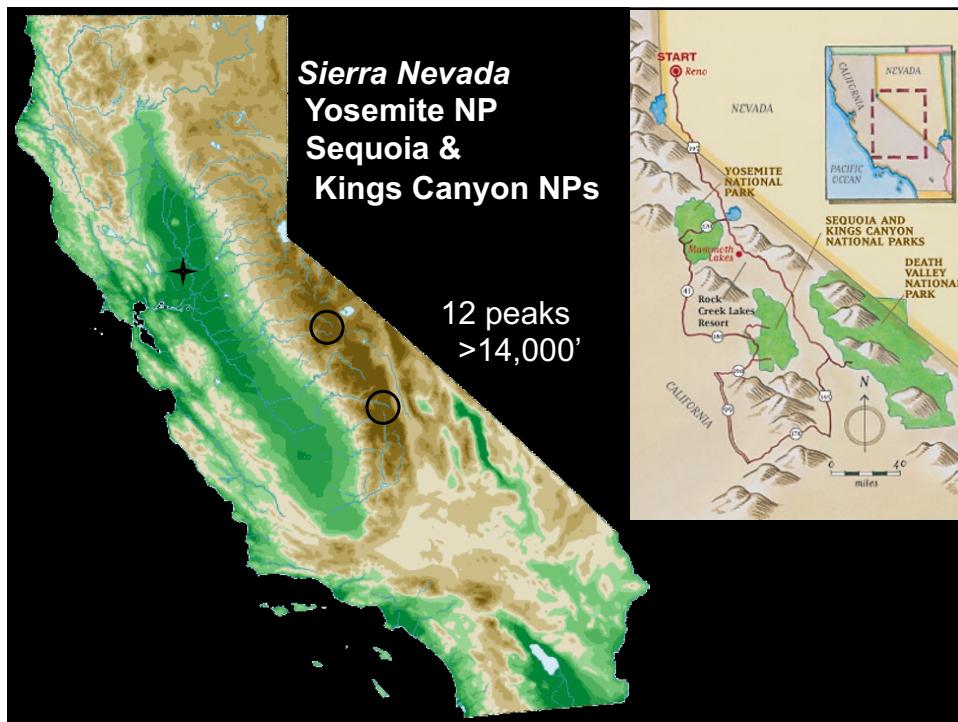
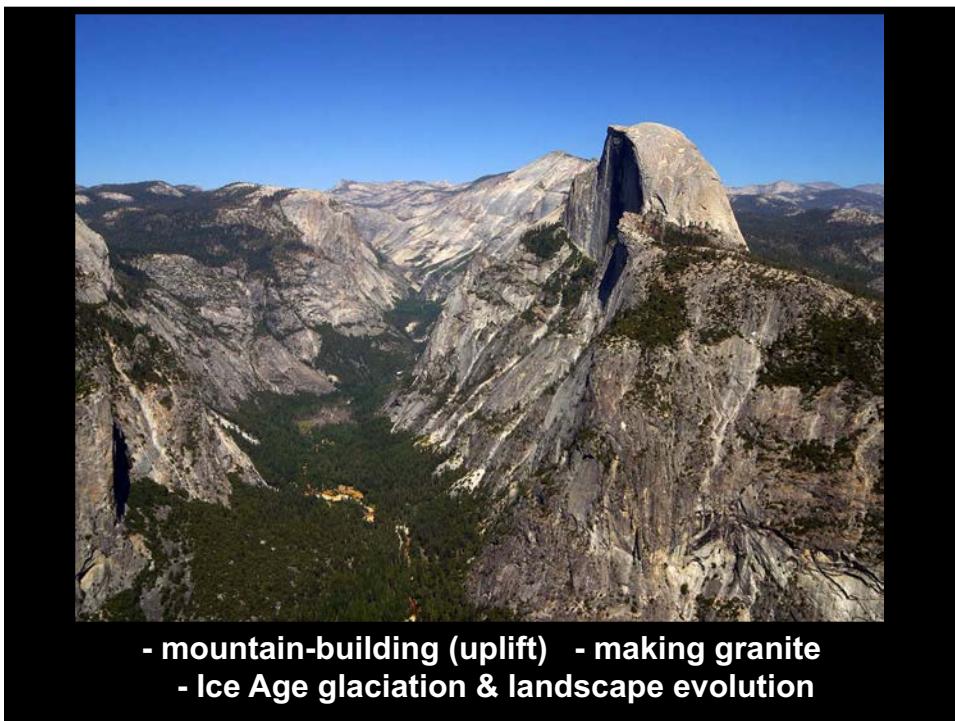


