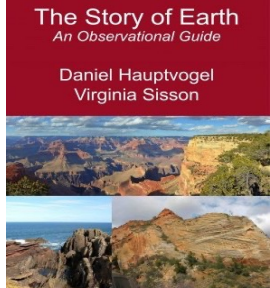




How to tell the Story of Earth: Three lab exercises for Historical Geology

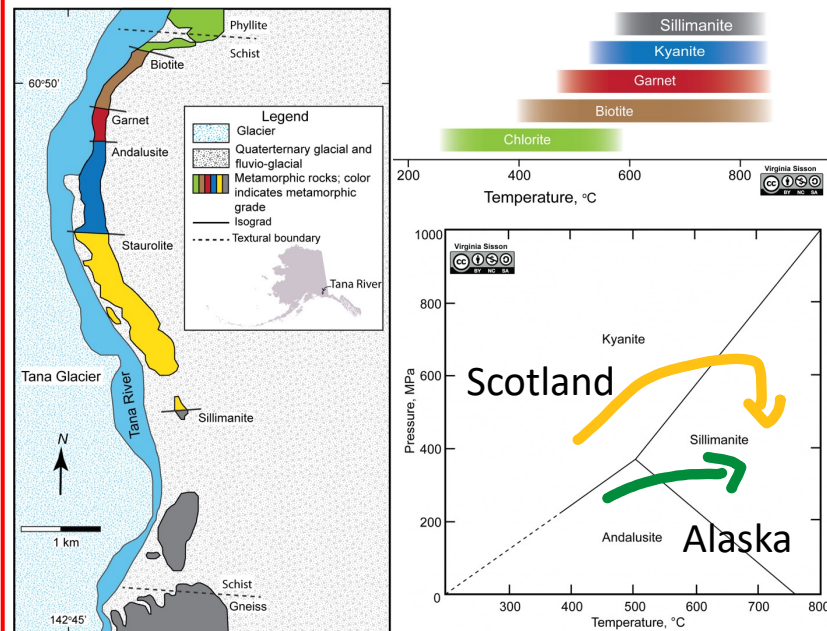
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Earth Educators Rendezvous 2021



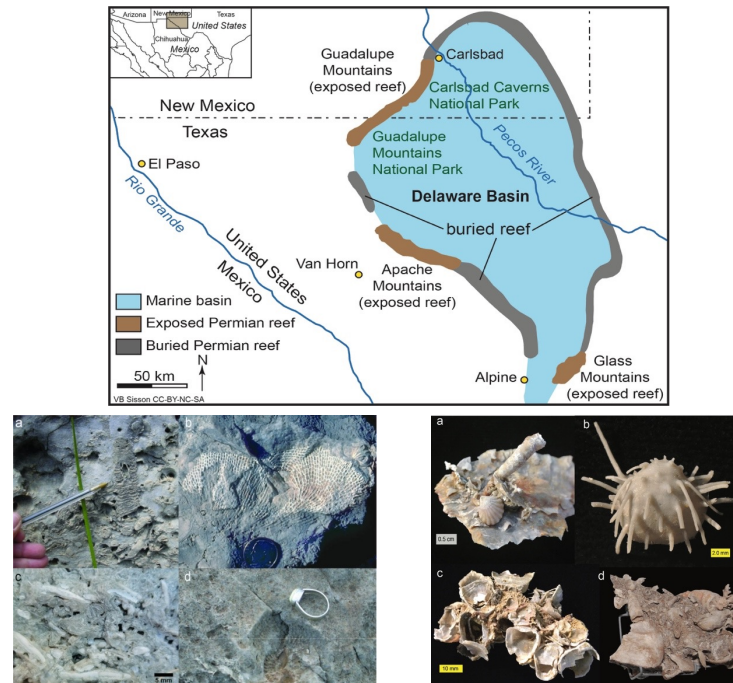
1) Earth Materials

Instead of identifying the textures and names of metamorphic rocks, this exercise interprets metamorphic rocks as a result of ridge subduction in southern Alaska. Instead of just learning the sequence of phyllite, schist and gneiss, students will put these into the context of an unusual geothermal gradient compared to Scotland.



2) Fossils and Fossil Preservation

Compare fossils exposed around the edge of the Delaware Basin. These include delicately preserved fossils in the Glass Mountains to impressions in the Guadalupe Mountains to impressions in the Guadalupe Mountains. Students figure out why these two exposures of the same reef have such different modes of preservation.



3) Interpreting Earth's History Using Maps

Look at maps and cross-sections of northern New Jersey to identify its geologic provinces. Then investigate the Valley and Ridge, Grenville (Highlands), and Piedmont (Newark Basin) comparing rock types and stratigraphy. Students relate their observations of these provinces to four different tectonic events.

