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# **Earthquake Guard Mobile App**



# Natural Disasters

- I. Natural deadly disasters: Earthquake and Tsunami
  - A. Geophysics of earthquakes and tsunamis
    1. Short history of earthquake and tsunami
    2. How it works
    3. 2011 Mega thrust Tohoku earthquake and tsunami in Japan
    4. Japan's most advanced "The Early Warning System"



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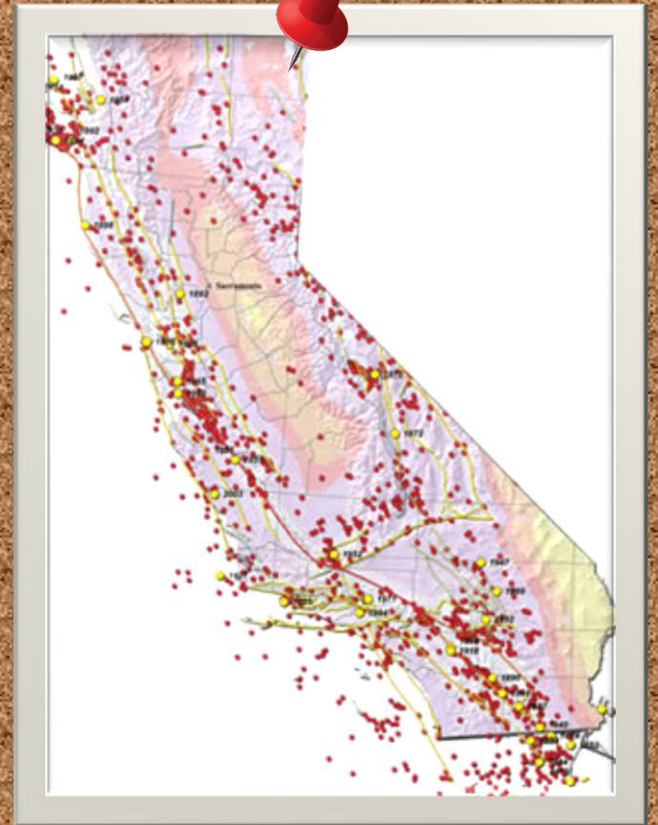
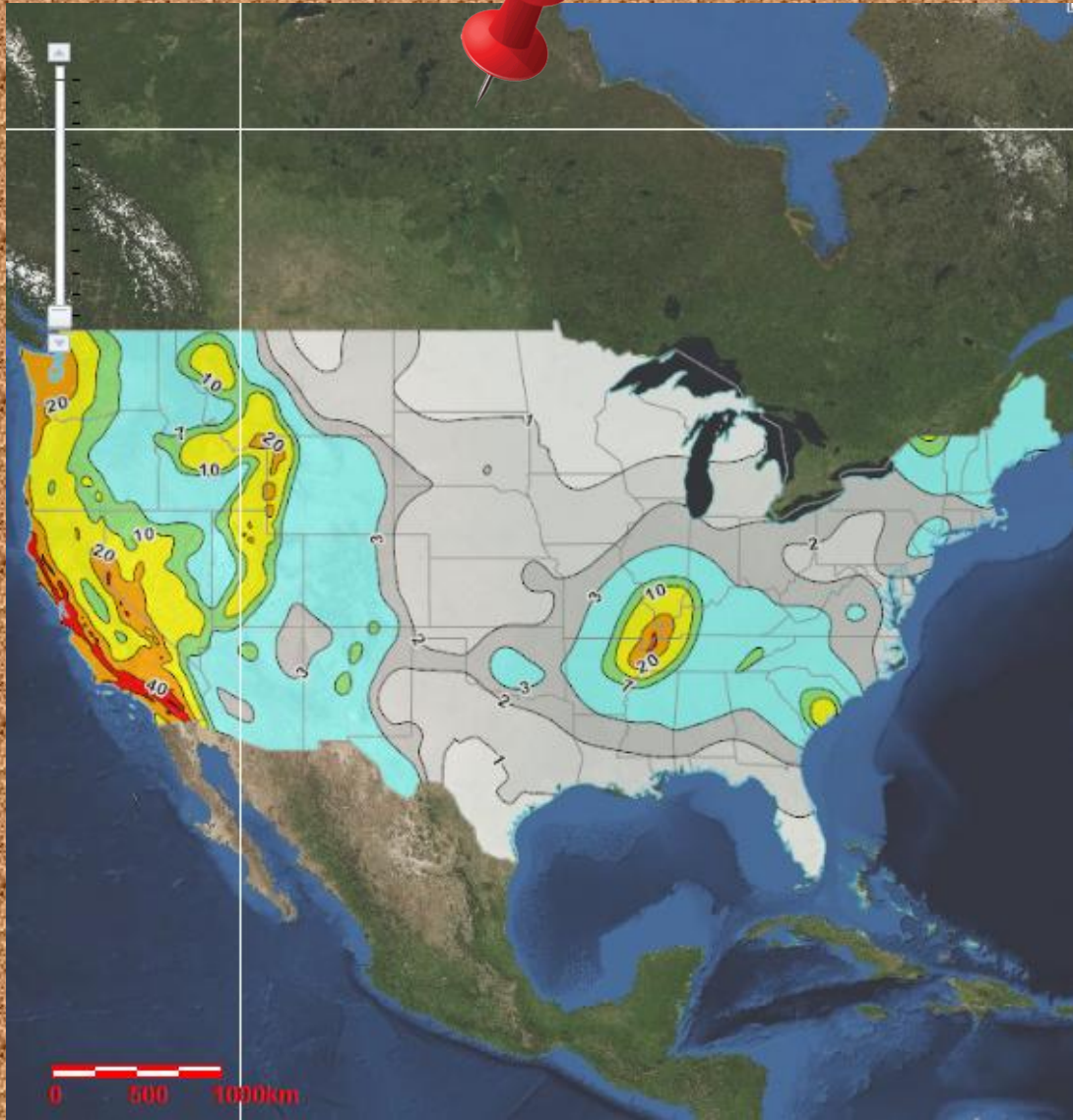


