

Thurs 5-12-11 Day 5

- 1) seismology notes
- 2) tomorrow we find earthquake epicenters

HW: Review notes

Final will be on Friday June 3, 2011

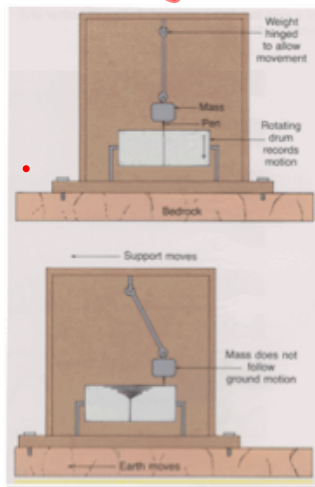
Earthquakes and the Earth's Interior

Seismology - study of faults

Earthquakes are a result of movement along faults. Stored energy when released

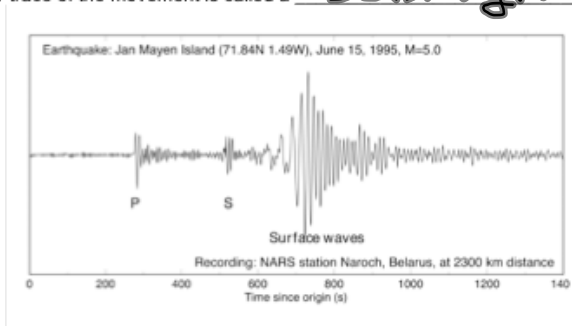
causes vibrations called seismic waves. These waves are detected by an

instrument called a seismograph



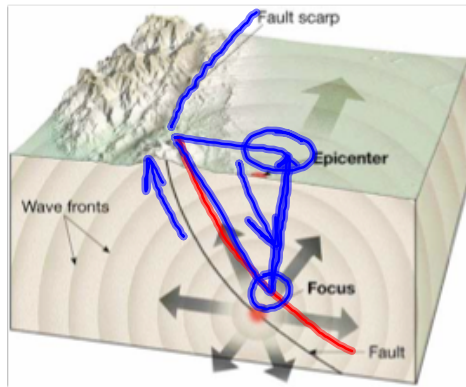
geo.mtu.edu

The paper trace of the movement is called a seismogram



chuma.cas.usf.edu

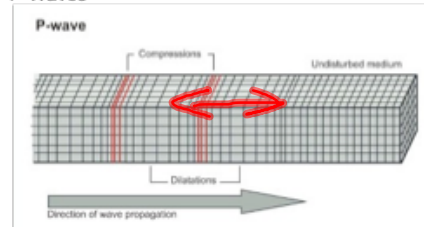
The point of origin of the earthquake is called the focus
The point on the Earth surface directly above this point is called the epicenter



media.hcpss.org

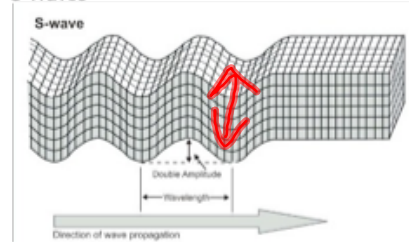
Earthquake (Seismic Waves)

P-Waves



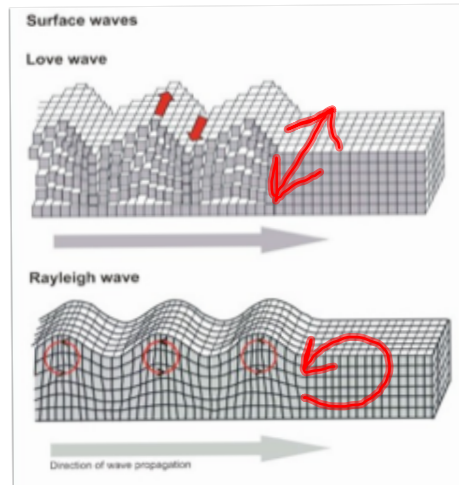
Notes
primary - arrive 1st
fastest
compressional waves
solid + liquids

S-Waves



Secondary waves
slower
transverse
only travel in solids

Notes



- slowest
- do most damage

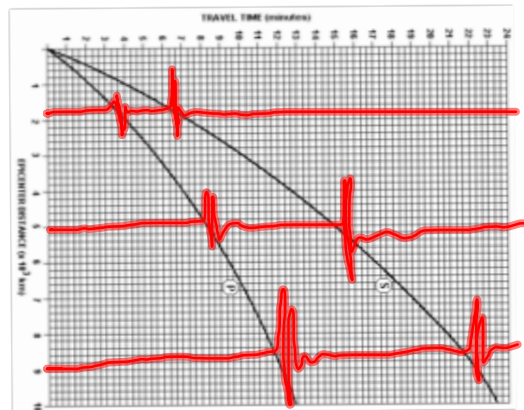
Lag Time

The time between arrival of the P-wave and arrival of the S-waves
The longer the time, the greater the distance to the epicenter

Seismographs

↓
increasing
distance
from epicenter

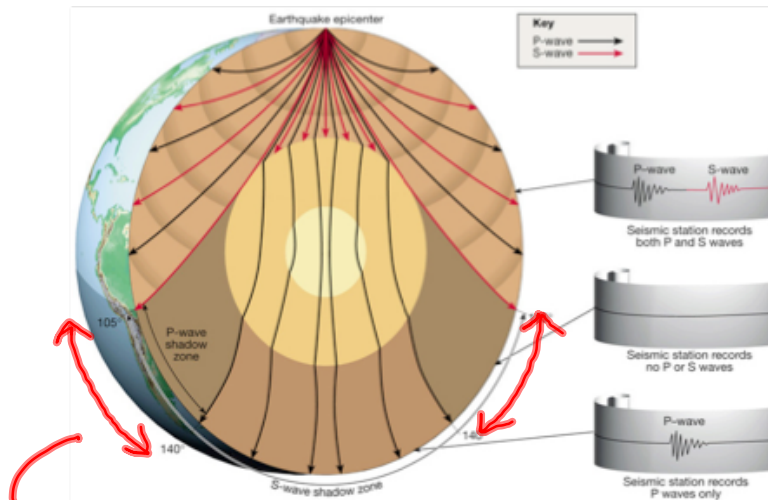
- ①
- ②
- ③



Triangulation – one can locate the epicenter of an earthquake if you know the distance from at least 3 seismographs.



Shadow Zone – zone between 105° and 140° away from the epicenter where no P-waves or S-waves are received. This is indirect evidence for the size and composition of the earth's core.



no P-waves!
no S-waves!