Overview of Earthquakes and Seismic Hazard Analysis at INL

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July 13, 2015 – Line Commission Meeting

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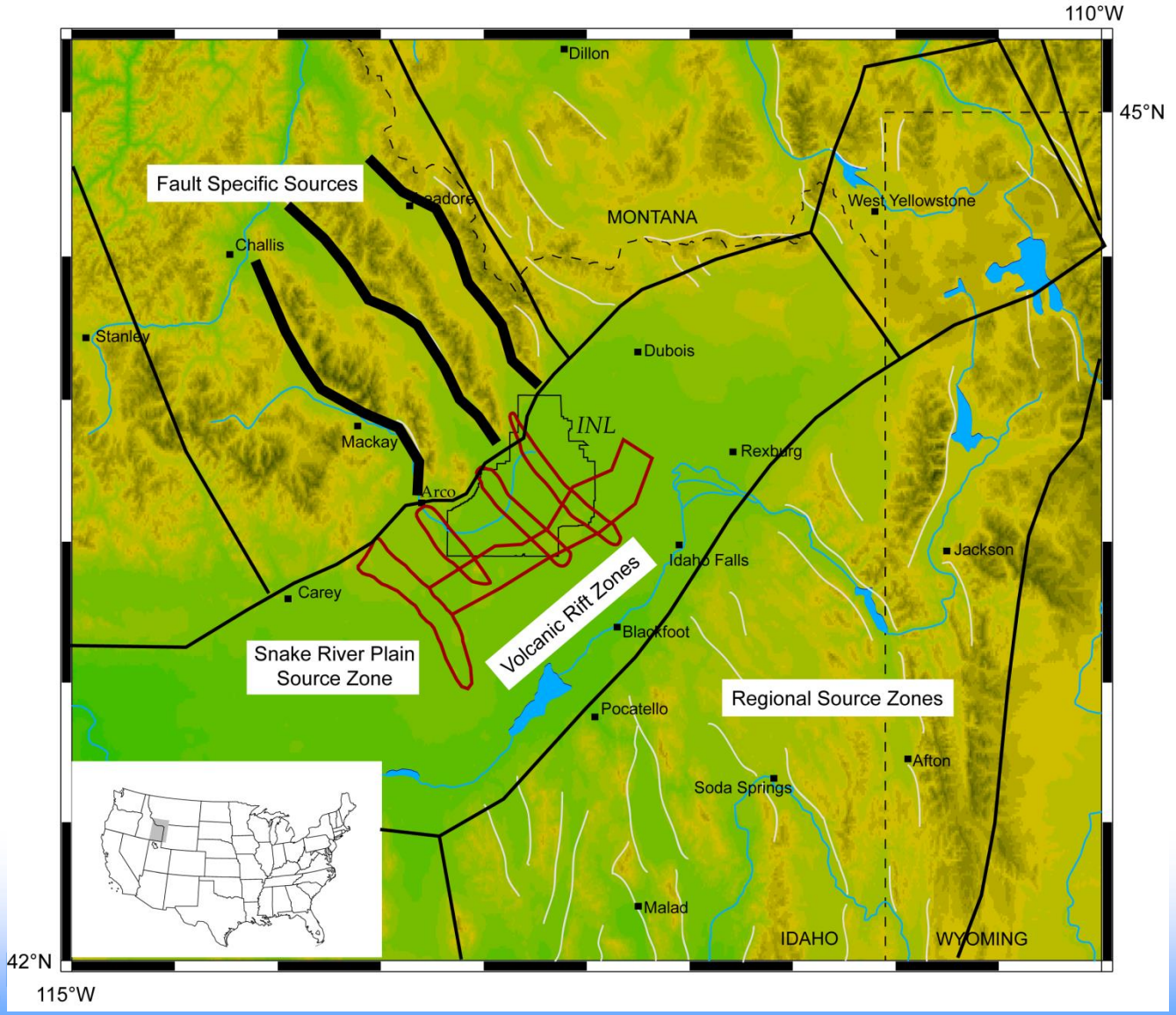
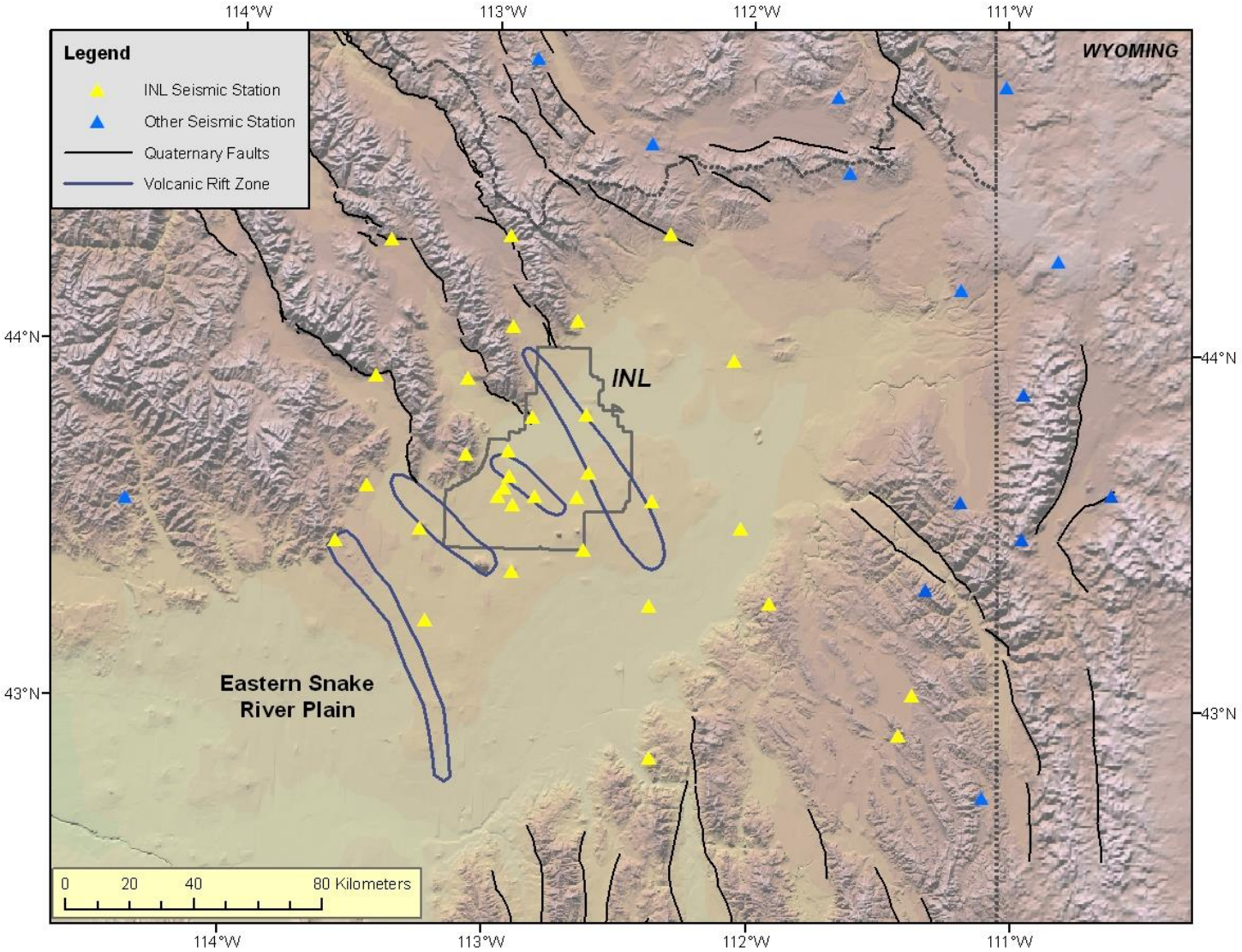
INL Seismic Hazard Analysis Characterizes Possible Sources of Earthquakes