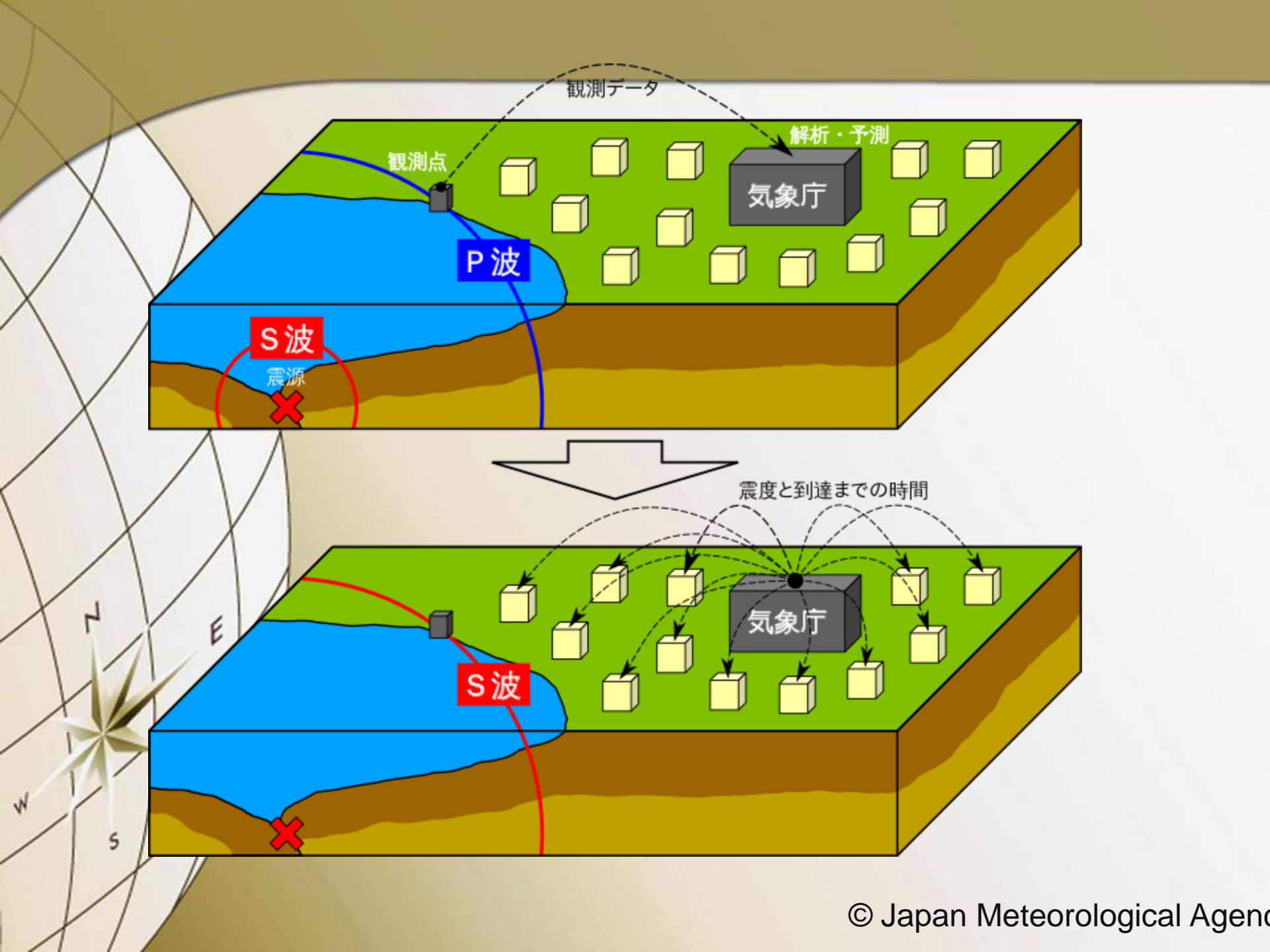


# Earthquakes in the U.S.

## II. Earthquake and Tsunami in the U.S.

- A. U.S. National Seismic Hazard Map (USGS)
- B. Significant risk states: Alaska, **California**, Washington, Oregon, Hawaii, Nevada, South Carolina
- C. Seismic (Earthquake) waves in the Earth
  1. Difference between S and P wave
  2. How P-wave can save our lives
  3. Relation between P-wave and Earthquake Guard App









# Earthquake Guard App

## III. Early Earthquake Warning System

- A. Short history and prevention methods for U.S. earthquakes
- B. 80 seconds vs. life or death
- C. Introducing Earthquake Guard App
  - A. Technology
  - B. Specifications
  - C. Costs



# Solutions and Impact

## IV. Solutions

- A. Emergency areas
- B. Educational facilities
- C. Medical facilities
- D. Government
- E. Business/industrial
- F. Residential
- G. Public transportation
- H. Water and gas utilities
- I. Hazardous oil pipelines





# Concluding Remarks

## V. Conclusions

A bold statement of USGS director and distinguished scientist Marcia McNutt to House Appropriations Committee

*“Japan was hit by a tragic and devastating 9.0 earthquake and tsunami, and shame on us if we do not learn from their misfortune. Japan is the most advanced nation in terms of seismic hazard, and their earthquake early warning system saved thousands of lives.”*