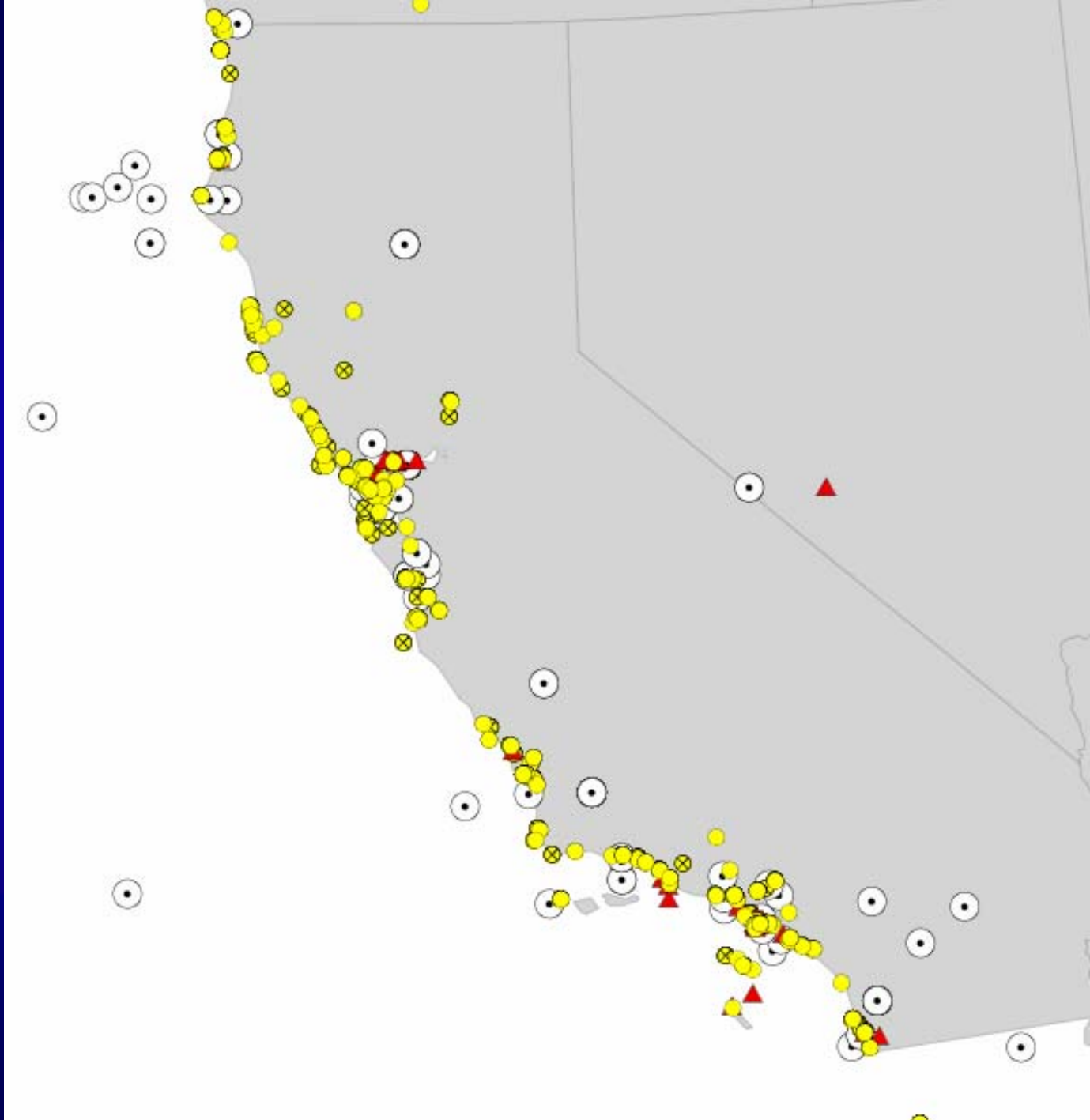


# California's Tsunami Risk



In historic  
times:  
82 credible  
tsunamis



Teletsunamis  
52 credible historic  
events  
3 caused deaths



Region	Number
Alaska	12
S America	9
Japan	10
Kamchatka/Kurils	9
SW Pacific	7
Mexico	2

