  
30 5.9 0.5980.0000.0000.0000.0000.0000.0000.0000.0000.1270.2510.1630.0570.000  
30 6.1 0.8530.0000.0000.0000.0000.0000.0000.0170.3710.2960.1610.0070.000  
30 6.3 1.0620.0000.0000.0000.0000.0000.0000.2840.4200.3170.0400.0000.000  
30 6.5 1.0200.0000.0000.0000.0000.0000.0210.4220.3860.1910.0000.0000.000  
30 6.7 0.8290.0000.0000.0000.0000.0000.0710.3100.3420.1060.0000.0000.000  
30 6.9 0.7940.0000.0000.0000.0000.0000.1520.3250.2850.0320.0000.0000.000  
30 7.1 0.7130.0000.0000.0000.0000.0060.1770.3080.2220.0000.0000.0000.000  
30 7.3 0.6530.0000.0000.0000.0000.0200.2170.2790.1370.0000.0000.0000.000  
30 7.5 0.3330.0000.0000.0000.0000.0170.1210.1650.0300.0000.0000.0000.000  
30 7.7 0.0320.0000.0000.0000.0000.0020.0130.0170.0000.0000.0000.0000.000  
30 7.9 0.0070.0000.0000.0000.0000.0010.0030.0030.0000.0000.0000.0000.000  
10 5.1 1.2180.0000.0000.0000.0000.0000.0000.2430.4220.3420.1780.0330.000  
10 5.3 1.5290.0000.0000.0000.0000.0000.1830.4880.4530.3010.1030.0000.000  
10 5.5 1.7690.0000.0000.0000.0000.1130.4740.5830.3460.2530.0000.0000.000  
10 5.7 1.5630.0000.0000.0000.0000.2660.4100.4350.3970.0540.0000.0000.000  
10 5.9 1.3190.0000.0000.0000.0630.2610.3970.3610.2370.0000.0000.0000.000  
10 6.1 1.6720.0000.0000.0000.3420.3800.4760.4300.0430.0000.0000.0000.000  
10 6.3 1.4540.0000.0000.1250.3260.3740.4500.1790.0000.0000.0000.0000.000  
10 6.5 1.2560.0000.0240.2140.2500.3470.3570.0640.0000.0000.0000.0000.000  
10 6.7 1.0340.0000.0370.1780.2240.2810.3040.0100.0000.0000.0000.0000.000  
10 6.9 0.7890.0000.0250.1240.2140.2530.1730.0000.0000.0000.0000.0000.000  
10 7.1 0.6310.0000.0260.0810.1600.2850.0790.0000.0000.0000.0000.0000.000  
10 7.3 0.4850.0000.0180.0670.1270.1880.0840.0000.0000.0000.0000.0000.000  
10 7.5 0.2010.0000.0070.0330.0580.0750.0270.0000.0000.0000.0000.0000.000  
10 7.7 0.0160.0000.0010.0030.0050.0070.0000.0000.0000.0000.0000.0000.000  
10 7.9 0.0030.0000.0000.0010.0010.0010.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.21  
Distance (km): 21.864593  
Magnitude: 6.2733308  
Epsilon (mean values): 0.32206895

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.21  
Distance (km): 21.864593  
Magnitude: 6.2733307  
Epsilon (mean values): 0.32206893

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.19  
Distance (km): 21.649277  
Magnitude: 6.2698977  
Epsilon (mean values): 0.31454206

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.19  
Distance (km): 21.649276  
Magnitude: 6.2698977  
Epsilon (mean values): 0.31454203

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.51  
Distance (km): 20.743423  
Magnitude: 6.2426831  
Epsilon (mean values): 0.27680071

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.51  
Distance (km): 20.740876  
Magnitude: 6.242626

Epsilon (mean values): 0.27670848  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.5  
Distance (km): 20.586691  
Magnitude: 6.2401352  
Epsilon (mean values): 0.27125163  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.5  
Distance (km): 20.584369  
Magnitude: 6.2400813  
Epsilon (mean values): 0.27116738  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Chiou & Youngs (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g  
Recovered targets:  
Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>  
Totals:  
Binned: 20.9 %  
Residual: 0 %  
Trace: 0.16 %  
Mean (over all sources):  
m: 6.26  
r: 19.92 km  
 $\epsilon_0$ : 0.4  $\sigma$   
Mode (largest m-r bin):  
m: 5.3  
r: 10.72 km  
 $\epsilon_0$ : 0.69  $\sigma$   
Contribution: 1.51 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 5.29  
r: 7.37 km  
 $\epsilon_0$ : 0.22  $\sigma$   
Contribution: 0.56 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)

ε7: [0.5 .. 1.0)  
ε8: [1.0 .. 1.5)  
ε9: [1.5 .. 2.0)  
ε10: [2.0 .. 2.5)  
ε11: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
130	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.004
130	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.000
130	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
110	7.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.003
110	7.3	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.006
110	7.5	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.001
110	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.010
110	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
90	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
90	6.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.005
90	7.1	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.007
90	7.3	0.0410	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0300	0.001
90	7.5	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0260	0.0080	0.000
90	7.7	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0040	0.000
90	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.000
70	6.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
70	6.5	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.006
70	6.7	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.013
70	6.9	0.0500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0410	0.005
70	7.1	0.0970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0610	0.0360	0.000
70	7.3	0.1450	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0250	0.1140	0.0050
70	7.5	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0710	0.0290	0.000
70	7.7	0.0230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0160	0.000
70	7.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0010	0.000
50	5.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
50	5.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
50	5.9	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.012	0.000
50	6.1	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.016	0.000
50	6.3	0.0690	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0530	0.012
50	6.5	0.0840	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0320	0.0460	0.006
50	6.7	0.1080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0680	0.0380
50	6.9	0.1650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0960	0.0120
50	7.1	0.2250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0220	0.1440	0.0590
50	7.3	0.2740	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1240	0.1410	0.0090
50	7.5	0.1690	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.1110	0.0430
50	7.7	0.0250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0130	0.0010
50	7.9	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0050	0.0020
30	5.1	0.1310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0930	0.027
30	5.3	0.2120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0940	0.024

30 5.5 0.2850.0000.0000.0000.0000.0000.0000.0000.0000.0160.1620.0860.021  
30 5.7 0.3440.0000.0000.0000.0000.0000.0000.0000.0000.1060.1580.0640.016  
30 5.9 0.3950.0000.0000.0000.0000.0000.0000.0000.0000.1850.1450.0610.004  
30 6.1 0.5170.0000.0000.0000.0000.0000.0000.0000.0850.2600.1370.0360.000  
30 6.3 0.6040.0000.0000.0000.0000.0000.0000.0180.2700.1940.1190.0040.000  
30 6.5 0.5510.0000.0000.0000.0000.0000.0000.0760.2330.1760.0670.0000.000  
30 6.7 0.5110.0000.0000.0000.0000.0000.0040.1190.2030.1590.0260.0000.000  
30 6.9 0.6100.0000.0000.0000.0000.0000.0550.2340.2140.1070.0000.0000.000  
30 7.1 0.6460.0000.0000.0000.0000.0060.1440.2680.2030.0240.0000.0000.000  
30 7.3 0.6640.0000.0000.0000.0000.0480.2160.2760.1240.0000.0000.0000.000  
30 7.5 0.3610.0000.0000.0000.0000.0480.1400.1510.0220.0000.0000.0000.000  
30 7.7 0.0370.0000.0000.0000.0010.0070.0180.0110.0000.0000.0000.0000.000  
30 7.9 0.0080.0000.0000.0000.0000.0030.0040.0010.0000.0000.0000.0000.000  
10 5.1 1.5050.0000.0000.0000.0000.0000.0000.4060.4610.4010.2300.0070.000  
10 5.3 1.5100.0000.0000.0000.0000.0000.0600.5600.4880.2810.1210.0000.000  
10 5.5 1.3940.0000.0000.0000.0000.0000.2900.3920.4310.2690.0110.0000.000  
10 5.7 1.2260.0000.0000.0000.0000.0370.3160.4070.3290.1370.0000.0000.000  
10 5.9 1.0520.0000.0000.0000.0000.1460.2600.3060.3290.0120.0000.0000.000  
10 6.1 1.3650.0000.0000.0000.0440.4010.3280.4070.1850.0000.0000.0000.000  
10 6.3 1.2000.0000.0000.0000.1860.3040.3630.3060.0420.0000.0000.0000.000  
10 6.5 1.0410.0000.0000.0470.2370.2270.3160.1960.0180.0000.0000.0000.000  
10 6.7 0.8910.0000.0080.0900.1530.2360.2510.1530.0000.0000.0000.0000.000  
10 6.9 0.7310.0000.0130.0740.1540.2460.2130.0310.0000.0000.0000.0000.000  
10 7.1 0.6110.0000.0130.0770.1450.2350.1410.0000.0000.0000.0000.0000.000  
10 7.3 0.4850.0000.0250.0660.1360.1790.0790.0000.0000.0000.0000.0000.000  
10 7.5 0.2050.0000.0100.0360.0650.0770.0170.0000.0000.0000.0000.0000.000  
10 7.7 0.0160.0000.0010.0040.0060.0050.0000.0000.0000.0000.0000.0000.000  
10 7.9 0.0030.0000.0000.0010.0010.0010.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.57  
Distance (km): 19.772934  
Magnitude: 6.2465507  
Epsilon (mean values): 0.40809084

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.57  
Distance (km): 19.77293  
Magnitude: 6.2465506  
Epsilon (mean values): 0.40809074

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.56  
Distance (km): 19.636526  
Magnitude: 6.2439441  
Epsilon (mean values): 0.40361426

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.56  
Distance (km): 19.636522  
Magnitude: 6.243944  
Epsilon (mean values): 0.40361417

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.03  
Distance (km): 18.840535  
Magnitude: 6.2144462  
Epsilon (mean values): 0.3753434

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.03  
Distance (km): 18.838327



Magnitude: 6.2143871  
Epsilon (mean values): 0.37527624  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.03  
Distance (km): 18.74376  
Magnitude: 6.2125602  
Epsilon (mean values): 0.37212241  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 2.03  
Distance (km): 18.741679  
Magnitude: 6.2125034  
Epsilon (mean values): 0.37205957  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g  
Recovered targets:  
Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>  
Totals:  
Binned: 0 %  
Residual: 0 %  
Trace: 0 %  
Mean (over all sources):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Mode (largest m-r bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Contribution: 0 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: null  
r: null km  
 $\epsilon_0$ : null  $\sigma$   
Contribution: 0 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ )

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε    ε=(-∞,-2.5)    ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.13397286 g

Recovered targets:

Return period: 2548.853 yrs

Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:

Binned: 4.44 %

Residual: 0 %

Trace: 0.03 %

Mean (over all sources):

m: 9

r: 347.55 km

ε<sub>0</sub>: 1.88 σ

Mode (largest m-r bin):

m: 9.34

r: 323.7 km

ε<sub>0</sub>: 1.47 σ

Contribution: 1.11 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34

r: 323.7 km

ε<sub>0</sub>: 1.47 σ

Contribution: 1.11 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
470	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
450	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
450	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.5	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
390	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.3	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.5	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100
390	8.7	0.1870	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1870
390	9.1	0.1520	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1520
370	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
370	8.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
370	8.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
370	8.5	0.0580	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390
370	8.7	0.3040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3040
370	8.9	0.3430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3430
370	9.1	0.6430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6430	0.0000
350	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
350	8.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
350	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
350	8.5	0.0350	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0350
350	8.7	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340

0.000	350	8.9	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.000
0.000	330	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.004	330	8.1	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011
0.001	330	8.3	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.000	330	8.5	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064
0.000	330	8.7	0.096	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.069	0.027
0.000	330	8.9	0.538	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.538	0.000
0.000	330	9.1	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.703	0.000
0.000	330	9.3	1.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.114	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 2.28

Distance (km): 323.70483

Magnitude: 9.1361801

Epsilon (mean values): 1.628701

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.28

Distance (km): 323.70483

Magnitude: 9.1361801

Epsilon (mean values): 1.628701

Azimuth: 287.96053

Latitude: 46.3

Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.24

Distance (km): 377.23061

Magnitude: 8.9491701

Epsilon (mean values): 2.0922716

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.24

Distance (km): 377.23061

Magnitude: 8.9491701

Epsilon (mean values): 2.0922716

Azimuth: 285.79267

Latitude: 46.3

Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
 PGA ground motion: 0.13397286 g  
 Recovered targets:  
 Return period: 2548.853 yrs  
 Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:  
 Binned: 0.18 %  
 Residual: 0 %  
 Trace: 0.08 %  
 Mean (over all sources):  
 m: 7.28  
 r: 244.9 km  
 ε<sub>0</sub>: 2.23 σ

Mode (largest m-r bin):  
 m: 7.11  
 r: 230.32 km  
 ε<sub>0</sub>: 2.35 σ  
 Contribution: 0.03 %

Mode (largest m-r-ε<sub>0</sub> bin):  
 m: 7.12  
 r: 229.23 km  
 ε<sub>0</sub>: 2.31 σ  
 Contribution: 0.02 %

Discretization:  
 r: min = 0.0, max = 1000.0, Δ = 20.0 km  
 m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:  
 ε<sub>0</sub>: [-∞ .. -2.5)  
 ε<sub>1</sub>: [-2.5 .. -2.0)  
 ε<sub>2</sub>: [-2.0 .. -1.5)  
 ε<sub>3</sub>: [-1.5 .. -1.0)  
 ε<sub>4</sub>: [-1.0 .. -0.5)  
 ε<sub>5</sub>: [-0.5 .. 0.0)  
 ε<sub>6</sub>: [0.0 .. 0.5)  
 ε<sub>7</sub>: [0.5 .. 1.0)  
 ε<sub>8</sub>: [1.0 .. 1.5)  
 ε<sub>9</sub>: [1.5 .. 2.0)  
 ε<sub>10</sub>: [2.0 .. 2.5)  
 ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
290	7.1	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003														
290	7.3	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002
0.002														
290	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030
270	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.1	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0170
270	7.3	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
270	7.5	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100
270	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
270	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
250	6.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
250	7.1	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090
250	7.3	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0090





370 9.1 0.0550.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.055  
350 8.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
350 8.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
350 8.9 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.008  
330 8.5 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
330 8.7 0.0110.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.011  
330 8.9 0.1010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.1010.000  
330 9.1 0.1840.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.1840.000  
330 9.3 0.4630.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.4630.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.13397286 g

Recovered targets:

Return period: 2548.853 yrs

Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:

Binned: 0.01 %

Residual: 0 %

Trace: 0.06 %

Mean (over all sources):

m: 7.73

r: 222.49 km

$\epsilon_0$ : 1.87  $\sigma$

Mode (largest m-r bin):

m: 7.91

r: 229.92 km

$\epsilon_0$ : 1.62  $\sigma$

Contribution: 0 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.9

r: 231.55 km

$\epsilon_0$ : 1.69  $\sigma$

Contribution: 0 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)









30 5.7 2.1170.0000.0000.0000.0000.0000.0000.0000.0000.9440.8170.3250.030  
30 5.9 2.2650.0000.0000.0000.0000.0000.0000.0000.0000.2631.1130.6550.2300.004  
30 6.1 2.7740.0000.0000.0000.0000.0000.0000.0000.0170.8321.2190.6530.0530.000  
30 6.3 3.1330.0000.0000.0000.0000.0000.0000.0000.3181.3711.0730.3670.0040.000  
30 6.5 2.8430.0000.0000.0000.0000.0000.0210.6301.1940.8620.1360.0000.000  
30 6.7 2.4340.0000.0000.0000.0000.0000.0750.6071.0760.6450.0310.0000.000  
30 6.9 2.5440.0000.0000.0000.0000.0000.2210.9371.0320.3540.0000.0000.000  
30 7.1 2.4570.0000.0000.0000.0000.0120.3871.0370.9320.0900.0000.0000.000  
30 7.3 2.3880.0000.0000.0000.0000.0680.5681.0970.6520.0040.0000.0000.000  
30 7.5 1.2650.0000.0000.0000.0000.0650.3760.6550.1680.0000.0000.0000.000  
30 7.7 0.1280.0000.0000.0000.0010.0100.0510.0620.0040.0000.0000.0000.000  
30 7.9 0.0280.0000.0000.0000.0000.0040.0140.0100.0000.0000.0000.0000.000  
10 5.1 6.4590.0000.0000.0000.0000.0000.3661.6622.0161.7200.6190.0750.000  
10 5.3 6.8150.0000.0000.0000.0000.0001.1062.0571.9571.3870.3070.0000.000  
10 5.5 6.9030.0000.0000.0000.0000.5161.6032.0671.7560.9490.0110.0000.000  
10 5.7 5.8260.0000.0000.0000.0450.6271.4841.7691.6580.2440.0000.0000.000  
10 5.9 4.7480.0000.0000.0000.1940.7441.3021.3351.1610.0120.0000.0000.000  
10 6.1 5.8440.0000.0000.0000.6751.4411.4121.6890.6280.0000.0000.0000.000  
10 6.3 4.9810.0000.0000.1250.8561.2341.4501.1920.1240.0000.0000.0000.000  
10 6.5 4.2430.0000.0240.2840.7881.0541.2400.7470.1060.0000.0000.0000.000  
10 6.7 3.5640.0000.0450.3030.6460.9311.0730.5590.0060.0000.0000.0000.000  
10 6.9 2.8260.0000.0380.2280.5930.8770.8840.2050.0000.0000.0000.0000.000  
10 7.1 2.3140.0000.0390.2040.4870.8510.6730.0600.0000.0000.0000.0000.000  
10 7.3 1.8130.0000.0430.1810.4040.6440.5130.0270.0000.0000.0000.0000.000  
10 7.5 0.7620.0000.0180.0890.1910.2880.1760.0000.0000.0000.0000.0000.000  
10 7.7 0.0600.0000.0020.0080.0180.0260.0070.0000.0000.0000.0000.0000.000  
10 7.9 0.0120.0000.0010.0020.0040.0050.0010.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.68

Distance (km): 20.651257

Magnitude: 6.1914307

Epsilon (mean values): 0.44746269

PointSourceFinite: -119.420, 45.506:

Percent Contributed: 1.01

Distance (km): 6.2787389

Magnitude: 5.6527213

Epsilon (mean values): -0.53526747

Azimuth: 0

Latitude: 45.506386

Longitude: -119.42

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.68

Distance (km): 20.651255

Magnitude: 6.1914306

Epsilon (mean values): 0.44746265

PointSourceFinite: -119.420, 45.506:

Percent Contributed: 1.01

Distance (km): 6.2787389

Magnitude: 5.6527213

Epsilon (mean values): -0.53526747

Azimuth: 0

Latitude: 45.506386

Longitude: -119.42

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 11.64

Distance (km): 20.489823

Magnitude: 6.1884239  
Epsilon (mean values): 0.44216881  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.64  
Distance (km): 20.489821  
Magnitude: 6.1884239  
Epsilon (mean values): 0.44216876  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2787389  
Magnitude: 5.6527213  
Epsilon (mean values): -0.53526747  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.21  
Distance (km): 19.661014  
Magnitude: 6.1611344  
Epsilon (mean values): 0.40843475  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.2  
Distance (km): 19.658829  
Magnitude: 6.1610789  
Epsilon (mean values): 0.40836037  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.18  
Distance (km): 19.544746  
Magnitude: 6.1589336  
Epsilon (mean values): 0.40456697  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.18  
Distance (km): 19.542722  
Magnitude: 6.1588809  
Epsilon (mean values): 0.40449803  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.91  
Distance (km): 22.65582  
Magnitude: 6.3290955  
Epsilon (mean values): 0.43483655  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.91  
Distance (km): 22.655659  
Magnitude: 6.3290937  
Epsilon (mean values): 0.43483397  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.27  
Distance (km): 21.399473  
Magnitude: 6.2874446

Epsilon (mean values): 0.39345627  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.27  
Distance (km): 21.395285  
Magnitude: 6.2873378  
Epsilon (mean values): 0.39334686  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 1150 m/s (Site class B)  
return period: 2475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g  
Recovered targets:  
Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>  
Totals:  
Binned: 0.19 %  
Residual: 0 %  
Trace: 0.12 %  
Mean (over all sources):  
m: 7.3  
r: 243.89 km  
 $\epsilon_0$ : 2.21  $\sigma$   
Mode (largest m-r bin):  
m: 7.11  
r: 230.32 km  
 $\epsilon_0$ : 2.35  $\sigma$   
Contribution: 0.03 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.12  
r: 229.23 km  
 $\epsilon_0$ : 2.31  $\sigma$   
Contribution: 0.02 %  
Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$   
Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)		Magnitude (Mw)		ALL_ε		ε=(-∞,-2.5)		ε=[-2.5,-2)		ε=[-2,-1.5)		ε=[-1.5,-1)	
ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)						
290	7.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.003
290	7.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
290	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.030
270	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
270	7.1	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.017
270	7.3	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.060
270	7.5	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.090
270	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.000
270	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
250	6.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
250	7.1	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.090
250	7.3	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.090
250	7.5	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.020
250	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.000
250	7.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0030	0.010
230	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
230	6.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.005
230	7.1	0.0270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.230
230	7.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.030
230	7.5	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.000
230	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.000
230	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0010	0.000
210	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
210	6.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
210	7.1	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.050
210	7.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.000
210	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010	0.000
210	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
210	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0020	0.000
190	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
190	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
190	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.010
190	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000
190	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
190	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
190	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.000
170	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	6.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
150	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000





- ε0: [-∞ .. -2.5)
- ε1: [-2.5 .. -2.0)
- ε2: [-2.0 .. -1.5)
- ε3: [-1.5 .. -1.0)
- ε4: [-1.0 .. -0.5)
- ε5: [-0.5 .. 0.0)
- ε6: [0.0 .. 0.5)
- ε7: [0.5 .. 1.0)
- ε8: [1.0 .. 1.5)
- ε9: [1.5 .. 2.0)
- ε10: [2.0 .. 2.5)
- ε11: [2.5 .. +∞)

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2) ε=[-2,-1.5) ε=[-1.5,-1) ε=[-1,-0.5) ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

470	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
450	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
450	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
410	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
410	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
410	8.5	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0007
410	8.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
390	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
390	8.3	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0210
390	8.5	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0280
390	8.7	0.1870	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1870	0.0000
390	9.1	0.1520	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1520	0.0000
370	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
370	8.1	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
370	8.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
370	8.5	0.0580	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0200
370	8.7	0.3040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3040	0.0000
370	8.9	0.3430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3430	0.0000
370	9.1	0.6980	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6430	0.0550
350	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
350	8.1	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
350	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
350	8.5	0.0350	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0350	0.0000
350	8.7	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340	0.0001
350	8.9	0.0630	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0550	0.0008
330	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
330	8.1	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0001
330	8.3	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.0000
330	8.5	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0640	0.0003
330	8.7	0.1070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0690	0.0270
330	8.9	0.6390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5380	0.1010
330	9.1	0.8860	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7030	0.1840
330	9.3	1.5770	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	1.1140	0.4630

Principal Sources (faults, subduction, random seismicity having > 3% contribution

sub0\_ch\_bot.in:

Percent Contributed: 3.01

Distance (km): 323.70483

Magnitude: 9.1514414

Epsilon (mean values): 1.7290075

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 3.01  
Distance (km): 323.70483  
Magnitude: 9.1514414  
Epsilon (mean values): 1.7290075  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

sub0\_ch\_mid.in:

Percent Contributed: 1.29  
Distance (km): 377.23061  
Magnitude: 8.9563842  
Epsilon (mean values): 2.1182919

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.29  
Distance (km): 377.23061  
Magnitude: 8.9563842  
Epsilon (mean values): 2.1182919  
Azimuth: 285.79267  
Latitude: 46.3  
Longitude: -124.13677

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 1150 m/s (Site class B)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.13397286 g

Recovered targets:

Return period: 2548.853 yrs  
Exceedance rate: 0.00039233334 yr<sup>-1</sup>

Totals:

Binned: 0.55 %  
Residual: 0 %  
Trace: 0.01 %

Mean (over all sources):

m: 7.16  
r: 68.9 km  
 $\epsilon_0$ : 1.85  $\sigma$

Mode (largest m-r bin):

m: 7.32  
r: 67.43 km  
 $\epsilon_0$ : 1.65  $\sigma$   
Contribution: 0.13 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.32  
r: 67.52 km  
 $\epsilon_0$ : 1.66  $\sigma$   
Contribution: 0.13 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2  
 ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

- ε0: [-∞ .. -2.5)
- ε1: [-2.5 .. -2.0)
- ε2: [-2.0 .. -1.5)
- ε3: [-1.5 .. -1.0)
- ε4: [-1.0 .. -0.5)
- ε5: [-0.5 .. 0.0)
- ε6: [0.0 .. 0.5)
- ε7: [0.5 .. 1.0)
- ε8: [1.0 .. 1.5)
- ε9: [1.5 .. 2.0)
- ε10: [2.0 .. 2.5)
- ε11: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε      ε=(-∞,-2.5)      ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)  
 ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

130	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
130	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000	0.000
110	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
110	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.002
110	7.3	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.003	0.000
110	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000	0.000
90	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
90	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
90	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000
90	7.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.001
90	7.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.001	0.000
90	7.5	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.000	0.000
90	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000	0.000
70	6.5	0.0230	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.007	0.000
70	6.7	0.0700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0590	0.009
70	6.9	0.0740	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0290	0.0460	0.000
70	7.1	0.1270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1000	0.0270	0.000
70	7.3	0.1310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.1270	0.000
70	7.5	0.0750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0540	0.0210	0.000
70	7.7	0.0290	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0250	0.000
70	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0020	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution)

\*\*\* Deaggregation of Seismic Hazard at One Period of Spectral Acceleration \*\*\*

\*\*\* Data from Dynamic: Conterminous U.S. 2014 (update) (v4.2.0) \*\*\*\*

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Total

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 100 %

Residual: 0 %

Trace: 0.36 %

Mean (over all sources):

m: 6.3

r: 33.92 km

$\epsilon_0$ : 0.52  $\sigma$

Mode (largest m-r bin):

m: 5.5

r: 11.41 km

$\epsilon_0$ : 0.3  $\sigma$

Contribution: 6.93 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 5.1

r: 9.73 km

$\epsilon_0$ : 0.75  $\sigma$

Contribution: 2.07 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 .. + $\infty$ )

Closest Distance, rRup (km)    Magnitude (Mw)    ALL\_ $\epsilon$      $\epsilon$ =(- $\infty$ , -2.5)     $\epsilon$ =[-2.5, -2)     $\epsilon$ =[-2, -1.5)     $\epsilon$ =[-1.5, -1)     $\epsilon$ =[-1, -0.5)     $\epsilon$ =[-0.5, 0)     $\epsilon$ =[0, 0.5)     $\epsilon$ =[0.5, 1)     $\epsilon$ =[1, 1.5)     $\epsilon$ =[1.5, 2)     $\epsilon$ =[2, 2.5)     $\epsilon$ =[2.5,  $\infty$ )

450 0.000	8.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430 0.000	8.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
430 0.001	8.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.000	8.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.002	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.007	8.5	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
410 0.001	8.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.001	8.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.013	8.3	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
390 0.024	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
390 0.061	8.7	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070
390 0.000	9.1	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.114
370 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.002	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.002	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
370 0.033	8.5	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
370 0.000	8.7	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.222
370 0.000	8.9	0.254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.254
370 0.025	9.1	0.518	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.492
350 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350 0.002	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350 0.001	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
350 0.000	8.5	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
350 0.000	8.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
350 0.005	8.9	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042
330 0.003	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
330 0.005	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006

0.000														
330	8.5	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048
0.001														
330	8.7	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.073
0.006														
330	8.9	0.480	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.416	0.000	
0.064														
330	9.1	0.674	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.125	
0.000														
330	9.3	1.227	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.887	0.340	
0.000														
290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000														
270	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008														
270	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.003														
270	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.000														
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.000														
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000														
250	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.016														
250	7.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.000														
250	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000														
250	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000														
250	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001
0.000														
230	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003														
230	7.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
0.006														
230	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.004
0.000														
230	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
0.000														
230	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000														
230	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000
0.000														
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
210	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
210	7.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.000														

210 0.000	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	
210 0.000	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.000
210 0.000	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
210 0.000	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000
190 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
190 0.000	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190 0.000	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170 0.000	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.000	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150 0.001	7.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.001														
150	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000														
130	6.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
130	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.006														
130	7.5	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.010														
130	7.7	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.001														
130	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.000														
110	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
110	7.1	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.015														
110	7.3	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
0.024														
110	7.5	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.035	
0.007														
110	7.7	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.004	
0.000														
110	7.9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	
0.000														
90	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
90	6.5	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003														
90	6.7	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.014														
90	6.9	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011
0.037														
90	7.1	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.075
0.025														
90	7.3	0.162	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.122	
0.006														
90	7.5	0.117	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.076	0.040	
0.000														
90	7.7	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.014	0.001	
0.000														
90	7.9	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.002	0.000	
0.000														
70	5.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
70	5.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														



70 0.017	6.1	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70 0.056	6.3	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016
70 0.064	6.5	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.088
70 0.040	6.7	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.190
70 0.007	6.9	0.318	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.231
70 0.000	7.1	0.457	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.328	0.129
70 0.000	7.3	0.562	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.103	0.441	0.019
70 0.000	7.5	0.353	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.201	0.150	0.000
70 0.000	7.7	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.056	0.007	0.000
70 0.000	7.9	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.008	0.000	0.000
50 0.001	5.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 0.012	5.3	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50 0.054	5.5	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016
50 0.068	5.7	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068
50 0.073	5.9	0.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.141
50 0.063	6.1	0.408	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077	0.269
50 0.019	6.3	0.608	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.295	0.294
50 0.004	6.5	0.726	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.494	0.196
50 0.000	6.7	0.765	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.167	0.501	0.096
50 0.000	6.9	0.875	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.449	0.414	0.012
50 0.000	7.1	0.977	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.081	0.695	0.201	0.000
50 0.000	7.3	1.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.398	0.610	0.039	0.000
50 0.000	7.5	0.603	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.366	0.204	0.001	0.000
50 0.000	7.7	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.054	0.008	0.000	0.000
50 0.000	7.9	0.026	0.000	0.000	0.000	0.000	0.000	0.001	0.012	0.012	0.001	0.000	0.000
30 0.127	5.1	0.942	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.374	0.440
30 0.109	5.3	1.416	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.140	0.732	0.435
30 0.046	5.5	2.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.037	0.650	0.944	0.443
30	5.7	2.319	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.211	0.940	0.827	0.314

0.027													
30	5.9	2.393	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.382	1.099	0.718	0.188
0.006													
30	6.1	2.827	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.990	1.153	0.623	0.061
0.000													
30	6.3	3.120	0.000	0.000	0.000	0.000	0.000	0.000	0.118	1.508	1.115	0.378	0.000
0.000													
30	6.5	2.811	0.000	0.000	0.000	0.000	0.000	0.000	0.494	1.293	0.923	0.100	0.000
0.000													
30	6.7	2.419	0.000	0.000	0.000	0.000	0.000	0.031	0.585	1.099	0.683	0.021	0.000
0.000													
30	6.9	2.535	0.000	0.000	0.000	0.000	0.000	0.143	0.944	1.074	0.373	0.000	0.000
0.000													
30	7.1	2.450	0.000	0.000	0.000	0.000	0.021	0.309	1.095	0.941	0.085	0.000	0.000
0.000													
30	7.3	2.381	0.000	0.000	0.000	0.000	0.059	0.527	1.148	0.638	0.009	0.000	0.000
0.000													
30	7.5	1.260	0.000	0.000	0.000	0.000	0.057	0.379	0.642	0.181	0.000	0.000	0.000
0.000													
30	7.7	0.127	0.000	0.000	0.000	0.001	0.011	0.050	0.058	0.006	0.000	0.000	0.000
0.000													
30	7.9	0.028	0.000	0.000	0.000	0.001	0.004	0.014	0.009	0.000	0.000	0.000	0.000
0.000													
10	5.1	6.623	0.000	0.000	0.000	0.000	0.000	0.701	1.446	2.074	1.661	0.674	0.068
0.000													
10	5.3	6.918	0.000	0.000	0.000	0.000	0.241	1.094	1.896	1.944	1.496	0.242	0.005
0.000													
10	5.5	6.926	0.000	0.000	0.000	0.197	0.397	1.606	2.009	1.815	0.875	0.026	0.000
0.000													
10	5.7	5.814	0.000	0.000	0.000	0.304	0.457	1.466	1.773	1.436	0.378	0.000	0.000
0.000													
10	5.9	4.725	0.000	0.000	0.000	0.213	0.638	1.337	1.398	1.089	0.049	0.000	0.000
0.000													
10	6.1	5.810	0.000	0.000	0.000	0.538	1.533	1.356	1.726	0.656	0.000	0.000	0.000
0.000													
10	6.3	4.960	0.000	0.000	0.017	0.849	1.192	1.516	1.345	0.041	0.000	0.000	0.000
0.000													
10	6.5	4.235	0.000	0.000	0.178	0.850	1.041	1.243	0.903	0.020	0.000	0.000	0.000
0.000													
10	6.7	3.558	0.000	0.008	0.269	0.646	0.988	0.987	0.659	0.000	0.000	0.000	0.000
0.000													
10	6.9	2.821	0.000	0.013	0.216	0.567	0.909	0.967	0.148	0.000	0.000	0.000	0.000
0.000													
10	7.1	2.309	0.000	0.018	0.187	0.489	0.802	0.786	0.028	0.000	0.000	0.000	0.000
0.000													
10	7.3	1.807	0.000	0.025	0.178	0.384	0.662	0.557	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.5	0.759	0.000	0.011	0.086	0.187	0.288	0.187	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.7	0.060	0.000	0.001	0.008	0.018	0.024	0.008	0.000	0.000	0.000	0.000	0.000
0.000													
10	7.9	0.012	0.000	0.000	0.002	0.004	0.005	0.001	0.000	0.000	0.000	0.000	0.000
0.000													

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
WUSmap\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 11.85  
Distance (km): 20.846083

Magnitude: 6.1818869  
Epsilon (mean values): 0.47112429  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 11.85  
Distance (km): 20.84608  
Magnitude: 6.1818868  
Epsilon (mean values): 0.47112423  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.81  
Distance (km): 20.684332  
Magnitude: 6.1788179  
Epsilon (mean values): 0.4658691  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.81  
Distance (km): 20.684329  
Magnitude: 6.1788179  
Epsilon (mean values): 0.46586905  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.34  
Distance (km): 19.848355  
Magnitude: 6.1518603  
Epsilon (mean values): 0.43154439  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.33  
Distance (km): 19.846124

Magnitude: 6.1518043  
Epsilon (mean values): 0.43146885  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.31  
Distance (km): 19.731835  
Magnitude: 6.1496154  
Epsilon (mean values): 0.4277012  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.31  
Distance (km): 19.729766  
Magnitude: 6.1495623  
Epsilon (mean values): 0.42763106  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.95  
Distance (km): 22.873818  
Magnitude: 6.3199307  
Epsilon (mean values): 0.45769109  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.95  
Distance (km): 22.873594  
Magnitude: 6.3199281  
Epsilon (mean values): 0.45768764  
sub0\_ch\_bot.in:  
Percent Contributed: 2.31  
Distance (km): 323.70483  
Magnitude: 9.1544681  
Epsilon (mean values): 1.8322232  
Cascadia Megathrust - whole CSZ Characteristic:  
Percent Contributed: 2.31  
Distance (km): 323.70483  
Magnitude: 9.1544681  
Epsilon (mean values): 1.8322232  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.3  
Distance (km): 21.608288  
Magnitude: 6.2784486  
Epsilon (mean values): 0.41607904  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.3  
Distance (km): 21.603947  
Magnitude: 6.2783394  
Epsilon (mean values): 0.4159682  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: GMM: Abrahamson, Silva & Kamai (2014)  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 26.06 %

Residual: 0 %

Trace: 0.13 %

Mean (over all sources):

m: 6.11

r: 21.41 km

ε<sub>0</sub>: 0.58 σ

Mode (largest m-r bin):

m: 5.1

r: 10.94 km

ε<sub>0</sub>: 0.64 σ

Contribution: 2.49 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.1

r: 10.99 km

ε<sub>0</sub>: 0.69 σ

Contribution: 0.81 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)	ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)
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190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
130	7.5	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.004
130	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
130	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	7.1	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.006
110	7.3	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
110	7.5	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0120
110	7.7	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010

