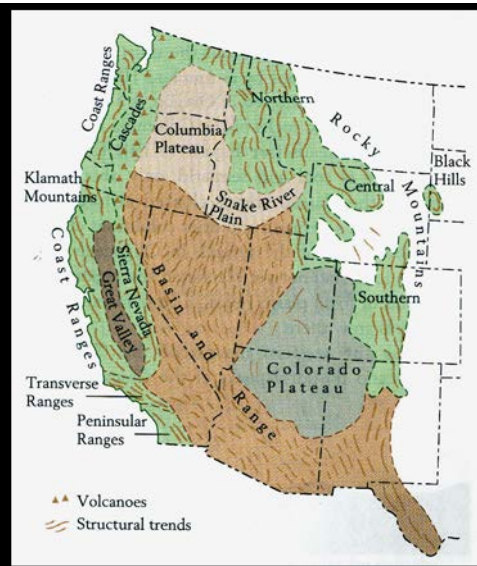


### Physiographic/ geologic provinces of the western U.S.

- Notes & images 04A in Files
- Textbook: Ch. 12, 14 & 1 (p. 5-7, 10-13)



1



### National parks in Cascades Range

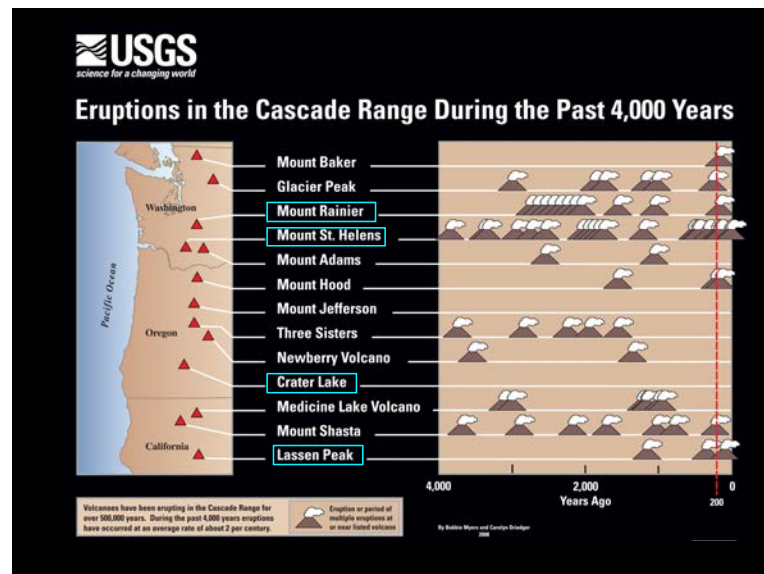
- North Cascades NP
- Mount Rainier NP
- Crater Lake NP
- Lassen Volcanic NP
- Mt. St. Helens NM