**March  
28,  
1964**

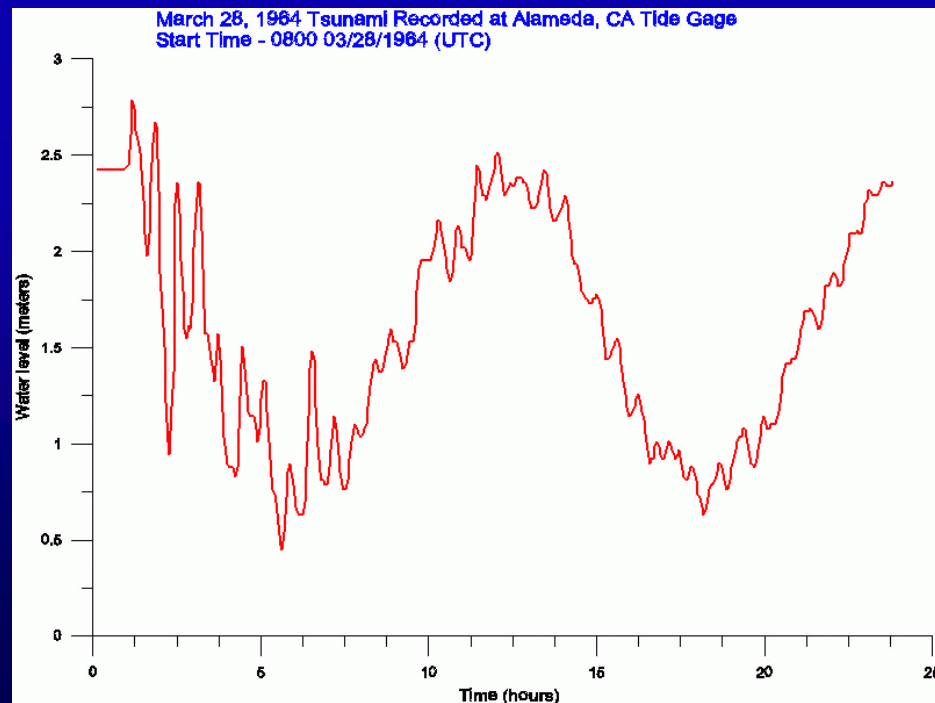


**Source: M 9.2 Alaska Earthquake**  
**Crescent City: 11 deaths, \$15 million loss**  
**Klamath: 1 death, \$4,000 loss, damage 1.5  
miles up Klamath River**

# March 28, 1964

## Source: Alaska M 9.2

*In Loch Lomond Marina at San Raphael about 2:30 AM the largest wave of about 5 foot height broke the end off of the dock with about 20 boats still moored to it. A 32-foot cruiser sank. "F" dock with 30 boats attached was lifted over a levee and deposited a quarter of a mile away. Lander et. al. 1993*



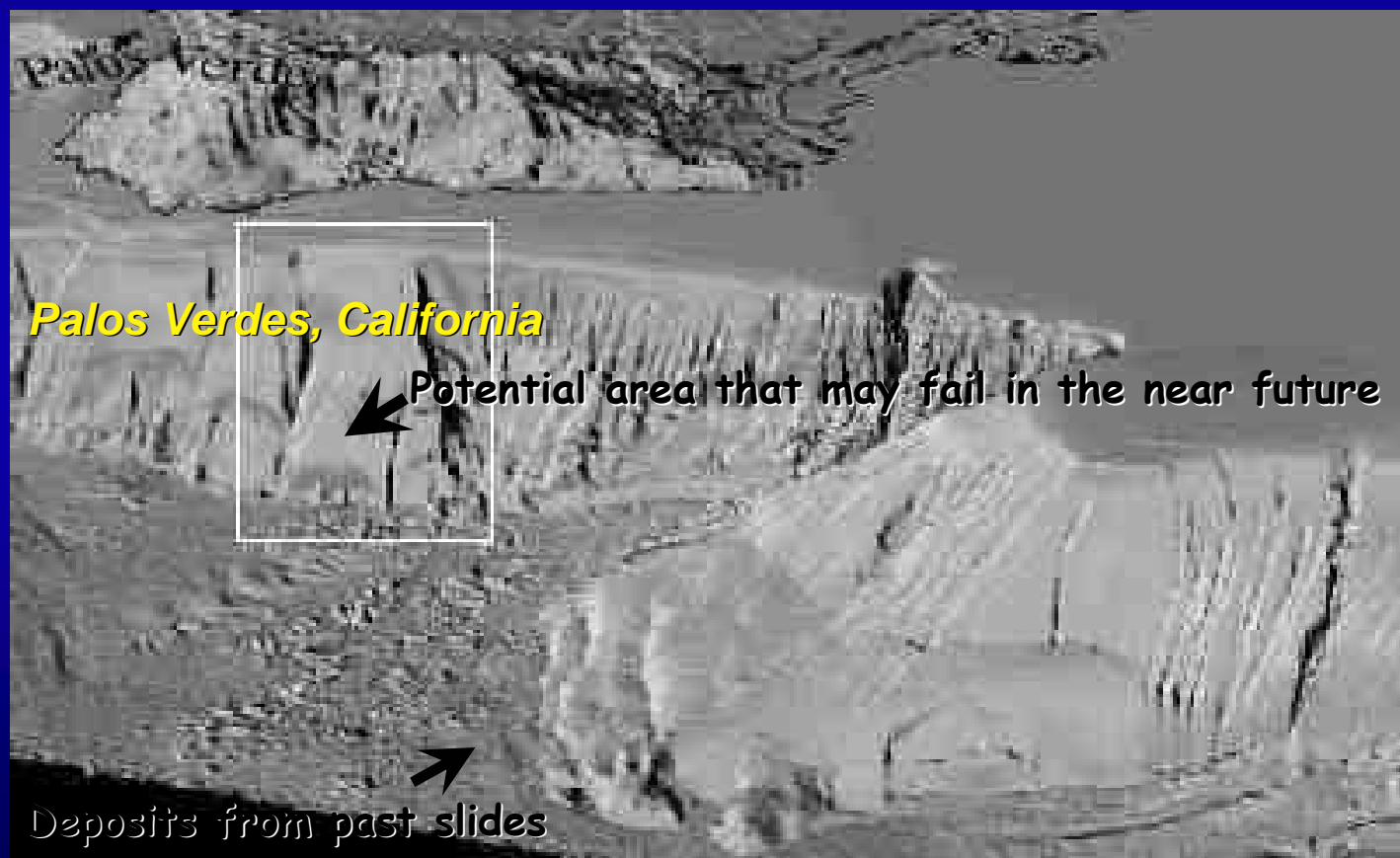
# Local tsunamis

29 credible historic events (mainly before 1930)

Faults

Stepovers

landslides



Continental shelf offshore of Palos Verdes, Southern California.