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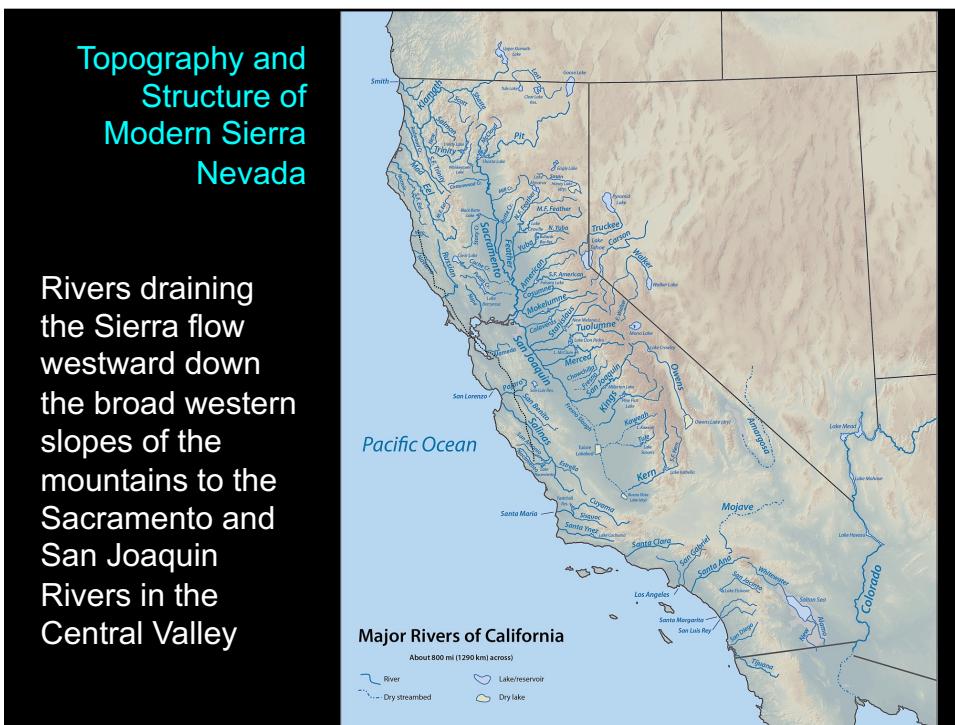
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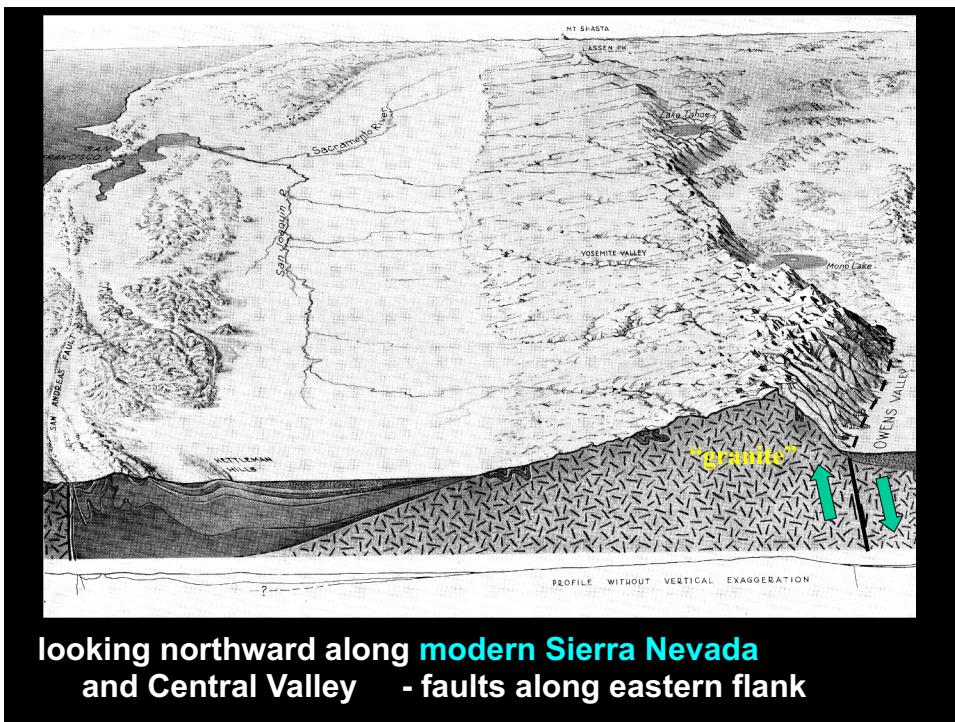
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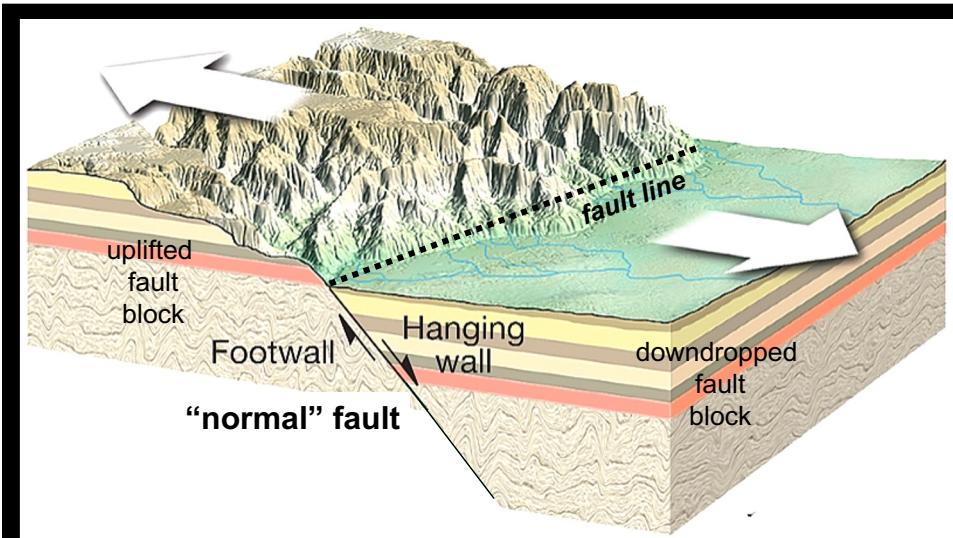
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6