- ✧ geologically youthful
- ✧ glaciers
- ✧ 13 active volcanoes

2



3



4

### Plate tectonics and the origin of Cascades volcanism



global  
earthquake  
distribution

global  
volcano  
distribution



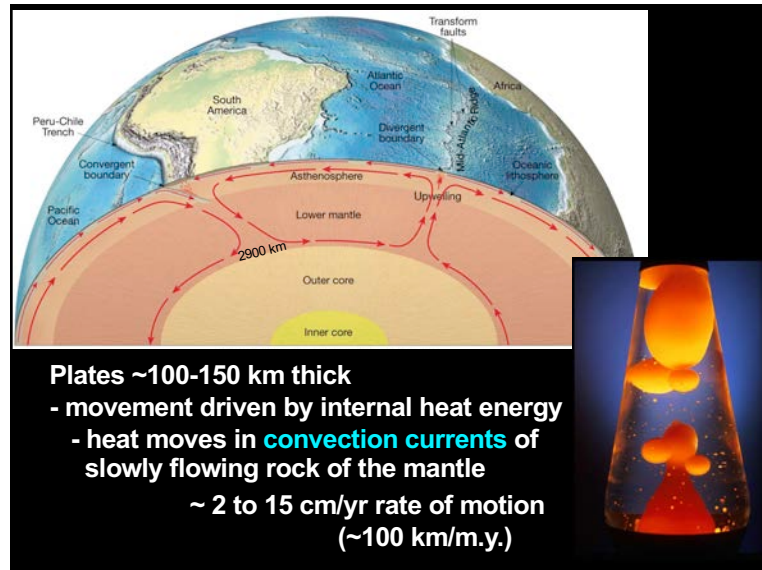
5

### Major tectonic plates



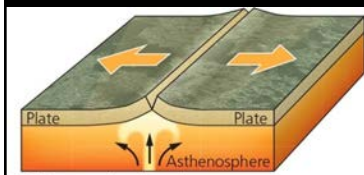
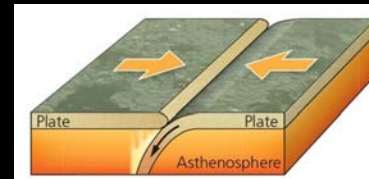
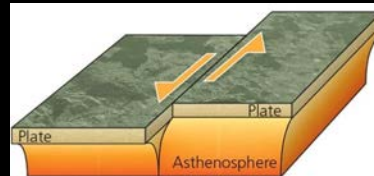
**plate** - shape of the moving sections of Earth's outer surface  
**tectonics** - large scale, long-term movement and deformation of Earth's outer surface  
**plate tectonics** - the continual creation, motion, and destruction of parts of Earth's active outer surface.

6



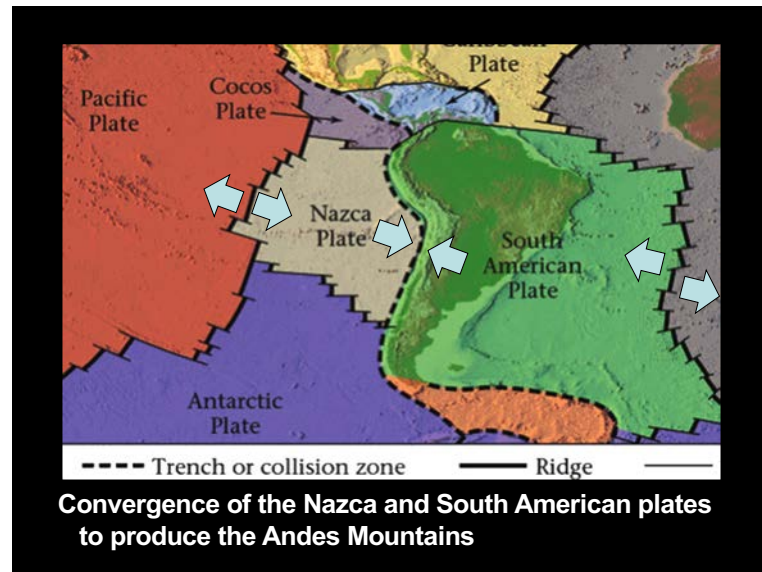
7

### Three types of plate tectonic boundaries (aka 'plate margins')

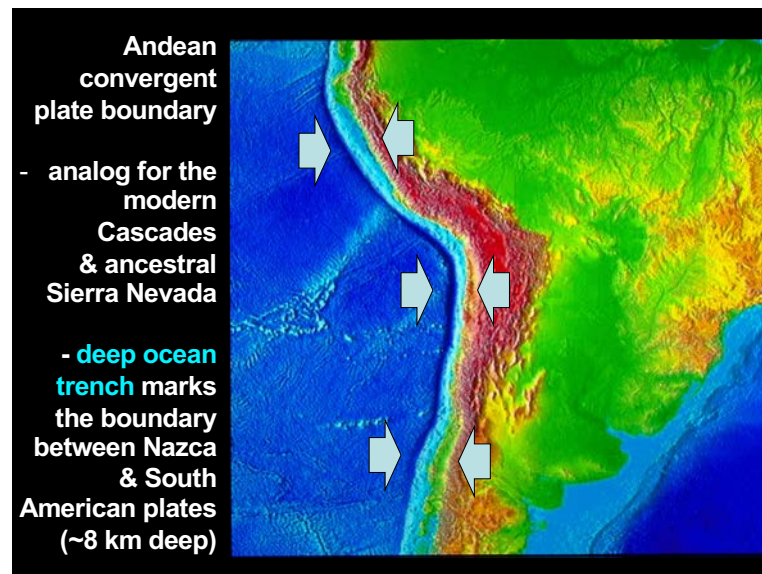
**divergent****convergent****transform**

