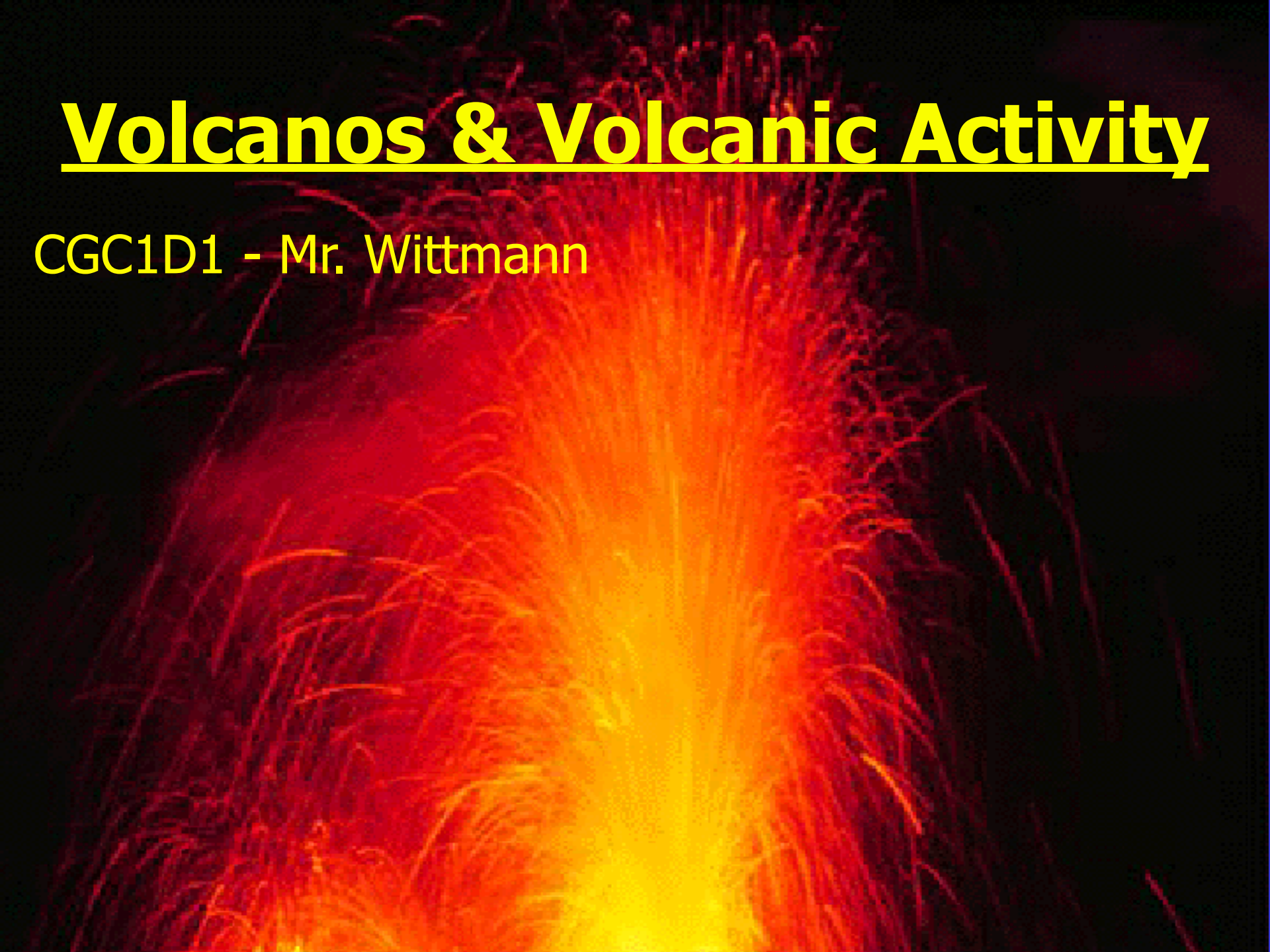


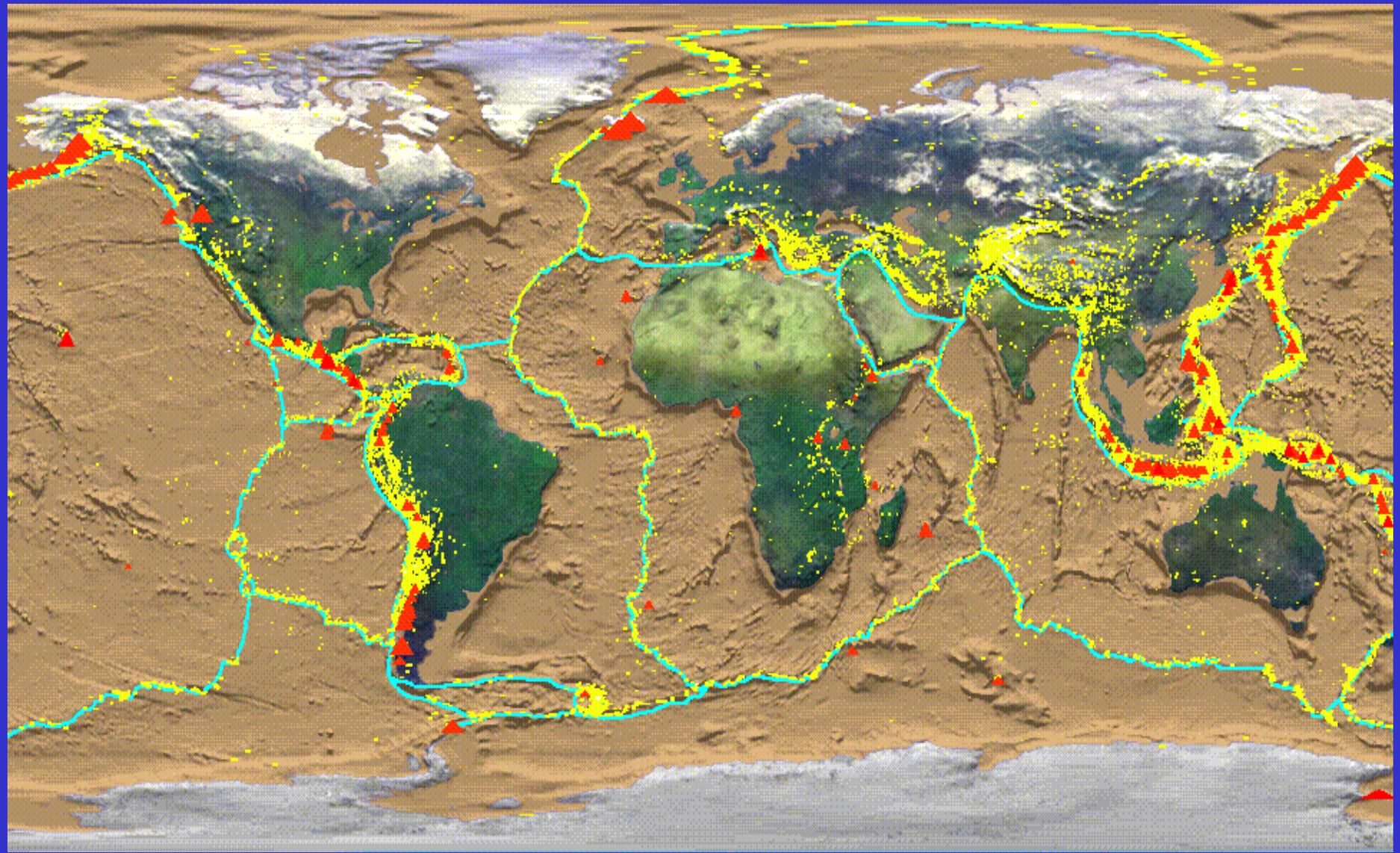
Volcanos & Volcanic Activity

CGC1D1 - Mr. Wittmann



The Geography of Volcanism

- Three major zones of volcanic activity
 - convergent plate boundaries
 - divergent plate boundaries
 - hot spots
- Volcanism primarily happens submarine.
 - over 50,000 in the Pacific ocean alone
 - thousands of volcanos are continental (600 active)