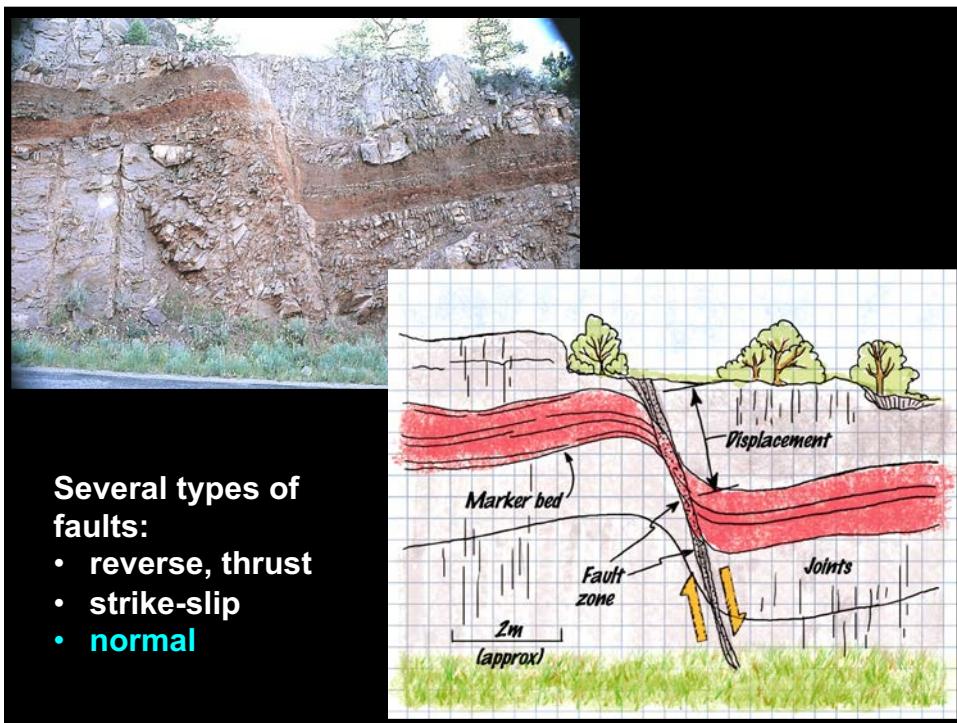
**Fault** = planar fracture within rock along which displacement has occurred. The block of rock on one side of the fault moves relative to the block of rock on the other side (up, down, laterally)  
- earthquakes are triggered when faults rupture