32 INL Seismic Stations (Yellow Triangles)



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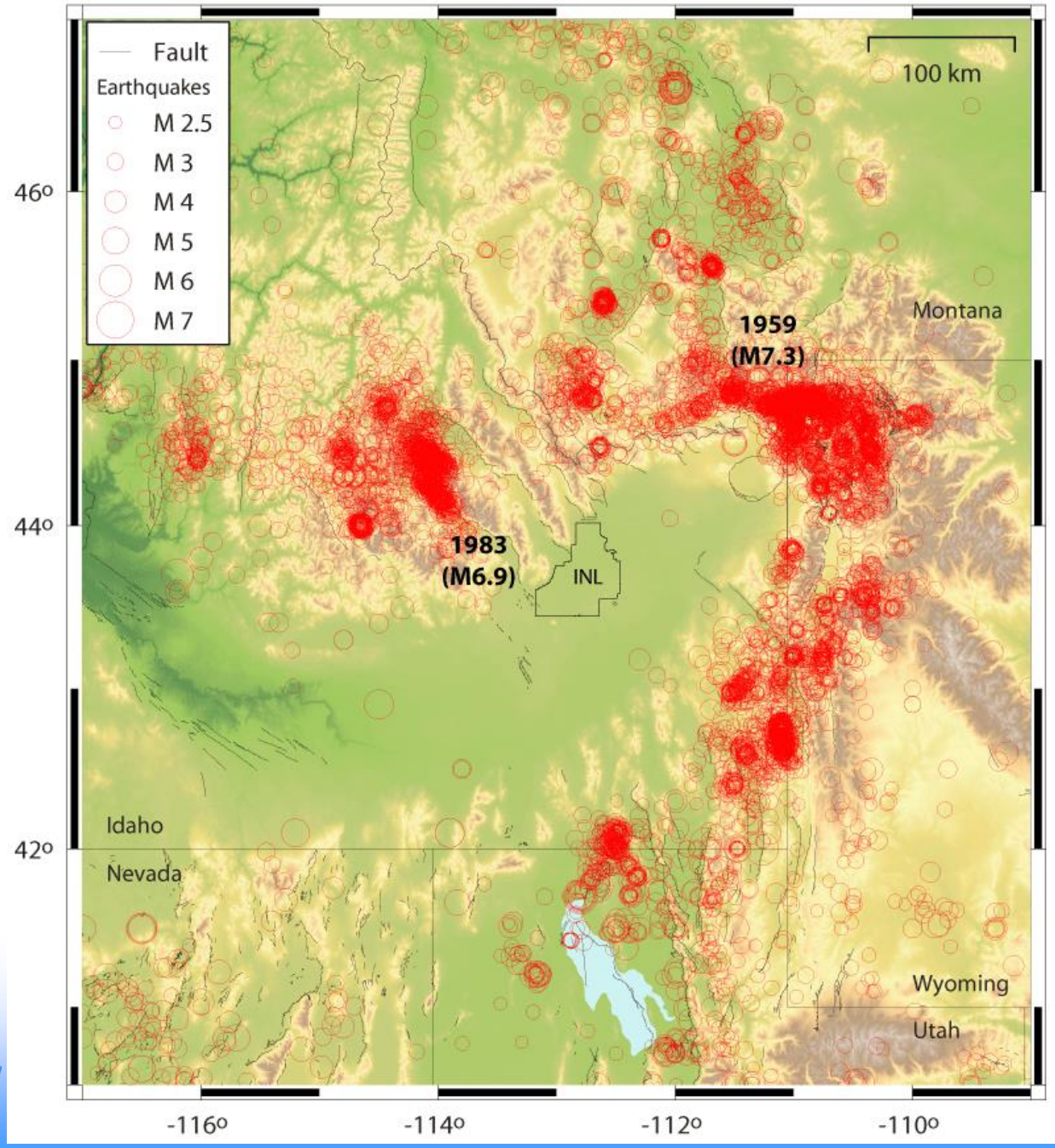
Earthquakes 1850-2007 Magnitudes >2.5

