

# **Climate Change on the Oregon Coast**

## ***A Summary of* OCMP ACTIVITIES**

Western Coastal Managers' Meeting

January 26, 2009

## *Climate Change on the Oregon Coast*

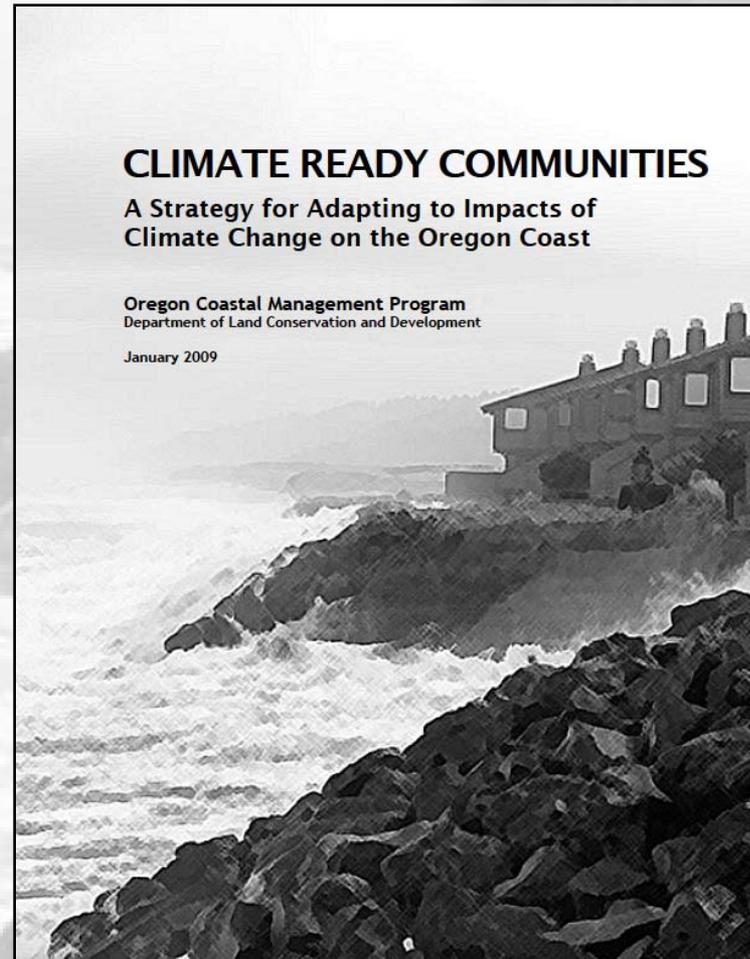
# **CLIMATE READY COMMUNITIES**

- Focus on adaptation
- Year long assessment of literature
- Conversation with local planners
- Consultation with SSNERR, OSG, DOGMI, UWCCIG, OGWC, others
- Monitor state and national initiatives
- Initiate pilot project w/ NOAA
- Applied for NOAA CSC Coastal Fellow
- Support WCGAOH Climate Change actions

# *Climate Change on the Oregon Coast* **CLIMATE READY COMMUNITIES**

*Publication*

Basis for  
public  
outreach and  
political  
engagement



[http://www.lcd.state.or.us/LCD/docs/publications/climate\\_ready\\_communities.pdf](http://www.lcd.state.or.us/LCD/docs/publications/climate_ready_communities.pdf)

*Climate Change on the Oregon Coast*

# **CLIMATE READY COMMUNITIES**

Publication soon:

## **Background Report**



# *Climate Change on the Oregon Coast*

## **CLIMATE READY COMMUNITIES**

Cooperative Pilot Project

**OCMP - NOAA IDEA Center**

Work w/ local community & data providers to:

- Identify information needs for adaptation planning;
- Acquire, scale-down, and use climate data; and
- Create internet portal for data products at local level.
  - Will involve other entities (e.g. NANOOS, USGS, OSU, various NOAA programs)