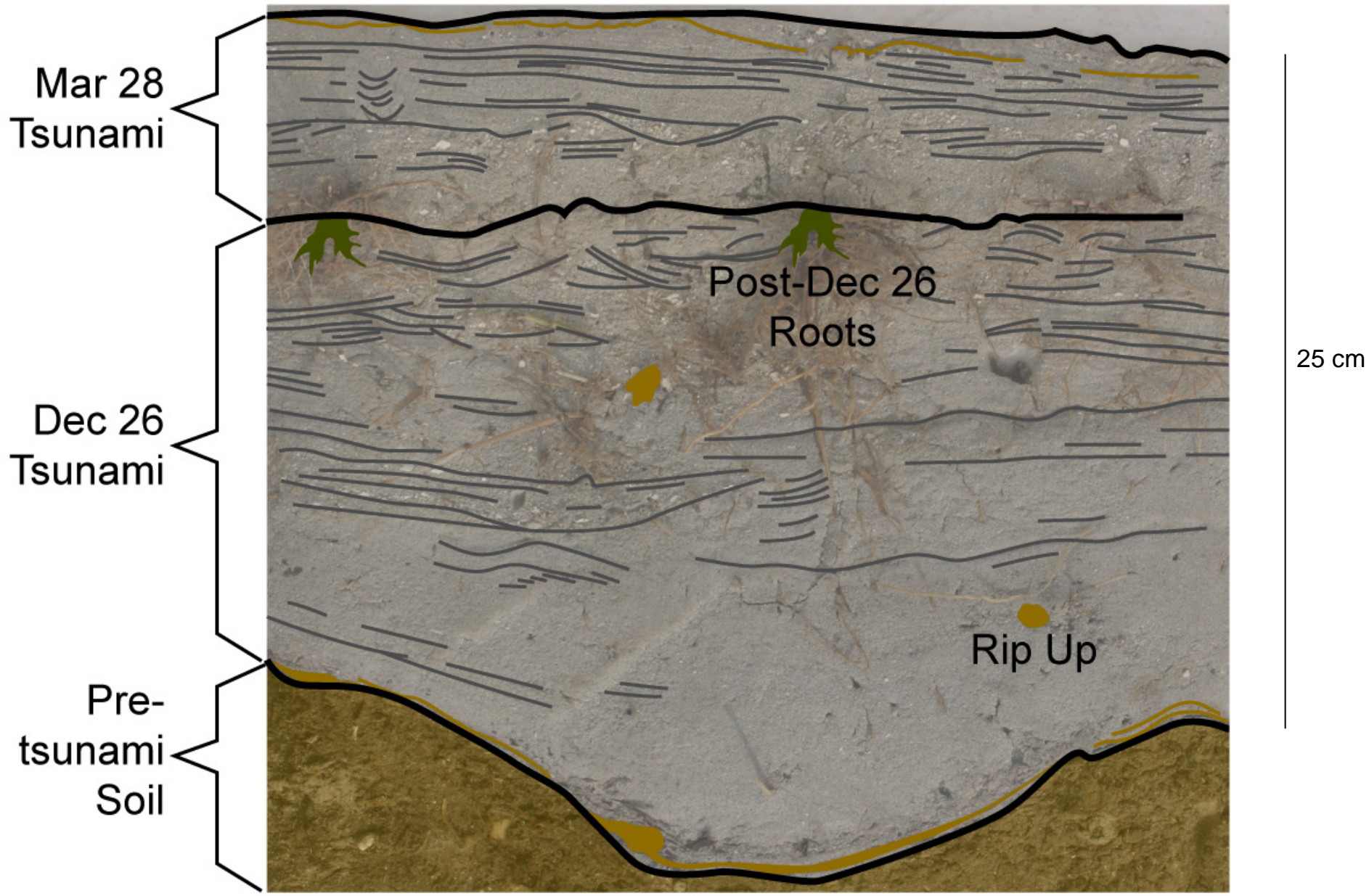


1964  
1960

1700

*Crescent Beach Motel, 1964*

# Tsunami deposits