110 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000  
90 6.3 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.5 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
90 6.7 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.005  
90 6.9 0.0160.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.012  
90 7.1 0.0310.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0250.005  
90 7.3 0.0480.0000.0000.0000.0000.0000.0000.0000.0000.0000.0120.0360.000  
90 7.5 0.0340.0000.0000.0000.0000.0000.0000.0000.0000.0000.0260.0090.000  
90 7.7 0.0060.0000.0000.0000.0000.0000.0000.0000.0000.0020.0050.0000.000  
90 7.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0020.0000.0000.000  
70 5.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 6.1 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.008  
70 6.3 0.0330.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.022  
70 6.5 0.0530.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0350.018  
70 6.7 0.0680.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0590.009  
70 6.9 0.0910.0000.0000.0000.0000.0000.0000.0000.0000.0000.0290.0610.000  
70 7.1 0.1240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0940.0300.000  
70 7.3 0.1530.0000.0000.0000.0000.0000.0000.0000.0000.0250.1280.0000.000  
70 7.5 0.0960.0000.0000.0000.0000.0000.0000.0000.0000.0630.0330.0000.000  
70 7.7 0.0190.0000.0000.0000.0000.0000.0000.0000.0020.0180.0000.0000.000  
70 7.9 0.0050.0000.0000.0000.0000.0000.0000.0000.0030.0020.0000.0000.000  
50 5.1 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
50 5.3 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.009  
50 5.5 0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.024  
50 5.7 0.0460.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0170.029  
50 5.9 0.0750.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0500.025  
50 6.1 0.1390.0000.0000.0000.0000.0000.0000.0000.0000.0000.0290.0950.016  
50 6.3 0.2090.0000.0000.0000.0000.0000.0000.0000.0000.0000.1310.0780.000  
50 6.5 0.2210.0000.0000.0000.0000.0000.0000.0000.0000.0170.1570.0470.000  
50 6.7 0.2100.0000.0000.0000.0000.0000.0000.0000.0000.0470.1440.0180.000  
50 6.9 0.2390.0000.0000.0000.0000.0000.0000.0000.0000.1370.1030.0000.000  
50 7.1 0.2630.0000.0000.0000.0000.0000.0000.0000.0160.2070.0400.0000.000  
50 7.3 0.2800.0000.0000.0000.0000.0000.0000.0000.1190.1610.0000.0000.000  
50 7.5 0.1610.0000.0000.0000.0000.0000.0000.0000.1150.0460.0000.0000.000  
50 7.7 0.0230.0000.0000.0000.0000.0000.0000.0060.0170.0000.0000.0000.000  
50 7.9 0.0070.0000.0000.0000.0000.0000.0000.0040.0030.0000.0000.0000.000  
30 5.1 0.5830.0000.0000.0000.0000.0000.0000.0000.0000.0000.3280.2060.049  
30 5.3 0.6160.0000.0000.0000.0000.0000.0000.0000.0000.0710.3730.1390.033  
30 5.5 0.6410.0000.0000.0000.0000.0000.0000.0000.1900.3010.1420.008  
30 5.7 0.6610.0000.0000.0000.0000.0000.0000.0000.3030.2680.0910.000  
30 5.9 0.6730.0000.0000.0000.0000.0000.0000.1130.3170.1960.0470.000  
30 6.1 0.7810.0000.0000.0000.0000.0000.0000.2850.3260.1710.0000.000  
30 6.3 0.8570.0000.0000.0000.0000.0000.0110.4350.3500.0610.0000.000  
30 6.5 0.7130.0000.0000.0000.0000.0000.0950.3520.2490.0170.0000.000  
30 6.7 0.5790.0000.0000.0000.0000.0000.0970.2990.1830.0000.0000.000  
30 6.9 0.6130.0000.0000.0000.0000.0000.2260.2900.0970.0000.0000.000  
30 7.1 0.5920.0000.0000.0000.0000.0260.2870.2720.0060.0000.0000.000  
30 7.3 0.5780.0000.0000.0000.0000.0910.3080.1790.0000.0000.0000.000  
30 7.5 0.3090.0000.0000.0000.0000.0870.1850.0370.0000.0000.0000.000  
30 7.7 0.0320.0000.0000.0000.0010.0130.0180.0000.0000.0000.0000.0000.000  
30 7.9 0.0070.0000.0000.0000.0000.0040.0020.0000.0000.0000.0000.0000.000  
10 5.1 2.4880.0000.0000.0000.0000.4500.5050.8130.6870.0340.0000.000  
10 5.3 2.0650.0000.0000.0000.0000.4150.5920.6040.4540.0000.0000.000  
10 5.5 1.7040.0000.0000.0000.0000.3990.5570.4880.2600.0000.0000.000  
10 5.7 1.3990.0000.0000.0000.0760.3020.5100.4560.0550.0000.0000.000  
10 5.9 1.1390.0000.0000.0000.1490.3060.3640.3200.0000.0000.0000.000  
10 6.1 1.3920.0000.0000.0440.3850.3300.4400.1930.0000.0000.0000.000

10	6.3	1.1900.0000.0000.0000.1330.2960.3650.3950.0000.0000.0000.0000.000
10	6.5	0.9960.0000.0000.0230.1440.2590.2770.2930.0000.0000.0000.0000.000
10	6.7	0.8390.0000.0000.0350.1370.2160.2520.1980.0000.0000.0000.0000.000
10	6.9	0.6730.0000.0000.0250.1160.1970.2700.0650.0000.0000.0000.0000.000
10	7.1	0.5530.0000.0000.0290.0950.1790.2400.0110.0000.0000.0000.0000.000
10	7.3	0.4360.0000.0000.0300.0760.1470.1830.0000.0000.0000.0000.0000.000
10	7.5	0.1840.0000.0000.0130.0380.0730.0610.0000.0000.0000.0000.0000.000
10	7.7	0.0150.0000.0000.0010.0040.0080.0020.0000.0000.0000.0000.0000.000
10	7.9	0.0030.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.22

Distance (km): 21.452736

Magnitude: 6.1079951

Epsilon (mean values): 0.59493295

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.22

Distance (km): 21.452733

Magnitude: 6.1079951

Epsilon (mean values): 0.59493289

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.21

Distance (km): 21.283728

Magnitude: 6.1044885

Epsilon (mean values): 0.58998619

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.21

Distance (km): 21.283726

Magnitude: 6.1044885

Epsilon (mean values): 0.58998613

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.54

Distance (km): 20.413808

Magnitude: 6.0768292

Epsilon (mean values): 0.55628141

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.53

Distance (km): 20.41142

Magnitude: 6.0767686

Epsilon (mean values): 0.55620681

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.53

Distance (km): 20.292034

Magnitude: 6.0742657

Epsilon (mean values): 0.55265862

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.53

Distance (km): 20.289817

Magnitude: 6.0742084

Epsilon (mean values): 0.55258918

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Boore, Stewart, Seyhan & Atkinson (2014)

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 27.93 %

Residual: 0 %

Trace: 0.15 %

Mean (over all sources):

m: 6.13

r: 21.15 km

ε<sub>0</sub>: 0.43 σ

Mode (largest m-r bin):

m: 5.5

r: 11.67 km

ε<sub>0</sub>: 0.01 σ

Contribution: 2.4 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 5.49

r: 16.32 km

ε<sub>0</sub>: 0.72 σ

Contribution: 0.67 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)

ε<sub>1</sub>: [-2.5 .. -2.0)

ε<sub>2</sub>: [-2.0 .. -1.5)

ε<sub>3</sub>: [-1.5 .. -1.0)

ε<sub>4</sub>: [-1.0 .. -0.5)

ε<sub>5</sub>: [-0.5 .. 0.0)

ε<sub>6</sub>: [0.0 .. 0.5)

ε<sub>7</sub>: [0.5 .. 1.0)

ε<sub>8</sub>: [1.0 .. 1.5)

ε<sub>9</sub>: [1.5 .. 2.0)

ε<sub>10</sub>: [2.0 .. 2.5)

ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, r<sub>Rup</sub> (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2)ε=[-2,-1.5)ε=[-1.5,-1)

ε=[-1,-0.5)ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



110 7.1 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004  
110 7.3 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.008  
110 7.5 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0060.003  
110 7.7 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.000  
110 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
90 6.7 0.0060.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.006  
90 6.9 0.0150.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.011  
90 7.1 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.007  
90 7.3 0.0380.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0340.001  
90 7.5 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.0130.000  
90 7.7 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0000.000  
90 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.000  
70 5.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 5.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.002  
70 6.1 0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.010  
70 6.3 0.0240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.019  
70 6.5 0.0490.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0330.016  
70 6.7 0.0780.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0700.008  
70 6.9 0.0970.0000.0000.0000.0000.0000.0000.0000.0000.0000.0390.0580.000  
70 7.1 0.1280.0000.0000.0000.0000.0000.0000.0000.0000.0000.1040.0240.000  
70 7.3 0.1430.0000.0000.0000.0000.0000.0000.0000.0000.0180.1220.0030.000  
70 7.5 0.0850.0000.0000.0000.0000.0000.0000.0000.0000.0460.0390.0000.000  
70 7.7 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0160.0010.0000.000  
70 7.9 0.0040.0000.0000.0000.0000.0000.0000.0000.0010.0030.0000.0000.000  
50 5.3 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
50 5.5 0.0450.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0160.029  
50 5.7 0.0820.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0510.031  
50 5.9 0.1120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0860.023  
50 6.1 0.1630.0000.0000.0000.0000.0000.0000.0000.0000.0480.1010.014  
50 6.3 0.1880.0000.0000.0000.0000.0000.0000.0000.0000.1080.0800.001  
50 6.5 0.2230.0000.0000.0000.0000.0000.0000.0000.0000.0150.1630.0440.000  
50 6.7 0.2480.0000.0000.0000.0000.0000.0000.0000.0920.1450.0110.000  
50 6.9 0.2600.0000.0000.0000.0000.0000.0000.0000.1610.0990.0000.000  
50 7.1 0.2710.0000.0000.0000.0000.0000.0000.0280.2000.0420.0000.000  
50 7.3 0.2740.0000.0000.0000.0000.0000.0000.1110.1610.0010.0000.000  
50 7.5 0.1520.0000.0000.0000.0000.0000.0000.1010.0510.0000.0000.000  
50 7.7 0.0210.0000.0000.0000.0000.0000.0030.0170.0010.0000.0000.000  
50 7.9 0.0060.0000.0000.0000.0000.0000.0030.0040.0000.0000.0000.000  
30 5.1 0.1620.0000.0000.0000.0000.0000.0000.0000.0000.0330.0980.031  
30 5.3 0.4560.0000.0000.0000.0000.0000.0000.0000.0690.2290.1250.032  
30 5.5 0.9500.0000.0000.0000.0000.0000.0000.0370.4420.3340.1350.001  
30 5.7 0.9790.0000.0000.0000.0000.0000.0000.2110.4280.2620.0780.000  
30 5.9 0.8950.0000.0000.0000.0000.0000.0000.2510.3940.2370.0140.000  
30 6.1 0.9040.0000.0000.0000.0000.0000.0000.4040.3340.1670.0000.000  
30 6.3 0.8580.0000.0000.0000.0000.0000.0660.4190.2960.0780.0000.000  
30 6.5 0.7600.0000.0000.0000.0000.0000.1280.3760.2530.0030.0000.000  
30 6.7 0.6810.0000.0000.0000.0000.0140.1870.3190.1620.0000.0000.000  
30 6.9 0.6760.0000.0000.0000.0000.0460.2590.3010.0700.0000.0000.000  
30 7.1 0.6330.0000.0000.0000.0000.0770.3060.2460.0030.0000.0000.000  
30 7.3 0.6010.0000.0000.0000.0000.1250.3150.1620.0000.0000.0000.000  
30 7.5 0.3140.0000.0000.0000.0040.0910.1770.0430.0000.0000.0000.000  
30 7.7 0.0320.0000.0000.0000.0010.0120.0180.0000.0000.0000.0000.000  
30 7.9 0.0070.0000.0000.0000.0010.0040.0030.0000.0000.0000.0000.000  
10 5.1 1.6420.0000.0000.0000.0000.2510.4090.3650.3670.2430.0070.000  
10 5.3 2.1210.0000.0000.0000.2410.4350.4940.4820.4460.0220.0000.000  
10 5.5 2.4020.0000.0000.1970.3970.5730.5350.6730.0260.0000.0000.000

10 5.7 1.9060.0000.0000.0000.3040.2670.5100.4300.3960.0000.0000.0000.0000.0000  
10 5.9 1.4260.0000.0000.0000.2130.1910.4210.4160.1850.0000.0000.0000.0000.0000  
10 6.1 1.5960.0000.0000.0000.3090.3770.3470.4920.0710.0000.0000.0000.0000.0000  
10 6.3 1.2690.0000.0000.0170.2610.2640.4150.3120.0000.0000.0000.0000.0000.0000  
10 6.5 1.0520.0000.0000.0480.1920.2560.3230.2330.0000.0000.0000.0000.0000.0000  
10 6.7 0.8810.0000.0000.0530.1540.2540.2580.1630.0000.0000.0000.0000.0000.0000  
10 6.9 0.6900.0000.0000.0370.1360.2250.2480.0440.0000.0000.0000.0000.0000.0000  
10 7.1 0.5620.0000.0000.0260.0990.2180.2130.0060.0000.0000.0000.0000.0000.0000  
10 7.3 0.4400.0000.0000.0240.0870.1730.1550.0000.0000.0000.0000.0000.0000.0000  
10 7.5 0.1850.0000.0000.0150.0360.0780.0560.0000.0000.0000.0000.0000.0000.0000  
10 7.7 0.0150.0000.0000.0010.0040.0070.0020.0000.0000.0000.0000.0000.0000.0000  
10 7.9 0.0030.0000.0000.0000.0010.0020.0000.0000.0000.0000.0000.0000.0000.0000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.46

Distance (km): 21.220667

Magnitude: 6.1278115

Epsilon (mean values): 0.44205035

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 3.46

Distance (km): 21.220666

Magnitude: 6.1278115

Epsilon (mean values): 0.44205032

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.45

Distance (km): 21.059237

Magnitude: 6.1246304

Epsilon (mean values): 0.4366884

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 3.45

Distance (km): 21.059236

Magnitude: 6.1246303

Epsilon (mean values): 0.43668838

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.72

Distance (km): 20.228524

Magnitude: 6.099136

Epsilon (mean values): 0.39816757

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.72

Distance (km): 20.226439

Magnitude: 6.0990835

Epsilon (mean values): 0.39808923

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.72

Distance (km): 20.111504

Magnitude: 6.0968001

Epsilon (mean values): 0.39421879

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.71

Distance (km): 20.109584

Magnitude: 6.0967506

Epsilon (mean values): 0.39414605

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E



110 7.5 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.003  
110 7.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.000  
110 7.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
90 6.9 0.0090.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.008  
90 7.1 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0100.007  
90 7.3 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0220.004  
90 7.5 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0140.000  
90 7.7 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0010.000  
90 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000  
70 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 6.3 0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.012  
70 6.5 0.0400.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.020  
70 6.7 0.0550.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0450.010  
70 6.9 0.0690.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.0620.002  
70 7.1 0.0890.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0480.0410.000  
70 7.3 0.1000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0870.0130.000  
70 7.5 0.0590.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0570.0000.000  
70 7.7 0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0060.0060.0000.000  
70 7.9 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0020.0000.0000.000  
50 5.7 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
50 5.9 0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.010  
50 6.1 0.0530.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0360.017  
50 6.3 0.1240.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0440.0740.007  
50 6.5 0.1800.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.1270.0540.000  
50 6.7 0.1790.0000.0000.0000.0000.0000.0000.0000.0000.0000.0190.1290.0300.000  
50 6.9 0.1860.0000.0000.0000.0000.0000.0000.0000.0000.0000.0670.1140.0040.000  
50 7.1 0.1910.0000.0000.0000.0000.0000.0000.0000.0000.0000.1200.0710.0000.000  
50 7.3 0.1910.0000.0000.0000.0000.0000.0000.0000.0000.0080.1500.0320.0000.000  
50 7.5 0.1060.0000.0000.0000.0000.0000.0000.0000.0000.0320.0740.0010.0000.000  
50 7.7 0.0140.0000.0000.0000.0000.0000.0000.0000.0000.0080.0060.0000.0000.000  
50 7.9 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0040.0010.0000.0000.000  
30 5.1 0.0350.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0180.018  
30 5.3 0.0900.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0630.019  
30 5.5 0.1940.0000.0000.0000.0000.0000.0000.0000.0000.0000.1110.0670.016  
30 5.7 0.2820.0000.0000.0000.0000.0000.0000.0000.0000.0730.1260.0690.014  
30 5.9 0.3740.0000.0000.0000.0000.0000.0000.0000.0000.1740.1320.0630.006  
30 6.1 0.5620.0000.0000.0000.0000.0000.0000.0000.1440.2440.1440.0310.000  
30 6.3 0.7370.0000.0000.0000.0000.0000.0000.0110.3620.2520.1120.0000.000  
30 6.5 0.7310.0000.0000.0000.0000.0000.0000.1660.3090.2340.0220.0000.000  
30 6.7 0.6010.0000.0000.0000.0000.0000.0040.1580.2620.1780.0000.0000.000  
30 6.9 0.5910.0000.0000.0000.0000.0000.0150.2220.2440.1100.0000.0000.000  
30 7.1 0.5400.0000.0000.0000.0000.0000.0460.2210.2140.0590.0000.0000.000  
30 7.3 0.5040.0000.0000.0000.0000.0000.0600.2350.2000.0090.0000.0000.000  
30 7.5 0.2600.0000.0000.0000.0000.0000.0440.1300.0860.0000.0000.0000.000  
30 7.7 0.0260.0000.0000.0000.0000.0000.0060.0130.0060.0000.0000.0000.000  
30 7.9 0.0060.0000.0000.0000.0000.0000.0020.0030.0000.0000.0000.0000.000  
10 5.1 0.8730.0000.0000.0000.0000.0000.0000.0530.3150.2860.1570.0610.000  
10 5.3 1.1220.0000.0000.0000.0000.0000.0000.3730.3720.2210.1510.0050.000  
10 5.5 1.3420.0000.0000.0000.0000.0000.2940.4200.3220.2800.0260.0000.000  
10 5.7 1.2160.0000.0000.0000.0000.0750.2950.3860.2870.1730.0000.0000.000  
10 5.9 1.0560.0000.0000.0000.0000.1490.3060.2810.2830.0370.0000.0000.000  
10 6.1 1.4030.0000.0000.0000.1150.3680.3290.3880.2020.0000.0000.0000.000  
10 6.3 1.2620.0000.0000.0000.2530.3080.3550.3330.0140.0000.0000.0000.000  
10 6.5 1.1140.0000.0000.0590.2730.2640.3210.1960.0000.0000.0000.0000.000  
10 6.7 0.9220.0000.0000.0910.1780.2470.2570.1490.0000.0000.0000.0000.000