# *Climate Change on the Oregon Coast*

## **CLIMATE READY COMMUNITIES**

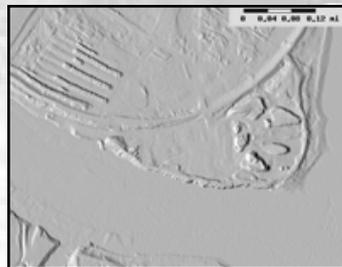
**NOAA CSC Fellow 2009- 2011**

**WHAT:** Identify location, ownership, and status of dikes, levees, tidegates in Oregon estuaries.

**HOW:** Use LiDAR, aerial photos, land use maps, county assessor data, NOAA geodetic data, GPS, and other info in GIS.



Color orthophoto



Bare-earth image derived from LiDAR



USGS topographic map

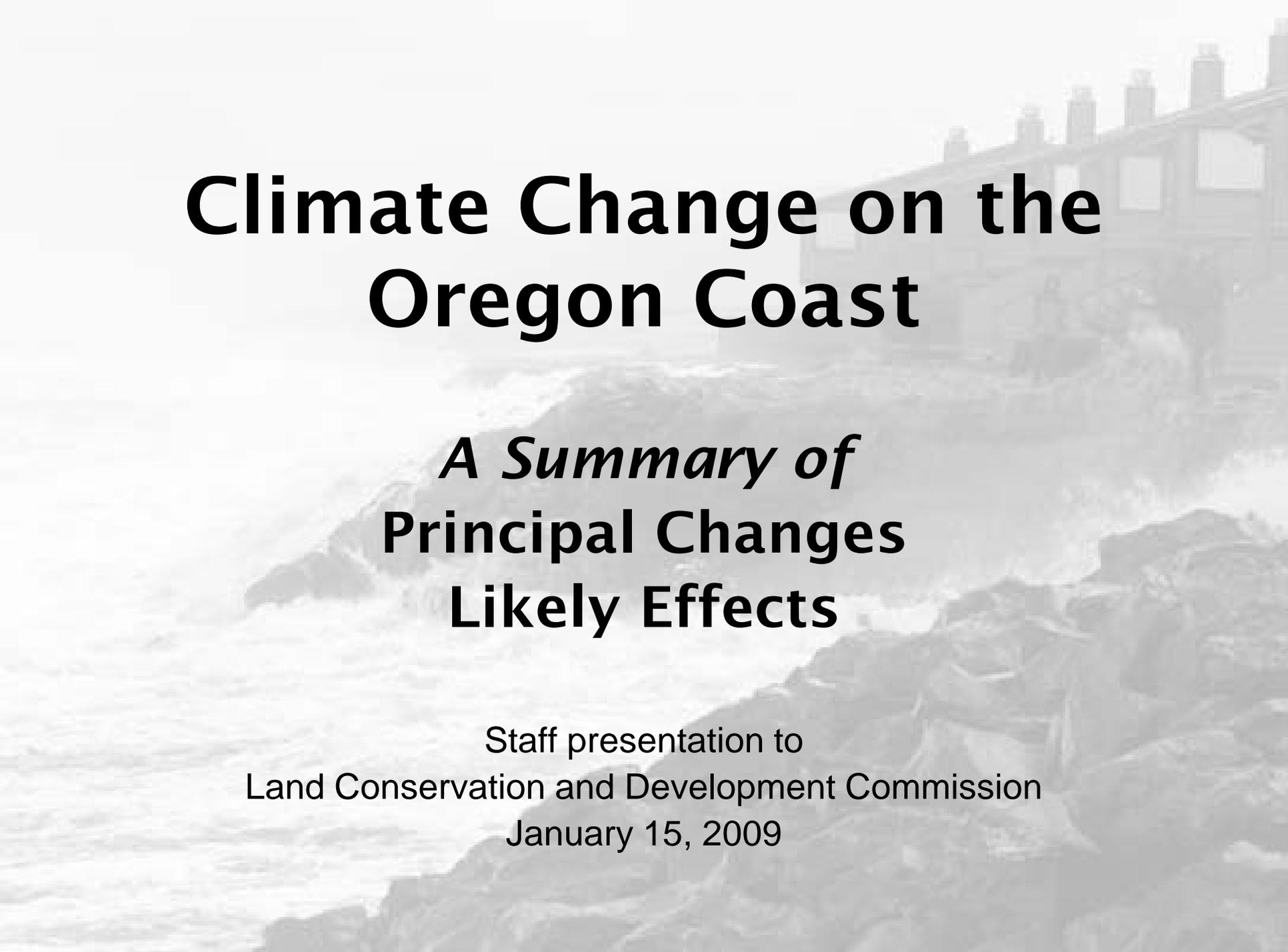
**WHY:** Will be the basis for management strategies to respond to rise in tidal elevations in estuaries.