8





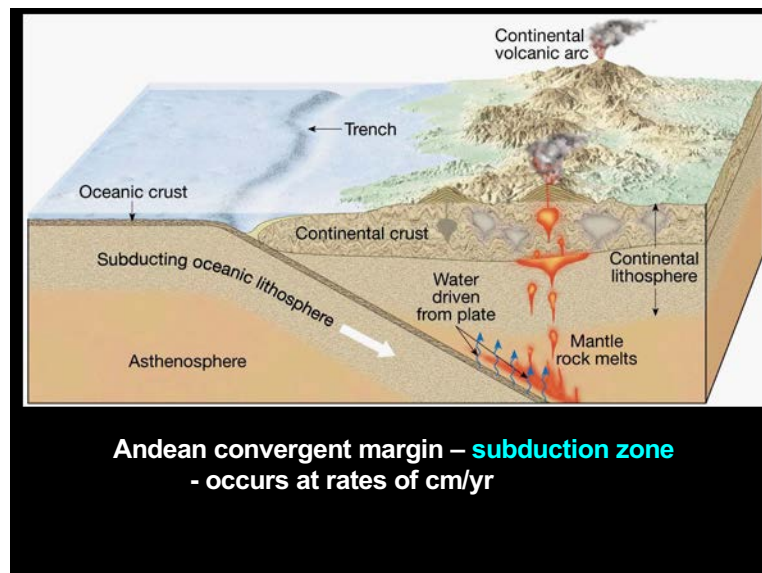
9



10



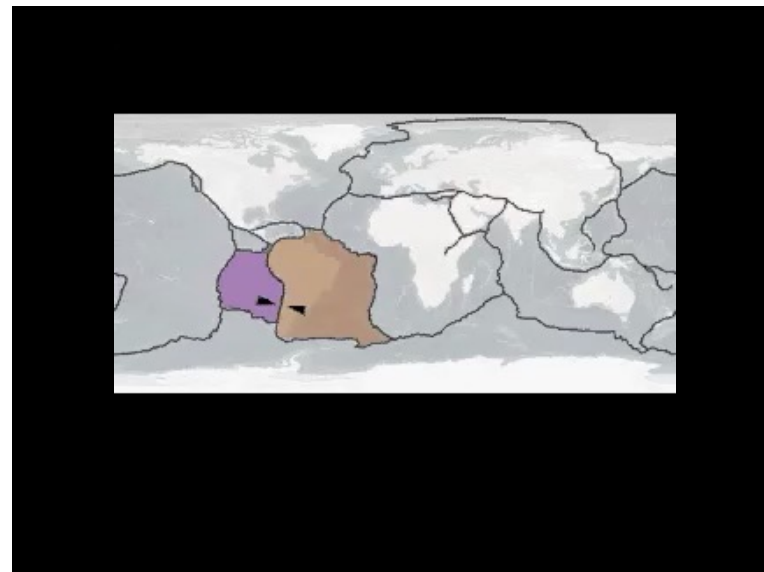
11



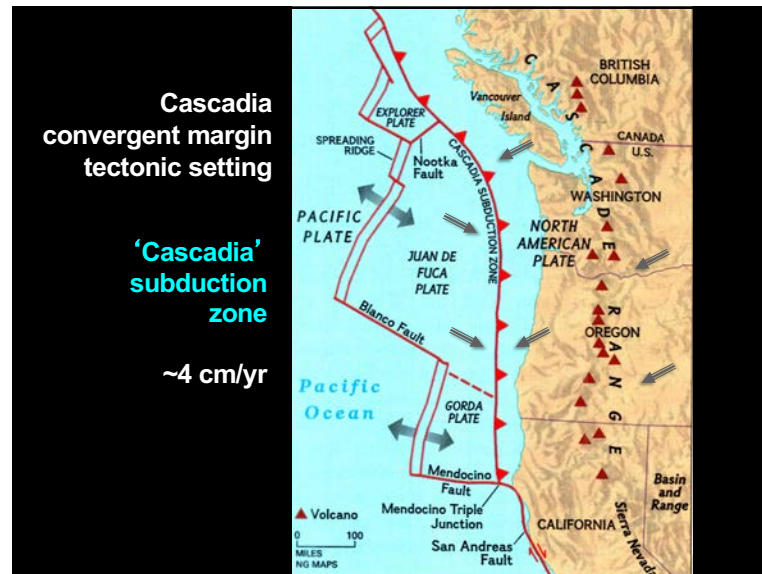
12



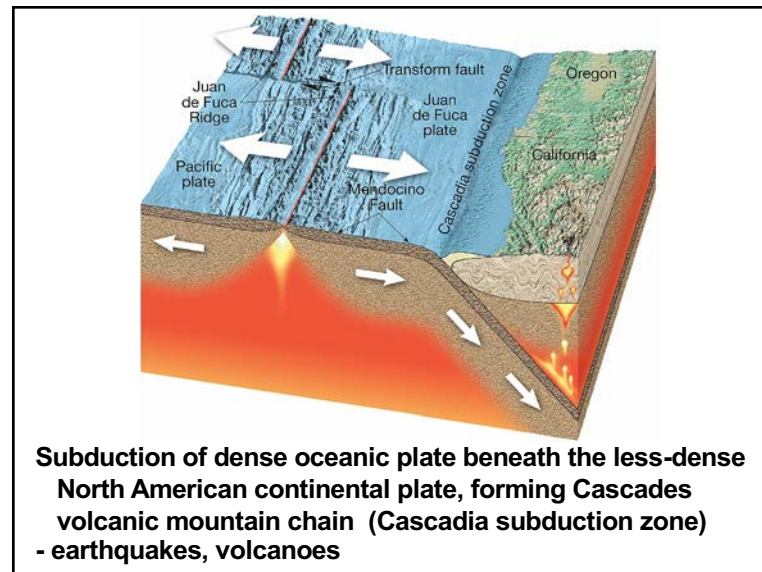
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14