130 7.9 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0000.000  
110 6.9 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
110 7.1 0.0050.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.005  
110 7.3 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0110.006  
110 7.5 0.0170.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.0160.001  
110 7.7 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.0010.000  
110 7.9 0.0020.0000.0000.0000.0000.0000.0000.0000.0000.0010.0010.0000.000  
90 6.5 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.7 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
90 6.9 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0010.007  
90 7.1 0.0260.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0200.006  
90 7.3 0.0500.0000.0000.0000.0000.0000.0000.0000.0000.0000.0190.0300.001  
90 7.5 0.0400.0000.0000.0000.0000.0000.0000.0000.0000.0010.0340.0050.000  
90 7.7 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0050.0030.0000.000  
90 7.9 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0020.0000.0000.000  
70 6.1 0.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.000  
70 6.3 0.0040.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.004  
70 6.5 0.0100.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.010  
70 6.7 0.0290.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0150.013  
70 6.9 0.0620.0000.0000.0000.0000.0000.0000.0000.0000.0000.0080.0500.004  
70 7.1 0.1160.0000.0000.0000.0000.0000.0000.0000.0000.0000.0820.0340.000  
70 7.3 0.1670.0000.0000.0000.0000.0000.0000.0000.0000.0600.1040.0030.000  
70 7.5 0.1130.0000.0000.0000.0000.0000.0000.0000.0010.0900.0210.0000.000  
70 7.7 0.0250.0000.0000.0000.0000.0000.0000.0000.0090.0160.0000.0000.000  
70 7.9 0.0060.0000.0000.0000.0000.0000.0000.0000.0050.0010.0000.0000.000  
50 5.5 0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001  
50 5.7 0.0070.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.007  
50 5.9 0.0200.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0050.015  
50 6.1 0.0530.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0370.016  
50 6.3 0.0870.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.0620.012  
50 6.5 0.1030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0470.0510.004  
50 6.7 0.1280.0000.0000.0000.0000.0000.0000.0000.0000.0080.0830.0370.000  
50 6.9 0.1900.0000.0000.0000.0000.0000.0000.0000.0000.0840.0980.0080.000  
50 7.1 0.2530.0000.0000.0000.0000.0000.0000.0000.0370.1680.0480.0000.000  
50 7.3 0.3020.0000.0000.0000.0000.0000.0000.0000.1600.1370.0050.0000.000  
50 7.5 0.1840.0000.0000.0000.0000.0000.0000.0320.1180.0340.0000.0000.000  
50 7.7 0.0270.0000.0000.0000.0000.0000.0000.0140.0120.0010.0000.0000.000  
50 7.9 0.0080.0000.0000.0000.0000.0000.0010.0060.0010.0000.0000.0000.000  
30 5.1 0.1610.0000.0000.0000.0000.0000.0000.0000.0000.0000.0130.1190.030  
30 5.3 0.2540.0000.0000.0000.0000.0000.0000.0000.0000.0000.1220.1080.024  
30 5.5 0.3350.0000.0000.0000.0000.0000.0000.0000.0000.0170.1970.0990.021  
30 5.7 0.3970.0000.0000.0000.0000.0000.0000.0000.0000.1360.1710.0770.013  
30 5.9 0.4500.0000.0000.0000.0000.0000.0000.0000.0180.2140.1530.0650.001  
30 6.1 0.5790.0000.0000.0000.0000.0000.0000.0000.1580.2490.1410.0300.000  
30 6.3 0.6680.0000.0000.0000.0000.0000.0000.0310.2920.2170.1280.0000.000  
30 6.5 0.6060.0000.0000.0000.0000.0000.0000.1050.2570.1870.0580.0000.000  
30 6.7 0.5570.0000.0000.0000.0000.0000.0140.1430.2200.1590.0210.0000.000  
30 6.9 0.6550.0000.0000.0000.0000.0000.0830.2370.2390.0950.0000.0000.000  
30 7.1 0.6860.0000.0000.0000.0000.0210.1600.2800.2080.0160.0000.0000.000  
30 7.3 0.6980.0000.0000.0000.0000.0590.2520.2900.0970.0000.0000.0000.000  
30 7.5 0.3770.0000.0000.0000.0000.0530.1570.1500.0160.0000.0000.0000.000  
30 7.7 0.0390.0000.0000.0000.0010.0090.0190.0090.0000.0000.0000.0000.000  
30 7.9 0.0080.0000.0000.0000.0010.0030.0040.0010.0000.0000.0000.0000.000  
10 5.1 1.6200.0000.0000.0000.0000.0000.0000.4780.5800.3200.2410.0000.000  
10 5.3 1.6110.0000.0000.0000.0000.0000.2440.4370.4860.3750.0690.0000.000  
10 5.5 1.4780.0000.0000.0000.0000.0000.3400.4970.3320.3080.0000.0000.000  
10 5.7 1.2930.0000.0000.0000.0000.0380.3590.4480.2980.1490.0000.0000.000

10 5.9 1.1030.0000.0000.0000.0000.1490.3040.3370.3010.0130.0000.0000.0000  
10 6.1 1.4180.0000.0000.0000.0700.4030.3490.4060.1900.0000.0000.0000.0000  
10 6.3 1.2400.0000.0000.0000.2030.3240.3810.3050.0270.0000.0000.0000.0000  
10 6.5 1.0720.0000.0000.0470.2400.2620.3220.1810.0200.0000.0000.0000.0000  
10 6.7 0.9150.0000.0080.0900.1780.2710.2200.1480.0000.0000.0000.0000.0000  
10 6.9 0.7470.0000.0130.0910.1670.2550.2080.0130.0000.0000.0000.0000.0000  
10 7.1 0.6230.0000.0180.0800.1740.2320.1200.0000.0000.0000.0000.0000.0000  
10 7.3 0.4930.0000.0250.0800.1430.1880.0580.0000.0000.0000.0000.0000.0000  
10 7.5 0.2080.0000.0110.0390.0760.0690.0130.0000.0000.0000.0000.0000.0000  
10 7.7 0.0160.0000.0010.0040.0070.0050.0000.0000.0000.0000.0000.0000.0000  
10 7.9 0.0030.0000.0000.0010.0010.0010.0000.0000.0000.0000.0000.0000.0000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.75

Distance (km): 20.340892

Magnitude: 6.2417512

Epsilon (mean values): 0.40384734

noPuget\_2014\_fixSm.ch.in (opt):

Percent Contributed: 2.75

Distance (km): 20.340885

Magnitude: 6.2417511

Epsilon (mean values): 0.40384719

WUSmap\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.75

Distance (km): 20.18789

Magnitude: 6.2388424

Epsilon (mean values): 0.39893167

noPuget\_2014\_fixSm.gr.in (opt):

Percent Contributed: 2.75

Distance (km): 20.187882

Magnitude: 6.2388423

Epsilon (mean values): 0.39893152

noPuget\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.17

Distance (km): 19.356412

Magnitude: 6.2088371

Epsilon (mean values): 0.36978971

WUSmap\_2014\_adSm.ch.in (opt):

Percent Contributed: 2.17

Distance (km): 19.353967

Magnitude: 6.2087742

Epsilon (mean values): 0.36971718

noPuget\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.17

Distance (km): 19.247657

Magnitude: 6.2067274

Epsilon (mean values): 0.36624433

WUSmap\_2014\_adSm.gr.in (opt):

Percent Contributed: 2.17

Distance (km): 19.245357

Magnitude: 6.206667

Epsilon (mean values): 0.36617664

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration



vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Atkinson & Macias (2009) : Interface

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 0 %

Residual: 0 %

Trace: 0 %

Mean (over all sources):

m: null

r: null km

$\epsilon_0$ : null  $\sigma$

Mode (largest m-r bin):

m: null

r: null km

$\epsilon_0$ : null  $\sigma$

Contribution: 0 %

Mode (largest m-r- $\epsilon_0$  bin):

m: null

r: null km

$\epsilon_0$ : null  $\sigma$

Contribution: 0 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$   $\epsilon$ =(- $\infty$ , -2.5)  $\epsilon$ =[-2.5, -2)  $\epsilon$ =[-2, -1.5)  $\epsilon$ =[-1.5, -1)  $\epsilon$ =[-1, -0.5)  $\epsilon$ =[-0.5, 0)  $\epsilon$ =[0, 0.5)  $\epsilon$ =[0.5, 1)  $\epsilon$ =[1, 1.5)  $\epsilon$ =[1.5, 2)  $\epsilon$ =[2, 2.5)  $\epsilon$ =[2.5,  $\infty$ )

Principal Sources (faults, subduction, random seismicity having > 3% contribution

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Interface  
Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs  
Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 3.4 %  
Residual: 0 %  
Trace: 0.03 %

Mean (over all sources):

m: 9  
r: 346.65 km  
ε<sub>0</sub>: 1.98 σ

Mode (largest m-r bin):

m: 9.34  
r: 323.7 km  
ε<sub>0</sub>: 1.59 σ  
Contribution: 0.89 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 9.34  
r: 323.7 km  
ε<sub>0</sub>: 1.59 σ  
Contribution: 0.89 %

Discretization:

r: min = 0.0, max = 1000.0, Δ = 20.0 km  
m: min = 4.4, max = 9.4, Δ = 0.2  
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε<sub>0</sub>: [-∞ .. -2.5)  
ε<sub>1</sub>: [-2.5 .. -2.0)  
ε<sub>2</sub>: [-2.0 .. -1.5)  
ε<sub>3</sub>: [-1.5 .. -1.0)  
ε<sub>4</sub>: [-1.0 .. -0.5)  
ε<sub>5</sub>: [-0.5 .. 0.0)  
ε<sub>6</sub>: [0.0 .. 0.5)  
ε<sub>7</sub>: [0.5 .. 1.0)  
ε<sub>8</sub>: [1.0 .. 1.5)  
ε<sub>9</sub>: [1.5 .. 2.0)  
ε<sub>10</sub>: [2.0 .. 2.5)  
ε<sub>11</sub>: [2.5 .. +∞]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ε ε=(-∞,-2.5) ε=[-2.5,-2) ε=[-2,-1.5) ε=[-1.5,-1)  
ε=[-1,-0.5) ε=[-0.5,0) ε=[0,0.5) ε=[0.5,1) ε=[1,1.5) ε=[1.5,2) ε=[2,2.5) ε=[2.5,∞)

450	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
410	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
410	8.5	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.007
410	8.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
390	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
390	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
390	8.3	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	0.000	0.000	0.000	0.013	0.000
390	8.5	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001

0.024														
390	8.7	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070
0.061														
390	9.1	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.114
0.000														
370	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
370	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														
370	8.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														
370	8.5	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
0.033														
370	8.7	0.222	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.222
0.000														
370	8.9	0.254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.254
0.000														
370	9.1	0.492	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.492
0.000														
350	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000														
350	8.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002														
350	8.3	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001														
350	8.5	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
0.000														
350	8.7	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
0.000														
350	8.9	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042
0.000														
330	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.003														
330	8.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
0.005														
330	8.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.000														
330	8.5	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048
0.000														
330	8.7	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.073
0.000														
330	8.9	0.416	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.416	0.000
0.000														
330	9.1	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.000
0.000														
330	9.3	0.887	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.887	0.000
0.000														

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 1.79

Distance (km): 323.70483

Magnitude: 9.1386856

Epsilon (mean values): 1.7386296

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 1.79

Distance (km): 323.70483

Magnitude: 9.1386856

Epsilon (mean values): 1.7386296

Azimuth: 287.96053

Latitude: 46.3

Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: BC Hydro (2012) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 0.12 %

Residual: 0 %

Trace: 0.07 %

Mean (over all sources):

m: 7.31

r: 242.94 km

$\epsilon_0$ : 2.26  $\sigma$

Mode (largest m-r bin):

m: 7.12

r: 230.18 km

$\epsilon_0$ : 2.44  $\sigma$

Contribution: 0.02 %

Mode (largest m-r- $\epsilon_0$  bin):

m: 7.12

r: 249.7 km

$\epsilon_0$ : 2.66  $\sigma$

Contribution: 0.02 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)

$\epsilon_1$ : [-2.5 .. -2.0)

$\epsilon_2$ : [-2.0 .. -1.5)

$\epsilon_3$ : [-1.5 .. -1.0)

$\epsilon_4$ : [-1.0 .. -0.5)

$\epsilon_5$ : [-0.5 .. 0.0)

$\epsilon_6$ : [0.0 .. 0.5)

$\epsilon_7$ : [0.5 .. 1.0)

$\epsilon_8$ : [1.0 .. 1.5)

$\epsilon_9$ : [1.5 .. 2.0)

$\epsilon_{10}$ : [2.0 .. 2.5)

$\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km)    Magnitude (Mw)    ALL\_ $\epsilon$      $\epsilon$ =(- $\infty$ ,-2.5)     $\epsilon$ =[-2.5,-2)     $\epsilon$ =[-2,-1.5)     $\epsilon$ =[-1.5,-1)     $\epsilon$ =[-1,-0.5)     $\epsilon$ =[-0.5,0)     $\epsilon$ =[0,0.5)     $\epsilon$ =[0.5,1)     $\epsilon$ =[1,1.5)     $\epsilon$ =[1.5,2)     $\epsilon$ =[2,2.5)

$\epsilon=[2.5, \infty)$

290	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.001													
290	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.002													
290	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
0.000													
270	7.1	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.008													
270	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.003													
270	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
0.000													
270	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
0.000													
270	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000													
250	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
250	7.1	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.016													
250	7.3	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
0.000													
250	7.5	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.004
0.000													
250	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000													
250	7.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
0.000													
230	6.9	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
0.000													
230	7.1	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
0.006													
230	7.3	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.004
0.000													
230	7.5	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
0.000													
230	7.7	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
0.000													
230	7.9	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.010
0.000													
210	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
210	6.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
0.000													
210	7.1	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
0.000													
210	7.3	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
0.000													
210	7.5	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.002
0.000													
210	7.7	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
0.000													
210	7.9	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
0.000													
190	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	7.1	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
0.000													
190	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
190	7.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	6.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	6.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	6.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	6.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	7.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	7.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	7.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													
170	7.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000													



m: 9.34  
r: 323.7 km  
 $\epsilon_0$ : 2.01  $\sigma$   
Contribution: 0.34 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$   $\epsilon=(-\infty,-2.5)$   $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

370	9.1	0.0250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.025
350	8.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
350	8.9	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.005
330	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
330	8.7	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.006
330	8.9	0.0640	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.064
330	9.1	0.1250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1250	0.000
330	9.3	0.3400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3400	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: GMM: Zhao et al. (2006) : Slab

Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:

Deaggregation targets:

Return period: 2475 yrs

Exceedance rate: 0.0004040404 yr<sup>-1</sup>

PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs

Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 0.01 %

Residual: 0 %

Trace: 0.09 %

Mean (over all sources):

m: 7.77

r: 221.31 km

$\epsilon_0$ : 1.9  $\sigma$

Mode (largest m-r bin):

m: 7.91  
r: 229.83 km  
 $\epsilon_0$ : 1.75  $\sigma$   
Contribution: 0 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 7.92  
r: 230.55 km  
 $\epsilon_0$ : 1.76  $\sigma$   
Contribution: 0 %

Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ :  $[-\infty .. -2.5)$   
 $\epsilon_1$ :  $[-2.5 .. -2.0)$   
 $\epsilon_2$ :  $[-2.0 .. -1.5)$   
 $\epsilon_3$ :  $[-1.5 .. -1.0)$   
 $\epsilon_4$ :  $[-1.0 .. -0.5)$   
 $\epsilon_5$ :  $[-0.5 .. 0.0)$   
 $\epsilon_6$ :  $[0.0 .. 0.5)$   
 $\epsilon_7$ :  $[0.5 .. 1.0)$   
 $\epsilon_8$ :  $[1.0 .. 1.5)$   
 $\epsilon_9$ :  $[1.5 .. 2.0)$   
 $\epsilon_{10}$ :  $[2.0 .. 2.5)$   
 $\epsilon_{11}$ :  $[2.5 .. +\infty)$

	Closest Distance, rRup (km)	Magnitude (Mw)	ALL_ $\epsilon$	$\epsilon=(-\infty,-2.5)$	$\epsilon=[-2.5,-2)$	$\epsilon=[-2,-1.5)$	$\epsilon=[-1.5,-1)$	$\epsilon=[-1,-0.5)$	$\epsilon=[-0.5,0)$	$\epsilon=[0,0.5)$	$\epsilon=[0.5,1)$	$\epsilon=[1,1.5)$	$\epsilon=[1.5,2)$	$\epsilon=[2,2.5)$	$\epsilon=[2.5,\infty)$
270	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
270	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
230	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
210	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000





r: min = 0.0, max = 1000.0, Δ = 20.0 km

m: min = 4.4, max = 9.4, Δ = 0.2

ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys:

ε0: [-∞ .. -2.5)

ε1: [-2.5 .. -2.0)

ε2: [-2.0 .. -1.5)

ε3: [-1.5 .. -1.0)

ε4: [-1.0 .. -0.5)

ε5: [-0.5 .. 0.0)

ε6: [0.0 .. 0.5)

ε7: [0.5 .. 1.0)

ε8: [1.0 .. 1.5)

ε9: [1.5 .. 2.0)

ε10: [2.0 .. 2.5)

ε11: [2.5 .. +∞)

Closest Distance, rRup (km)		Magnitude (Mw)	ALL_ε	ε=(-∞,-2.5)	ε=[-2.5,-2)	ε=[-2,-1.5)	ε=[-1.5,-1)
ε=[-1,-0.5)	ε=[-0.5,0)	ε=[0,0.5)	ε=[0.5,1)	ε=[1,1.5)	ε=[1.5,2)	ε=[2,2.5)	ε=[2.5,∞)

210	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
170	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
150	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000
130	7.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	7.5	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0007
130	7.7	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0001
130	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010
110	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	7.1	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
110	7.3	0.0410	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0190	0.022
110	7.5	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0340
110	7.7	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0040
110	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0020	0.0010
90	6.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
90	6.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
90	6.7	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
90	6.9	0.0480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.037
90	7.1	0.0990	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0750
90	7.3	0.1570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0340	0.1180
90	7.5	0.1130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0760
90	7.7	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0130
90	7.9	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0020
70	5.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70	5.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70	6.1	0.0170	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70	6.3	0.0720	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160
70	6.5	0.1300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0750
70	6.7	0.1610	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1250
70	6.9	0.2420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.1710
70	7.1	0.3260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2190	0.1070
70	7.3	0.4270	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0830	0.3250