7

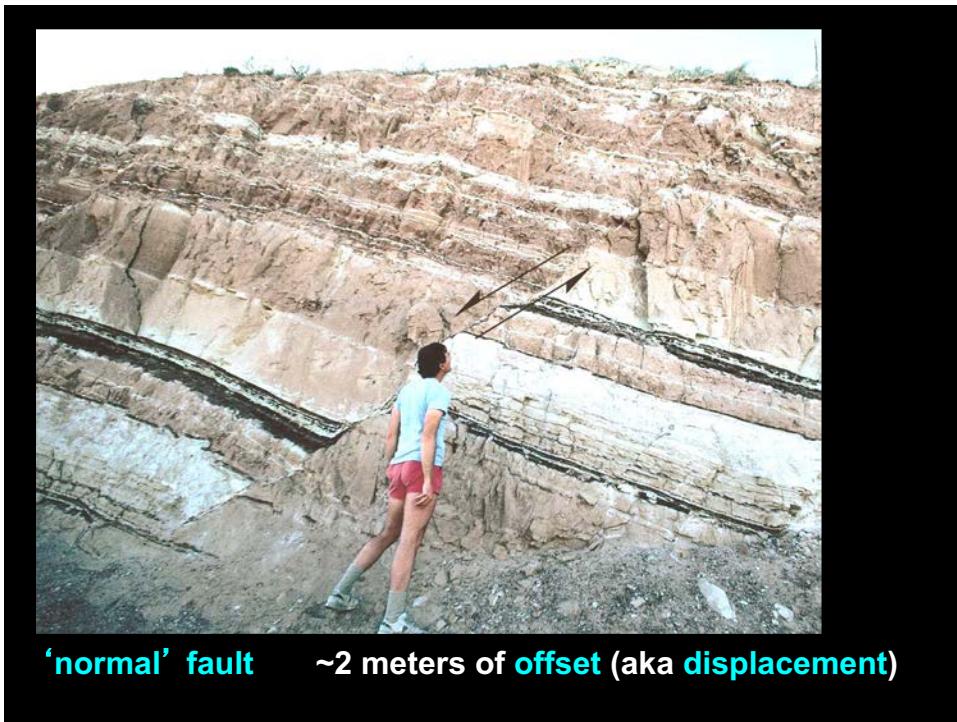


**normal fault** – body of rock on one side moves downward relative to the body of rock on the other side

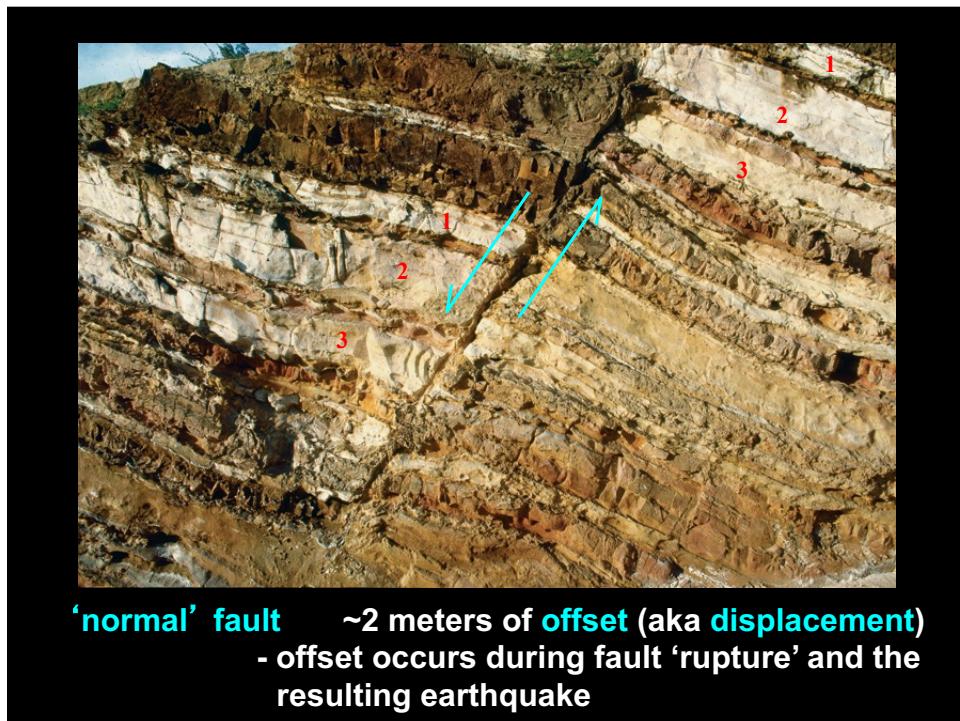
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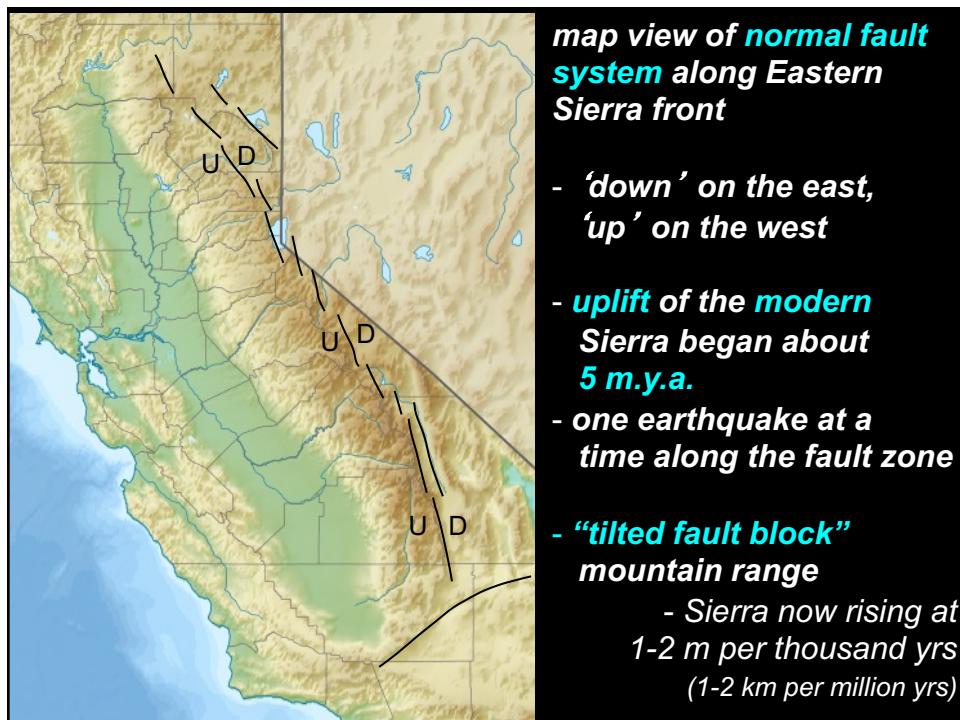
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10



11



12



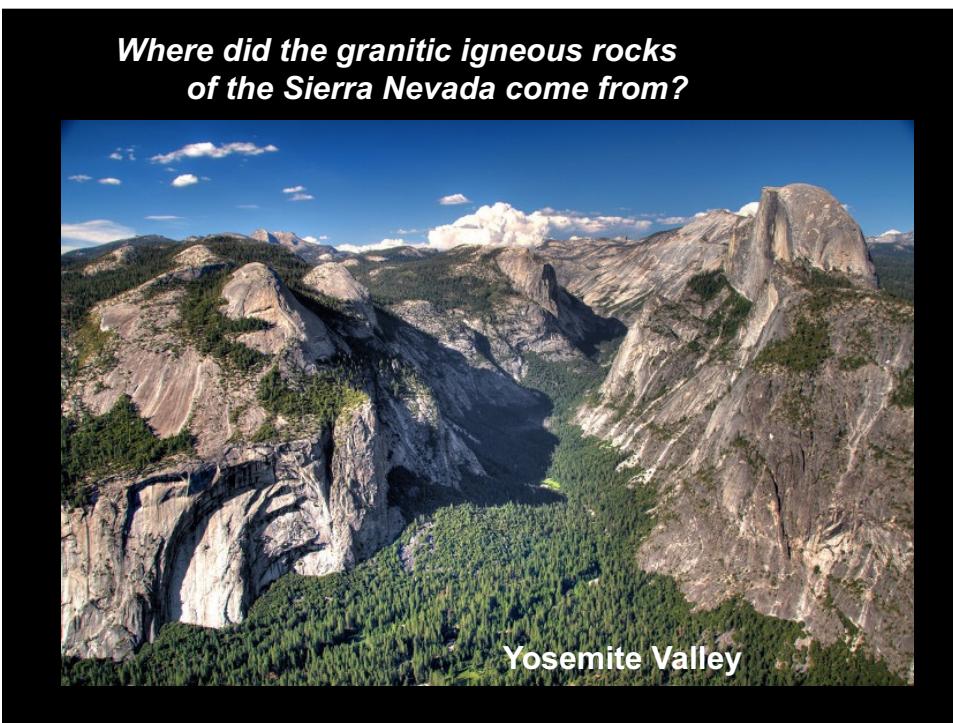
**Eastern Escarpment, Sierra Nevada, “normal” fault**  
- cumulative displacement of ~1-2 km occurring over thousands of earthquakes