15

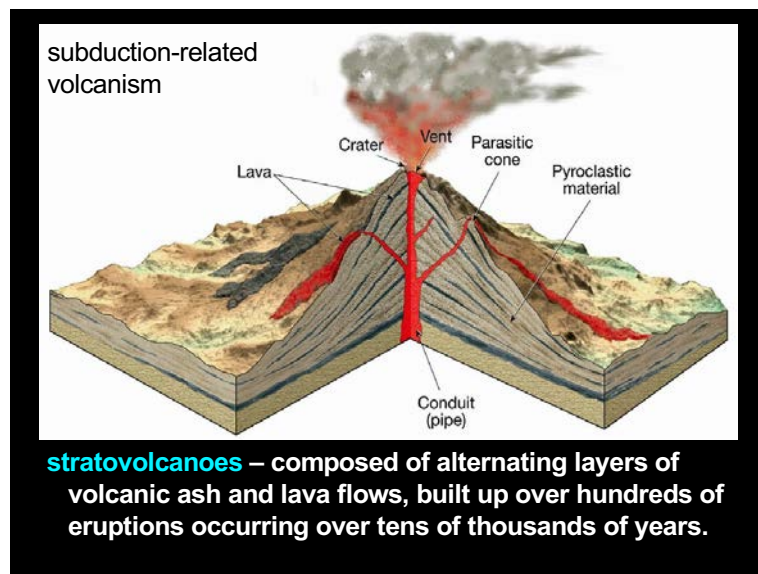


16

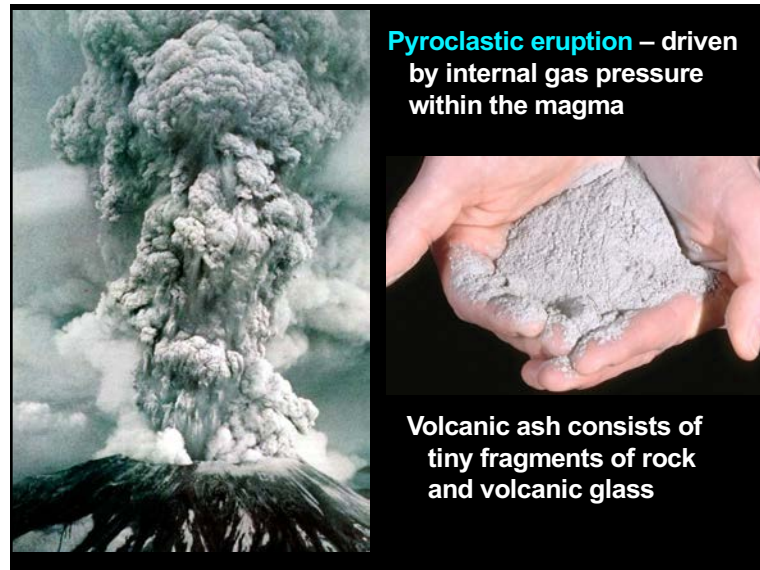




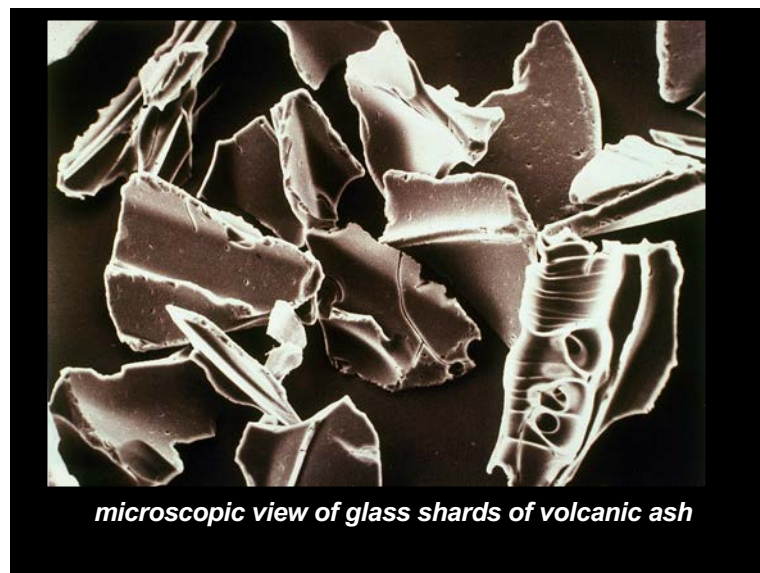
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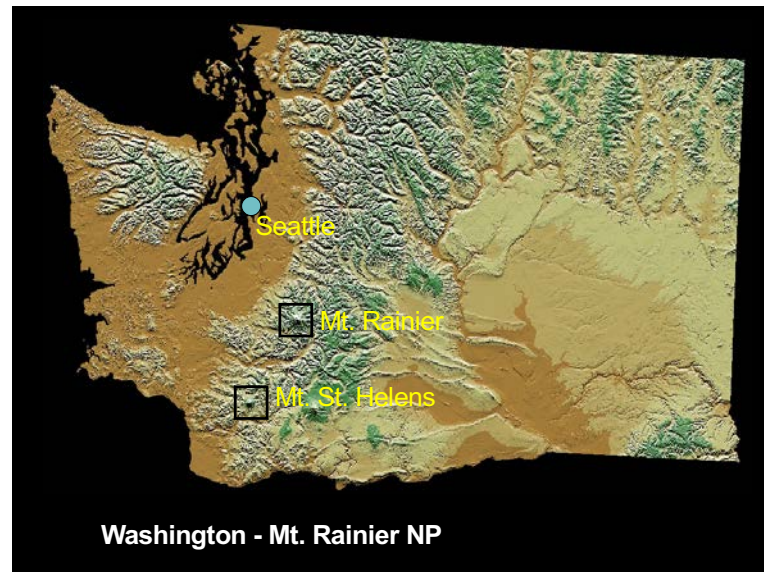
18