Volcano Classification

1. Active:

- has erupted in recent history
(Mt. Kilauea-HI, Mt. Etna-Italy)

2. Dormant:

- has not erupted in recent history, but shows evidence of past activity
(Mt. Mammoth-CA, Crater Lake-OR)

3. Extinct:

- no sign of recent or historic activity
(Mt. Kilimanjaro-East Africa)

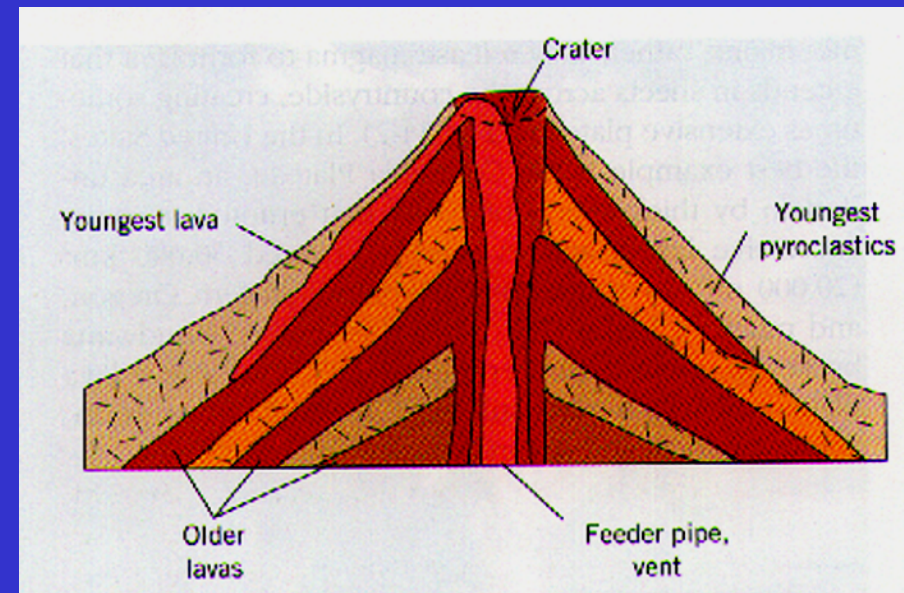
Volcano Types

- 1. Explosive Volcanos**
- 2. Effusive Volcanos**
- 3. Hot Spots Volcanos**

1. Explosive Volcanos

Composite cones (stratovolcano)

- pointed, steep-sided, tall volcanos
- “Composite”: layers of pyroclastics and lava
- Explosive and dangerous; found in subduction zones





