

**COMMENTS & RESPONSES:  
DRAFT 2015 Oregon Natural Hazard Mitigation Plan – Posted February 2015**

#	COMMENTER	COMMENT	RESPONSE
1	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<b>Overall:</b> Overall the document was helpful and well organized. I'd like to see a regional comparison to the west coast. - How does the northern part of region 1 compare to the Washington Coast hazards? - How does the southern part compare to California? - What are the connections between the different regions? - How does an economic downturn that impacts the entire state impact the region?	We will not be able to address regional interrelationships and comparisons during this update. We will consider addressing this during the next update.
2	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<b>Overall:</b> The difference between Tillamook County (a coastal region) and Washington County (a valley region) is not as great as the difference between Tillamook and Malheur. It would make sense then that hazards that impact the valley also impact the coast and vice versa. In other words, the regions are not disparate, stand-alone regions, they are very interconnected especially in terms of land use, transportation, and the economy. It would be helpful as a coastal planner to see these hazards associated with these connections quantified. Since each county is responsible for a NHMP, it would be helpful to see hazards assessed at a larger scale rather.	While FEMA does require a hazard analysis at the local scale (Oregon looks at the regional scale), clearly hazards are indifferent to geo-political lines. It would be helpful to the next update if the Hazards and vulnerability categories addressed at the regional scale could also be analyzed at the statewide scale. This would allow for a more relativist analysis of impact and risk overall.
3	Margaret A Matter, PhD Water Resource Specialist Oregon Department of Agriculture	Chapter 1: INTRODUCTION TO THE PLAN   Background Page 27 2nd paragraph, line 1 and line 4: Line 1 : Disasters occur as a <a href="#">predictable interaction</a> ..... Line 4 : It is <a href="#">impossible to predict</a> exactly when natural hazards will occur....  Comment: The two sentences appear to contradict one another Suggestion for Line 1: Re-write to read something like, "Disasters occur as plausible interactions among three broad systems...."	<ul style="list-style-type: none"> <li>• <a href="#">Line 1</a>: Retained "Disasters occur as a predictable interaction..."</li> <li>• <a href="#">Line 4</a>: Changed "It is impossible to predict..." to "What is not predictable is..."</li> </ul>
4	Margaret A Matter, PhD Water Resource Specialist Oregon Department of Agriculture	Chapter 2: Risk Assessment   State Risk Assessment-Oregon Hazards, Introduction to Climate Change Drought, Wildfire, and Dust Storms Page 44  Although droughts are hazards, they are also naturally occurring. As a consequence, droughts are also a part of wetlands ecology. Human activities, including draining wetlands and farmland, as well as anthropogenic climate change increase the likelihood of drought and exacerbate dry and drought conditions.	All of the hazards in the 2015 Oregon NHMP are naturally occurring events that become hazards when they impact people and structures. The drought section of the state-level risk assessment defines drought in several ways, including those you have identified. The <i>Introduction to Climate Change</i> section specifically focuses on how climate change is predicted to affect drought. We believe the plan addresses and affirms all of your points.
5	Margaret A Matter, PhD Water Resource	Chapter 2: Risk Assessment   State Risk Assessment-Oregon Hazards, Introduction to Climate Change Drought, Wildfire, and Dust Storms	This section mentions some types of infrastructure to give context to the discussion on the impact of drought of infrastructure systems. This is not meant to be an exhaustive list of all types of infrastructure. The purpose of this section is to state that drought typically does not directly affect

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	Specialist Oregon Department of Agriculture	Page 72  3rd full paragraph: Infrastructure:  Suggestion: Infrastructure also includes conveyance of water, natural gas; oil; coal slurry and other materials.	infrastructure, but the results of drought can impact soils surrounding the infrastructure, which may lead to structural damage. Energy conveyance systems were already mentioned. We added water conveyance systems.