19



20



21



22



Stacked layers of hundreds of lava flows  
Mt. Rainier NP

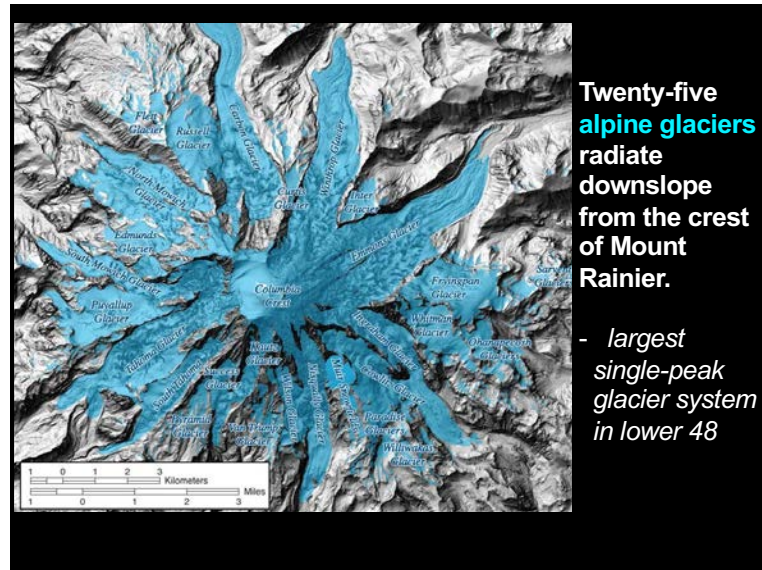
23



Snow- and ice-covered crest of Mount Rainier and the  
overlapping **summit craters** with their rims of exposed rock.

