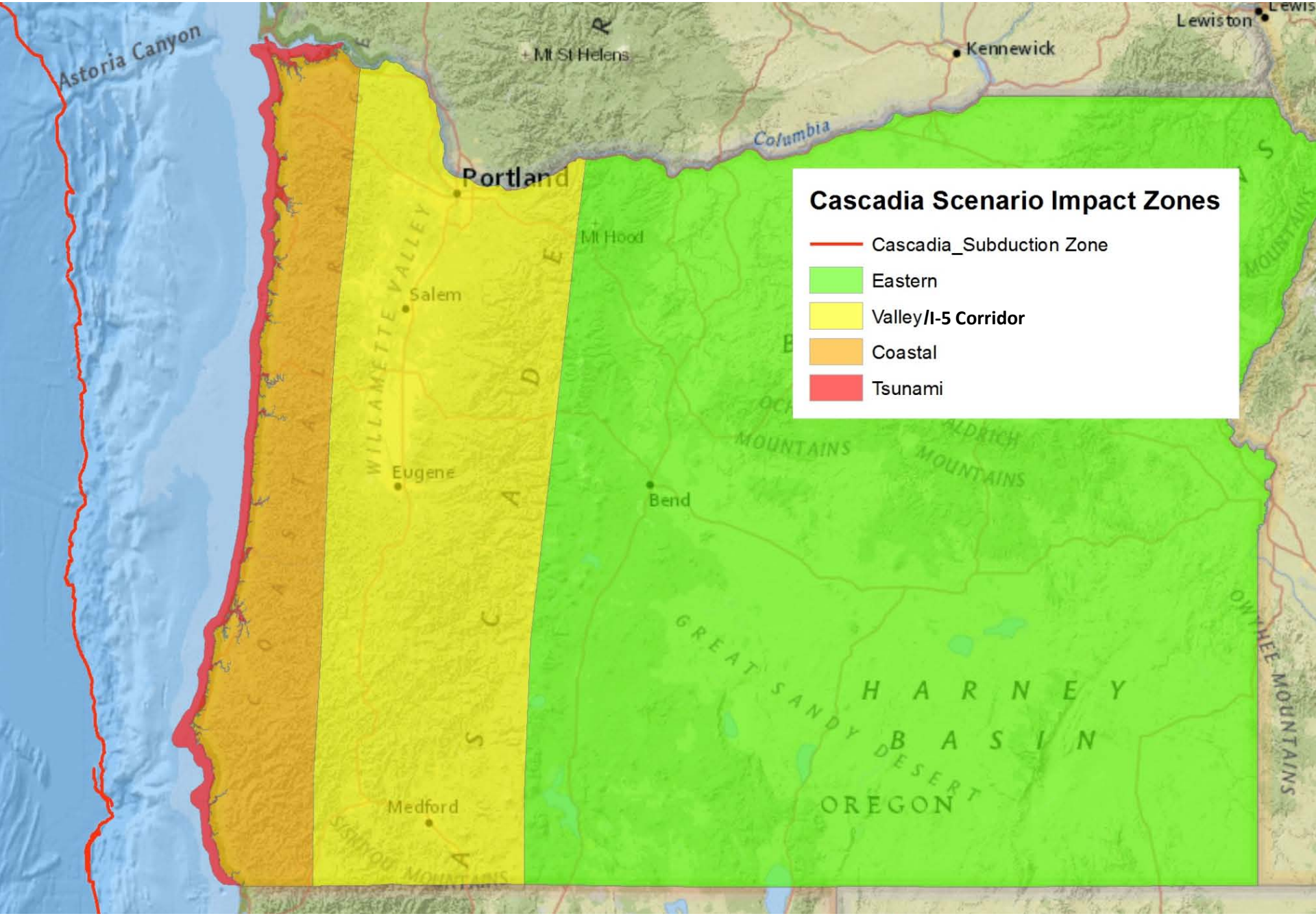
# Oregon Resilience Plan
# Coastal Resilience Workgroup

**Presentation for**
***House Committee on Veterans' Services and Emergency Preparedness***
**and**
***Senate Veterans and Emergency Preparedness***

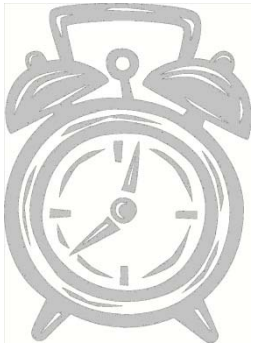
**Jay Wilson, Vice Chair**
**Jay Raskin, Commissioner**