13

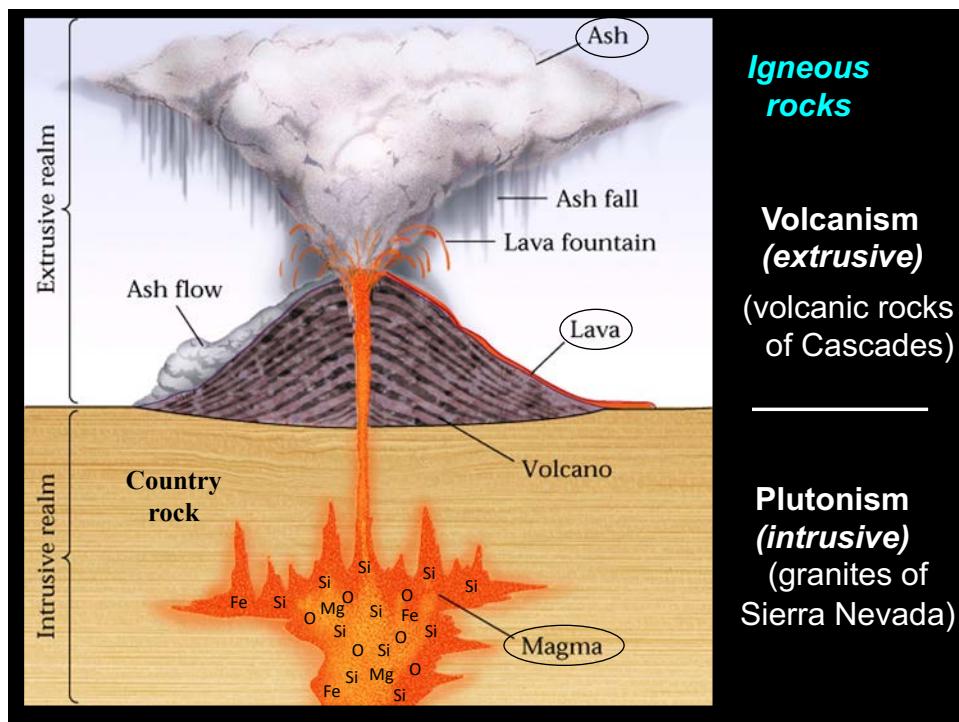


- Road trip on route 395 along east side Sierra Nevada
- Article in Files > Hikes and Articles on National Parks

14



15



16

**Intrusive rocks that crystallize in a magma chamber (plutonic igneous rocks) will show an interlocking mosaic of large mineral crystals**

elements  
↓  
**minerals**  
↓  
**rocks**

Granite (Rock)

Si  
O  
Mg  
Na  
Fe  
Al  
K  
Ca

Quartz (Mineral)  
Hornblende (Mineral)  
Feldspar (Mineral)