24



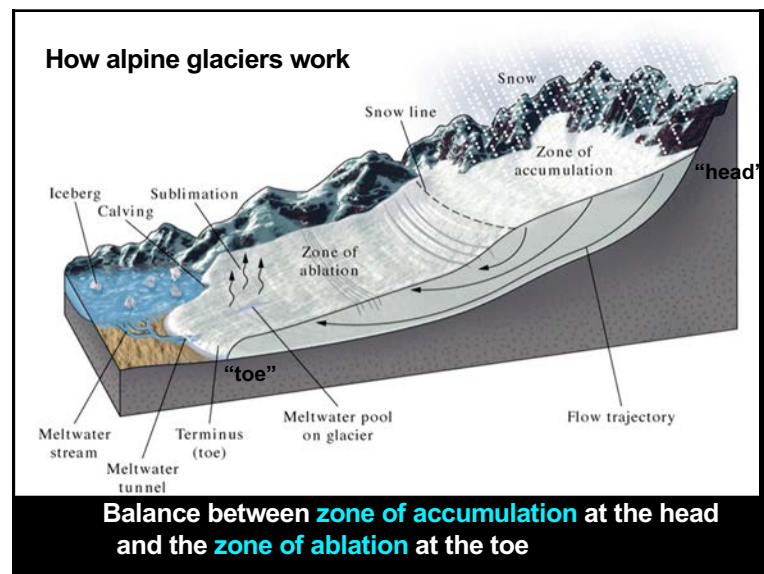


25

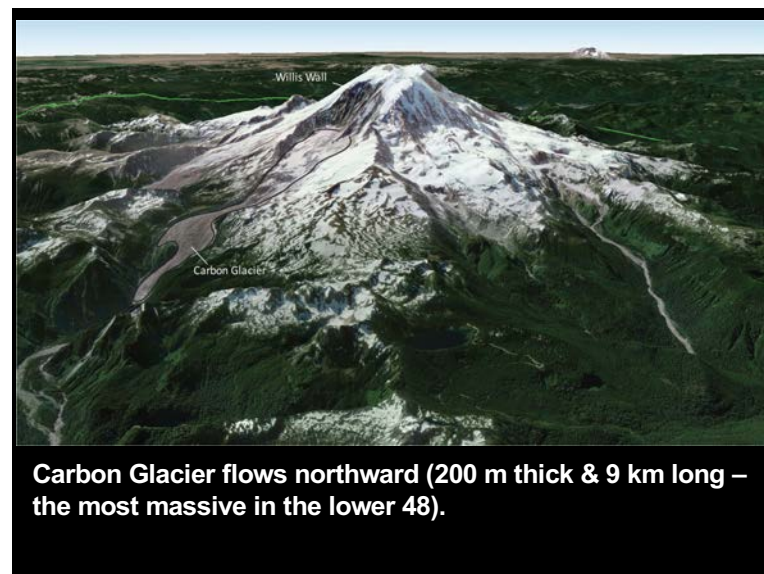


26





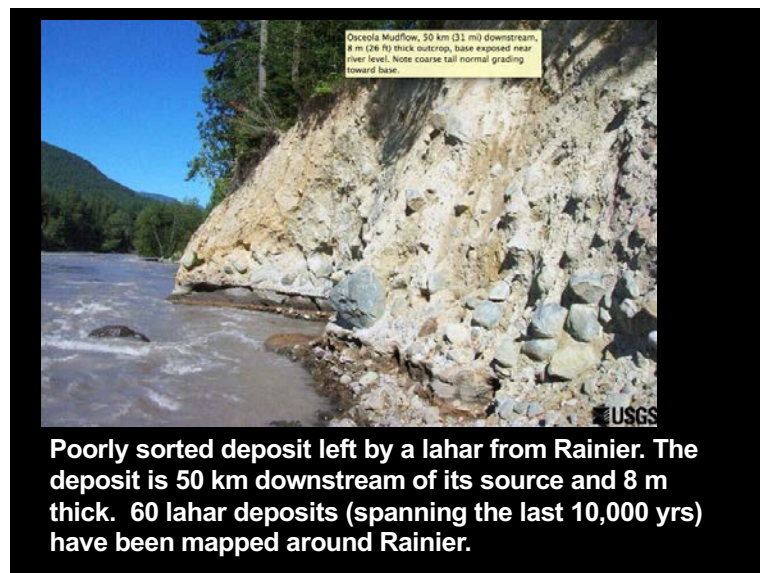