Data from INL & Nearby Seismic Monitoring Networks



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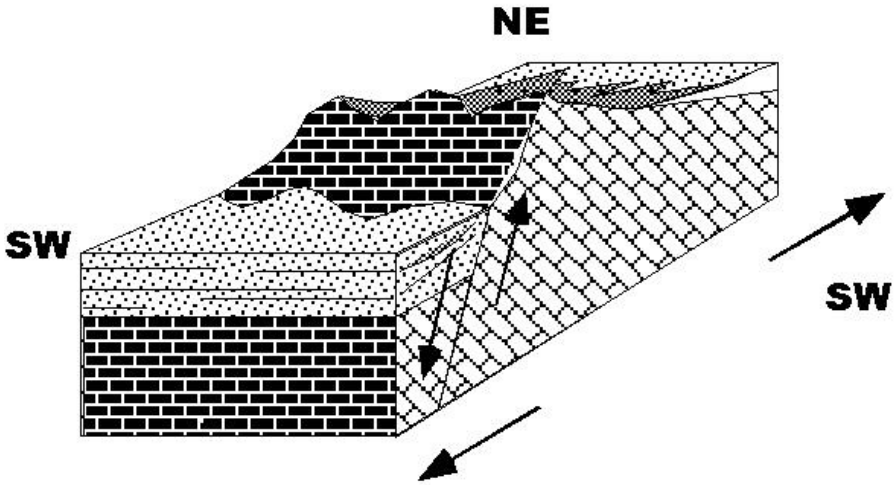
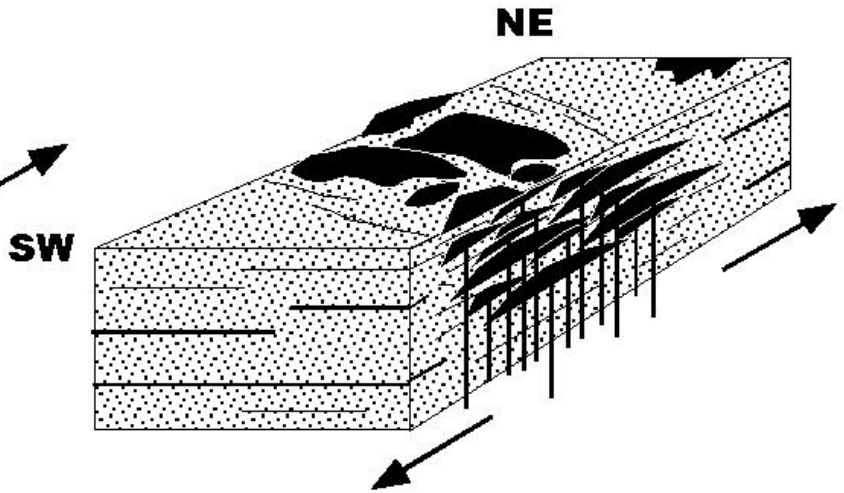
The Crust Responds To Tensional Stress In Two Different Ways

