University of Colorado Boulder

Welcome to Earthquake Engineering

EERI

February 25, 2017

What is Structural Engineering?

Building structures…

with respect for forces of nature

What are these forces?

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- Water
- Soil
- Wind
- Seismic

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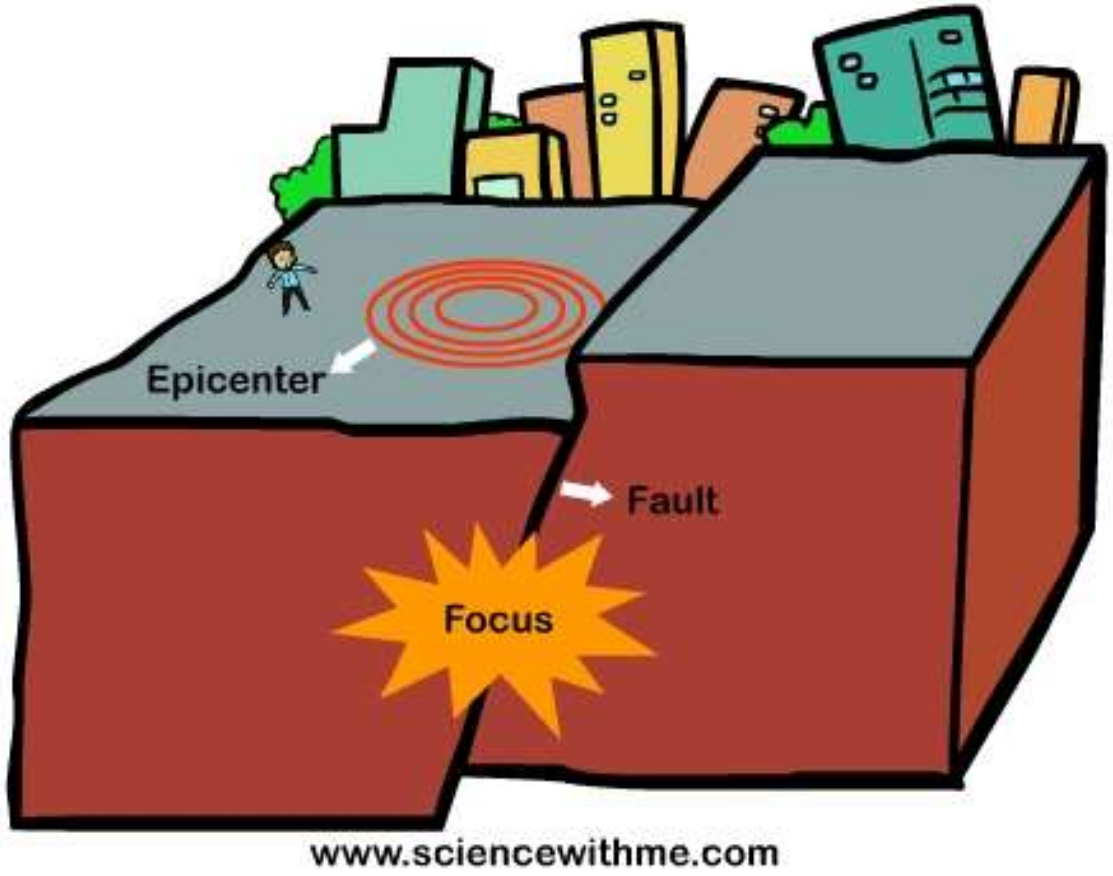
What is an Earthquake?



Why Care About Earthquakes?