27



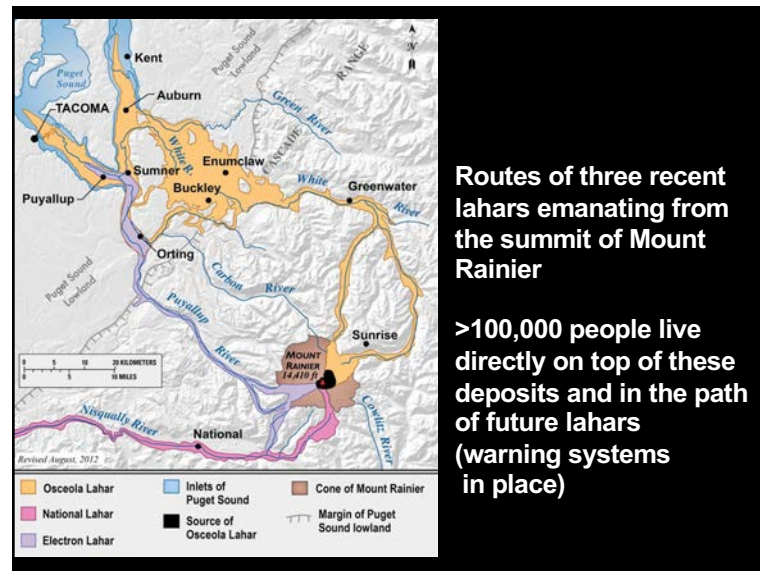
28



29



30



31



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