# Oreck - south of Redwood Creek

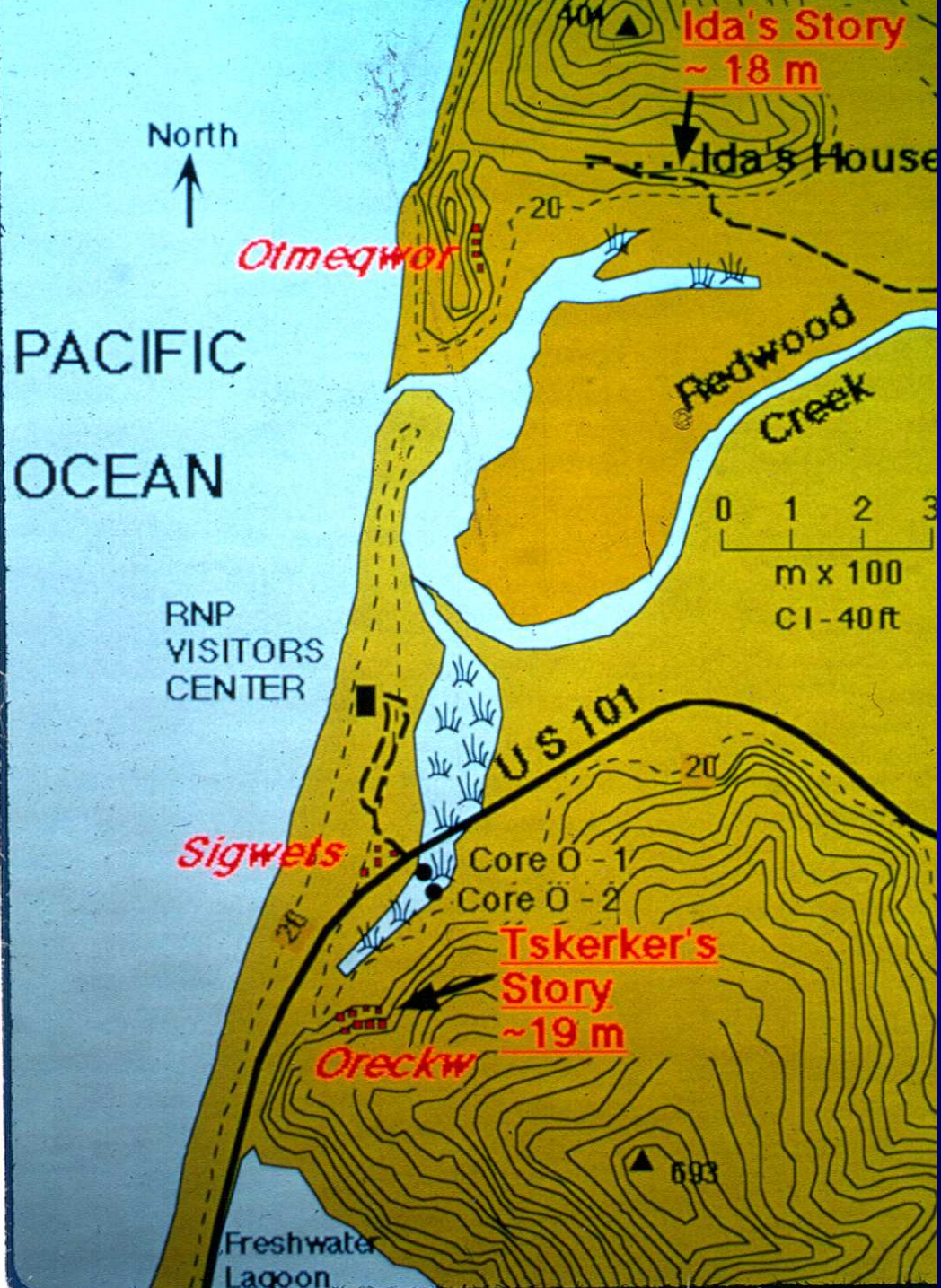


Redwood National Park  