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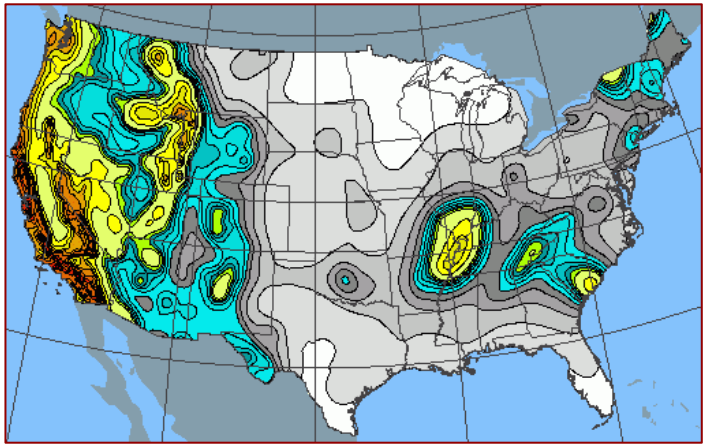
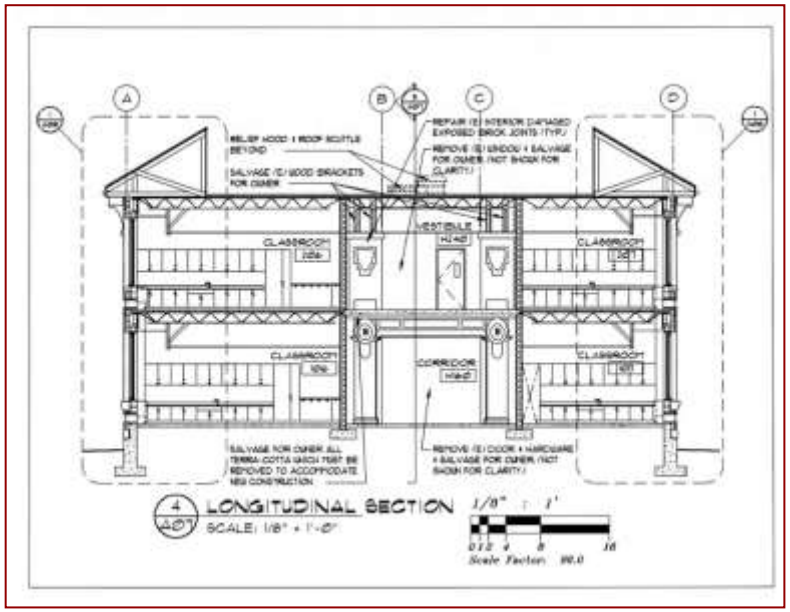
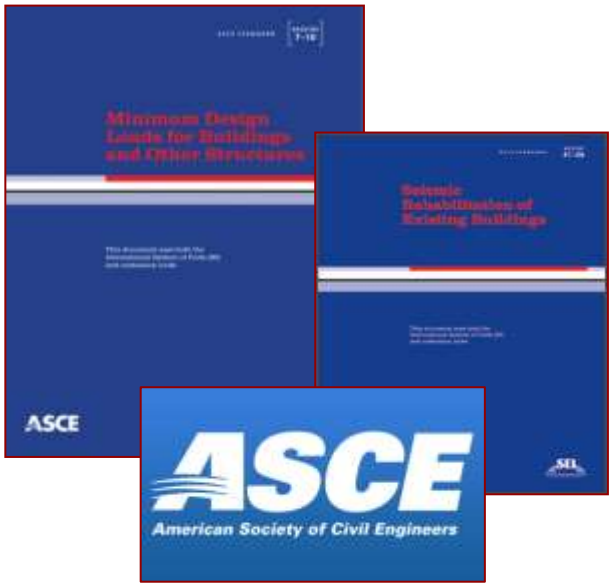
What Can We Do?







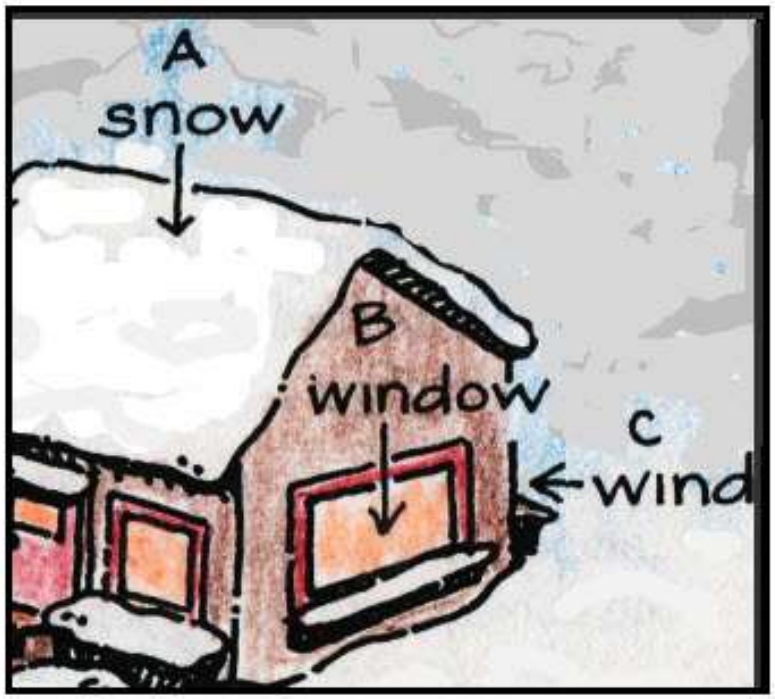
What Do We Need to Know?

STATICS

DYNAMICS

COST

SAFETY



How Will We Design Our Buildings?

Today's Activity

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Your Task:

Design a marshmallow building to perform well during a human-powered earthquake

Today's Activity

1. Client Needs
   - Minimum height = 12 inches
   - Floor area fits onto site plan
2. Aesthetic Appeal
   - Visually interesting
3. Static Performance
   - Resists gravity load
4. Dynamic Response
   - Resists earthquake load