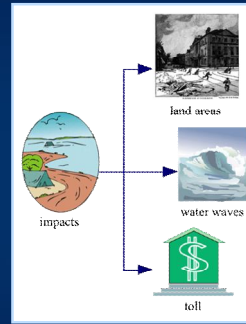


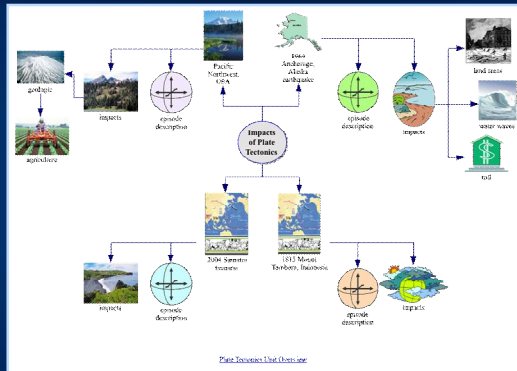
Impacts of Plate Tectonics

Impact of Alaskan Earthquake



- Land areas
 - ⊙ Damage to 129,000 km
 - ⊙ 30 city blocks damaged or destroyed
- Water waves
 - ⊙ 67m tsunami waves near Valdez, AK
- Toll
 - ⊙ 15 earthquake deaths
 - ⊙ \$311M in property damage

Impacts of Plate Tectonics



2004 Sumatra tsunami

- Details
 - ⊙ December 26, 2004
 - ⊙ Deadliest tsunami in recorded history
 - ⊙ India plate subducted below the Burma plate
 - ⊙ Generated waves traveled 8000 km
- Impacts
 - ⊙ 283,000 reported deaths in 10 countries
 - ⊙ Destruction of shorelines, property and roadways
 - ⊙ 2/3 fishing fleets were destroyed

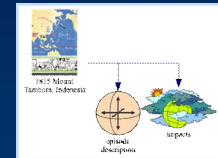
1964 Anchorage, Alaska Earthquake

- March 27, 1964
- Pacific Plate sinks below the North American plate along the Aleutian Trench
 - ⊙ Vibration created one of the world's largest earthquakes
 - ⊙ Magnitude of 9.0
 - ⊙ Lasted 6 seconds
 - ⊙ Ground shook for up to 5 minutes



1815 Mount Tambora, Indonesia

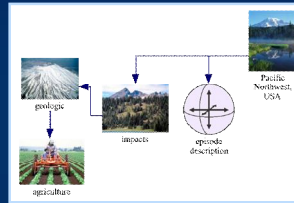
- Details
 - ⊙ April 5, 1815
 - ⊙ 1/3 of volcano blown away
 - ⊙ most powerful cataclysmic eruption in recorded history
 - ⊙ 3 days of darkness



- Impacts
 - ⊙ "A year without summer"
 - ⊙ impacted food supply
 - ⊙ killed 12,000 initially then 80,000 from famine and disease

Pacific Northwest, USA

- *Juan de Fuca plate*
 - *Cascadia subduction zone*
 - *deformed mountains*
- *Mt. Saint Helens*
- *Mt. Rainier*
- *Mt. Hood*
 - *all products of upwelling magma from subducting plate*



Pacific Northwest Impacts

- *Geologic*
 - *Development of Cascade Range*
 - *volcanic eruption episodes*
 - *potentially dangerous earthquakes*
- *Agriculture*
 - *fertile soils from decomposing volcanic rock*
 - *support a thriving agricultural industry*