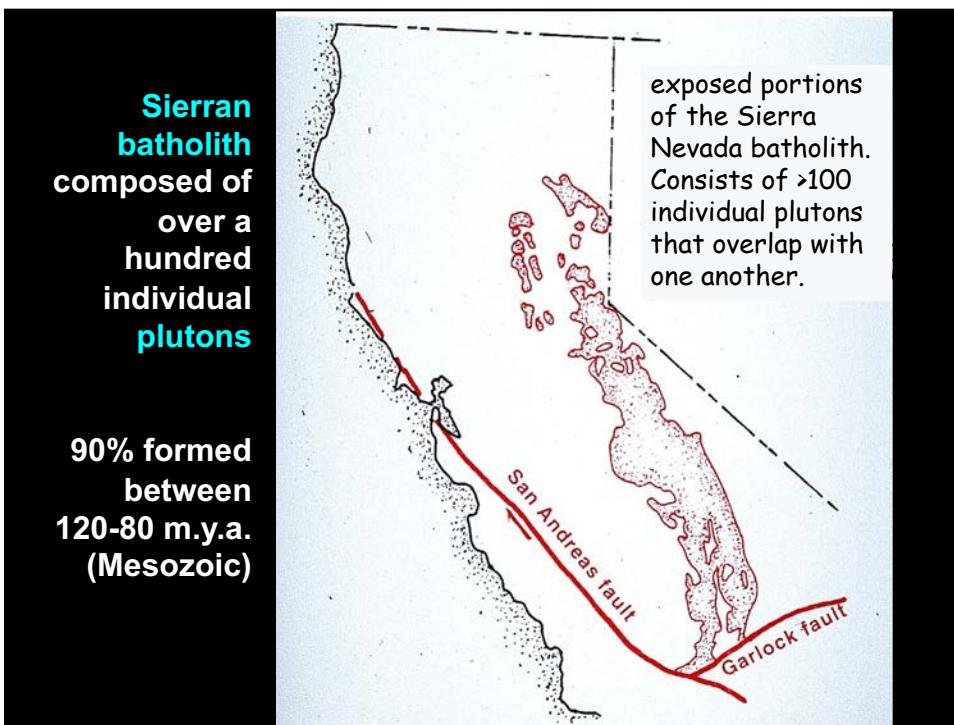
**How does granite form from magma?**

17

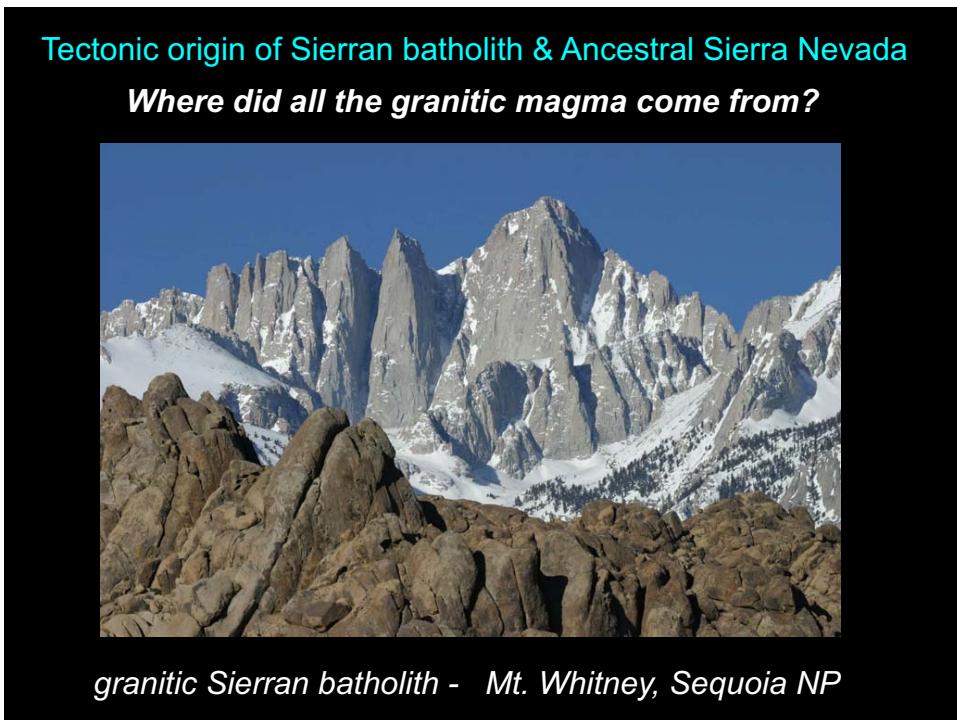
cinder cones  
stratovolcanoes  
Fissure eruption  
Magma chamber  
pluton

**Intrusive igneous rocks of Sierra Nevada originally formed about 3-15 km beneath the surface as magma slowly cooled in massive chambers to form **plutons** of granitic rock.**

