

Overview of Earthquake Engineering



What's covered in this section:

- ❖ *Basic sources of damage*
- ❖ *Fundamental guidelines*
- ❖ *How building codes have evolved*
- ❖ *Current trends in earthquake engineering*
- ❖ *How CE 227 fits*

What's Next:

Design criteria, code formats, Is nonlinearity our friend?

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Review Sources of Damage

Damage caused by:

- ✓ Ground shaking
- ✓ Fault rupturing
- ✓ Liquefaction and soil movement
- ✓ Slope instability and landslides
- ✓ Tsunami and seiche
- ✓ Fire
- ✓ Flooding
- ✓ Interaction with adjacent structures (pounding)



We will look at effects of ground shaking in more detail later



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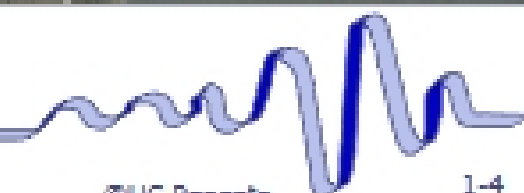
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Crescent City 11/15/06

Hilo, Hawaii following 1960 M 9.5 Chilean Earthquake (61 fatalities)



14-meter tall tsunami in 1946 resulting from M 7.8 Alaskan Earthquake caused 159 fatalities

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