Oregon Seismic Safety Policy Advisory Commission
*June 13, 2013*
*Salem, Oregon*

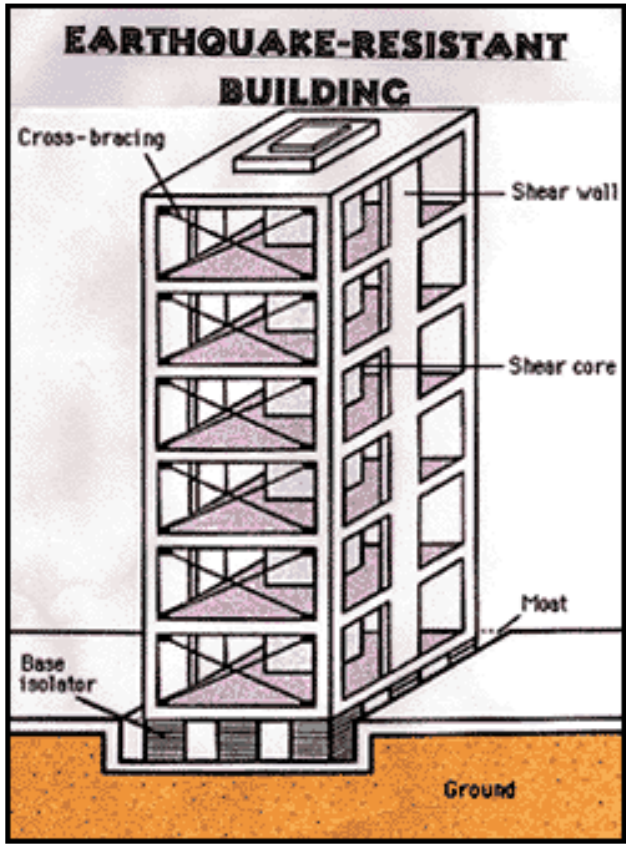

Cascadia Scenario Impact Zones
Cascadia_Subduction Zone
Eastern
Valley/I-5 Corridor
Coastal
Tsunami
Astoria Canyon
Mt St Helens
Kennewick
Lewiston
Columbia
Portland
Mt Hood
Salem
Eugene
Bend
Medford
WILLAMETTE VALLEY
CASCADE
COASTAL
MOUNTAINS
GREAT SANDY DESERT
HARNEY
BASIN
OREGON
OWYHEE MOUNTAINS

# COAST - Most Significant Issues

- **Comprehensive Approach for Life Safety**
  - Evacuation and shelter for people displaced
  - Short-term and long-term housing
- **Target for 90% Restoration of Services in Two Weeks - Reasonable? Possible?**
  - Greatest immediate and long-term needs for assistance in the State (per capita).
  - Interdependency between Tsunami and EQ Zones
  - Weather-dependent capabilities?
- **Mitigation, Recovery and Reconstruction**
  - Land use guidance for community relocations
  - Return of Community Economic Base
- **Debris Management**

