## SIO 15 LECTURE 07: EARTHQUAKE SEISMOLOGY

Leftovers from Lecture 6

Liquefaction

**Mud Volcanoes** 

see short video 6a

**Earthquakes and other Disasters** 

see short video 6b

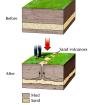




FIGURE 10.25

ME 10.25 Earth Control of a Planet, 2nd 1 Copyright (c) W.W. Norton & Comp

## The 4 Types of Seismic Waves

see short video 7

P waves S waves

Love waves

Rayleigh waves

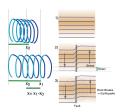
The Phases in a Seismogram

Locating an Earthquake see short video 7

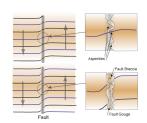


**Earthquake Physics** 

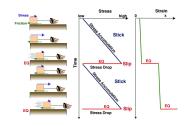
Stress and Strain

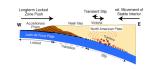


Asperities and Friction



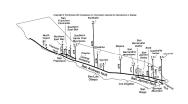
Stick-slip Behavior



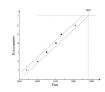


## **Earthquake Monitoring and Prediction**

EQ probabilities at the SAF



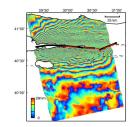
EQ Prediction and Parkfield (the seismic gap method)



Earthquake Triggering

Rupture Propagation Forecast

InSAR, GPS and aseimic movement along a fault



## **Hazard Assessment and Mitigation**