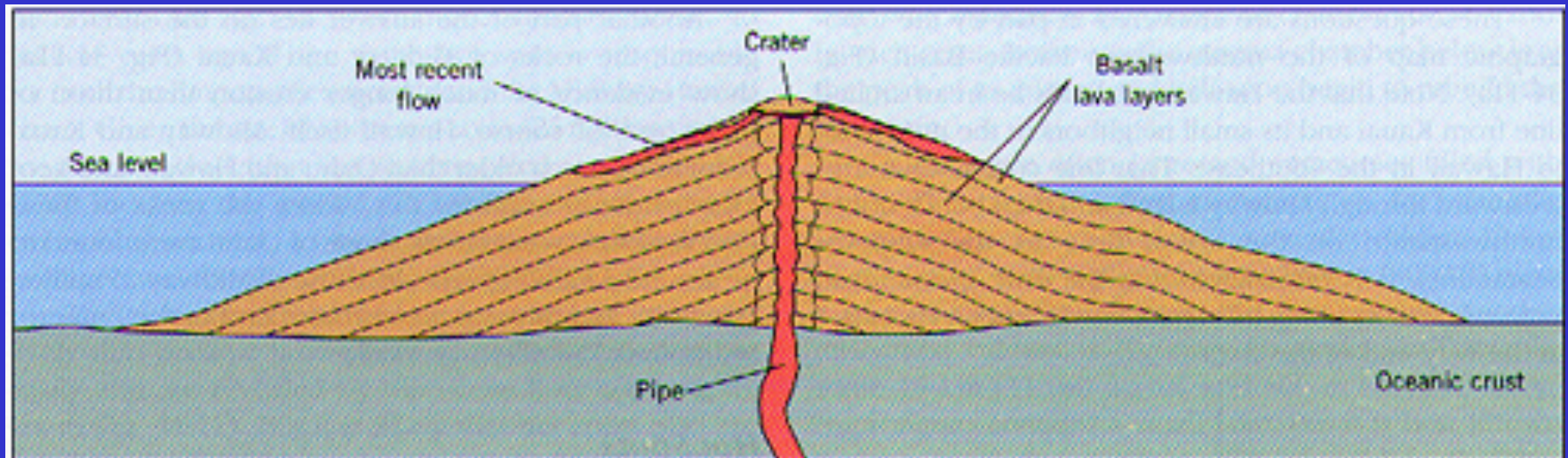


USGS Photo by Lyn Topinka, 1984

2. Effusive Volcanos

Shield volcanos

- large, rounded volcanos with a gentle slope
- one central vent, lower pressure
- flat terrain thus dome can not build up
- constructed by a series of basalt flows over time



Shield Volcano vs. Composite Volcano

Pacific Ocean
(19,000 feet deep)