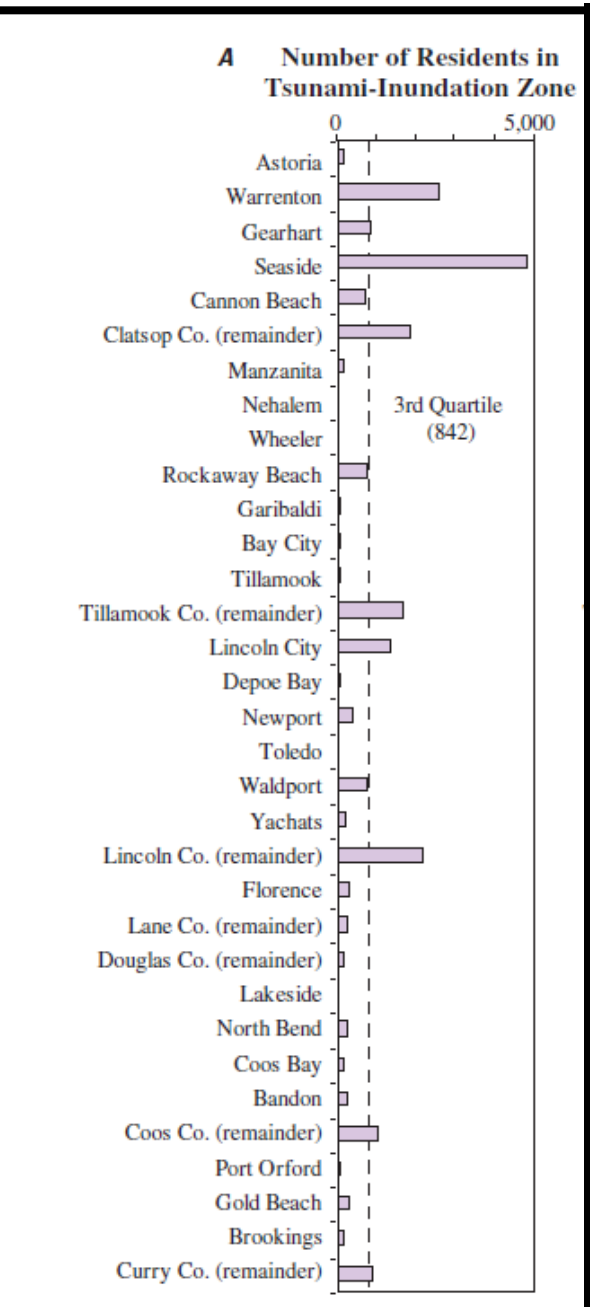


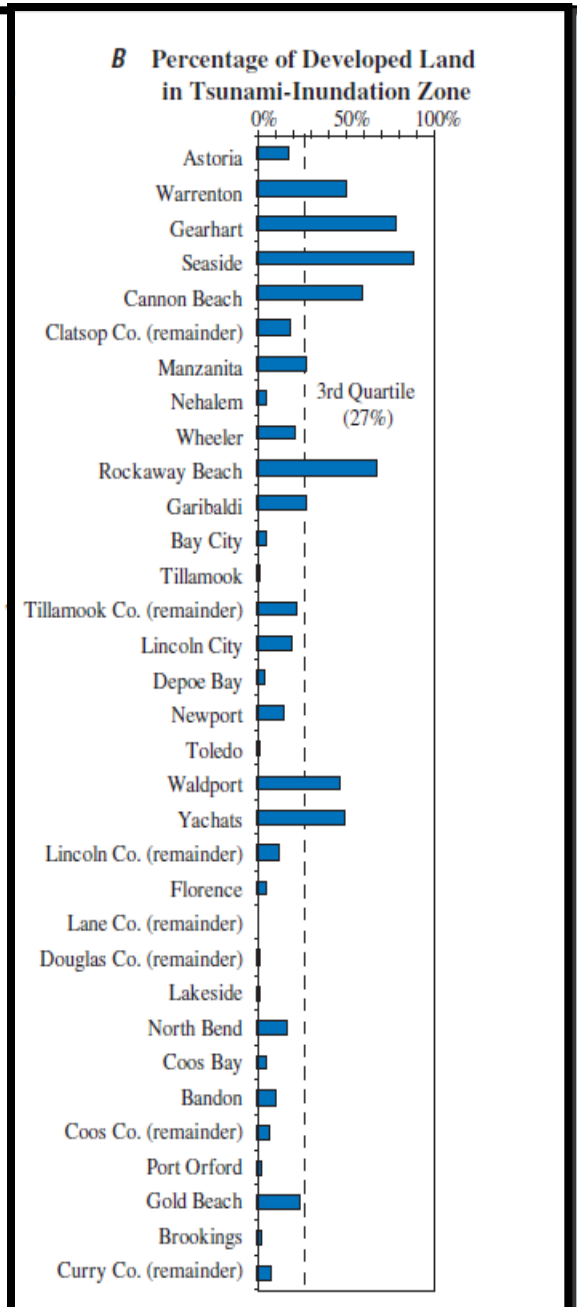
# Relationship Between Sustainability and Disaster Resilience