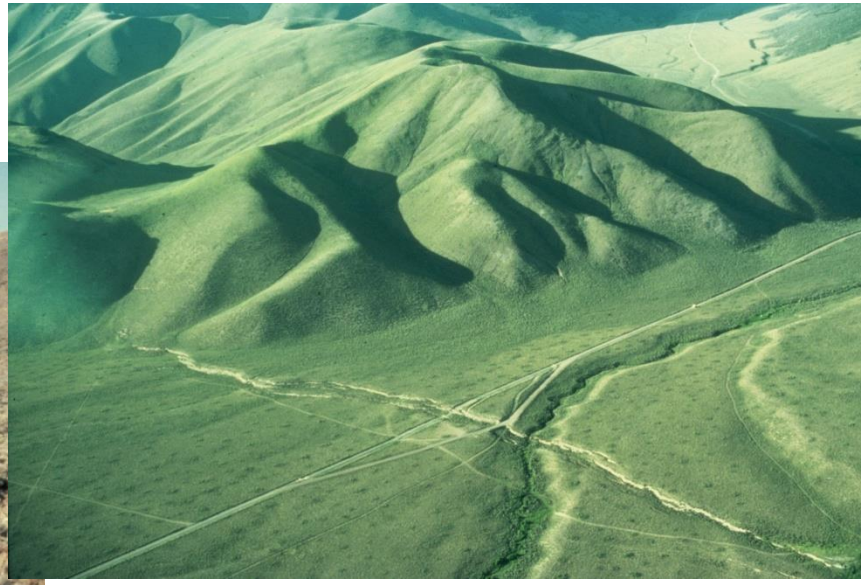


Normal Faulting
Mountains & Valleys
Earthquake Repeat
Times ~1,000's yrs



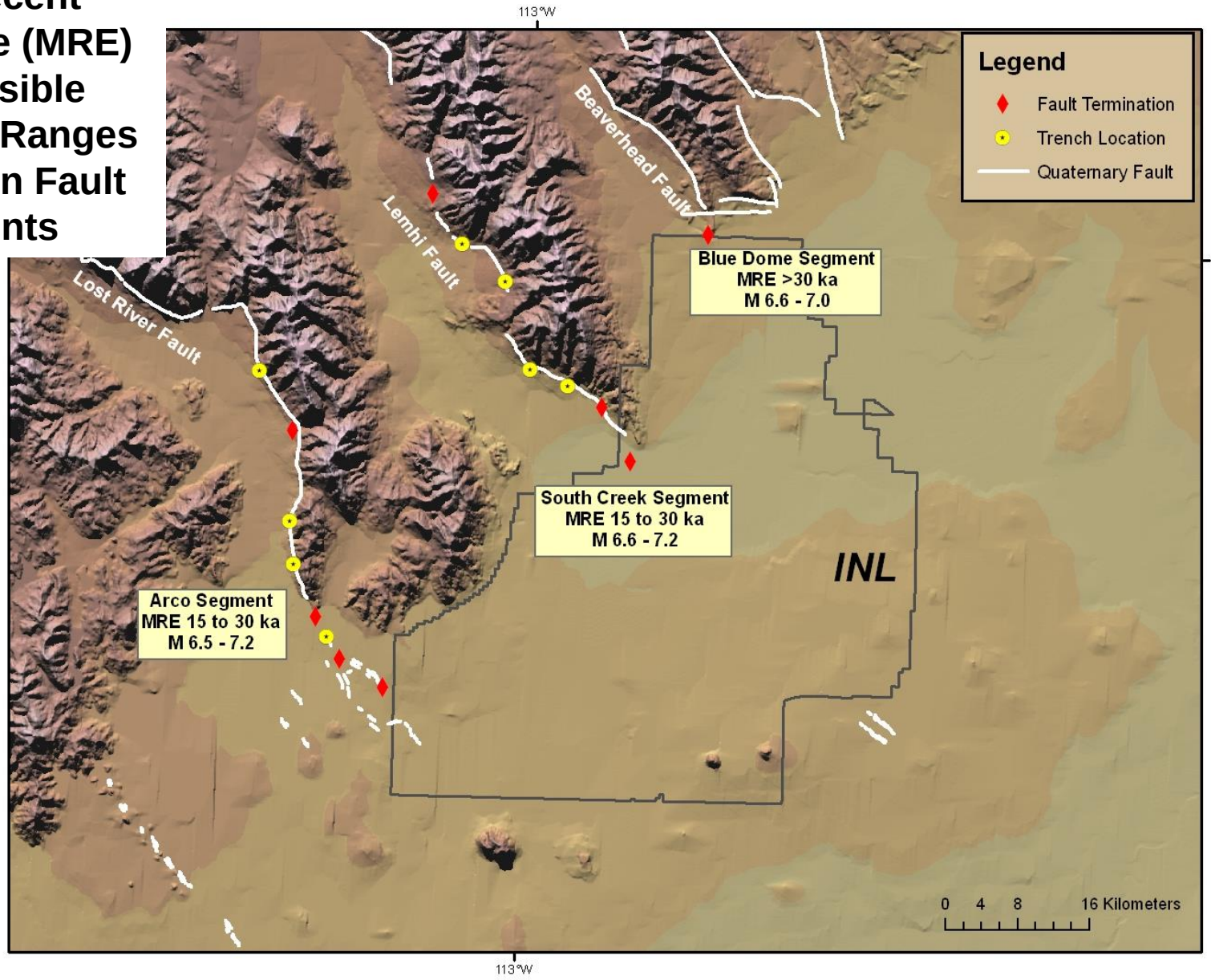
Dike Intrusion
Basalt Lava Flows
Intrusion Repeat
Times ~10,000's yrs