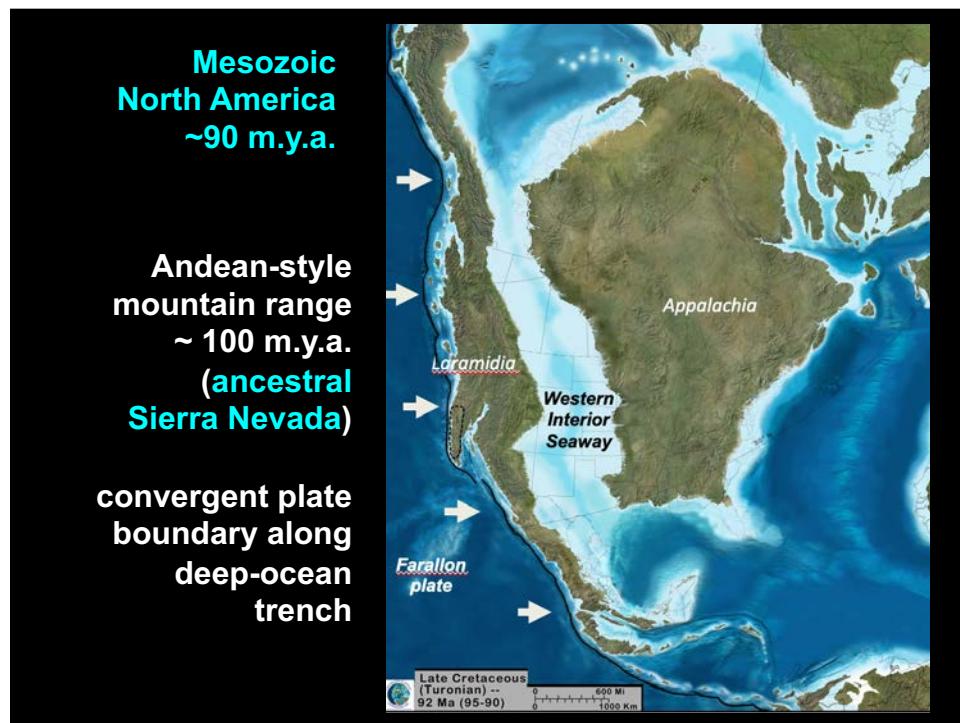
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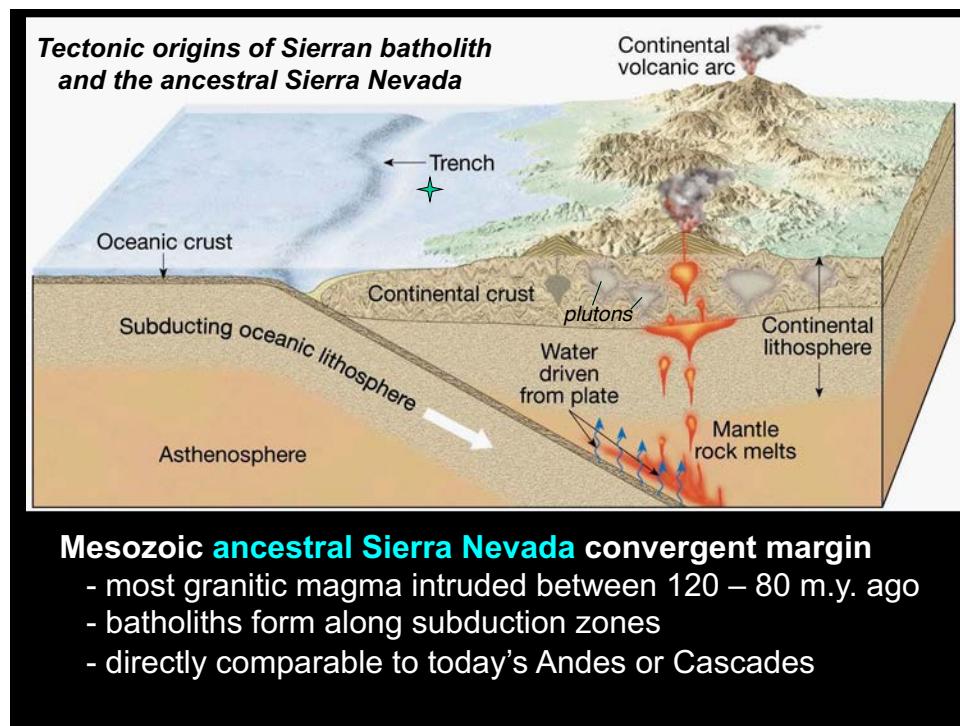
19



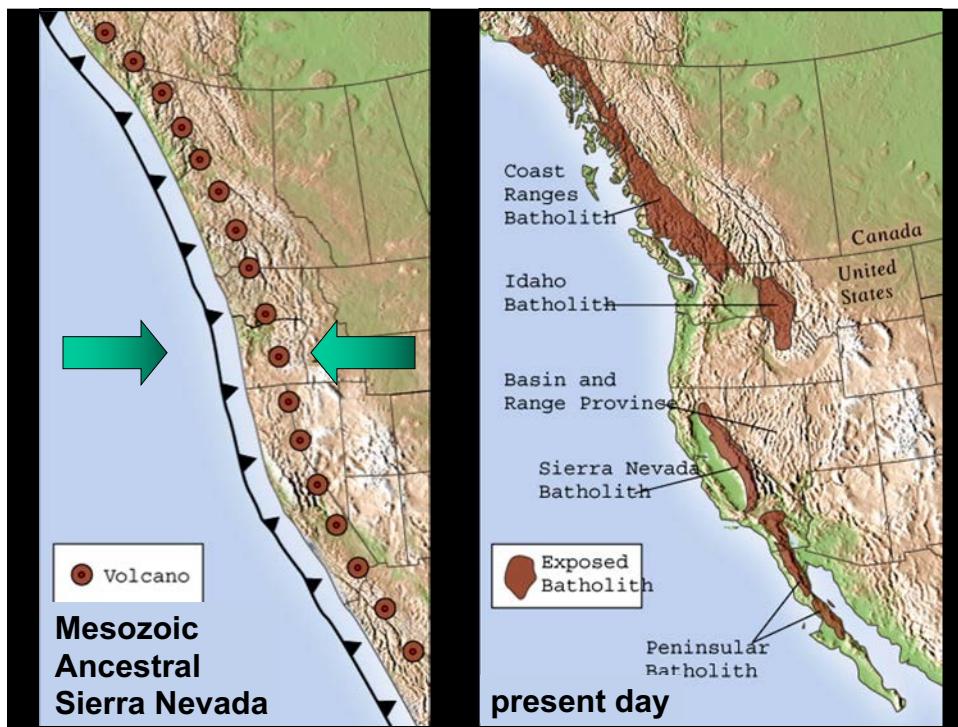
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21