70	7.5	0.2750.0000.0000.0000.0000.0000.0000.0000.0010.1460.1280.0000.000
70	7.7	0.0440.0000.0000.0000.0000.0000.0000.0000.0080.0320.0040.0000.000
70	7.9	0.0140.0000.0000.0000.0000.0000.0000.0000.0070.0060.0000.0000.000
50	5.1	0.0010.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.001
50	5.3	0.0120.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.012
50	5.5	0.0700.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0160.054
50	5.7	0.1360.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0680.068
50	5.9	0.2180.0000.0000.0000.0000.0000.0000.0000.0000.0000.0030.1410.073
50	6.1	0.4080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0770.2690.063
50	6.3	0.6080.0000.0000.0000.0000.0000.0000.0000.0000.0000.2950.2940.019
50	6.5	0.7260.0000.0000.0000.0000.0000.0000.0000.0000.0320.4940.1960.004
50	6.7	0.7650.0000.0000.0000.0000.0000.0000.0000.0000.1670.5010.0960.000
50	6.9	0.8750.0000.0000.0000.0000.0000.0000.0000.0000.4490.4140.0120.000
50	7.1	0.9770.0000.0000.0000.0000.0000.0000.0000.0810.6950.2010.0000.000
50	7.3	1.0460.0000.0000.0000.0000.0000.0000.0000.3980.6100.0390.0000.000
50	7.5	0.6030.0000.0000.0000.0000.0000.0000.0320.3660.2040.0010.0000.000
50	7.7	0.0850.0000.0000.0000.0000.0000.0000.0230.0540.0080.0000.0000.000
50	7.9	0.0260.0000.0000.0000.0000.0000.0010.0120.0120.0010.0000.0000.000
30	5.1	0.9420.0000.0000.0000.0000.0000.0000.0000.0000.0000.3740.4400.127
30	5.3	1.4160.0000.0000.0000.0000.0000.0000.0000.1400.7320.4350.109
30	5.5	2.1200.0000.0000.0000.0000.0000.0000.0370.6500.9440.4430.046
30	5.7	2.3190.0000.0000.0000.0000.0000.0000.2110.9400.8270.3140.027
30	5.9	2.3930.0000.0000.0000.0000.0000.0000.3821.0990.7180.1880.006
30	6.1	2.8270.0000.0000.0000.0000.0000.0000.9901.1530.6230.0610.000
30	6.3	3.1200.0000.0000.0000.0000.0000.0000.1181.5081.1150.3780.0000.000
30	6.5	2.8110.0000.0000.0000.0000.0000.0000.4941.2930.9230.1000.0000.000
30	6.7	2.4190.0000.0000.0000.0000.0000.0310.5851.0990.6830.0210.0000.000
30	6.9	2.5350.0000.0000.0000.0000.0000.1430.9441.0740.3730.0000.0000.000
30	7.1	2.4500.0000.0000.0000.0000.0210.3091.0950.9410.0850.0000.0000.000
30	7.3	2.3810.0000.0000.0000.0000.0590.5271.1480.6380.0090.0000.0000.000
30	7.5	1.2600.0000.0000.0000.0000.0570.3790.6420.1810.0000.0000.0000.000
30	7.7	0.1270.0000.0000.0000.0010.0110.0500.0580.0060.0000.0000.0000.000
30	7.9	0.0280.0000.0000.0000.0010.0040.0140.0090.0000.0000.0000.0000.000
10	5.1	6.6230.0000.0000.0000.0000.0000.7011.4462.0741.6610.6740.0680.000
10	5.3	6.9180.0000.0000.0000.0000.2411.0941.8961.9441.4960.2420.0050.000
10	5.5	6.9260.0000.0000.0000.1970.3971.6062.0091.8150.8750.0260.0000.000
10	5.7	5.8140.0000.0000.0000.3040.4571.4661.7731.4360.3780.0000.0000.000
10	5.9	4.7250.0000.0000.0000.2130.6381.3371.3981.0890.0490.0000.0000.000
10	6.1	5.8100.0000.0000.0000.5381.5331.3561.7260.6560.0000.0000.0000.000
10	6.3	4.9600.0000.0000.0170.8491.1921.5161.3450.0410.0000.0000.0000.000
10	6.5	4.2350.0000.0000.1780.8501.0411.2430.9030.0200.0000.0000.0000.000
10	6.7	3.5580.0000.0080.2690.6460.9880.9870.6590.0000.0000.0000.0000.000
10	6.9	2.8210.0000.0130.2160.5670.9090.9670.1480.0000.0000.0000.0000.000
10	7.1	2.3090.0000.0180.1870.4890.8020.7860.0280.0000.0000.0000.0000.000
10	7.3	1.8070.0000.0250.1780.3840.6620.5570.0000.0000.0000.0000.0000.000
10	7.5	0.7590.0000.0110.0860.1870.2880.1870.0000.0000.0000.0000.0000.000
10	7.7	0.0600.0000.0010.0080.0180.0240.0080.0000.0000.0000.0000.0000.000
10	7.9	0.0120.0000.0000.0020.0040.0050.0010.0000.0000.0000.0000.0000.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution

WUSmap\_2014\_fixSm.ch.in (opt):

Percent Contributed: 11.85

Distance (km): 20.846083

Magnitude: 6.1818869

Epsilon (mean values): 0.47112429

PointSourceFinite: -119.420, 45.506:

Percent Contributed: 1.01

Distance (km): 6.2765438

Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_fixSm.ch.in (opt):  
Percent Contributed: 11.85  
Distance (km): 20.84608  
Magnitude: 6.1818868  
Epsilon (mean values): 0.47112423  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
WUSmap\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.81  
Distance (km): 20.684332  
Magnitude: 6.1788179  
Epsilon (mean values): 0.4658691  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_fixSm.gr.in (opt):  
Percent Contributed: 11.81  
Distance (km): 20.684329  
Magnitude: 6.1788179  
Epsilon (mean values): 0.46586905  
PointSourceFinite: -119.420, 45.506:  
Percent Contributed: 1.01  
Distance (km): 6.2765438  
Magnitude: 5.6530336  
Epsilon (mean values): -0.53475732  
Azimuth: 0  
Latitude: 45.506386  
Longitude: -119.42  
noPuget\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.34  
Distance (km): 19.848355  
Magnitude: 6.1518603  
Epsilon (mean values): 0.43154439  
WUSmap\_2014\_adSm.ch.in (opt):  
Percent Contributed: 9.33  
Distance (km): 19.846124  
Magnitude: 6.1518043  
Epsilon (mean values): 0.43146885  
noPuget\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.31  
Distance (km): 19.731835

Magnitude: 6.1496154  
Epsilon (mean values): 0.4277012  
WUSmap\_2014\_adSm.gr.in (opt):  
Percent Contributed: 9.31  
Distance (km): 19.729766  
Magnitude: 6.1495623  
Epsilon (mean values): 0.42763106  
WUSmap\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.95  
Distance (km): 22.873818  
Magnitude: 6.3199307  
Epsilon (mean values): 0.45769109  
noPuget\_2014\_fixSm\_M8.in (opt):  
Percent Contributed: 2.95  
Distance (km): 22.873594  
Magnitude: 6.3199281  
Epsilon (mean values): 0.45768764  
noPuget\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.3  
Distance (km): 21.608288  
Magnitude: 6.2784486  
Epsilon (mean values): 0.41607904  
WUSmap\_2014\_adSm\_M8.in (opt):  
Percent Contributed: 2.3  
Distance (km): 21.603947  
Magnitude: 6.2783394  
Epsilon (mean values): 0.4159682  
PSHA Deaggregation. %contributions.  
site: Test  
longitude: 119.420°W  
latitude: 45.475°E  
imt: Peak Ground Acceleration  
vs30 = 537 m/s (Site class C)  
return period: 2475 yrs.  
#This deaggregation corresponds to: Source Type: Slab  
Summary statistics for PSHA PGA deaggregation, r=distance,  $\epsilon$ =epsilon:  
Deaggregation targets:  
Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.18539539 g  
Recovered targets:  
Return period: 2555.6443 yrs  
Exceedance rate: 0.00039129076 yr<sup>-1</sup>  
Totals:  
Binned: 0.13 %  
Residual: 0 %  
Trace: 0.1 %  
Mean (over all sources):  
m: 7.33  
r: 241.96 km  
 $\epsilon_0$ : 2.25  $\sigma$   
Mode (largest m-r bin):  
m: 7.12  
r: 230.18 km  
 $\epsilon_0$ : 2.44  $\sigma$   
Contribution: 0.02 %  
Mode (largest m-r- $\epsilon_0$  bin):

m: 7.12  
r: 249.7 km  
 $\epsilon_0$ : 2.66  $\sigma$   
Contribution: 0.02 %

Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 .. + $\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_  $\epsilon$   $\epsilon=(-\infty,-2.5)$   $\epsilon=[-2.5,-2)$  $\epsilon=[-2,-1.5)$  $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$  $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

290	7.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
290	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000
270	7.1	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008
270	7.3	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0003
270	7.5	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070	0.0000
270	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0010	0.0000
270	7.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000
250	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	7.1	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0160
250	7.3	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000
250	7.5	0.0080	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0040	0.0000
250	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.0000
250	7.9	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0010	0.0000
230	6.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
230	7.1	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0006
230	7.3	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0040	0.0000
230	7.5	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060	0.0000	0.0000
230	7.7	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000
230	7.9	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0010	0.0000
210	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
210	6.9	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
210	7.1	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0000
210	7.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.0000
210	7.5	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0020	0.0000
210	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000
210	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0000	0.0000
190	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000
190	7.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	7.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



m: 9.03  
r: 343.75 km  
 $\epsilon_0$ : 2.01  $\sigma$   
Mode (largest m-r bin):  
m: 9.34  
r: 323.7 km  
 $\epsilon_0$ : 1.7  $\sigma$   
Contribution: 1.23 %  
Mode (largest m-r- $\epsilon_0$  bin):  
m: 9.34  
r: 323.7 km  
 $\epsilon_0$ : 1.59  $\sigma$   
Contribution: 0.89 %

Discretization:  
r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km  
m: min = 4.4, max = 9.4,  $\Delta$  = 0.2  
 $\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:  
 $\epsilon_0$ : [- $\infty$  .. -2.5)  
 $\epsilon_1$ : [-2.5 .. -2.0)  
 $\epsilon_2$ : [-2.0 .. -1.5)  
 $\epsilon_3$ : [-1.5 .. -1.0)  
 $\epsilon_4$ : [-1.0 .. -0.5)  
 $\epsilon_5$ : [-0.5 .. 0.0)  
 $\epsilon_6$ : [0.0 .. 0.5)  
 $\epsilon_7$ : [0.5 .. 1.0)  
 $\epsilon_8$ : [1.0 .. 1.5)  
 $\epsilon_9$ : [1.5 .. 2.0)  
 $\epsilon_{10}$ : [2.0 .. 2.5)  
 $\epsilon_{11}$ : [2.5 ..  $+\infty$ ]

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$       $\epsilon$ =(- $\infty$ , -2.5)      $\epsilon$ =[-2.5, -2)  $\epsilon$ =[-2, -1.5)  $\epsilon$ =[-1.5, -1)  
 $\epsilon$ =[-1, -0.5)  $\epsilon$ =[-0.5, 0)  $\epsilon$ =[0, 0.5)  $\epsilon$ =[0.5, 1)  $\epsilon$ =[1, 1.5)  $\epsilon$ =[1.5, 2)  $\epsilon$ =[2, 2.5)  $\epsilon$ =[2.5,  $\infty$ )

450	8.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430	8.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.5	0.0070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
410	8.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.1	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.3	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
390	8.5	0.0250	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.024
390	8.7	0.1310	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0700	0.061
390	9.1	0.1140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1140	0.000
370	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
370	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
370	8.3	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
370	8.5	0.0410	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0080	0.033
370	8.7	0.2220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2220
370	8.9	0.2540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2540
370	9.1	0.5180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4920	0.025
350	7.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
350	8.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002
350	8.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.001
350	8.5	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0260	0.000
350	8.7	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0260	0.000



350 8.9 0.0470.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0420.005  
330 7.9 0.0030.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.003  
330 8.1 0.0080.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0040.005  
330 8.3 0.0060.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0060.000  
330 8.5 0.0490.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0480.001  
330 8.7 0.0790.0000.0000.0000.0000.0000.0000.0000.0000.0000.0000.0730.006  
330 8.9 0.4800.0000.0000.0000.0000.0000.0000.0000.0000.0000.4160.0000.064  
330 9.1 0.6740.0000.0000.0000.0000.0000.0000.0000.0000.0000.5500.1250.000  
330 9.3 1.2270.0000.0000.0000.0000.0000.0000.0000.0000.0000.8870.3400.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution  
sub0\_ch\_bot.in:

Percent Contributed: 2.31  
Distance (km): 323.70483  
Magnitude: 9.1544681  
Epsilon (mean values): 1.8322232

Cascadia Megathrust - whole CSZ Characteristic:

Percent Contributed: 2.31  
Distance (km): 323.70483  
Magnitude: 9.1544681  
Epsilon (mean values): 1.8322232  
Azimuth: 287.96053  
Latitude: 46.3  
Longitude: -123.4132

PSHA Deaggregation. %contributions.

site: Test

longitude: 119.420°W

latitude: 45.475°E

imt: Peak Ground Acceleration

vs30 = 537 m/s (Site class C)

return period: 2475 yrs.

#This deaggregation corresponds to: Source Type: Fault

Summary statistics for PSHA PGA deaggregation, r=distance, ε=epsilon:

Deaggregation targets:

Return period: 2475 yrs  
Exceedance rate: 0.0004040404 yr<sup>-1</sup>  
PGA ground motion: 0.18539539 g

Recovered targets:

Return period: 2555.6443 yrs  
Exceedance rate: 0.00039129076 yr<sup>-1</sup>

Totals:

Binned: 0.57 %  
Residual: 0 %  
Trace: 0.01 %

Mean (over all sources):

m: 7.16  
r: 69.12 km  
ε<sub>0</sub>: 1.85 σ

Mode (largest m-r bin):

m: 7.32  
r: 67.43 km  
ε<sub>0</sub>: 1.64 σ  
Contribution: 0.14 %

Mode (largest m-r-ε<sub>0</sub> bin):

m: 7.31  
r: 67.46 km  
ε<sub>0</sub>: 1.67 σ  
Contribution: 0.12 %

Discretization:

r: min = 0.0, max = 1000.0,  $\Delta$  = 20.0 km

m: min = 4.4, max = 9.4,  $\Delta$  = 0.2

$\epsilon$ : min = -3.0, max = 3.0,  $\Delta$  = 0.5  $\sigma$

Epsilon keys:

$\epsilon_0$ :  $[-\infty \dots -2.5)$

$\epsilon_1$ :  $[-2.5 \dots -2.0)$

$\epsilon_2$ :  $[-2.0 \dots -1.5)$

$\epsilon_3$ :  $[-1.5 \dots -1.0)$

$\epsilon_4$ :  $[-1.0 \dots -0.5)$

$\epsilon_5$ :  $[-0.5 \dots 0.0)$

$\epsilon_6$ :  $[0.0 \dots 0.5)$

$\epsilon_7$ :  $[0.5 \dots 1.0)$

$\epsilon_8$ :  $[1.0 \dots 1.5)$

$\epsilon_9$ :  $[1.5 \dots 2.0)$

$\epsilon_{10}$ :  $[2.0 \dots 2.5)$

$\epsilon_{11}$ :  $[2.5 \dots +\infty)$

Closest Distance, rRup (km) Magnitude (Mw) ALL\_ $\epsilon$   $\epsilon=(-\infty,-2.5)$   $\epsilon=[-2.5,-2)$   $\epsilon=[-2,-1.5)$   $\epsilon=[-1.5,-1)$   
 $\epsilon=[-1,-0.5)$   $\epsilon=[-0.5,0)$   $\epsilon=[0,0.5)$   $\epsilon=[0.5,1)$   $\epsilon=[1,1.5)$   $\epsilon=[1.5,2)$   $\epsilon=[2,2.5)$   $\epsilon=[2.5,\infty)$

130	7.3	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
130	7.5	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.002			
130	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000			
110	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000			
110	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002			
110	7.3	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.002			
110	7.5	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000			
90	6.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000			
90	6.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000			
90	6.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000			
90	7.1	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.002			
90	7.3	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.001			
90	7.5	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.000			
90	7.7	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.000	0.000		
70	6.5	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.009			
70	6.7	0.0700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.005			
70	6.9	0.0760	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0150	0.061	0.000		
70	7.1	0.1300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1090	0.021	0.000		
70	7.3	0.1350	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0200	0.115	0.000	0.000	
70	7.5	0.0770	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0550	0.022	0.000	0.000	
70	7.7	0.0290	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.025	0.003	0.000	0.000
70	7.9	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.002	0.000	0.000	0.000

Principal Sources (faults, subduction, random seismicity having > 3% contribution)

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# **Attachment H-4. Response Spectrum – Site Class B “Rock”**

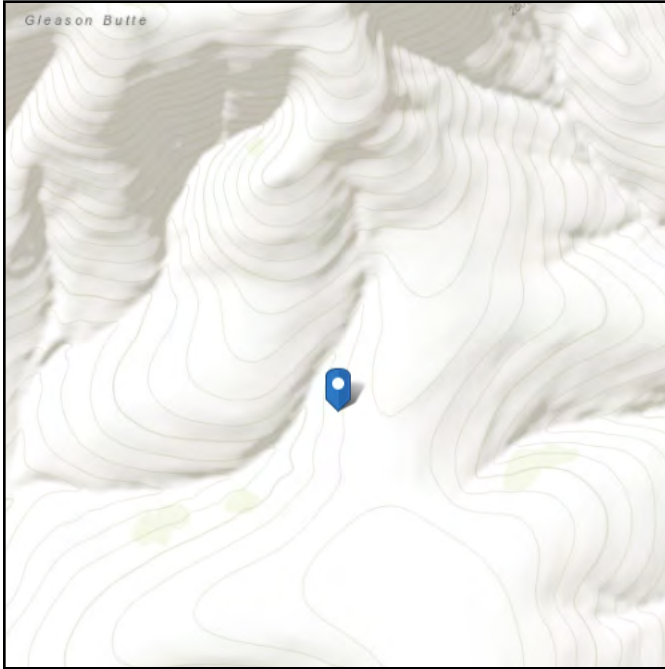
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** I  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