# *Climate Change on the Oregon Coast*

## **CLIMATE READY COMMUNITIES**

### **Other Activities**

- Acquiring LiDAR data of estuaries and ocean shore
- Supporting beach monitoring network
- Developing shoreline structures database
- Scoping SLAMM update for Oregon estuaries
- Catalyzing wider discussions of climate change and Oregon's Land Use Planning Program vis-à-vis adaptation and mitigation



# **Climate Change on the Oregon Coast**

## ***A Summary of Principal Changes Likely Effects***

Staff presentation to  
Land Conservation and Development Commission  
January 15, 2009

## *Climate Change on the Oregon Coast*

# Principal Changes

- **Temperature**

Increase 0.5° F/decade through 2050, then...???

Earlier spring = longer frost-free period

Warmer summers

- **Precipitation**

Annual totals within historic range

Longer, drier summers

Wetter winters, more rain - less snow

- **Storms**

Increase in intensity/severity

Increase in frequency

- **Sea Level Rise**

Estimated 22" by 2050; 50" by 2100 (WA)\*

Will vary by location on Oregon coast

# Likely Effects

- **Community infrastructure**

  - Transportation/navigation

  - Shore protection/flood control structures

  - Municipal services

- **Coastal natural systems**

  - Rivers and streams

  - Estuaries

  - Ocean

  - Coastal shorelands

  - Terrestrial and aquatic habitats

- **Coastal economic sectors**

  - Ocean fisheries

  - Agriculture

  - Forestry

  - Tourism and recreation

  - Residential and commercial development



# Community infrastructure

- **Transportation/navigation**

  - Coastal roads, highways, and rail lines

  - Airports

  - Port facilities, jetties, groins

- **Shore protection/flood control structures**

  - Dikes and levees

  - Shore protection structures

- **Municipal services**

  - Stormwater systems

  - Water supply

  - Wastewater treatment

  - Recreational facilities

# Coastal natural systems

- **Rivers and streams**

  - Coastal rivers

  - Inland rivers

- **Estuaries**

  - Estuarine wetlands

  - Estuarine benthic ecosystems

  - Ocean spits

  - Invasive species

  - Acidification

- **Ocean**

  - Ecosystem shifts

  - Distribution of species

  - Changes in upwelling

  - Hypoxia

  - Ocean acidification

*Climate Change on the Oregon Coast: Likely Effects*

# **Coastal natural systems**

- **Coastal shorelands**

  - Ocean shore

  - Estuarine shores

- **Terrestrial and aquatic habitats**

  - Habitat distribution and composition

  - Non-native species



*Climate Change on the Oregon Coast: Likely Effects*

# Coastal economic sectors

- **Ocean fisheries**

  - Salmonids

  - Harvest effects

  - Ocean acidification

- **Agriculture**

  - Water supplies

  - Dikes and levees

- **Forestry**

  - Forest mix

  - Forest growth

  - Forest resilience

  - Fires

*Climate Change on the Oregon Coast: Likely Effects*

# **Coastal economic sectors**

- **Tourism and Recreation**

Tourism

Recreation

- **Residential and commercial development**