Source: Public Entity Research workgroup

# Tsunami Life Safety





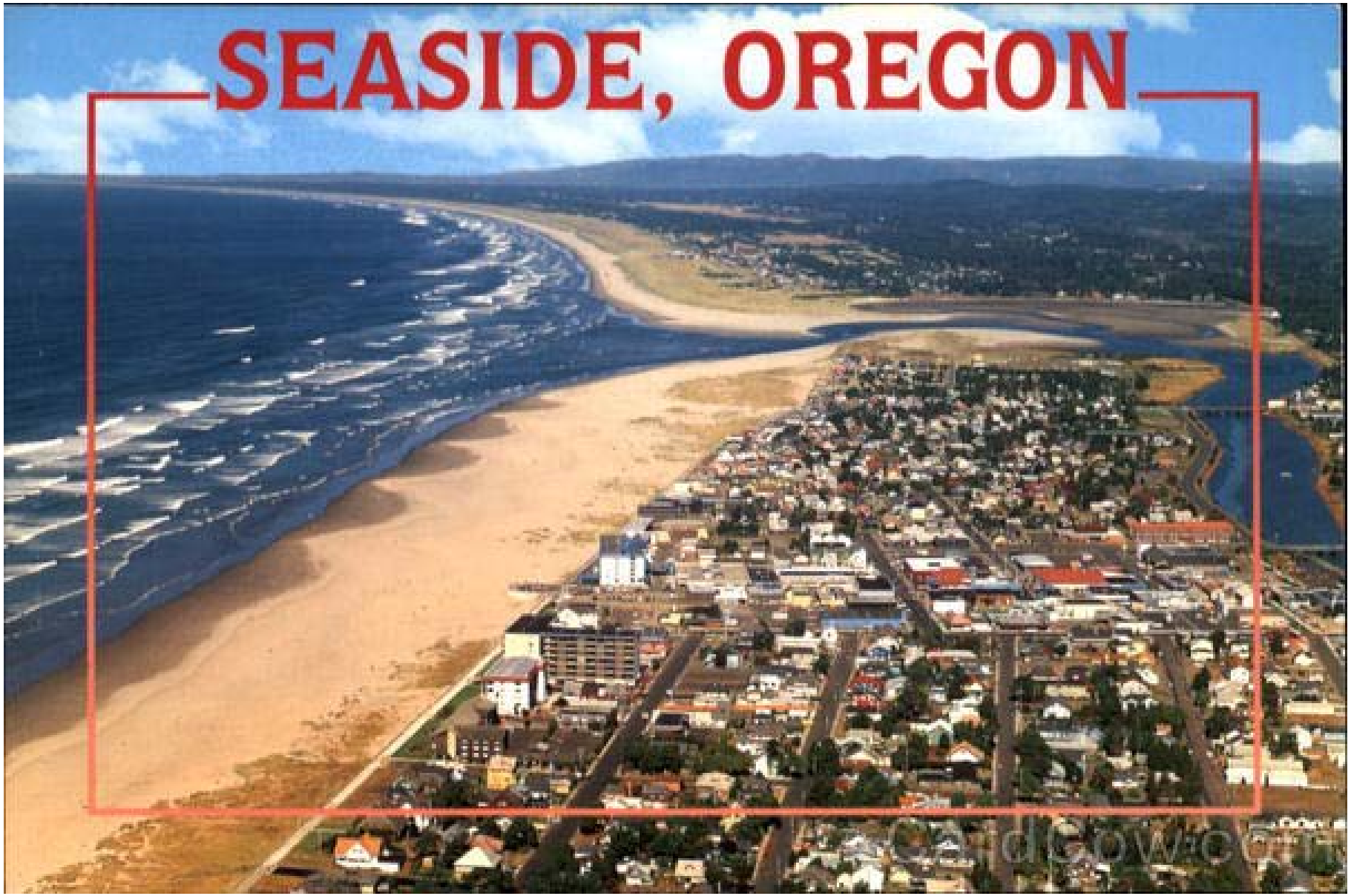
**HIGH GROUND**
Minamisanriku

Kyodo/Reuters

# Capacity for Response and Recovery

# Minamisanriku Tsunami Zone - Zero Capacity

# Tsunami Destination



# Tsunami Destination - Depot Bay

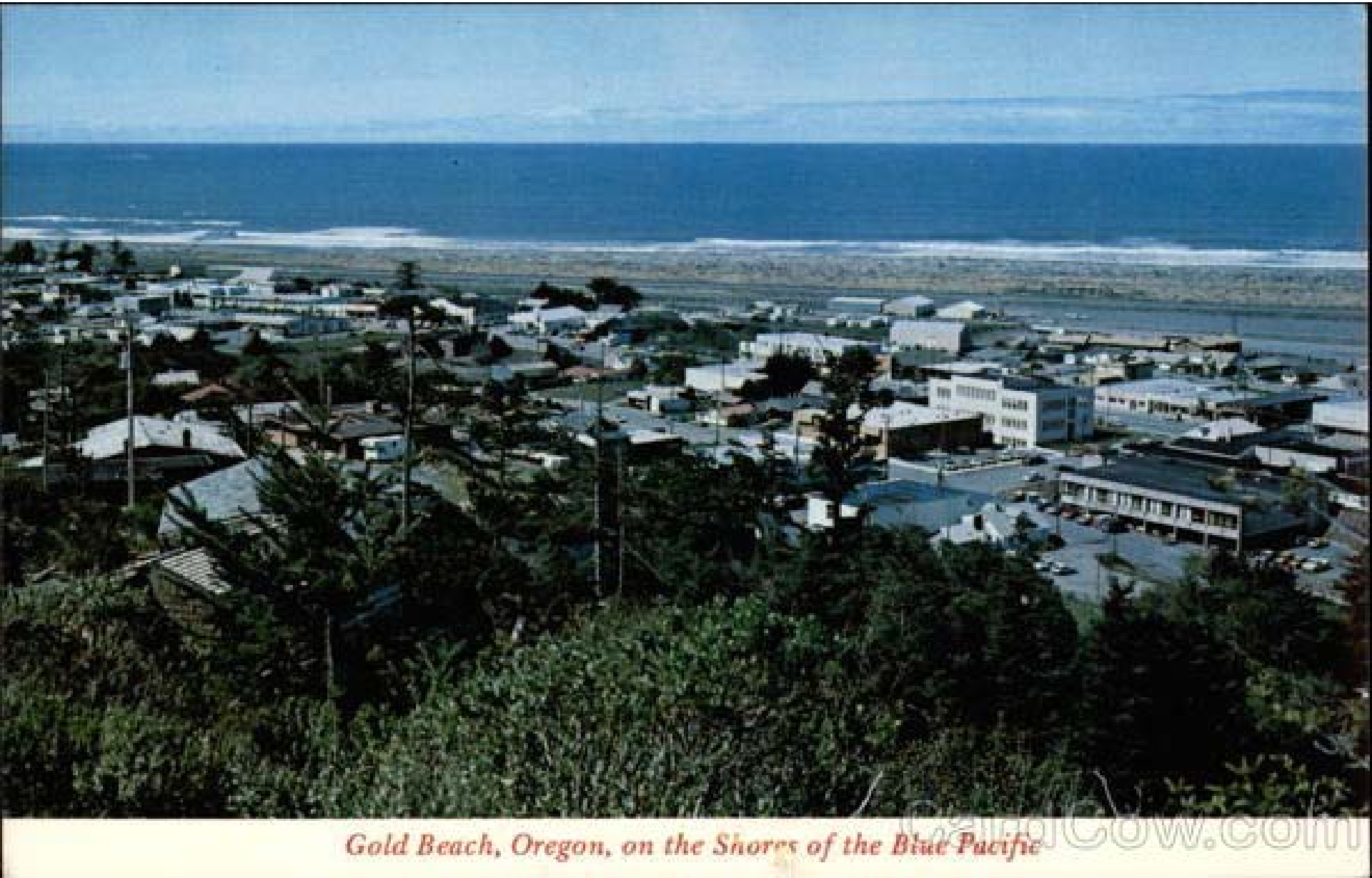
# Tsunami Destination - Newport

# Tsunami Destination - Florence

# Tsunami Destination - Winchester Bay

# Tsunami Destination - Bandon

# Tsunami Destination - Gold Beach



# Coastal Service Restoration

## 50-Year Estimates for Roads/Bridges and Critical Facilities

minimal | functional | operational

| ODOT Roads & Bridges | | Event Occurs | 0 – 24 hours | 1 – 3 days | 3 – 7 days | 1 week – 1 month | 1 – 3 months | 3 – 6 months | 6 – 12 months | 1 – 3 years | 3+ years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Coast - EQ Only Zone | | | | | | | | | | | |
| State Hwy System | Tier 1 | | | | | | | | | 60% | 90% |
| | Tier 2 | | | | | | | | | | 60% |
| | Tier 3 | | | | | | | | | | 60% |
| | Other | | | | | | | | | | 60% |
| | | | | | | | | | | | |
| Coast - Tsunami Zone | | | | | | | | | | | |
| State Hwy System | Tier 1 | | | | | | | | | | 60% |
| | Tier 2 | | | | | | | | | | 60% |
| | Tier 3 | | | | | | | | | | 60% |
| | Other | | | | | | | | | | 60% |