6	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Summary:</b></p> <ul style="list-style-type: none"> <li>- Page 260 - The sentence on social vulnerability is unclear. It makes it sound like there is a large population of homeless persons, seniors, and disabled citizens (or at least on par with the tourist population).</li> <li>- If you are going to summarize that low income and education levels create social vulnerability, include a sentence as to why this is the case.</li> <li>- I wouldn't capitalize Great Recession, this is a colloquial term that was largely used by the media. I'd state what it was and when it happened, "the economic recession that began in 2007 after the collapse of the housing market collapse" or something similar. Future references could be, "2007 recession"</li> <li>- It would be helpful to organize the summary by risk type, the risk from economic recession seems like a lower risk than flooding and earthquakes and should be given more emphasis before the summary of social vulnerability. Social vulnerability should be connected with the rate of development in the summary. The profile seems disjointed.</li> <li>- Development is less limited by geology and geomorphology than it is by the Oregon Plan and resource zoning. Development exists in the hills and would have occurred at a greater rate had zoning not limited it.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Social Vulnerability Summary:</b> Profile summaries are intended to give a snapshot view of vulnerabilities. Please refer to the full Profile section for specific information pertaining to the share of populations who are vulnerable in each county and region.</li> <li>• <b>Low Income and Educational Level:</b> See "Education Level" for a discussion of why these create vulnerability.</li> <li>• <b>Great Recession:</b> This term is also used by academics and economic industries. Nonetheless, "the financial crisis that began in 2007" is more explicit. We have made that change.</li> <li>• <b>Summary organization:</b> That is the direction in which the state is headed for future plan updates. When the new risk assessment model is developed, the state should be able to identify the drivers of vulnerability. Interrelationships between vulnerabilities and prioritization of vulnerabilities should also become clearer. Due to resource limitations the state is only able to identifying place-based vulnerabilities and hazard-based vulnerabilities in separate analyses for this plan update.</li> <li>• <b>Factors Limiting Development:</b> Areas subject to natural hazards are often in places where the geology and geomorphology constrict buildable lands, such as steep slopes and land adjacent to waterways. Zoning is one tool to restrict development in areas subject to natural hazards. In this way, geology, geomorphology, and zoning work together to create a disincentive for development in areas prone to natural hazard events. The state realizes the value of comparing and analyzing land use and land cover statewide and regionally, but this data is not currently available as a complete, standardized, statewide data set. The state is discussing creating such a data set, which would help inform future Oregon NHMPs.</li> </ul>
7	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p>Generally the summaries of the Hazards are kind of confusing and not helpful. Maybe this information would be better provided in a summary table?</p>	Future iterations of the Regional Risk Assessment will likely be reformatted. We will take this comment into consideration as we restructure future Oregon NHMPs.
8	Cara D. Mico Associate Planner and Certified Floodplain Manager	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Hazards and Vulnerability:</b></p> <ul style="list-style-type: none"> <li>- Droughts: Tillamook County is currently experiencing a significant drought and the impact to fisheries should be considered. Although total rainfall is still high compared to the rest of the state</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Climate Change:</b> The climate change section is intentionally separate from the hazards descriptions, except for how climate change is predicted to impact the probability of a hazard occurring in the future. This is because the best available climate change data is available at only the Pacific Northwest scale. Data for individual hazards is available at a state and more</li> </ul>

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9	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Natural Environment:</b></p> <ul style="list-style-type: none"> <li>- Page 267 – monocropping is a term that has been replaced with even aged stand management (clearcutting is also replaced with this phrase). I would emphasize that with Swiss Needle Cast, Spruce weevil, and other outbreaks of this nature most public and private foresters have replanted with a mix of western hemlock, Douglas fir, western red cedar, and occasionally Sitka spruce.</li> </ul>	<p>These terms were used in the source, EPA's "Ecoregions of Oregon," so we will retain them for the 2015 Plan.</p>
10	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Climate:</b></p> <ul style="list-style-type: none"> <li>- Page 276, temperate is more accurate than the term mild.</li> </ul>	<p>Based on the contribution of the State's leading scientists to the 2015 Oregon NHMP, the word "mild" is acceptable in this instance.</p>
11	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Tourists:</b></p> <ul style="list-style-type: none"> <li>- I've heard that Seaside alone receives upwards of 1.5 million people travelling through annually, the statistic on page 268 regarding "more 15,000 people visited the Oregon Coast in 2013" is not accurate. This is also inconsistent with Port data on page 289 stating there are 31,000 trips in Brooking harbor alone, a good chunk of these are tourists.</li> </ul>	<p>The section titled Tourists counts tourists who stayed at least one night in the region. That point was not clearly defined. This section has been updated to make that distinction. The statistic for Brookings Harbor counts numbers of boats only.</p>
12	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Persons with Disabilities:</b></p> <ul style="list-style-type: none"> <li>- I would like to see a vulnerability by general disability and demographic. The risk of autistic children isn't the same as the risk of a paraplegic or elderly person with dementia and it would be helpful to have this information.</li> <li>- I don't like the phrase "invisibility". They aren't invisible but rather they are often home-</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Social Vulnerability</u>: In future iterations of the 2015 Oregon NHMP we hope to be able to enhance the social vulnerability section. See the "Future Enhancements" section for more information in the new risk assessment model concept the state hopes to develop.</li> <li>• <u>Invisibility</u>: The word invisibility has been deleted and the paragraph restructured. This change will appear in the final draft.</li> </ul>

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	Community Development	bound - They aren't ignored during recovery. There are resources available to the disabled community including faith based organizations and senior centers that insure their safety. This reference may not be regionally appropriate.	
