GEOL 108 - Crises of a Planet
Lab 7 - Coastal Studies

Oct. 16 - 19, 2012
4. Do the following substances fit the definition of a mineral? If no, explain why not.
   - Pearl, ice, silver, granite

What is mineral luster?

**Bonus:** What recent Black Keys song has a mineral in its title and what’s the chemical formula of that mineral?

- Gold (Au) on The Ceiling

**LUSTER**
- Metallic
- Non-metallic
  - Glassy (vitreous)
  - Waxy
  - Silky
  - Greasy
  - Earthy (dull and powdery)
  - Pearly

Shiny ≠ metallic!
LAB 7 - Coastal Studies
SHORELINE EROSION

• Shoreline erosion depends on factors such as:
  – Rock type/hardness
  – Geometry of shoreline (e.g. lagoons are protected)
  – Wind direction, intensity, and currents
  – Vegetation cover

Left: Green sand beach in Hawaii
Right: South Point, just a couple km away
SHORELINE EROSION

Wave cut notches

Sea arches and stacks

Above: Wave cut notches in Hawaii.
Top right: sea stack formation
Lower right: Holei sea arch in Volcanoes National Park.
SHORELINE EROSION

- Erosion creates loose sediment

Above: Oblique wave action moves sediment along a shoreline. When the shoreline moves inland a sandbar known as a *spit* is formed. Curved spits are called *hooks*. 
SHORELINE DANGERS

• Hurricanes
  – Wind direction varies in different parts of the hurricane.
  – Storm surge more hazardous than high winds

• Tsunamis