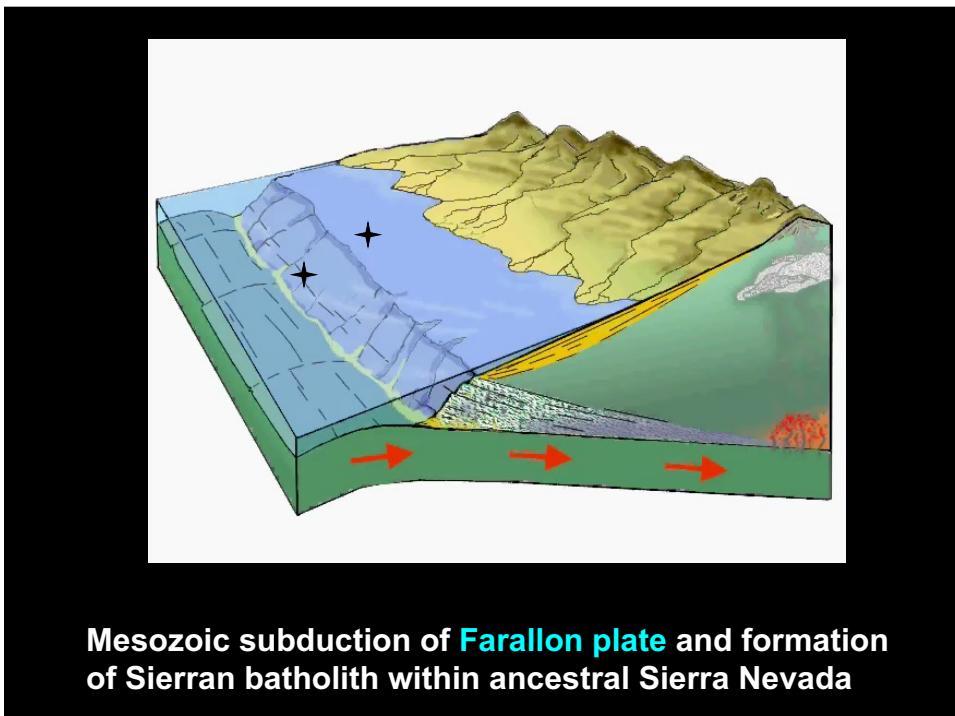
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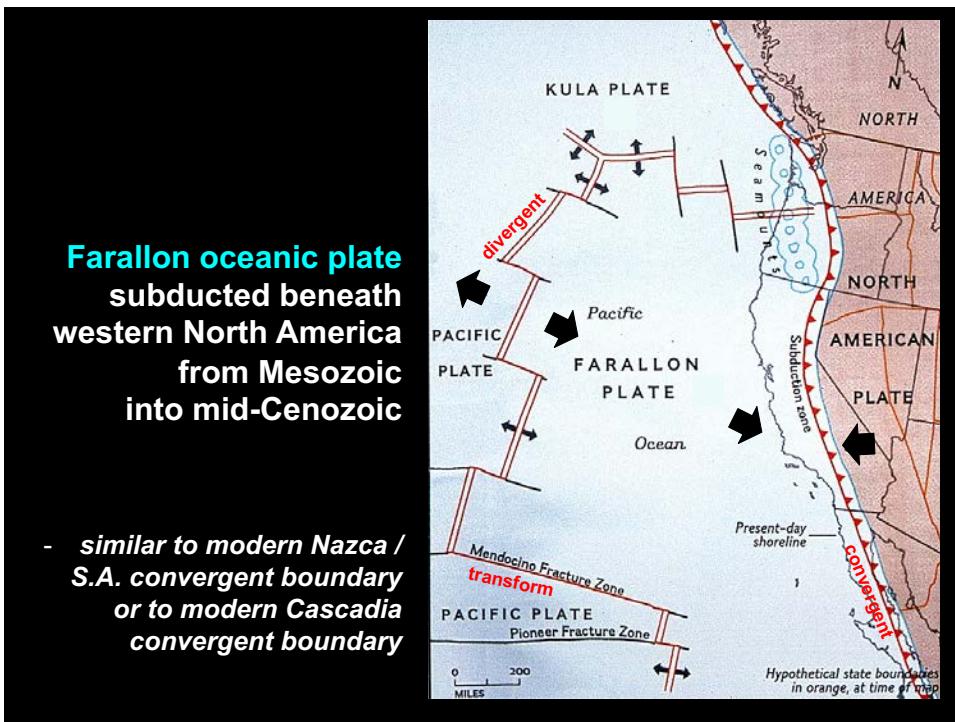
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24

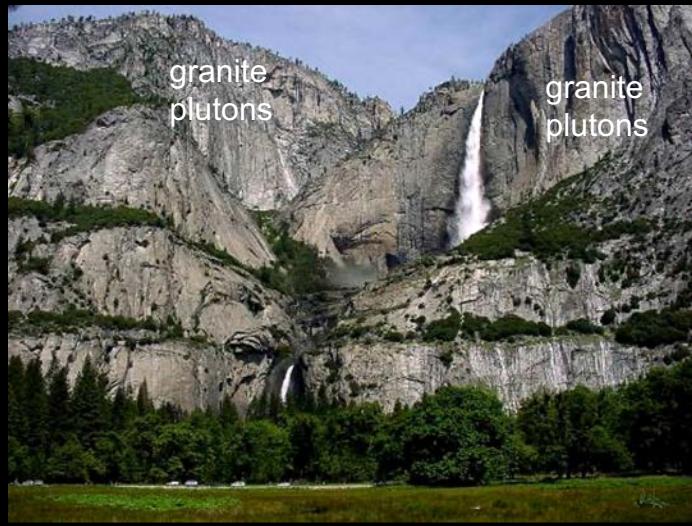


25



26

*Granitic plutons of the Sierran batholith formed within the ancestral Sierra Nevada during the Mesozoic. The batholith was lifted upward to the surface in last 5 m.y. within the modern Sierra Nevada tilted fault block.*



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