1983 M 6.9 Borah Peak, Idaho Earthquake
Fault Scarp – 22 miles long; 14 ft vertical offset

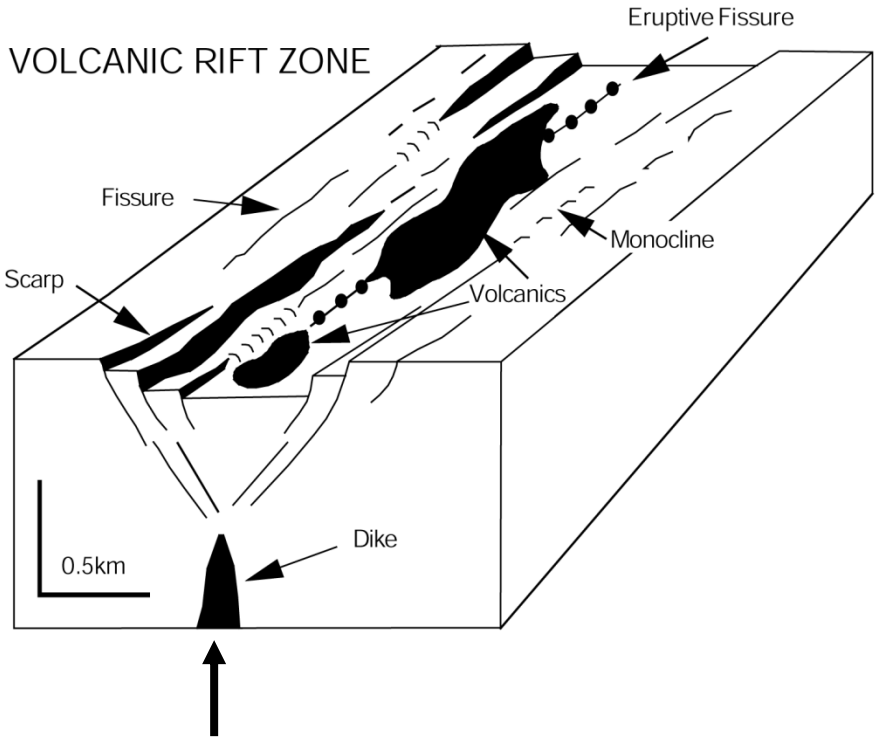


Previous earthquake
6,000 – 8,000 years ago

Most Recent Earthquake (MRE) and Possible Magnitude Ranges of Southern Fault Segments