Information Center

Sigwets

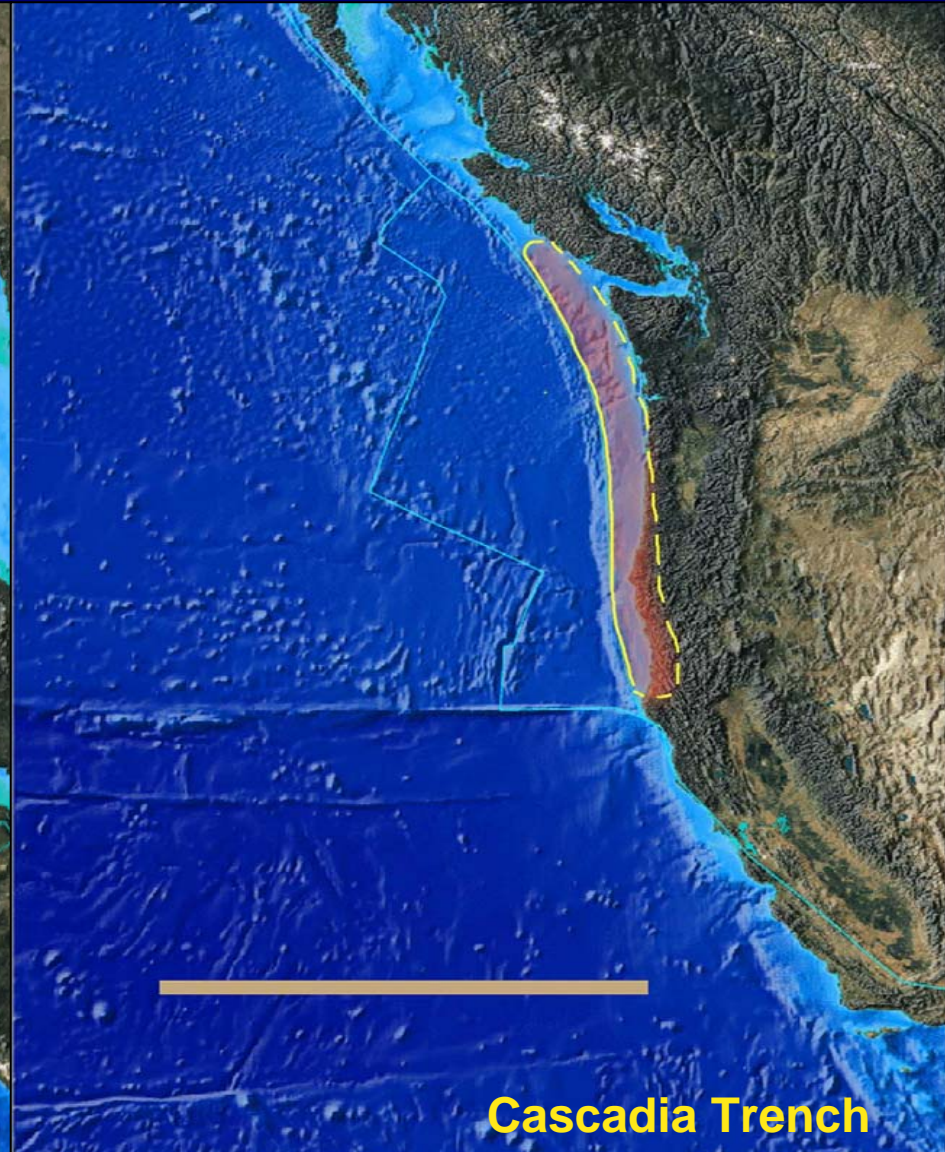
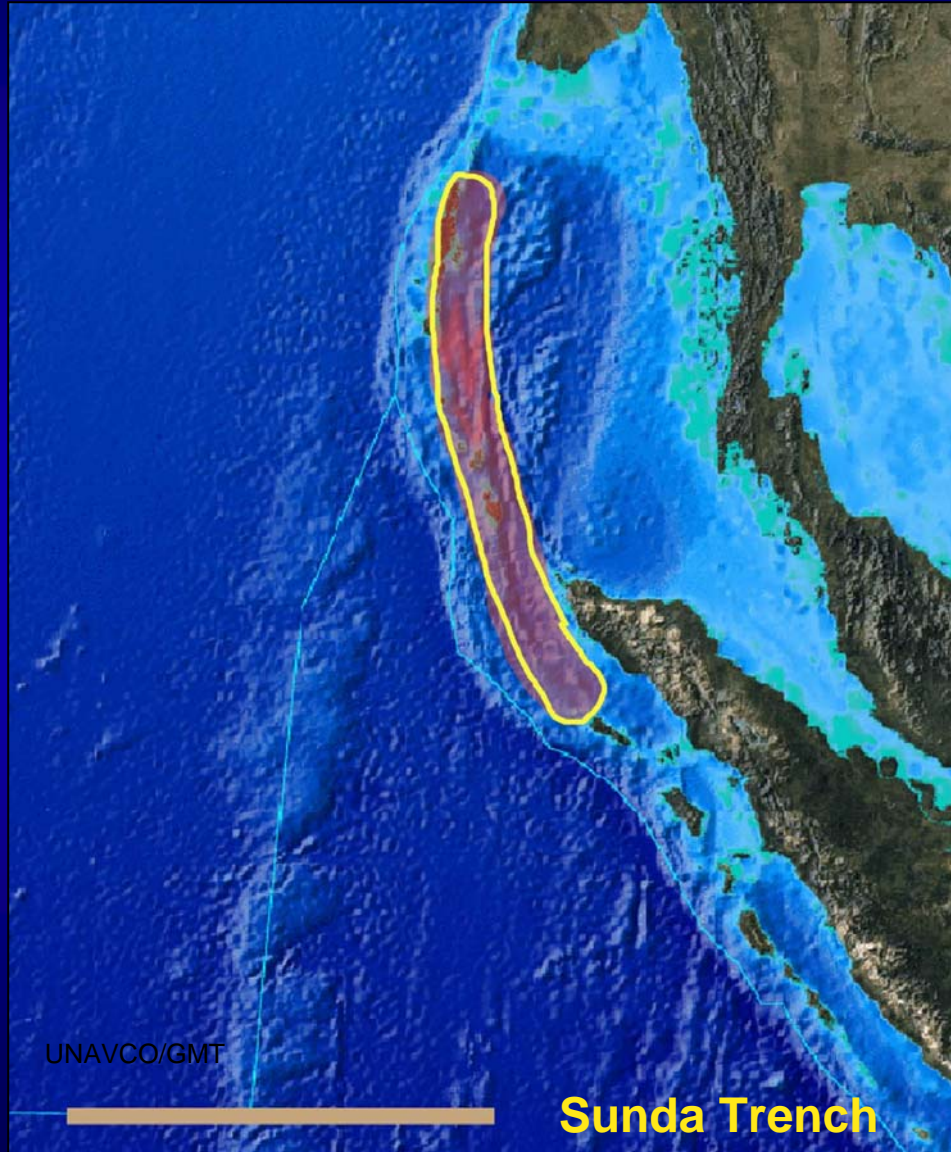
Oreckw