13	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<b>The following comments are specific to Tillamook County.</b> <b>Income:</b> - Page 276 - The downturn in the housing market coupled with a decrease in timber revenues was somewhat mitigated by an increase in the local tourist economy. Perhaps worth mentioning that reliance on a single natural resource subject to changing regulation increases vulnerability.	The <i>Profile</i> and <i>Summary</i> sections state that the region's dependency on few key industries made it particularly vulnerable. Both sections also draw attention to rising importance of tourism in the region.
14	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<b>The following comments are specific to Tillamook County.</b> <b>Social and Demographic Trends:</b> - Page 280 – All the bullets should contain quantified info containing both total amounts and difference from state and regional averages. - The term Great Recession comes up a lot.	<ul style="list-style-type: none"> <li>• <b>Social and Demographic Trends:</b> The <i>Trends</i> section highlights general increases, decreases or status quo for each profile. The quantifiable data that backs each trend and issue statement can be found in the body of each respective profile.</li> <li>• <b>Great Recession:</b> The term "Great Recession" has been replaced with "the financial crisis that began in 2007."</li> </ul>
15	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<b>The following comments are specific to Tillamook County.</b> <b>Trade, Transportation, and Utilities:</b> - Page 283 – These sections should be independent since transportation and utilities large topics in their own right, and have unique challenges unrelated to trade. - Trade: There isn't a huge non-essential economy in Tillamook County, Lincoln and Clatsop may differ. People tend to purchase the non-essentials online or in Portland, also the local Fred Meyer. The local shops are often supported by tourists and second-home owners. - Page 288 – Rail: "There is no passenger rail line in the region." There is a local tour-based rail service, the dinner train, while not a commuter train, it's still a passenger line.	<ul style="list-style-type: none"> <li>• <b>Independent Sections:</b> The source for sector-based economy is the Oregon Employment Department. The trade, transportation, and utilities sectors are grouped together by the Oregon Employment Department, and therefore the data for these sectors is combined as in the table entitled, "Covered Employment by Sector in Region 1, 2013."</li> <li>• <b>Trade:</b> Trade industry revenue in Tillamook County is indeed the lowest of all counties in the region. (24%). Nonetheless, the sector title <i>Trade, Transportation and Utilities</i> includes the most businesses in Region 1, 19% of all businesses. And, retail trade is the largest sub-category within this sector, with 14% of all businesses in the region. Because the state plan must report on all counties, this statistic is notable.</li> <li>• <b>Passenger Rail:</b> Thank you for that distinction. The <i>Railroad</i> section has been updated. The sentence, "There is no passenger rail line in the region" has been deleted. The sentence, "Though there is no commuter rail line in the region, there is a local passenger line" has been added.</li> </ul>
16	Cara D. Mico Associate Planner and Certified Floodplain Manager	<b>The following comments are specific to Tillamook County.</b> <b>Stormwater and Infrastructure Trends and Issues</b> - These sections didn't seem to contain any analysis or findings, rather a general statement regarding stormwater.	The first two paragraphs give general statements about stormwater and wastewater that are relevant to the region. The last paragraph then identifies building code and low impact development strategies specific to the region.