Mauna Loa

Kilauea

Mount Rainier

120 miles

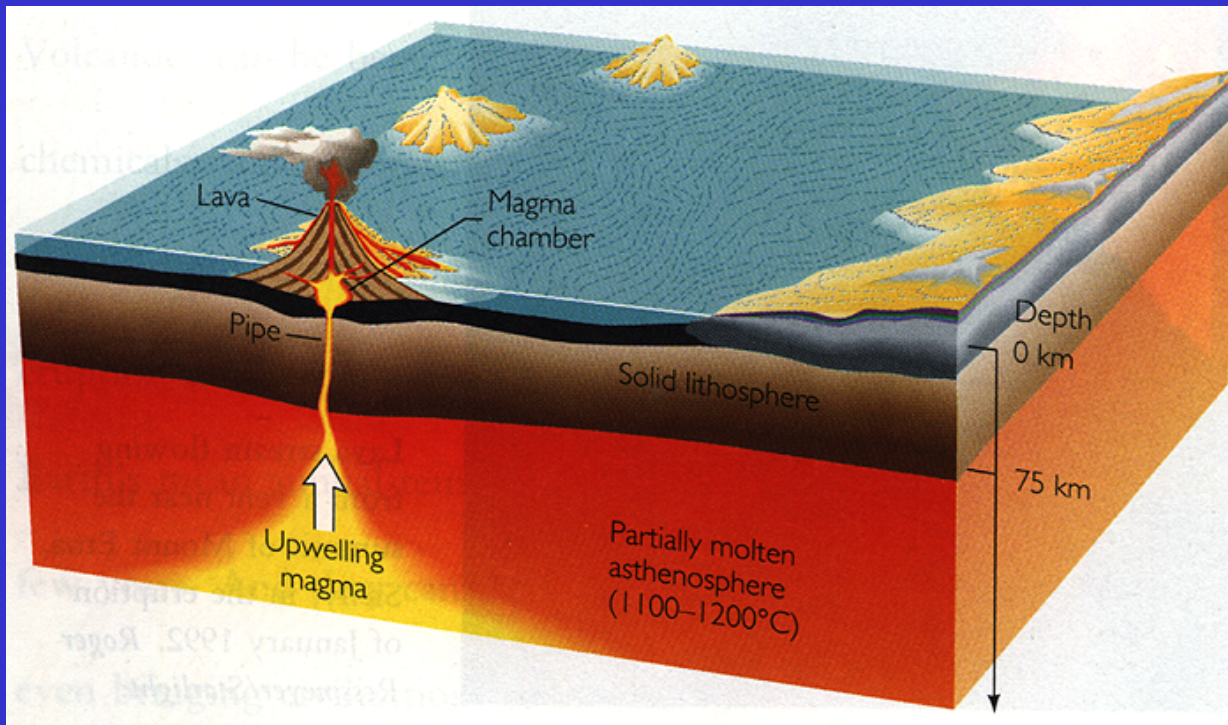


Profile of Hawaiian shield volcanoes (Mauna Loa and Kilauea) compared with the profile of Mount Rainier, one of the larger Cascade Range