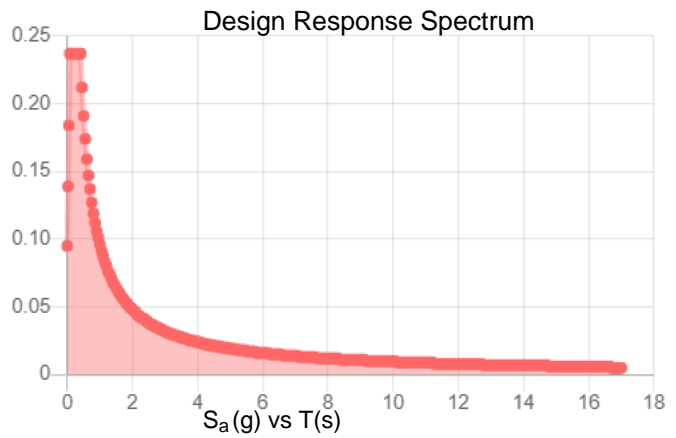
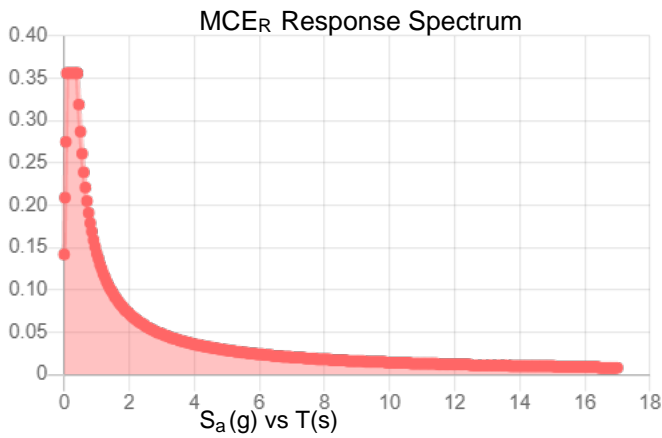


**Site Soil Class:** B - Rock

**Results:**

$S_s$ :	0.356	$S_{DS}$ :	0.237
$S_1$ :	0.143	$S_{D1}$ :	0.096
$F_a$ :	1	$T_L$ :	16
$F_v$ :	1	PGA :	0.149
$S_{MS}$ :	0.356	PGA <sub>M</sub> :	0.149
$S_{M1}$ :	0.143	$F_{PGA}$ :	1
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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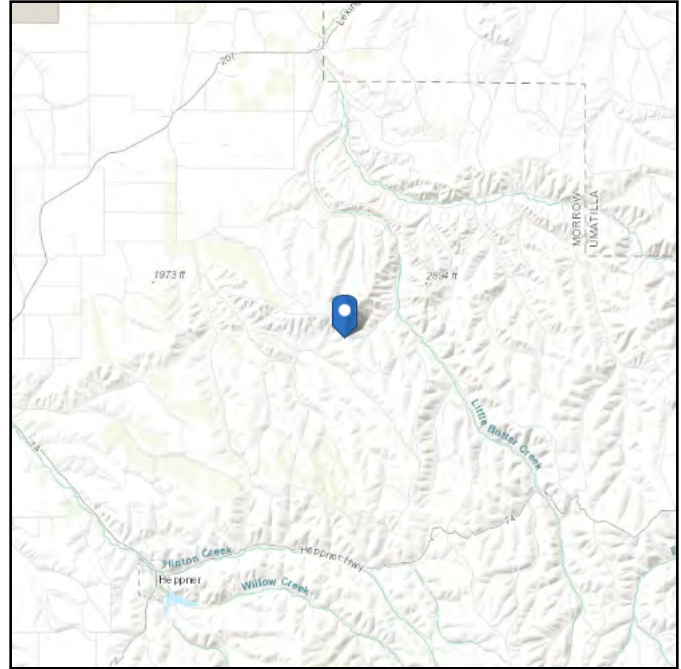


# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** II  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

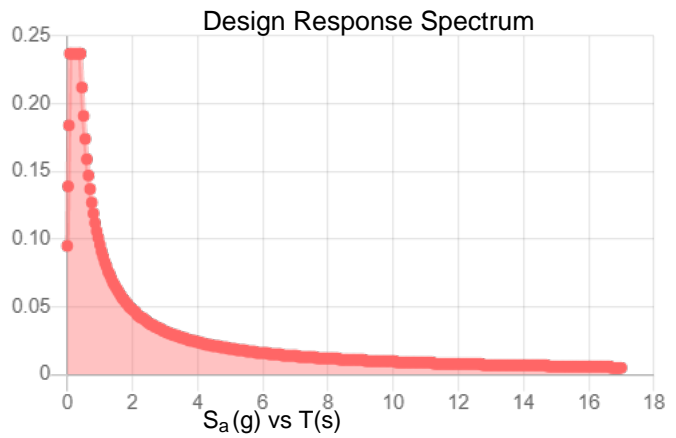
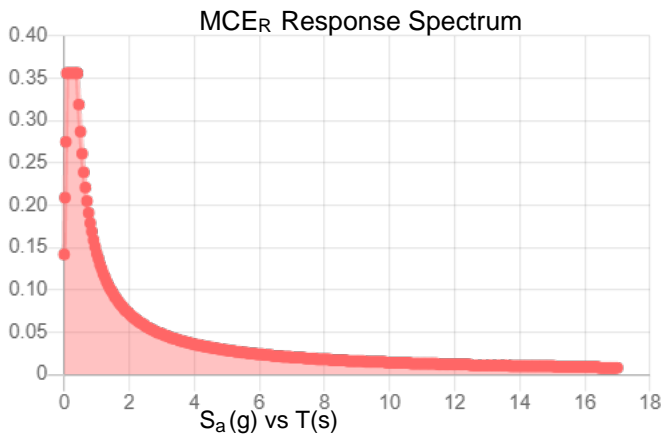


**Site Soil Class:** B - Rock

**Results:**

$S_S$ :	0.356	$S_{DS}$ :	0.237
$S_1$ :	0.143	$S_{D1}$ :	0.096
$F_a$ :	1	$T_L$ :	16
$F_v$ :	1	PGA :	0.149
$S_{MS}$ :	0.356	PGA <sub>M</sub> :	0.149
$S_{M1}$ :	0.143	$F_{PGA}$ :	1
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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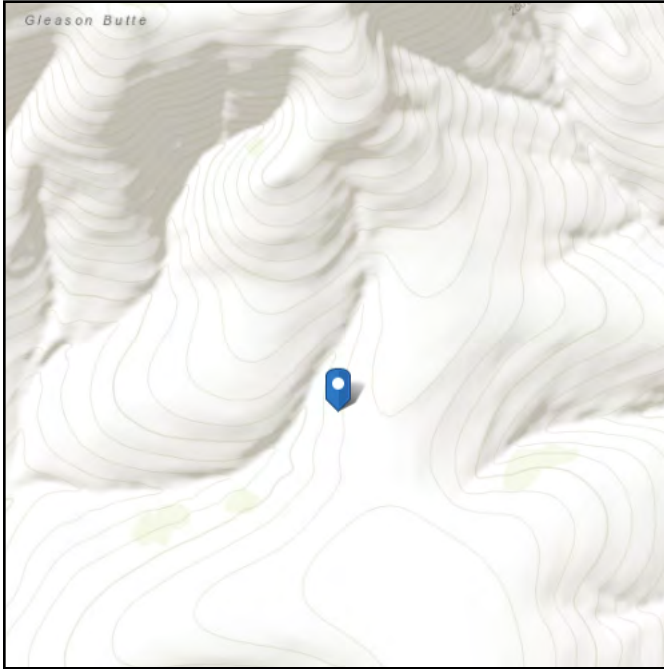
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** III  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

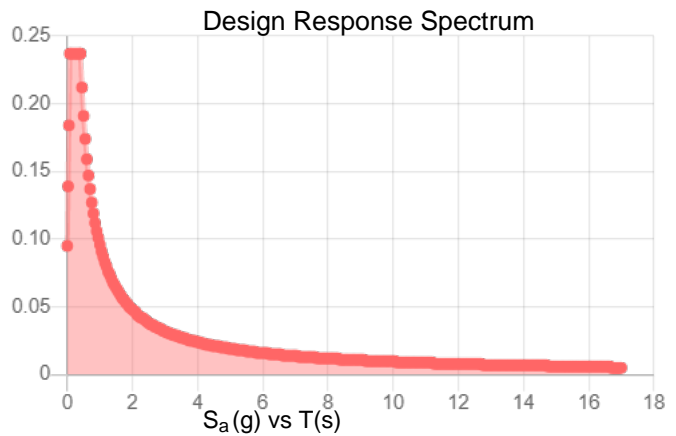
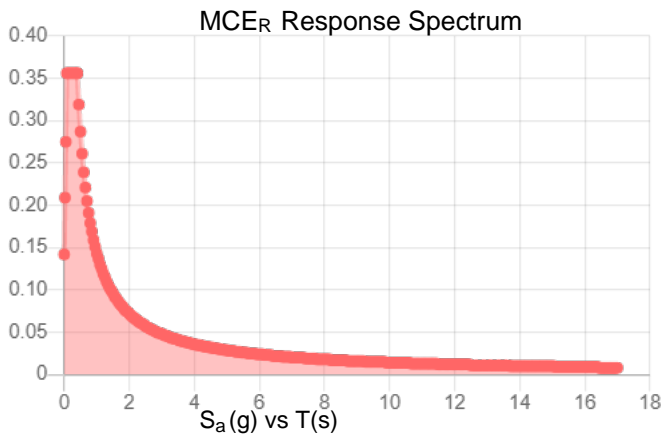


**Site Soil Class:** B - Rock

**Results:**

$S_s$ :	0.356	$S_{DS}$ :	0.237
$S_1$ :	0.143	$S_{D1}$ :	0.096
$F_a$ :	1	$T_L$ :	16
$F_v$ :	1	PGA :	0.149
$S_{MS}$ :	0.356	PGA <sub>M</sub> :	0.149
$S_{M1}$ :	0.143	$F_{PGA}$ :	1
		$I_e$ :	1.25

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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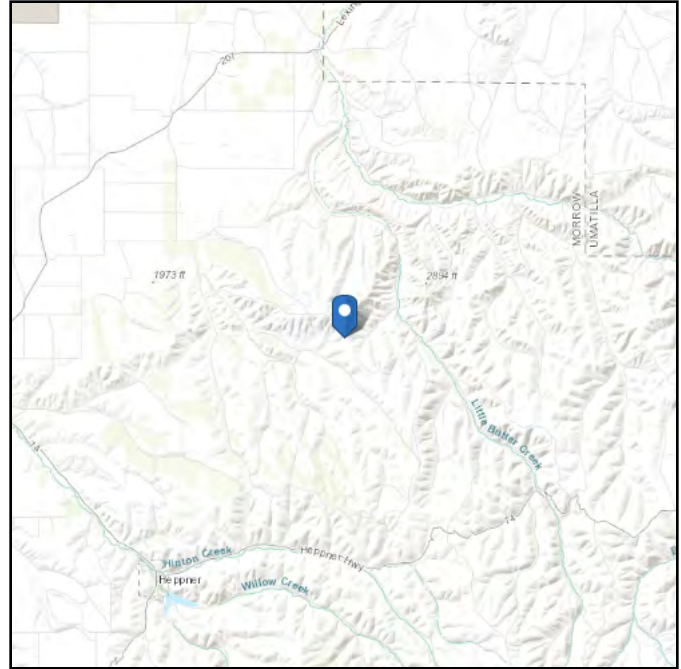
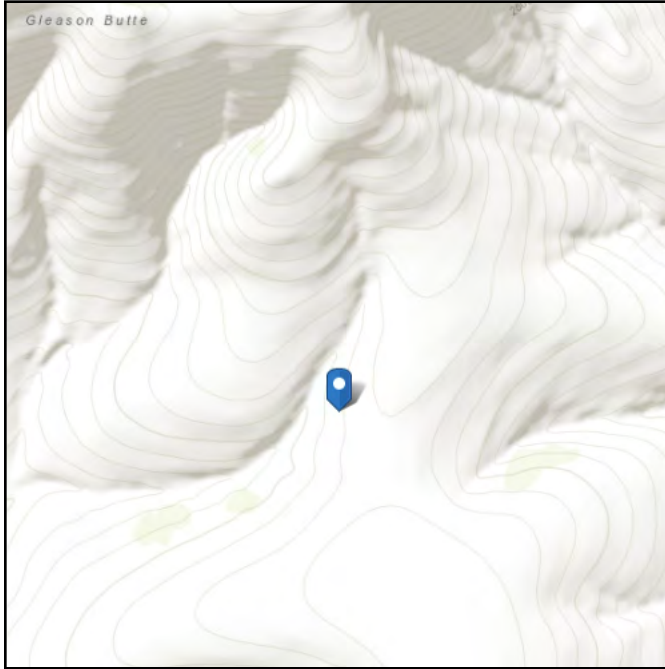
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** I  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

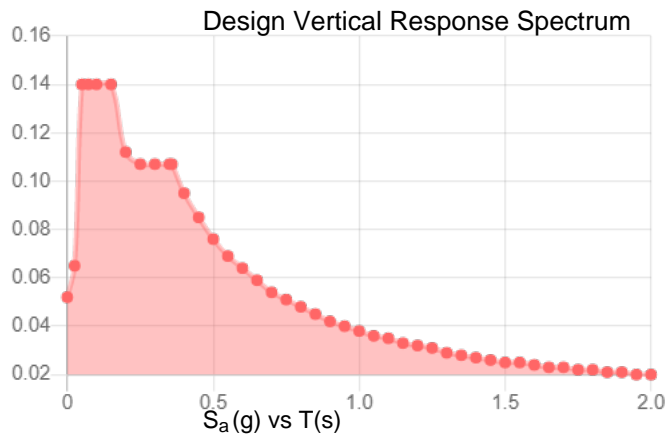
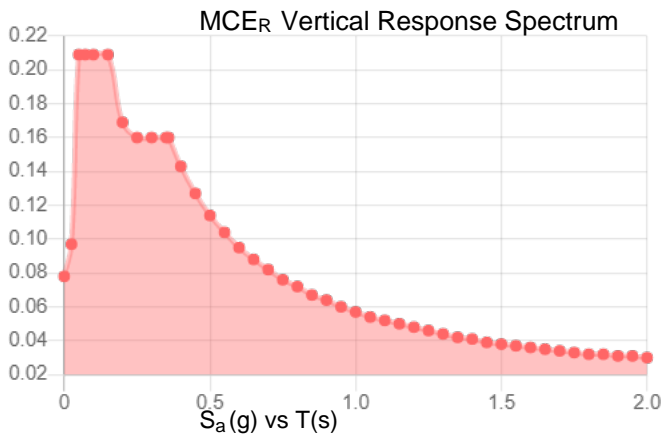
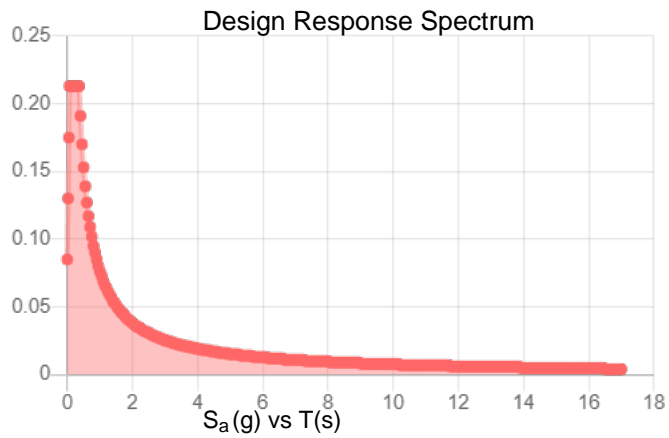
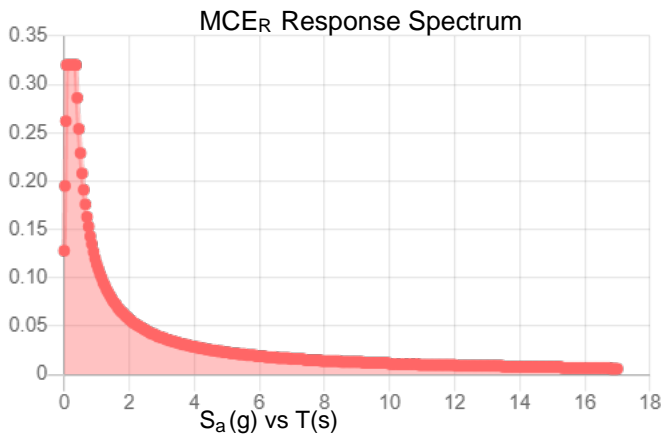


**Site Soil Class:** B - Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.076
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	0.9	PGA :	0.159
$F_v$ :	0.8	PGA <sub>M</sub> :	0.143
$S_{MS}$ :	0.32	$F_{PGA}$ :	0.9
$S_{M1}$ :	0.114	$I_e$ :	1
$S_{DS}$ :	0.213	$C_v$ :	0.818

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**



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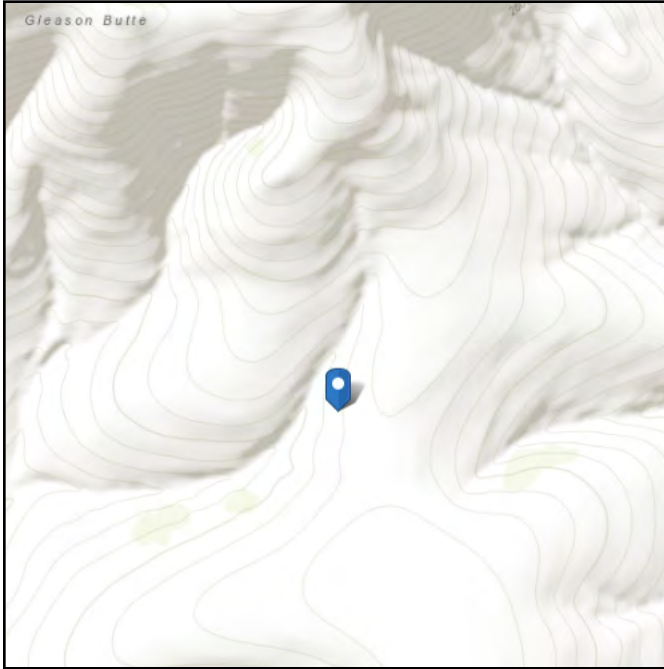
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