## Current 2012 Conditions for Critical Facilities in the Earthquake-Only Zone

| Critical Facilities | | Event Occurs | Phase 1 (hours) | | | Phase 2 (Days) | | Phase 3 (Months) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4 | 24 | 72 | 30 | 60 | 4 | 18 | 36+ |
| Coast - EQ Only Zone | | | | | | | | | | |
| Emergency Operation Centers | | | | | | | | | X | |
| Police Stations | | | | | | | | | | X |
| Fire Stations | | | | | | | | | | X |
| Healthcare Facilities | | | | | | | | | X | X* |
| Primary Schools K-8 | | | | | | | | | X | |
| Secondary/High Schools | | | | | | | | | X | |
| Emergency Shelters | | | | | | | | | X | |
| | Target in 50 Years | | | | | | | | | |
| X | Current Capability | | | | | | | | | |

# COASTAL ECONOMY

- TOURISM, PORTS, TIMBER
  - All dependent on vulnerable infrastructure
- TOURISM and PORTS
  - In Tsunami inundation zone
  - Dependent on proximity to ocean

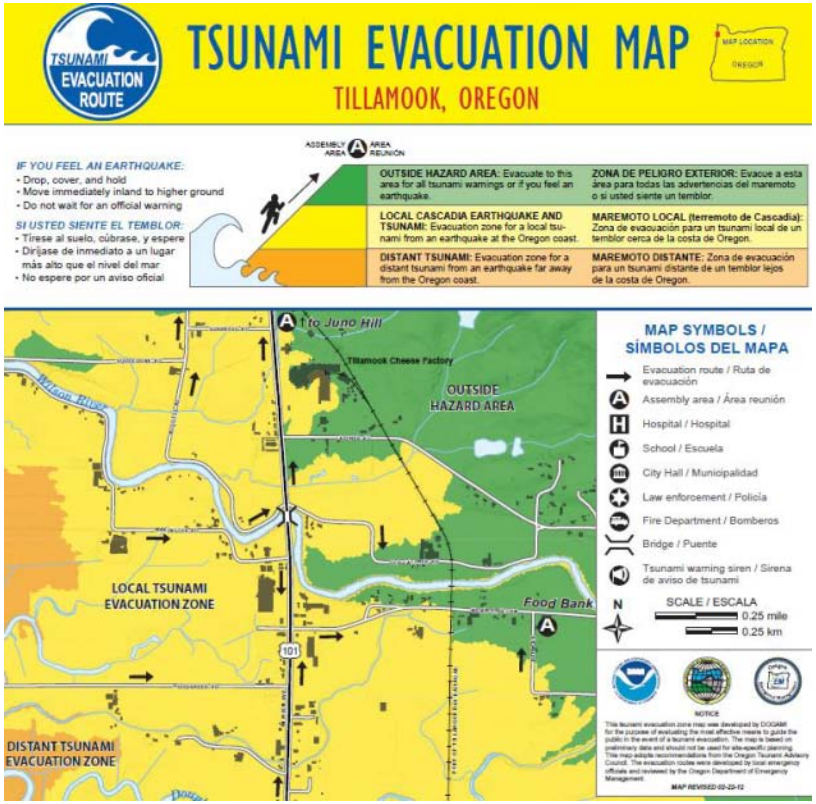
# TOURISM INDUSTRY

- Tourism is $9 billion industry in Oregon
- 25% of Oregon's tourism dollars come from the coast.

# RESILIENT COSTAL ECONOMY

- Strategies that:
  - Don’t disrupt current economy
  - Plan for future
  - Make it better
- Tourism
  - Save lives
  - Take Care of Visitors
  - Engage Visitors to help coast rebuild

# Coastal Life Safety




## Recommendations

- ► Improve earthquake/tsunami education efforts.
- ► Improve tsunami evacuation efforts.
- ► Improve relief efforts to account for residents in the tsunami inundation areas and the visitor population

# Coastal Resilience Targets

## Recommendations

- ► Relocation strategies as part of overall mitigation planning
- ► Tsunami resistant infrastructure for vertical evacuation structures
- ► Tsunami resistant infrastructure for critical transportation, port facilities, and utilities.
- ► Critical transportation links to the valley and along the coast survive the earthquake so that coastal communities are not cut off from relief and recovery efforts.

