Hazard Mitigation and Climate Adaption Planning

National Adaptation Forum

Jonathan Olds
Hazard Mitigation Assistance Specialist
Region X
April 23, 2019
Federal Hazard Mitigation Planning

- **Disaster Mitigation Act of 2000**
  - Establishes eligibility for FEMA Hazard Mitigation Assistance (HMA)
  - Requires Tribal, State, and local governments to submit plans to FEMA for review

- **Title 44 Code of Federal Regulations (CFR) 201**
  - Plans shall include information on the probability of future hazard events
  - Requires plan update every five years

- **Hazard Mitigation Assistance Guidance (updated 2015)**
  - Resilience and Climate Change Adaptation Commitment
  - Risk reduction for specific vulnerabilities from natural hazards and climate change

- **Tribal and State Mitigation Plan Review Guide (updated)**
  - Clarifies need to include considerations of future conditions, including long-term changes in weather patterns
2080s: New return interval for the Historical 10-yr flood

Figure 10-6 2080s: Projected return interval for the Historic 10-Year Flood on Snohomish County Rivers.

Figure 10-3 Washington State Changes of Hydrology with Warming (Snover et al., 2013)
Cal-Adapt temperature projections for the Santa Cruz area

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical Average</td>
<td>56.8° F</td>
</tr>
<tr>
<td>Low-Emissions Scenario</td>
<td>60.0° F +3.2° F</td>
</tr>
<tr>
<td>High-Emissions Scenario</td>
<td>62.3° F +5.5° F</td>
</tr>
</tbody>
</table>

![City of Santa Cruz Fire Hazard Areas](image)

**FIGURE 10: URBAN/WILDLAND FIRE HAZARD AREAS**
Figure 12-1. Map of Existing Condition from Taholah Village Relocation Master Plan (QIN 2016)
Questions?

• What department in a jurisdiction would best lead a Hazard Mitigation/Climate Adaptation Planning effort?

• Is there leadership support for mobilizing resources and getting all stakeholders involved and addressing climate adaptation?

• What information is needed to identify, prioritize and get support for effective mitigation/climate adaptation strategies?

• How can the community acquire the information?

• Has a scope of work and cost estimate been developed to acquire the information?
Support Tools

Adaptation Clearinghouse: http://www.adaptationclearinghouse.org/
Alaska Climate Change Information: https://climatechange.alaska.gov/
Alaska Sea Grant: https://seagrant.uaf.edu/map/climate/
Climate Adaptation Knowledge Exchange: http://www.cakex.org/
Oregon Climate Change Research Institute: http://www.occri.net/
Oregon DLCD Planning for Climate Change:
http://www.oregon.gov/LCD/CLIMATECHANGE/Pages/index.aspx
Oregon State University Climate Impacts Research Consortium: http://pnwcirc.org/circteam
NOAA Digital Coast: https://coast.noaa.gov/digitalcoast/
U.S. Dept. of Housing & Urban Development Climate Resources:
UW Climate Impacts Group: https://cig.uw.edu/
WA Coastal Hazards Resilience Network: http://www.wacoastalnetwork.com/
Resources

DOCUMENTS

- Local Mitigation Planning Handbook
  http://www.fema.gov/library/viewRecord.do?id=7209
- Mitigation Ideas
  http://www.fema.gov/library/viewRecord.do?id=6938
- Local Mitigation Planning Guidance
  https://www.fema.gov/media-library/assets/documents/23194
- Tribal Multi-Hazard Mitigation Planning Guidance
  http://www.fema.gov/media-library/assets/documents/18355
- California HMP & Climate Adaptation Guidance
- ICLEI: “Integrating Hazard Mitigation & Climate Adaptation Planning”

TRAINING

- Climate Adaptation Training Opportunities
  https://toolkit.climate.gov/training-courses

WEBSITE

- FEMA Mitigation Planning
  https://www.fema.gov/hazard-mitigation-planning