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17	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Development Patters</b></p> <ul style="list-style-type: none"> <li>- Page 297 - Pacific City-Woods should be included in the list of major population centers as it's nearly twice the population of Tillamook. <ul style="list-style-type: none"> <li>• - The term etc isn't helpful.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Major Population Centers:</b> The addition of unincorporated areas in the population cluster analysis would be more inclusive. Unfortunately, we are unable to run that analysis for this plan update. Including unincorporated areas in this analysis will be considered for future plan updates.</li> <li>• <b>Wording:</b> The term "etc." was deleted and the paragraph was changed to read: "Unsurprisingly, populations tend to cluster around major road corridors and waterways. The region's population is clustered around the major population centers. Some of these include: the Cities of Astoria, Tillamook, Newport, Florence, Coos Bay, Brookings, and some unincorporated areas."</li> </ul>
18	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Land Use Patterns</b></p> <ul style="list-style-type: none"> <li>- Ownership breakdowns should be in tabular format and should be more regionalized. For instance most of Tillamook County is in public ownership (~75-85%)</li> <li>- The second paragraph on 300 regarding LNG terminals seems out of place, it's not really a pattern. Tsunami maps aren't really land use patterns either.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Ownership Tables:</b> When and where to use tables in the Regional Profile section will be considered for the next plan update. It is helpful to know that this section would be of more use if tables were added.</li> <li>• <b>Land Use Patterns:</b> <ul style="list-style-type: none"> <li>○ The proposed LNG and power plants will be the first in the region. Such infrastructure could impact land resources, and therefore future land use patterns.</li> <li>○ The Tsunami Land Use Guidance is intended to assist local land use planners in reducing risk to tsunami losses. The intent is for this new guidance to spark land use decisions that will create development patterns more resilient to tsunamis.</li> </ul> </li> </ul>
19	Cara D. Mico Associate Planner and Certified Floodplain Manager Tillamook County Department of Community Development	<p><b>The following comments are specific to Tillamook County.</b></p> <p><b>Coastal Hazards 307+</b></p> <ul style="list-style-type: none"> <li>- The information provided is relevant and helpful.</li> <li>- It might be helpful to include information about the Neskowin Coastal Hazard Overlay Zone that was recently adopted in Tillamook County. It was based on DOGAMI erosion hazard mapping and limits density in the erosion hazard area. It was appealed to LUBA but is still the implementing ordinance.</li> <li>- Page 335 – Flood vulnerability scores should be explained briefly in the table header or somewhere close by so people don't have to hunt for methodology.</li> <li>- Regarding earthquake and tsunami hazards I'm curious as to the follow-up of the finding that the Juan de Fuca being stuck. Don't know enough about it to provide a reference...</li> <li>- Page 353 – Wildfire. Port Orford Cedar root disease and sudden oak death are issues that impact the southern region of the zone but not relevant in the northern portion.</li> <li>- In reference to the Tillamook burns, this is a good example of a hazard that crosses regions. At least one of the burns began in the valley on the ridge top and was blown over the hill by a strong</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Information:</b> We are glad to hear this is section is helpful. Local governments are encouraged to use information from this section on Climate Change to inform local NHMP updates.</li> <li>• <b>Neskowin Overlay Zone:</b> Once the appeal process is concluded, the Neskowin Coastal Hazard Overlay Zone may be a good mitigation success story to be included in the next local and state NHMPs.</li> <li>• <b>Flood Vulnerability Scores:</b> DLCD has added a brief summary to each regional risk assessment that describes the vulnerability method used.</li> <li>• <b>Juan De Fuca Plate:</b> This section is based on the contribution of the State's leading scientists who use the best science available.</li> <li>• <b>Wildfire:</b> <ul style="list-style-type: none"> <li>○ The information in this section is accurate at the regional level.</li> <li>○ Wildfires that significantly impacted the state are listed in the State Risk Assessment in the <i>Historic Wildfire Events</i> table.</li> </ul> </li> </ul>