# Debris Management

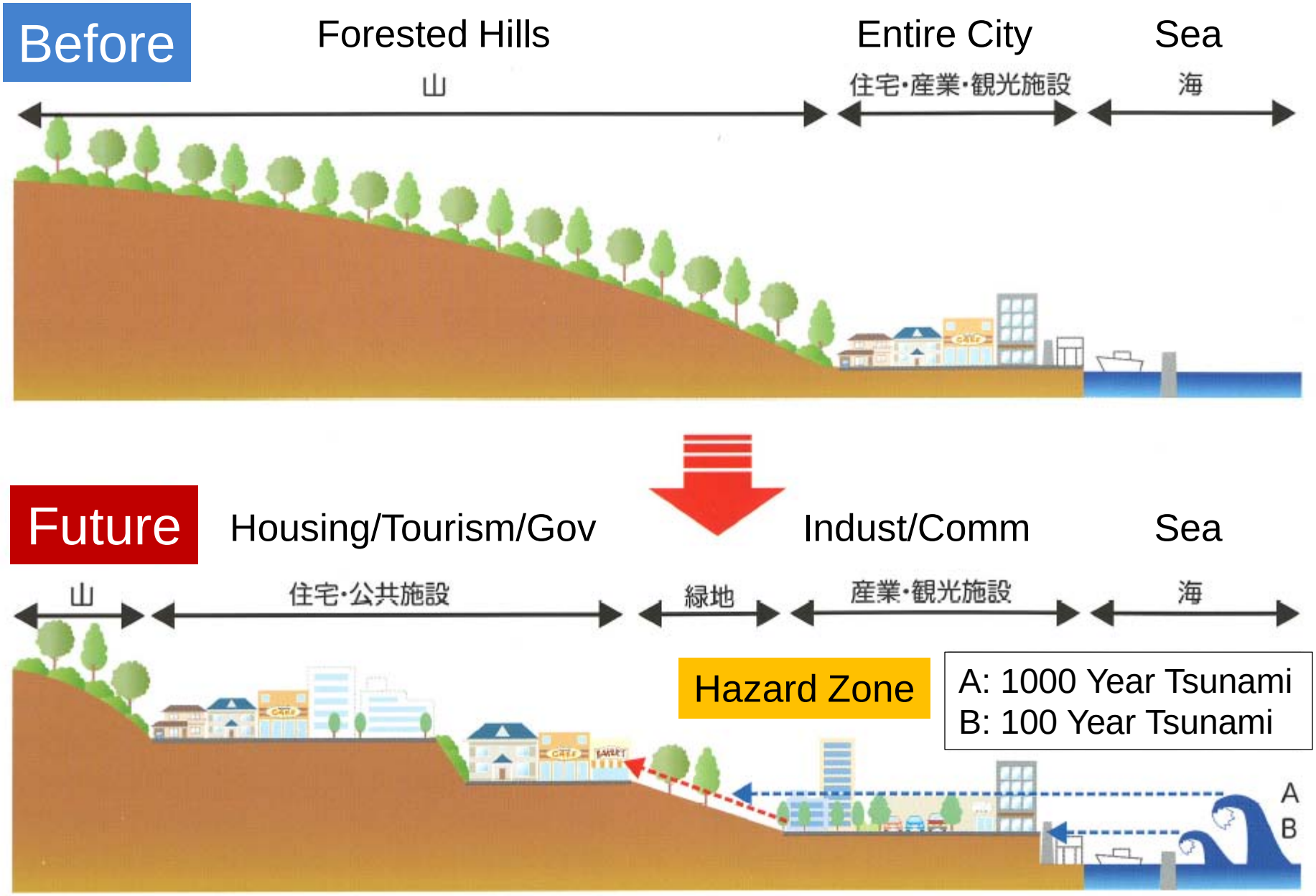
# Relocation to High Ground

**Disaster Resilience in Action:**

- Waldport High School is the first FEMA tsunami acquisition project in the country. Lincoln County School District secured a bond to rebuild a new high school on the hill above the city.
- As of December 19, 2012, the Seaside School Board approved a resolution to authorize the superintendent to hire an architect to begin designing a new school campus, which would be constructed above the tsunami inundation zone. A long-anticipated bond measure to support this effort is expected to be on the ballot in May 2013.
- As of December 12, 2012, the Cannon Beach City Council agreed to acquire 55 acres to expand the city limits for a new school site above the tsunami inundation zone.