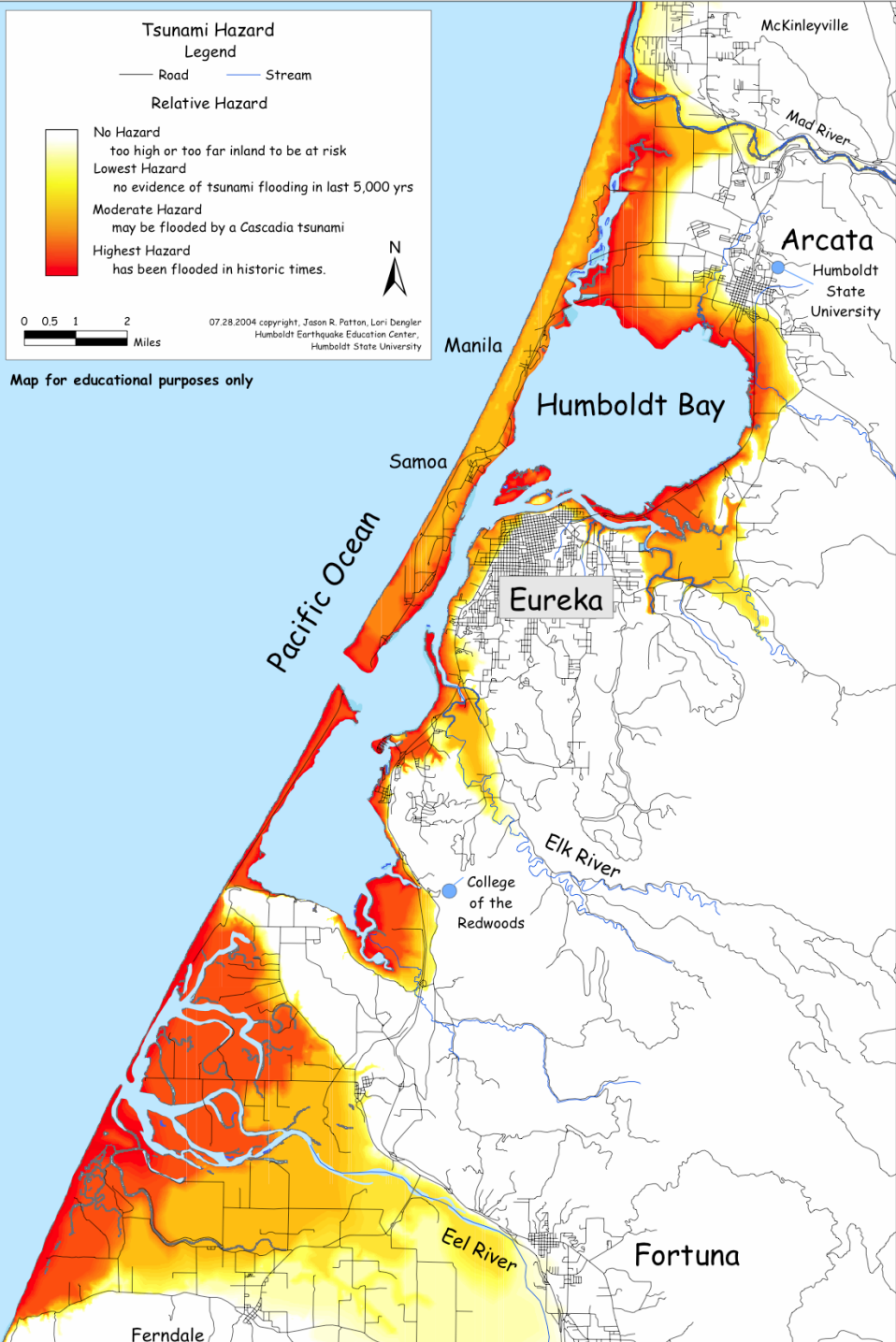




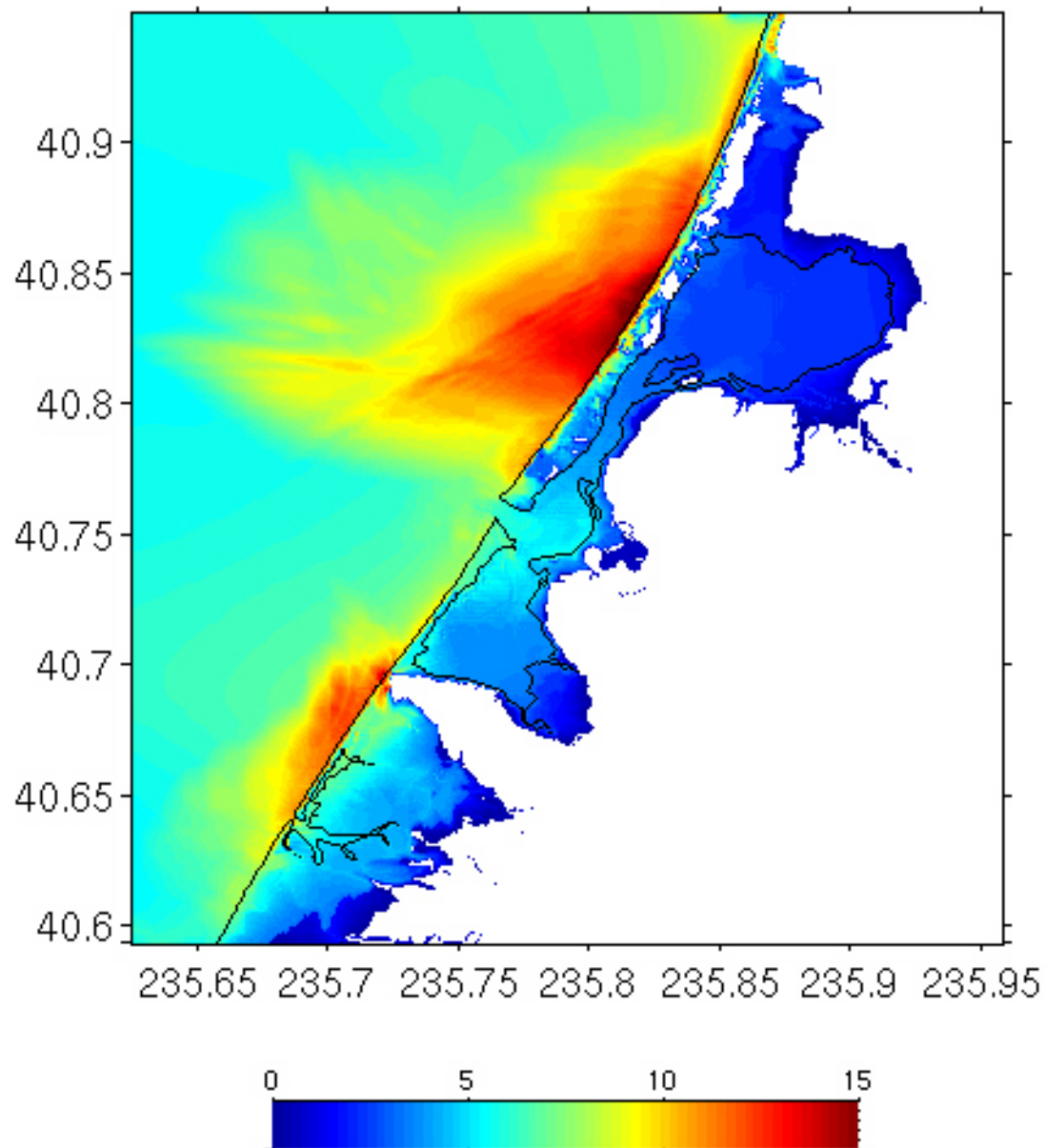


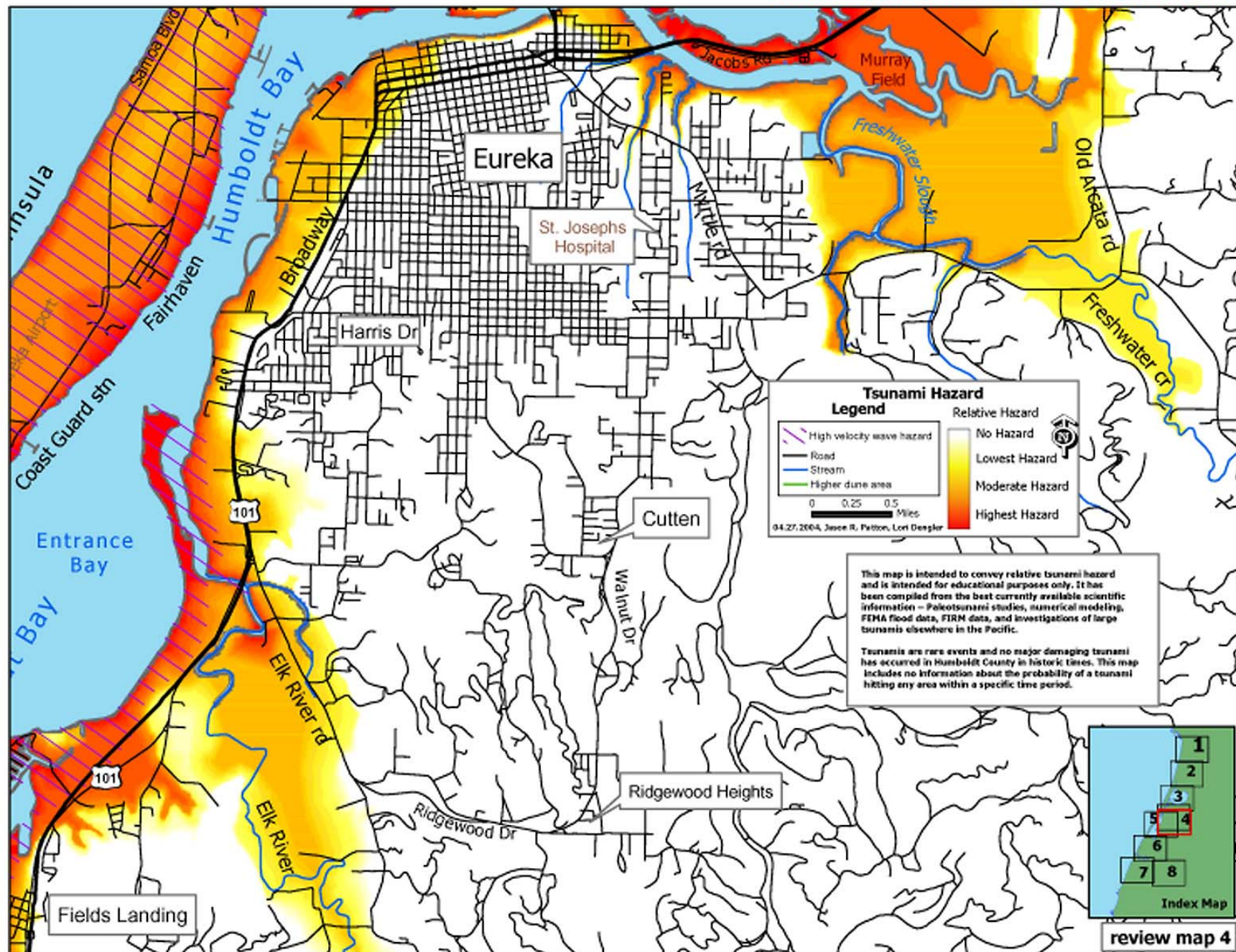
# Lessons for the United States



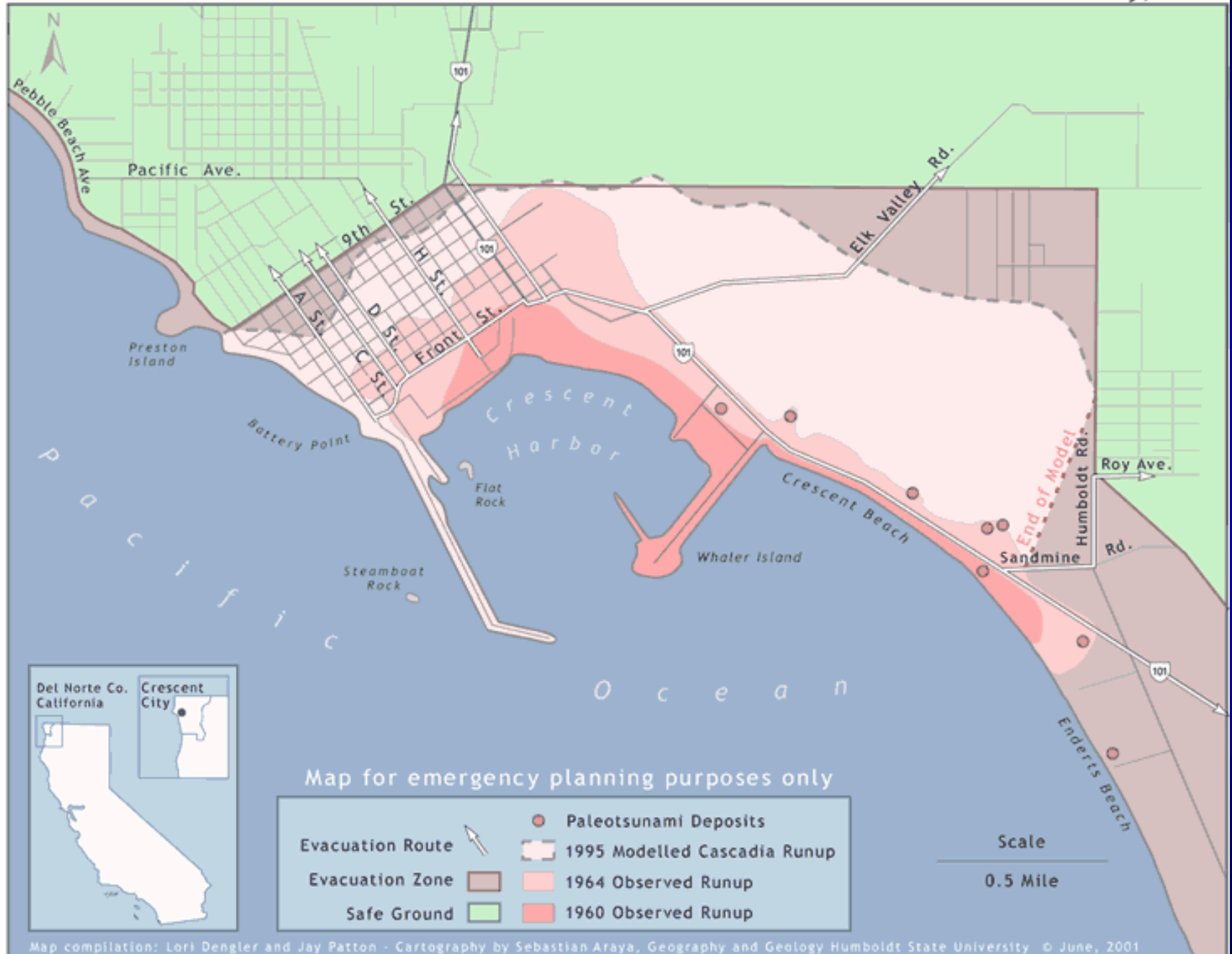


Maximum Wave Height and Overland Flow Depths  
Cascadia Subduction Zone Mw = 9.+, Southern Sections  
Humboldt Bay









# Top priority: Save Lives

In Aceh Province, a Tsunami Warning System on would not have made a significant difference

- 
- 1) Not enough time between earthquake and tsunami to disseminate warnings
  - 2) Too many remote areas without the infrastructure to receive warning messages

**Education is the primary tool for saving lives in the near source area**

# Comparing what happened in Jantang and Langi



*Jantang*



*Langi*

# Jantang

Water height 15 - 20 m

100% structures destroyed

2% of population survived

No previous awareness of tsunamis

Current activities:  
removing debris,  
gathering coconuts,  
reclaiming family land



# Langi, Simuelue

Water height >10 m

100% structures destroyed

100% of population  
survived

Oral history of 1907

tsunami - *smong*

Current activities:

building boats, gardening, fishing

Still dependent upon aid but normal village life has resumed

