

“Sea Level Rise to Tsunamis: Strategies for Coastal Resilience”

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Presenter:

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Prepared by
The Department of
Land Conservation
and Development

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**Preparing for a
Cascadia Subduction
Zone Tsunami:
A Land Use Guide
for Oregon Coastal
Communities**

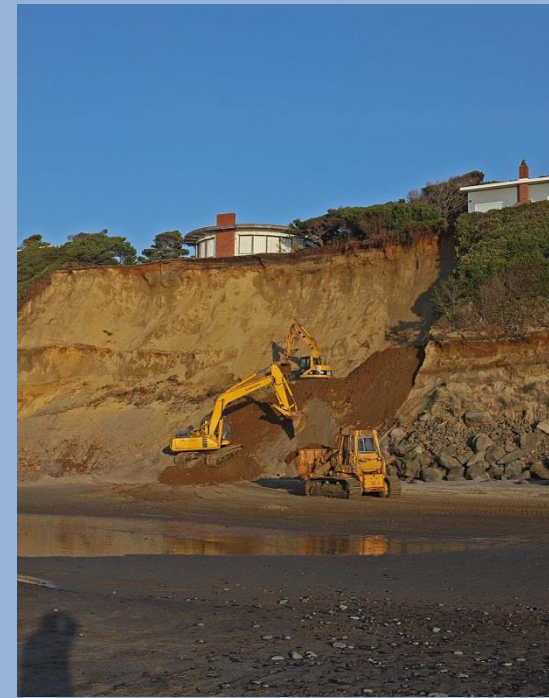
Overview of Related Oregon Issues

The Oregon Coast:

- Well known for spectacular scenery and natural resources
- Zone of great instability and vulnerability
- Greater awareness now of coastal hazards and risks to people and property

Goal Today: Address OCMP efforts to increase resilience to both:

- Chronic (coastal erosion) hazards; and
- Catastrophic (tsunami) hazards



Chronic Hazards:

- One of the highest wave-energy climates in the world
- Significant coastal erosion (most dunes and bluffs are receding) and it is increasing, for a variety of reasons including:
 - **Variability in climate and weather patterns/cycles such as El Nino/La Nina and PDO:**
 - **Climate change (associated SLR)**

Results: These things, together with high tide events, increase total water levels during winter storm events which is increasing coastal hazards such as:

- Ocean flooding
- Coastal erosion
- Coastal landslides
- Other events that damage property, injure people, and destroy resources

It is critical to plan for and adapt to coastal hazards to reduce their impacts and costs



Addressing Chronic Hazards

Challenges:

- Perceived impacts to property values, insurance premiums, more
- Perceived property rights/regulatory takings
- Need for Significant education and outreach
- Lack of good guidance (Roadmap)



OCMP Actions:

- Development of Chronic Coastal Hazards Model Code
- Assistance to local governments in implementing it

Case Study: Neskowin

Neskowin faces significant coastal erosion

They have adopted:

- Coastal Erosion Adaptation Plan
- Associated Comprehensive Plan and development code implementation provisions

Breakout Session:

- Provide overview of model code
- Introduce the case study

The Neskowin Coastal Erosion Adaptation Plan

Completed August 2015



Tillamook County

Department of Community Development

1510 B Third Street, Tillamook, OR 97141

<http://www.co.tillamook.or.us/gov/ComDev/>

Development of this plan was supported through financial assistance provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

Catastrophic Hazards such as:

Cascadia Subduction Zone

Cascadia Subduction Zone earthquake and tsunami

- Large earthquake (magnitude 9+) along the subduction zone
- Catastrophic tsunamis 15 to 30 minutes after the earthquake
- Chance of an event - 30 to 40 % in the next 50 years
- Impact: Could be similar to the Tohoku earthquake/tsunami of 2011



Cascadia Subduction Zone earthquake and tsunami

- Last event here was January 26th, 1700
- Clearer picture now of our significant risk:
 - Recent catastrophic tsunami events: Japan, Indonesia, and Chile
 - DOGAMI completion of Tsunami Inundation Maps (TIMs) - 2013
- Land use planning is important tool to increase community resilience
- Land Use planning options can be tailored to a specific community's needs to help increase its resilience to a potentially catastrophic tsunami event.