composite volcanoes, drawn at the same scale.

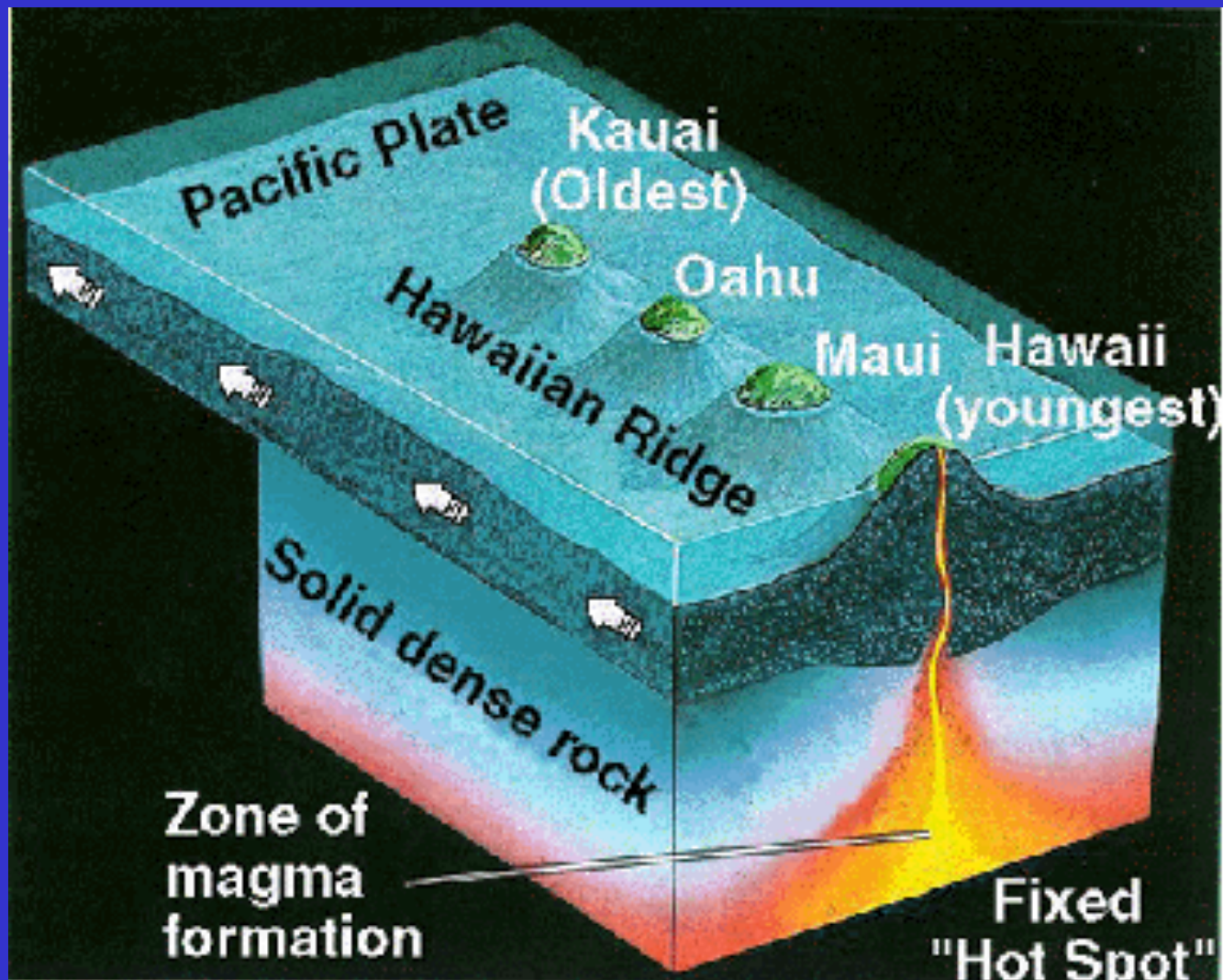
Topinka, USGSICVD, 1998, Modified from: Tilling, Heliker, and Wright, 1987, Eruptions of Hawaiian Volcanoes: Past, Present, and Future

