Geoscience Careers and Public Safety: Part of Your Community

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Objectives

- Define need for geoscience expertise in state and local government
- Identify professional roles for geoscientists
Natural hazards*
*Not a comprehensive list

- **Seismic/volcanologic**
  - Earthquake/tsunami
  - Volcano

- **Hydro-meteorological**
  - Tropical storms
  - Floods
  - Winter storms
  - Severe weather (localized)

- **What are important differences between these two categories?**
Who deals with hazards?

- State geological surveys
- State emergency management
- Other state agency
- Local emergency management
  - County
  - City
  - Special district
Geoscience and natural hazards

- Mitigation
- Preparedness
- Response
- Recovery
Mitigation

- Hazard vulnerability analyses (HVA)
- Land-use planning
- Building codes
- Structure/site improvements
Preparedness

- HVA applications
  - Prioritize planning, training, equipment acquisition
  - Realistic training/exercise scenarios

- Emergency Operations Plans (EOPs), other response plans
  - Realistic planning assumptions
  - Hazard-specific components
Mount Rainier National Park
November 2006 Flood Damage

The Emergency Operations Center at Longmire, after the flood
Assumptions
Response

- Warning
  - Potential duration
  - Possible event paths
  - Delineating hazard area(s)
  - Uncertainty

- Guidance for initial and long-term response considerations

- Potential obstacles to response and recovery
  - Aftershocks
Recovery

- Carpe diem!
  - Fleeting public awareness, political support

- Policy input:
  - Limit rebuilding in hazard-zones
  - Build to better standards
  - Develop more resilient infrastructure
  - Incorporate more realistic planning assumptions
Challenges

- Generally low level of scientific/technical literacy
  - Poor appreciation of uncertainty and scientific method
- Complex issues
  - Socioeconomic
  - Political
  - Ethical
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