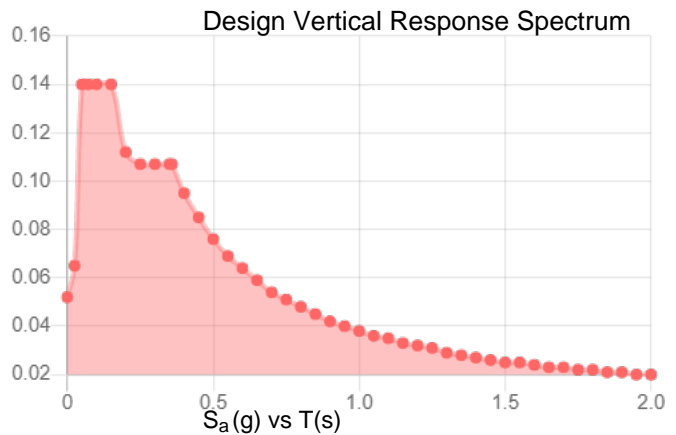
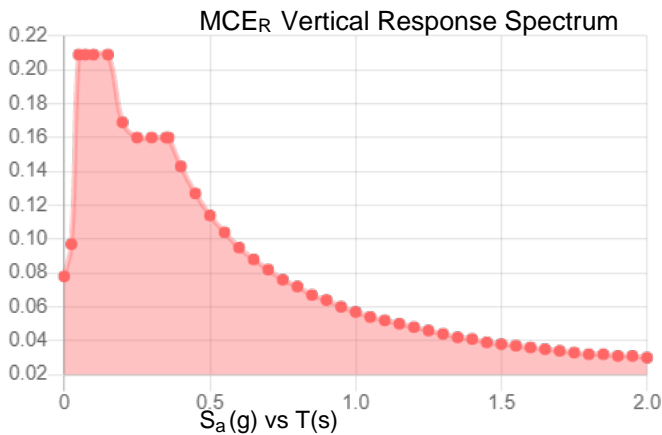
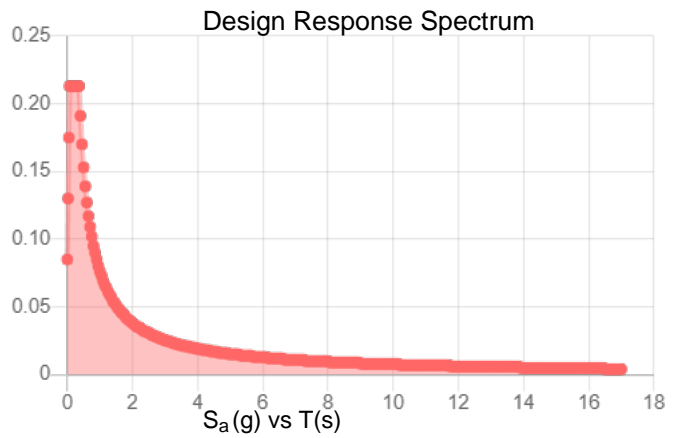
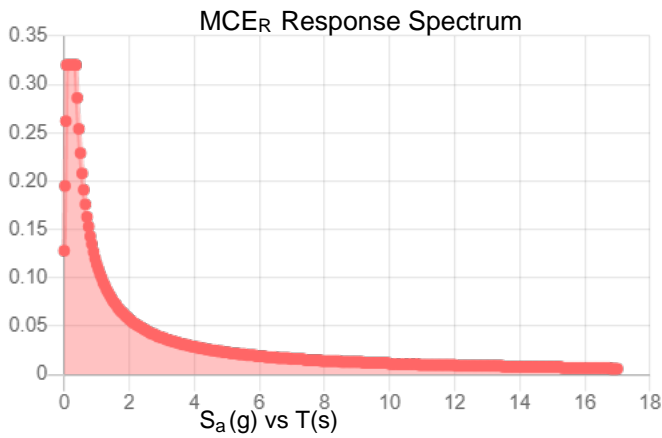


**Site Soil Class:** B - Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.076
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	0.9	PGA :	0.159
$F_v$ :	0.8	PGA <sub>M</sub> :	0.143
$S_{MS}$ :	0.32	$F_{PGA}$ :	0.9
$S_{M1}$ :	0.114	$I_e$ :	1
$S_{DS}$ :	0.213	$C_v$ :	0.818

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

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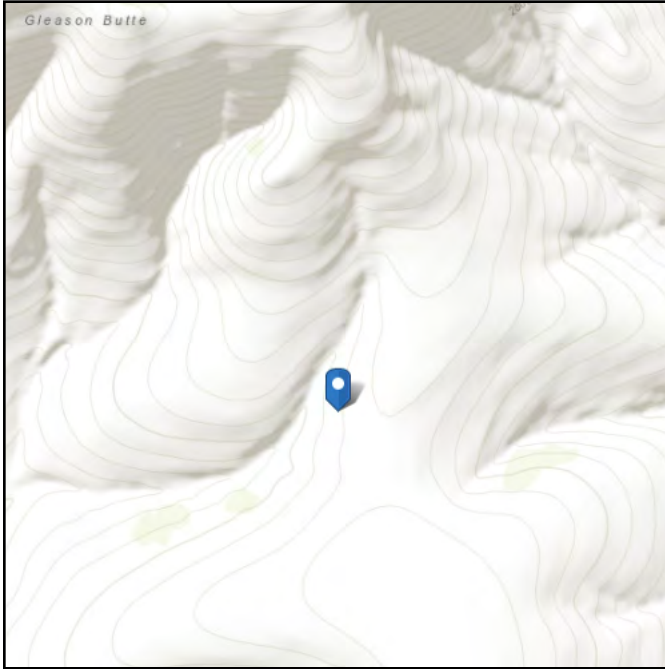
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** III  
**Soil Class:** B - Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

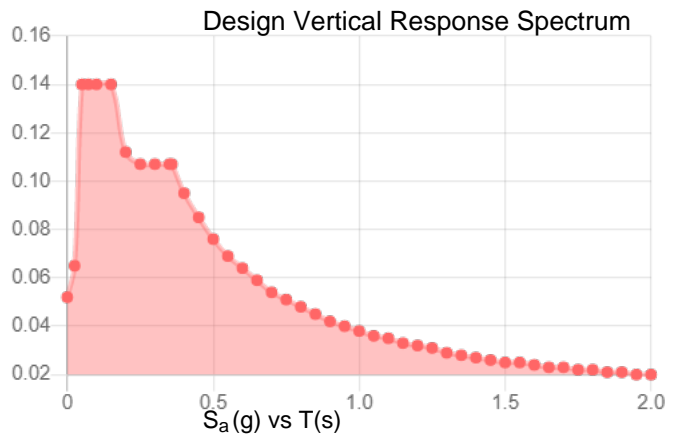
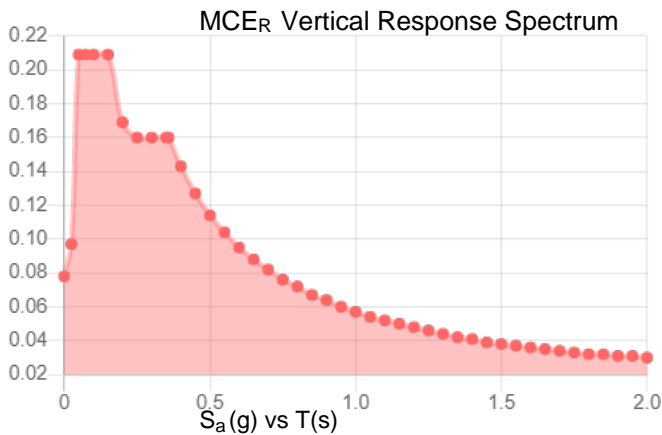
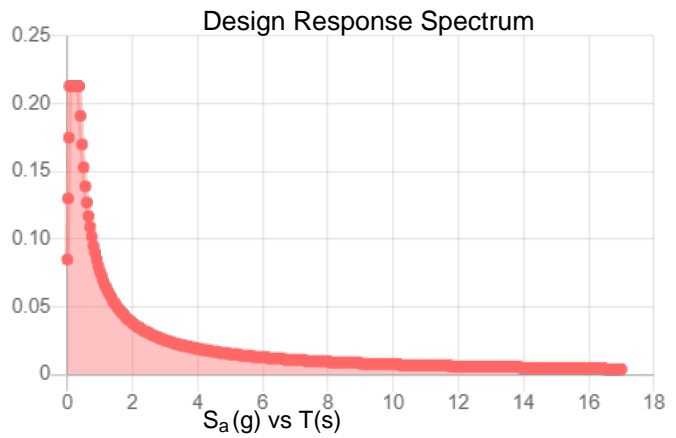
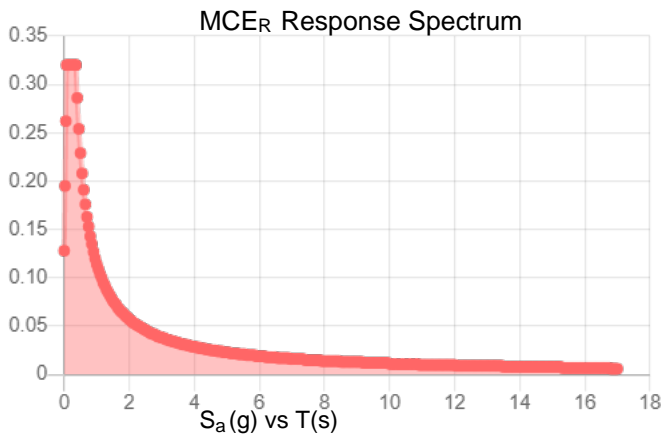


**Site Soil Class:** B - Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.076
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	0.9	PGA :	0.159
$F_v$ :	0.8	PGA <sub>M</sub> :	0.143
$S_{MS}$ :	0.32	$F_{PGA}$ :	0.9
$S_{M1}$ :	0.114	$I_e$ :	1.25
$S_{DS}$ :	0.213	$C_v$ :	0.818

**Seismic Design Category** B



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

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## **Attachment H-5. Response Spectrum – Site Class C “Very Dense Soil and Soft Rock”**



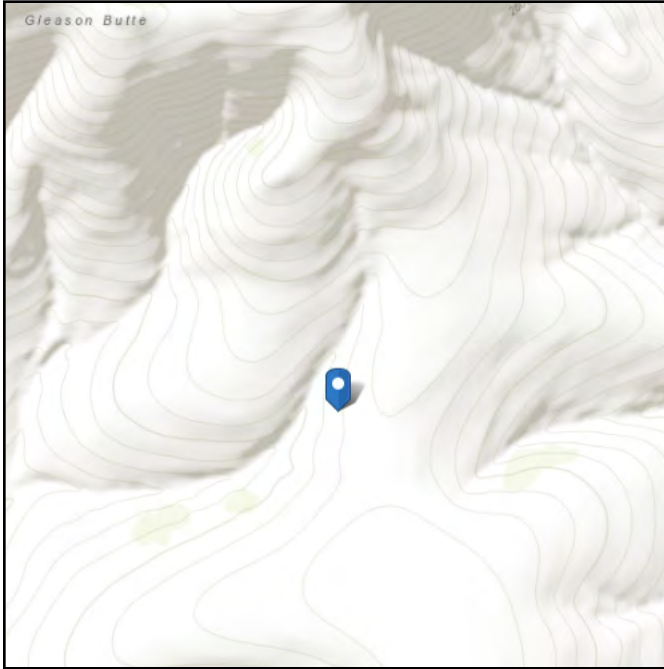
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** I  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

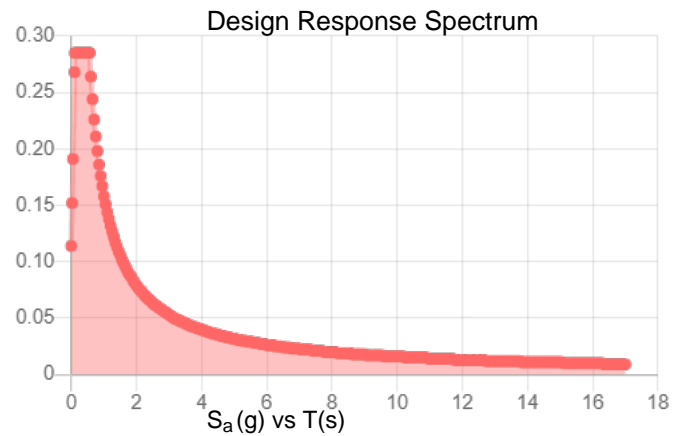
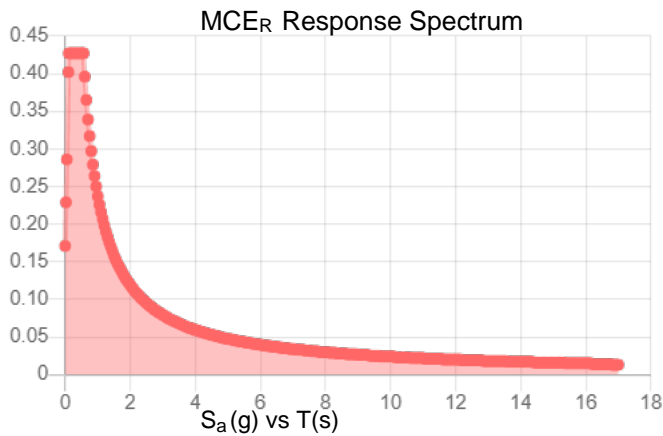


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.356	$S_{DS}$ :	0.285
$S_1$ :	0.143	$S_{D1}$ :	0.158
$F_a$ :	1.2	$T_L$ :	16
$F_v$ :	1.657	PGA :	0.149
$S_{MS}$ :	0.427	PGA <sub>M</sub> :	0.179
$S_{M1}$ :	0.237	F <sub>PGA</sub> :	1.2
		$I_e$ :	1

**Seismic Design Category** C



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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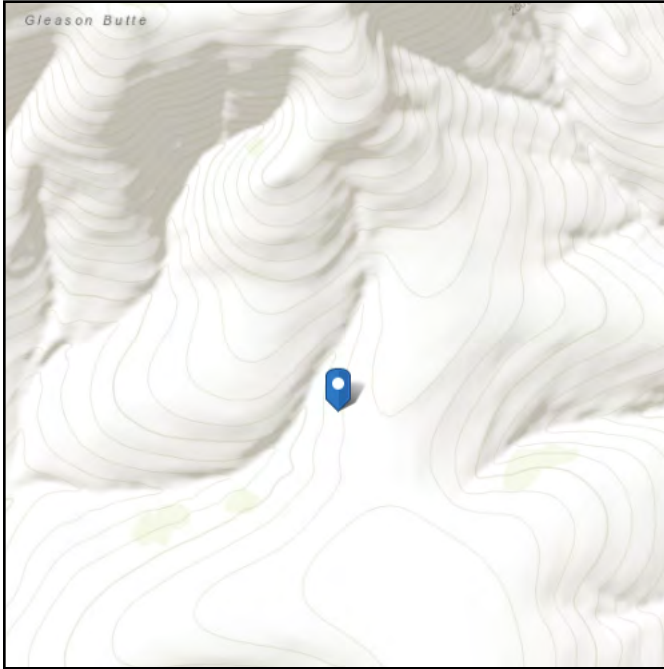
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** II  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

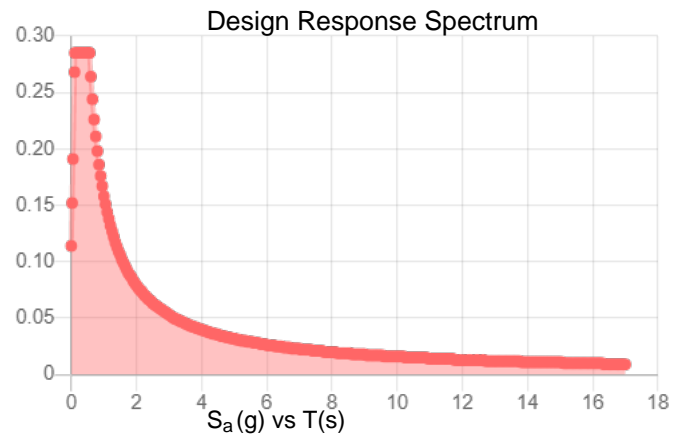
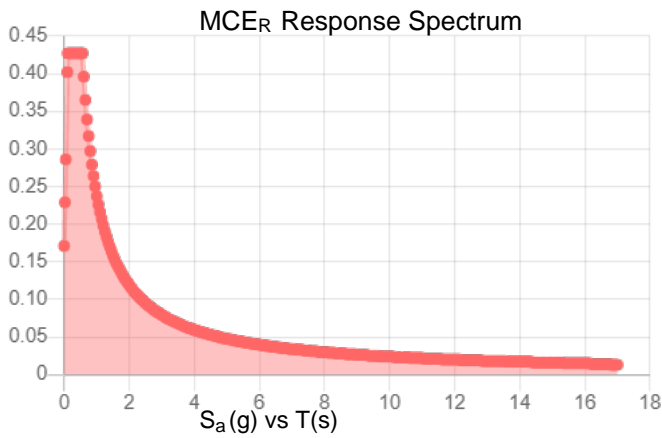


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.356	$S_{DS}$ :	0.285
$S_1$ :	0.143	$S_{D1}$ :	0.158
$F_a$ :	1.2	$T_L$ :	16
$F_v$ :	1.657	PGA :	0.149
$S_{MS}$ :	0.427	PGA <sub>M</sub> :	0.179
$S_{M1}$ :	0.237	$F_{PGA}$ :	1.2
		$I_e$ :	1

**Seismic Design Category** C



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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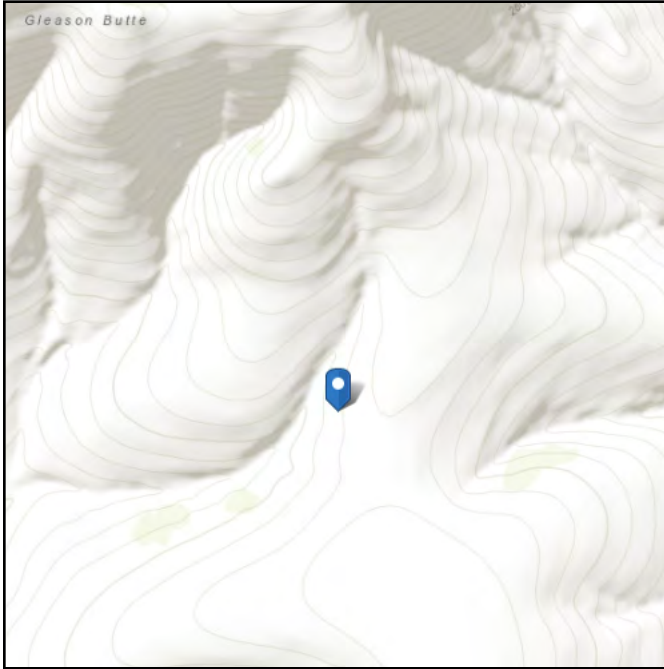
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** III  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42