# Minamisanriku – Relocation to Higher Ground

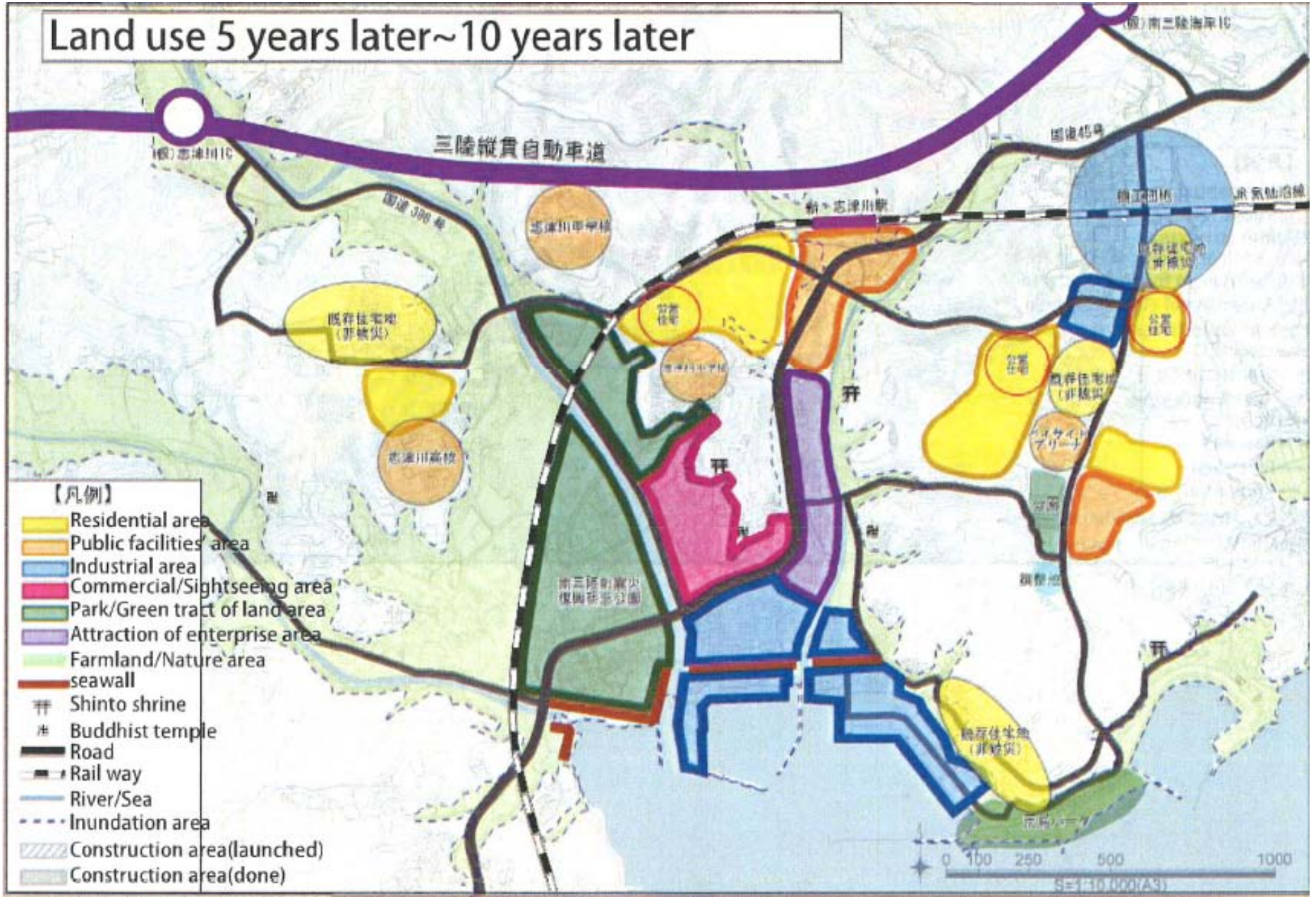
## Two Levels of Tsunami Protection: 100 yr (seawalls) and 1000 yr (elevation)



# Minamisanriku - Before

# Minamisanriku - After

# Minamisanriku – Recovery Plan



**Minamisanriku** Recovery Vision