

Appendix C: Local OEM Hazard Analysis Scores

Overview

The methodology for this hazard analysis was first developed by the Federal Emergency Management Agency (FEMA) in the early 1980s, and was gradually refined by Oregon Emergency Management (OEM). Although nearly every jurisdiction in Oregon uses this process, the range of values is relative only within the individual jurisdiction, unless two or more jurisdictions conduct their analyses at the same time and utilize the same criteria in determining the values to apply. It is not meant to compare one jurisdiction to another under other circumstances, and the Multnomah County calculations and hazard analysis should not be applied to other jurisdictions, even those within the county, without familiarization with the process applied.

This particular hazard analysis is an early step in determining the risk — the potential for harm — facing a community. When complete, it provides a table of relative risks to help focus planning priorities on those hazards most likely to occur and cause the most damage. This analysis, therefore, is constructed to:

- Establish priorities for planning, capability development and hazard mitigation
- Identify needs for hazard mitigation measures
- Educate the public as well as public officials about hazards and vulnerabilities
- Make informed judgments about potential risks

Completing the Local OEM Hazard Analysis

Severity Ratings refer to the impact level the hazard has or potentially could have on the community. Values assigned are subjective; *one person's rare event could be another's frequent!*

DESIGNATION	DESCRIPTION	RATING
LOW	RARE	1 to 3
MODERATE	OCCASIONAL	4 to 7
HIGH	FREQUENT	8 to 10

History is the record of previous occurrences requiring a response.

- Low: 0 to 1 event in the past 10 years
- Medium: 2 to 3 events in the past 10 years
- High: 4 or more events in the past 10 years

Vulnerability is a measure of the percentage of the population and property likely to be affected during an occurrence of an incident.

- Low: Less than 1% affected
- Medium: 1% to 10% affected
- High: More than 10% affected

Maximum Threat is a measure of the highest percentage of the population or property that could be impacted under a worst-case scenario.

- Low: <5% affected
- Medium: 5% to 25% affected
- High: >25% affected

Probability is a measure of the likelihood of a future event occurring within a specified period of time.

- Low: More than 10 years between events
- Medium: 5 to 10 years between events
- High: Likely within the next 5 years

Local Hazard Risk Scores

Table D.1: Local Natural Hazard Risk Rankings by Hazard for All Jurisdictions in the Multnomah County Multi-Jurisdictional Natural Hazards Mitigation Plan (NHMP) Planning Area

	Unincorporated Multnomah County	Gresham	Troutdale	Fairview	Wood Village
HIGH	Earthquake	Earthquake	Severe Storm	Severe Storm	Severe Storm
	Flood	Severe Storm			
	Wildfire				
MODERATE-HIGH				Earthquake	
MODERATE	Severe Storm	Flood	Earthquake	Volcano	Earthquake
		Landslide	Volcano		Volcano
			Flood		Landslide
			Wildfire		
LOW-MODERATE				Flood	Flood
LOW	Landslide	Wildfire	Landslide	Landslide	Wildfire
	Volcano	Volcano		Wildfire	

Table D.2: Unincorporated Multnomah County Natural Hazard Risk Scores

Hazard	History (Weight Factor = 2)	Average Vulnerability (Weight Factor = 5)	Max Vulnerability (Weight Factor = 10)	Probability (Weight Factor = 7)	Risk Score	Risk Ranking
Earthquake	2 x 8	5 x 10	10 x 10	7 x 7	215	High
Flood	2 x 9	5 x 9	10 x 8	7 x 9	206	High
Landslide	2 x 8	5 x 5	10 x 4	7 x 8	137	Low
Volcano	2 x 2	5 x 6	10 x 8	7 x 2	128	Low
Wildfire	2 x 7	5 x 10	10 x 8	7 x 8	200	High
Severe Storm	2 x 8	5 x 7	10 x 6	7 x 9	174	Moderate

Table D.3: Gresham Natural Hazard Risk Scores

Hazard	History (Weight Factor = 2)	Average Vulnerability (Weight Factor = 5)	Max Vulnerability (Weight Factor = 10)	Probability (Weight Factor = 7)	Risk Score	Risk Ranking
Earthquake	2 x 10	5 x 10	10 x 10	7 x 10	240	High
Flood	2 x 10	5 x 7	10 x 7	7 x 10	195	Moderate
Landslide	2 x 10	5 x 6	10 x 5	7 x 10	170	Moderate
Volcano	2 x 3	5 x 7	10 x 10	7 x 3	162	Low
Wildfire	2 x 8	5 x 7	10 x 6	7 x 8	167	Low
Severe Storm	2 x 10	5 x 10	10 x 10	7 x 10	240	High

Table D.4: Troutdale Natural Hazard Risk Scores

Hazard	History (Weight Factor = 2)	Average Vulnerability (Weight Factor = 5)	Max Vulnerability (Weight Factor = 10)	Probability (Weight Factor = 7)	Risk Score	Risk Ranking
Earthquake	2 x 1	5 x 10	10 x 10	7 x 1	159	Moderate
Flood	2 x 2	5 x 3	10 x 6	7 x 3	100	Moderate
Landslide	2 x 3	5 x 2	10 x 4	7 x 4	84	Low
Volcano	2 x 1	5 x 10	10 x 10	7 x 1	159	Moderate
Wildfire	2 x 2	5 x 4	10 x 7	7 x 5	129	Moderate
Severe Storm	2 x 7	5 x 10	10 x 10	7 x 7	213	High

Table D.5: Fairview Natural Hazard Risk Scores

Hazard	History (Weight Factor = 2)		Average Vulnerability (Weight Factor = 5)		Max Vulnerability (Weight Factor = 10)		Probability (Weight Factor = 7)	Risk Score	Risk Ranking
Earthquake	2 x	1	5 x	10	10 x	10	7 x 3	161	Moderate-High
Flood	2 x	1	5 x	4	10 x	4	7 x 3	83	Low-Moderate
Landslide	2 x	1	5 x	2	10 x	2	7 x 1	39	Low
Volcano	2 x	1	5 x	6	10 x	6	7 x 2	106	Moderate
Wildfire	2 x	1	5 x	1	10 x	1	7 x 1	24	Low
Severe Storm	2 x	10	5 x	8	10 x	8	7 x 10	210	High

Table D.6: Wood Village Natural Hazard Risk Scores

Hazard	History WF = 2		Average Vulnerability WF = 5		Max Vulnerability WF = 10		Probability WF = 7	Risk Score	Risk Ranking
Earthquake	2 x	1	5 x	10	10 x	10	7 x 1	159	Moderate
Flood	2 x	0	5 x	5	10 x	5	7 x 1	82	Low-Moderate
Landslide	2 x	1	5 x	3	10 x	10	7 x 0	117	Moderate
Volcano	2 x	1	5 x	10	10 x	10	7 x 1	159	Moderate
Wildfire	2 x	1	5 x	1	10 x	1	7 x 1	24	Low
Severe Storm	2 x	10	5 x	8	10 x	10	7 x 10	230	High