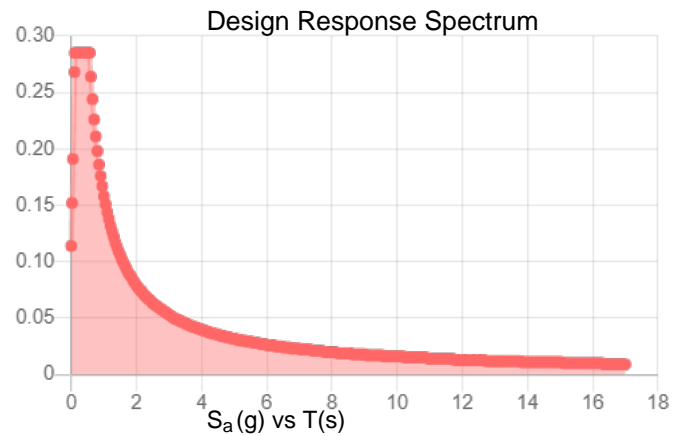
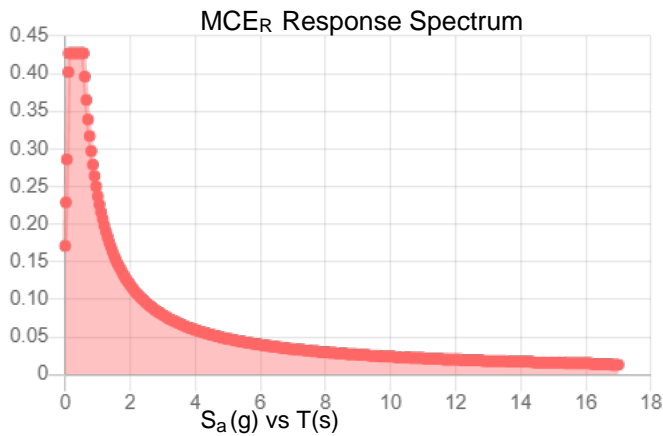


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.356	$S_{DS}$ :	0.285
$S_1$ :	0.143	$S_{D1}$ :	0.158
$F_a$ :	1.2	$T_L$ :	16
$F_v$ :	1.657	PGA :	0.149
$S_{MS}$ :	0.427	PGA <sub>M</sub> :	0.179
$S_{M1}$ :	0.237	$F_{PGA}$ :	1.2
		$I_e$ :	1.25

**Seismic Design Category** C



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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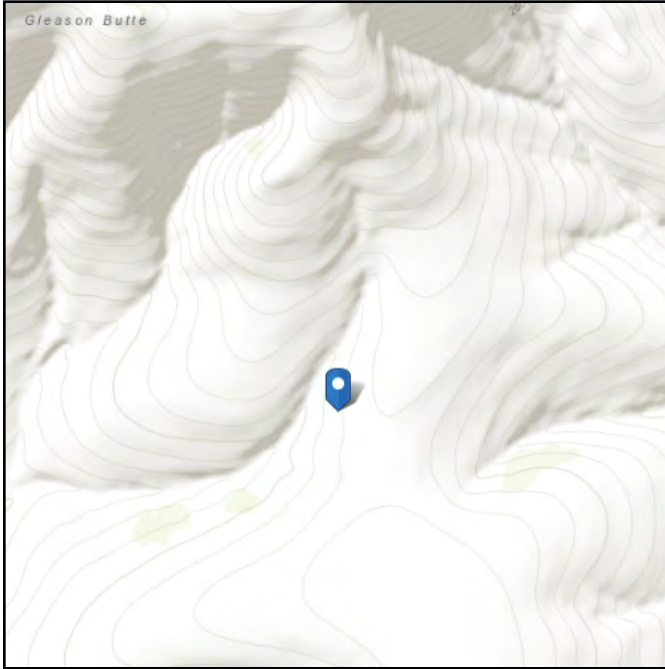
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** I  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

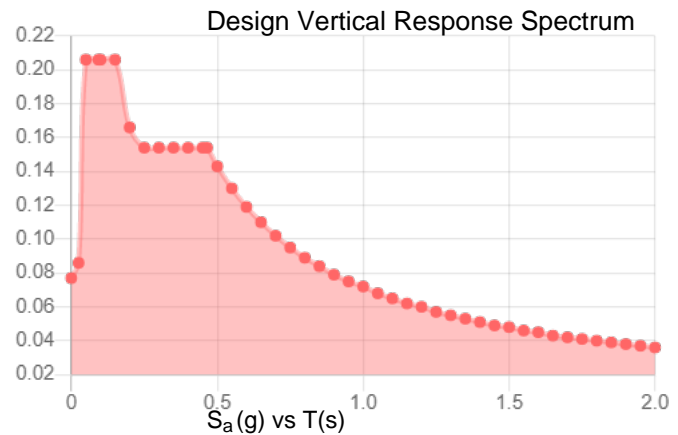
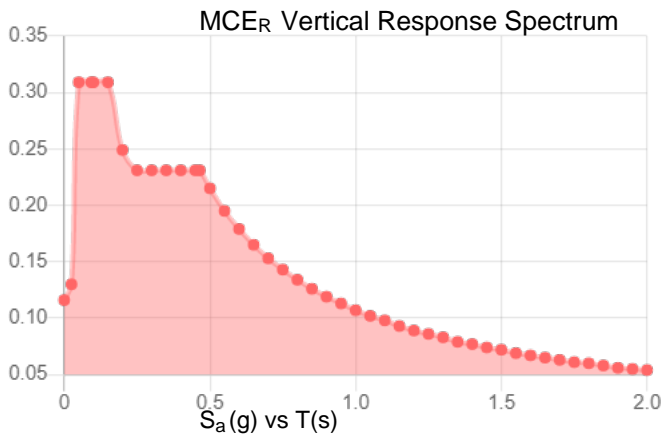
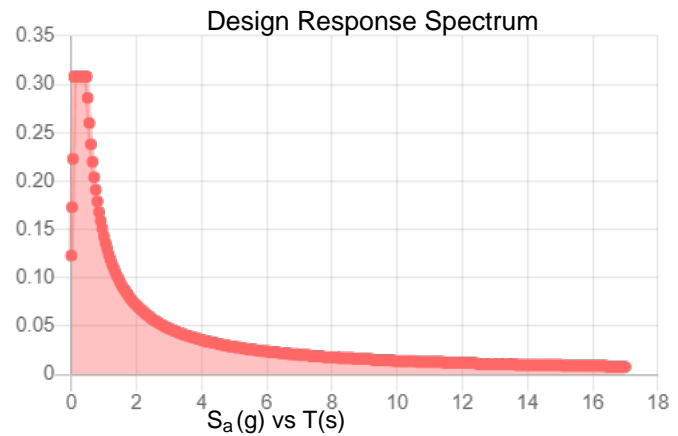
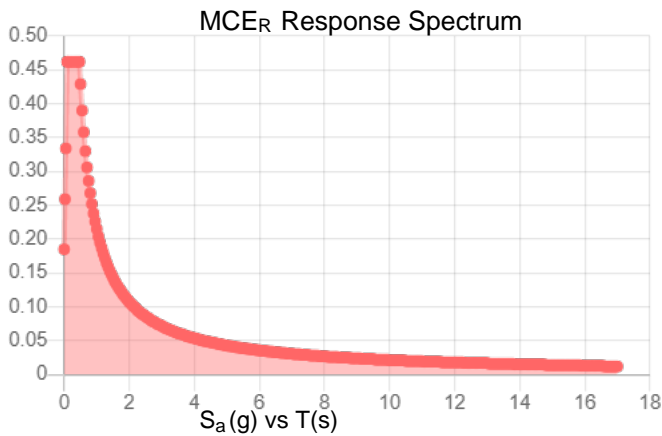


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.143
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	1.3	PGA :	0.159
$F_v$ :	1.5	PGA <sub>M</sub> :	0.197
$S_{MS}$ :	0.462	$F_{PGA}$ :	1.241
$S_{M1}$ :	0.215	$I_e$ :	1
$S_{DS}$ :	0.308	$C_v$ :	0.837

**Seismic Design Category** C



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

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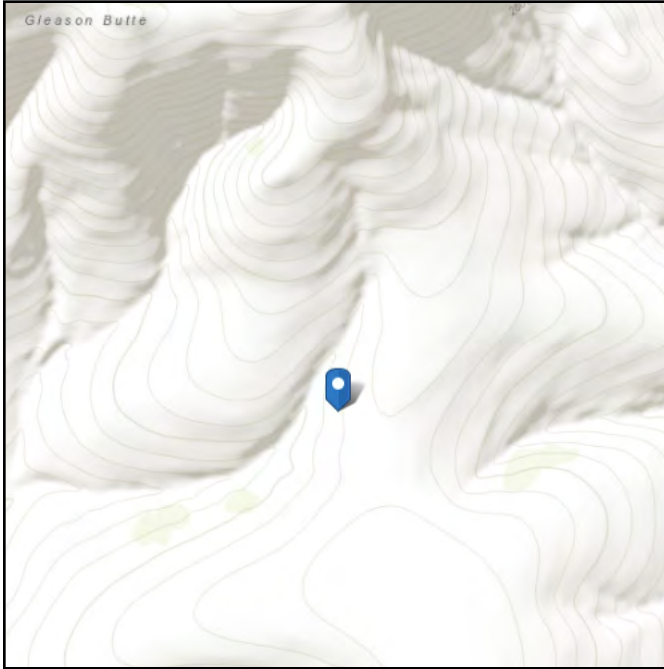
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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

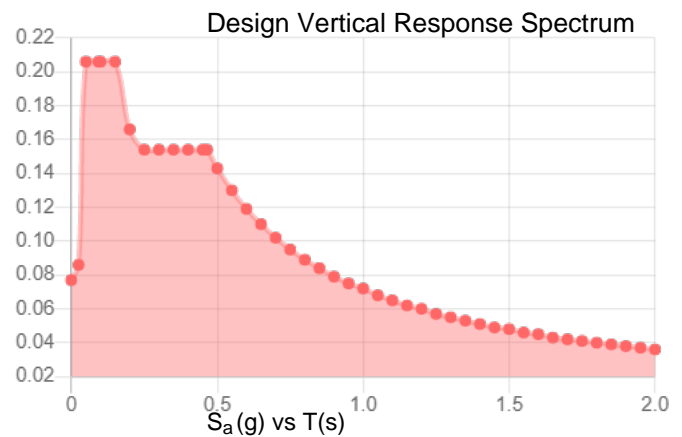
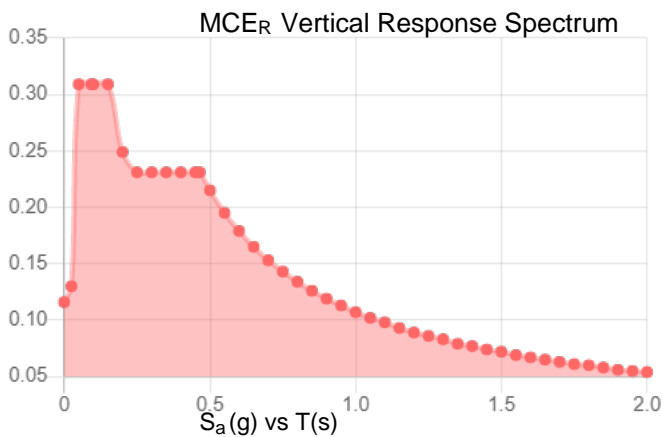
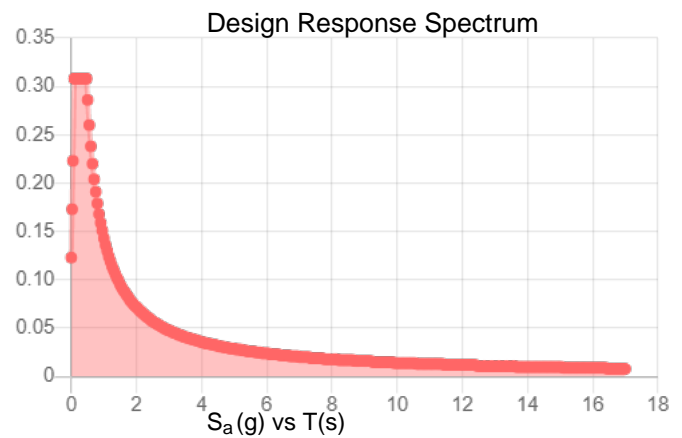
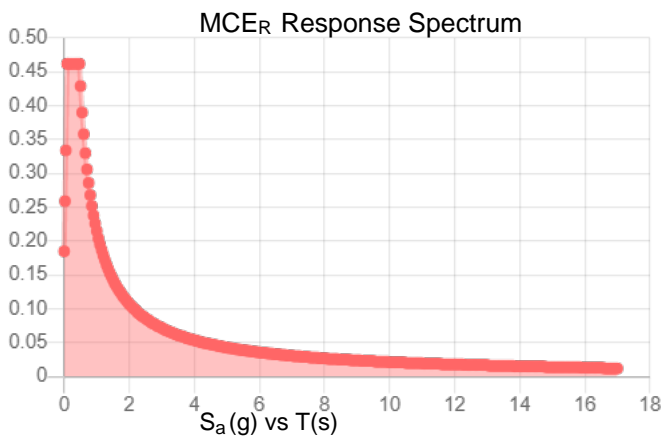


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.143
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	1.3	PGA :	0.159
$F_v$ :	1.5	PGA <sub>M</sub> :	0.197
$S_{MS}$ :	0.462	$F_{PGA}$ :	1.241
$S_{M1}$ :	0.215	$I_e$ :	1
$S_{DS}$ :	0.308	$C_v$ :	0.837

**Seismic Design Category** C



**Data Accessed:** Thu Oct 20 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

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# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** III  
**Soil Class:** C - Very Dense  
Soil and Soft Rock

**Elevation:** 2473.48 ft (NAVD 88)  
**Latitude:** 45.47491  
**Longitude:** -119.42

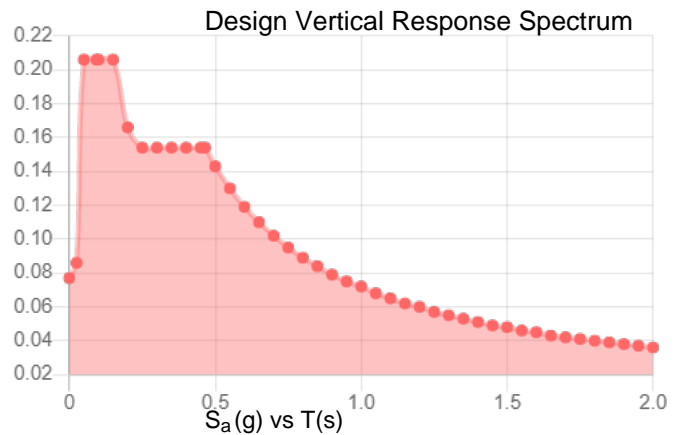
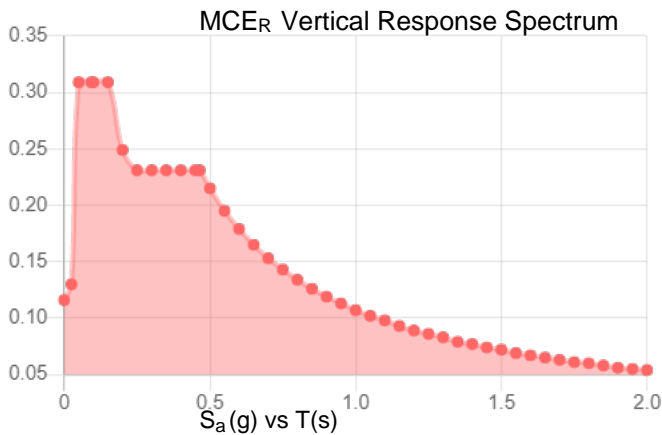
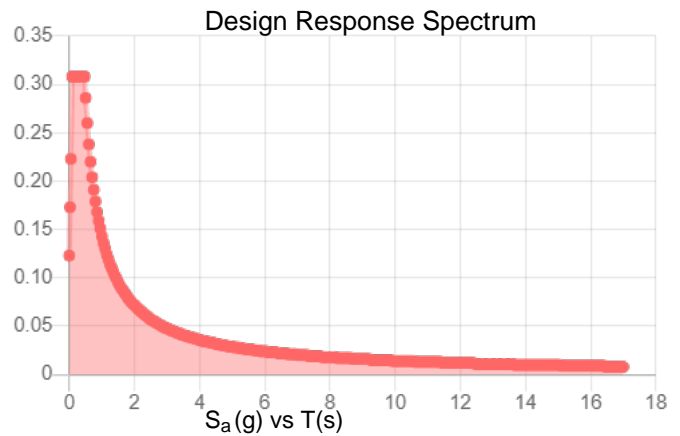
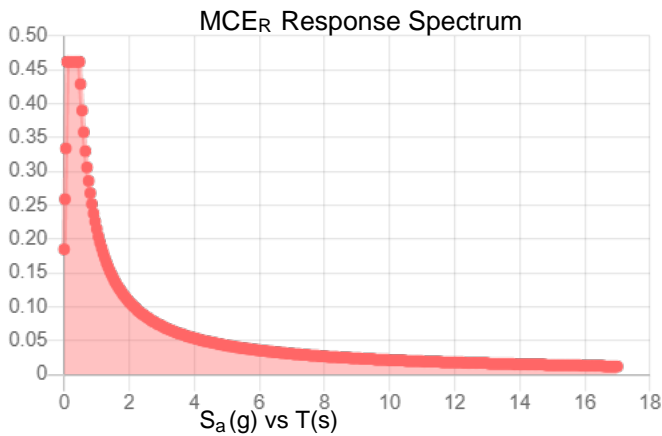


**Site Soil Class:** C - Very Dense Soil and Soft Rock

**Results:**

$S_s$ :	0.355	$S_{D1}$ :	0.143
$S_1$ :	0.143	$T_L$ :	16
$F_a$ :	1.3	PGA :	0.159
$F_v$ :	1.5	PGA <sub>M</sub> :	0.197
$S_{MS}$ :	0.462	$F_{PGA}$ :	1.241
$S_{M1}$ :	0.215	$I_e$ :	1.25
$S_{DS}$ :	0.308	$C_v$ :	0.837

**Seismic Design Category** C



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