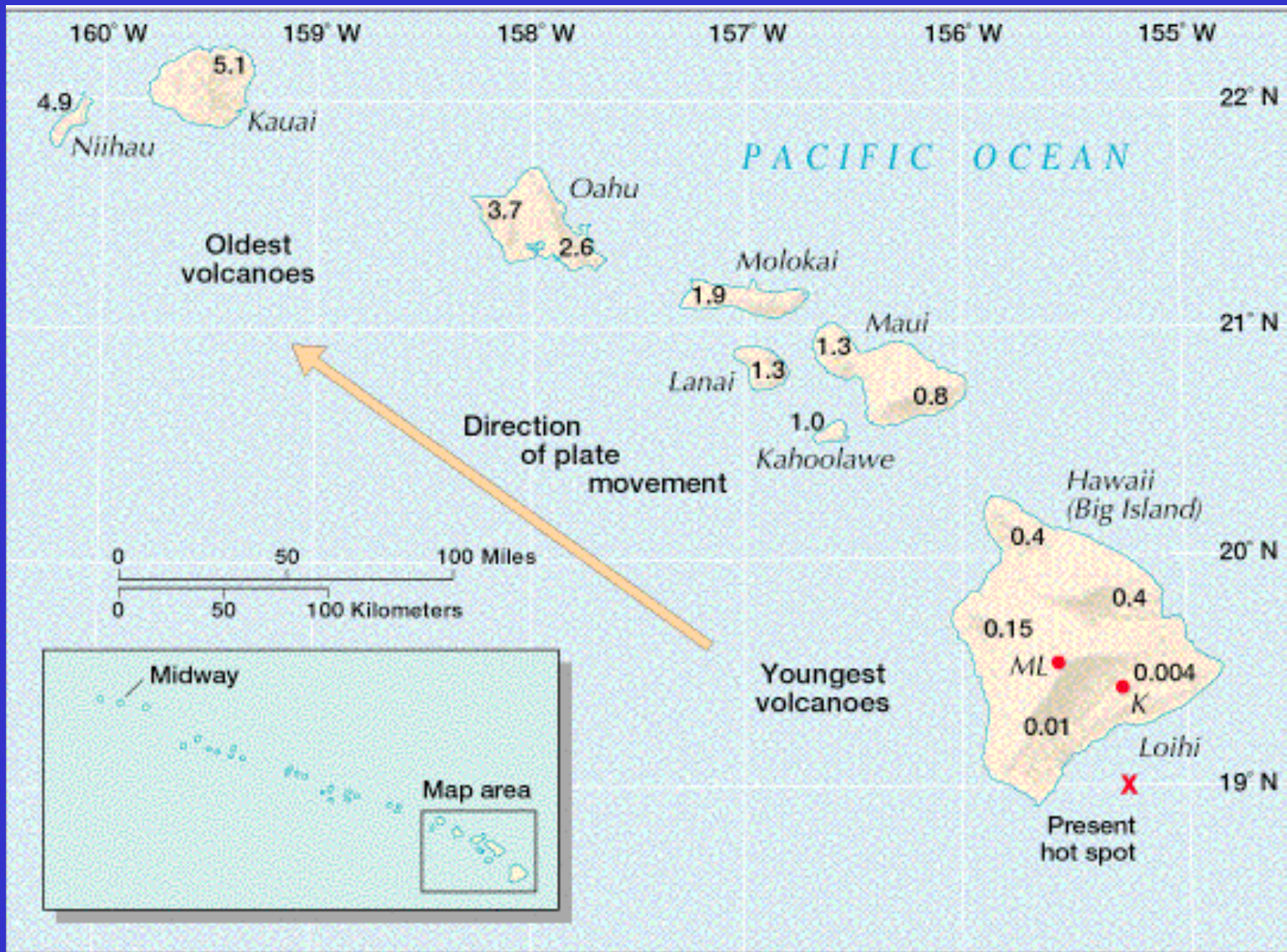
3. Hot Spots Volcanos

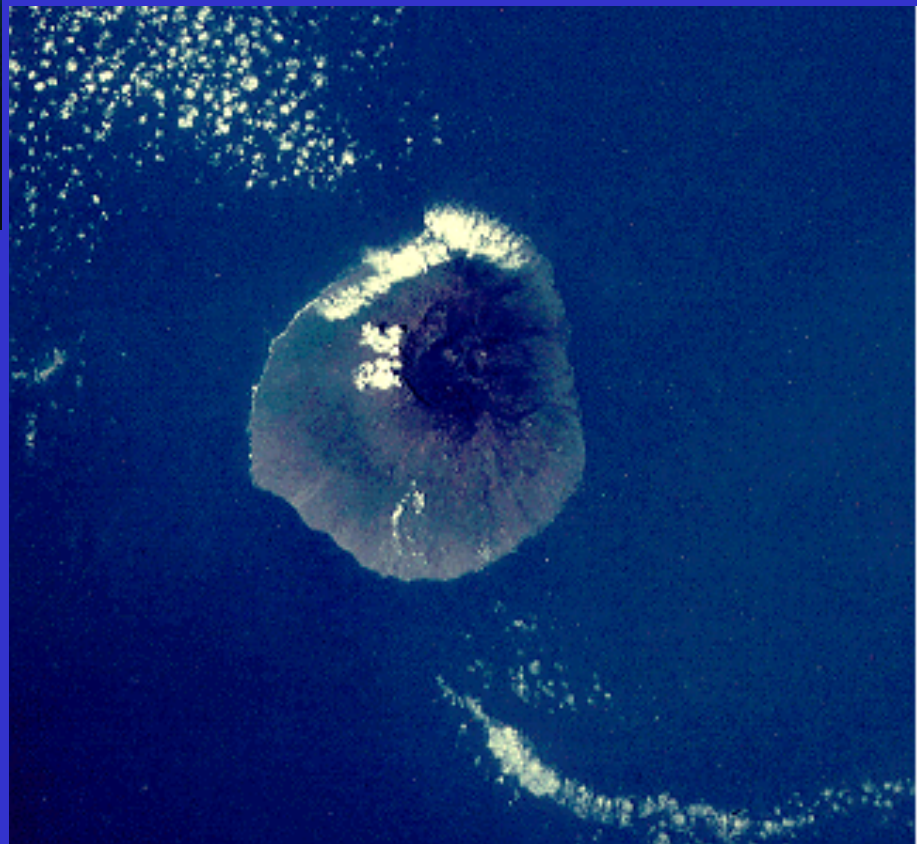
- Isolated columns of hot magma rising slowly within the asthenosphere (mantle).
- Melts overlying crust, “burning a hole through”
- Can be underneath continents or ocean plates.



Hot Spot Example: Hawaii









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THE END