Basalt Dike Intrusion



Magma rises as a long tabular body & produces earthquakes

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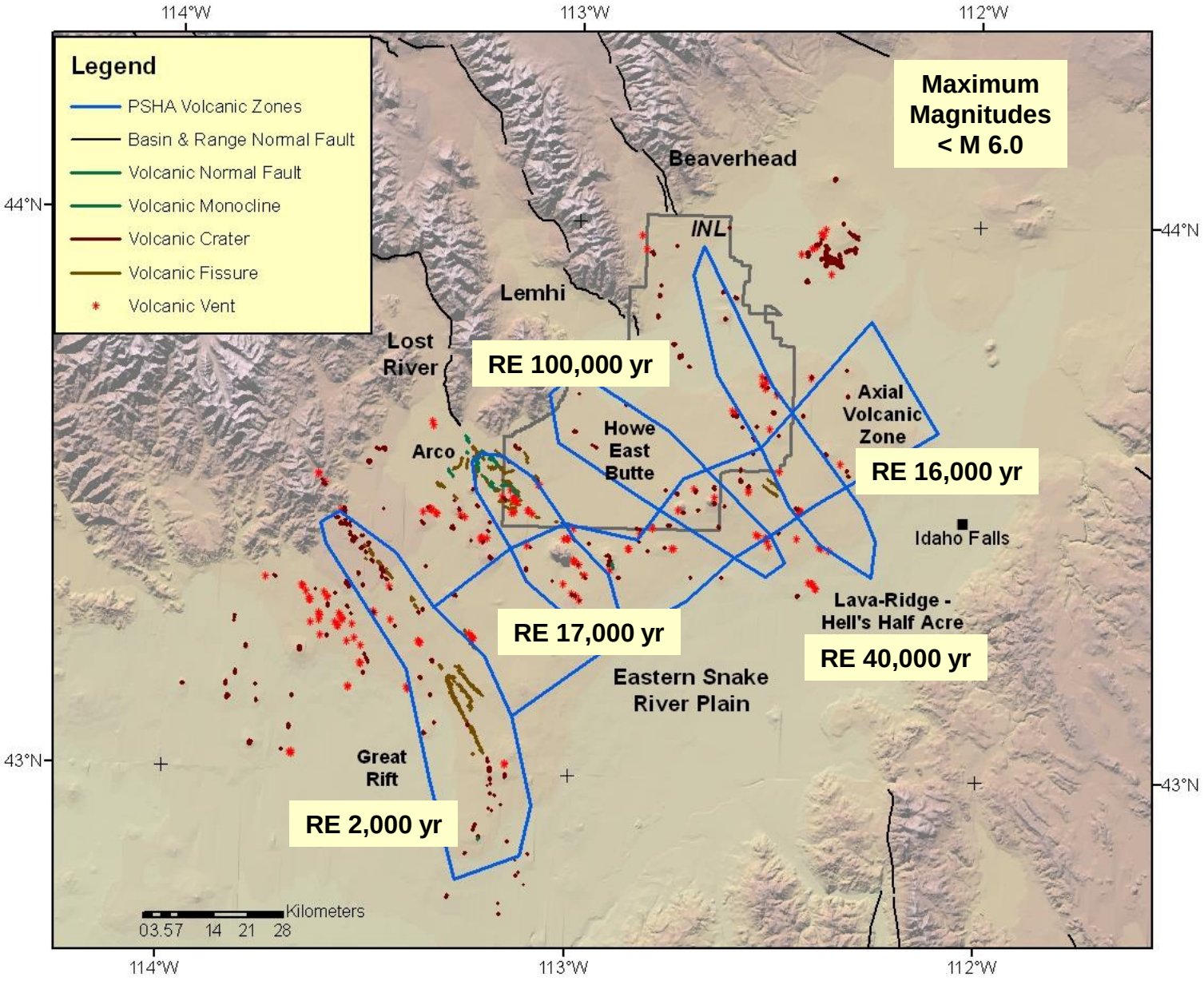
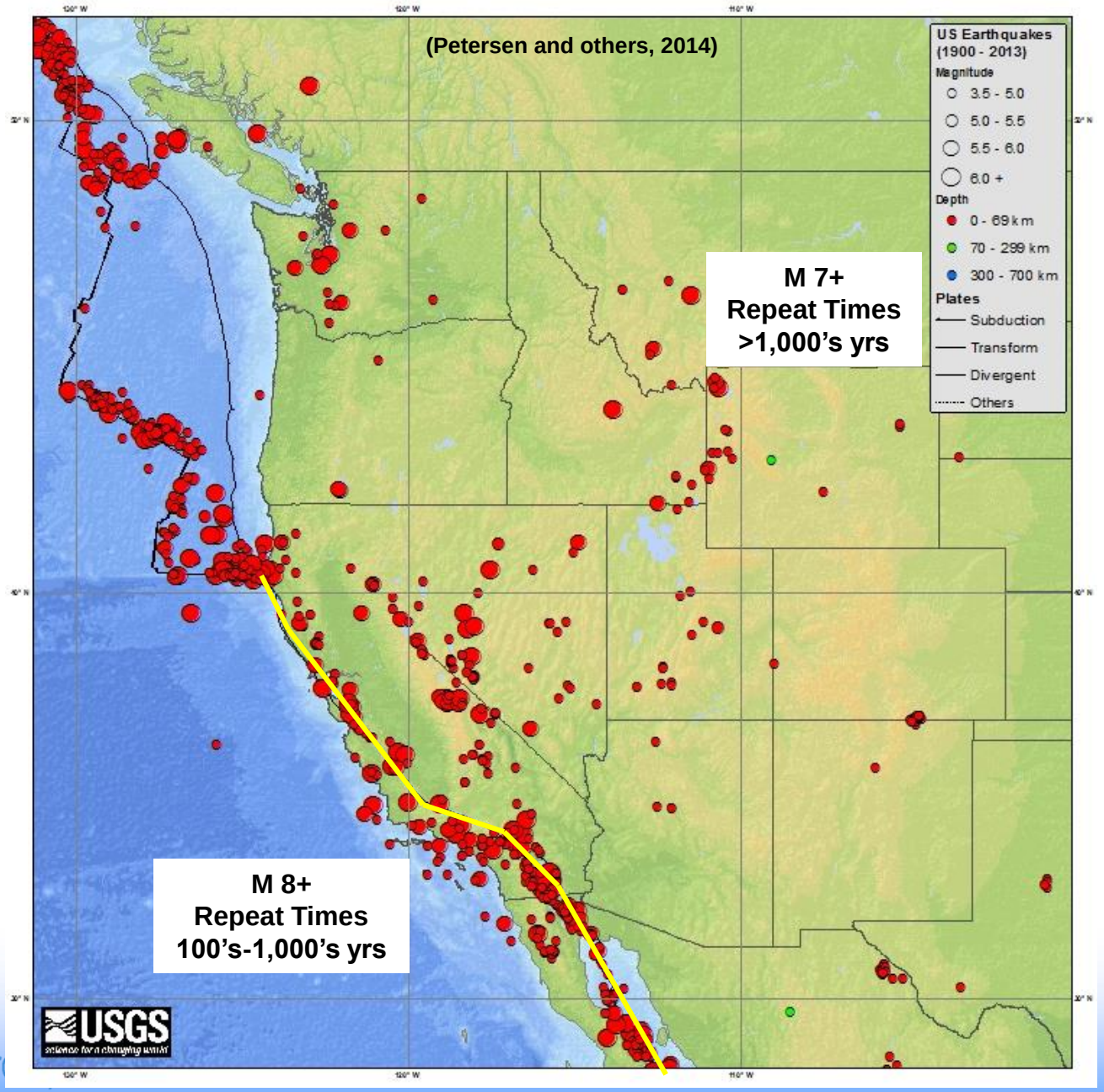
Sources: http://volcanoes.usgs.gov/Products/Pglossary/FissureEruption_examps.html
http://www.auburn.edu/academic/science_math/res_area/geology/camp/CAMPphotos.html

Volcanic Source Zones and Recurrence Estimates



1850 - 2012 Earthquakes Moment Magnitudes M>3.5

Data compiled by US Geological Survey (USGS) for the 2014 Seismic Hazard Maps



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