Addressing Catastrophic Hazards:

Challenges:

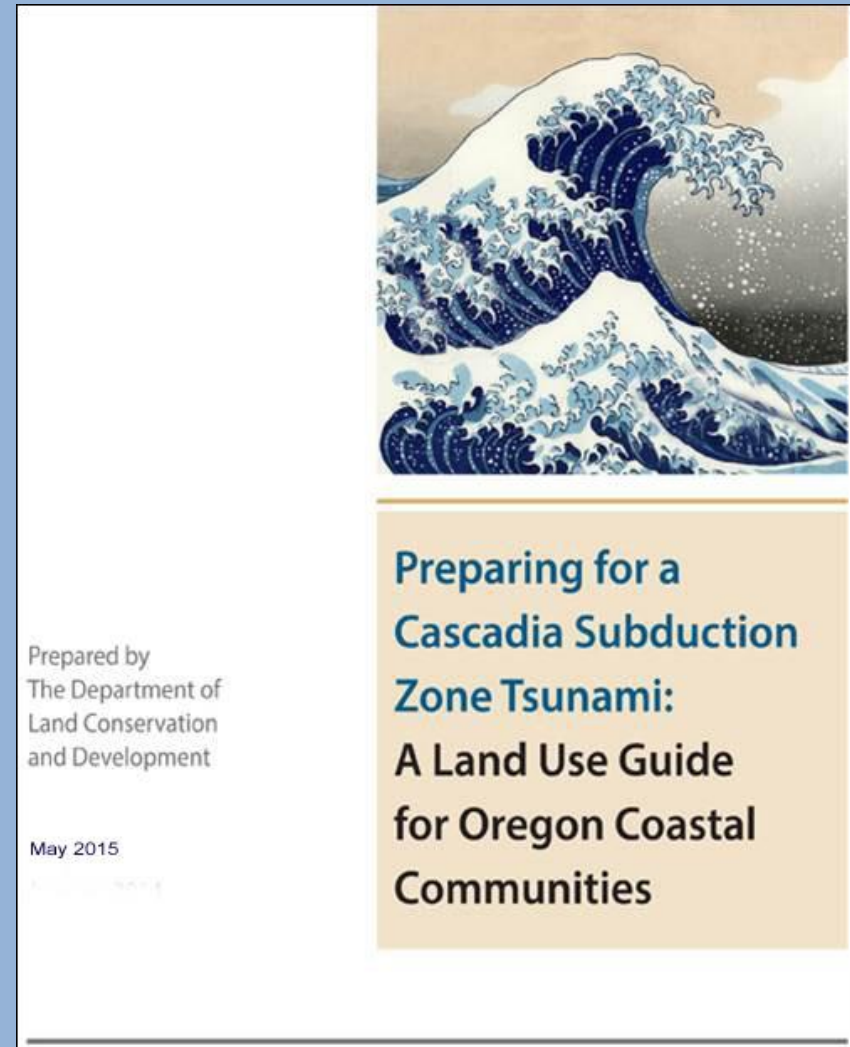
- Reoccurrence interval
- Pre-existing development patterns
- Similar challenges to chronic hazards

OCMP Actions:

- 2015: completion of the guide “Preparing for a Cascadia Subduction Zone Tsunami: A Land Use Guide for Oregon Coastal Communities”. The guidance includes:
 - Sample comprehensive plan text and policies,
 - Model development code implementation measures, and
 - Other resilience strategies/options
- Assistance to local governments in implementing it

Breakout Sessions:

- Provide Overview of tsunami land use guide



Thanks!!!