Professional Development to Improve Spatial Thinking of Earth Science Teachers & Students

Representational Correspondence: Comparing & combining spatial representations

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The two spatial dimensions of the paper (or screen) represent spatial dimensions in the real Earth System.
Challenge #1:
Distinguish commonalities and differences among similar representations
Challenge #2: Combine information from two spatial representations… … when both are from the same perspective

Identify the New York State landscape region that has the greatest average yearly amount of precipitation.
Challenge #3: Combine information from two spatial representations which are from different perspectives.

Between which two lithospheric plates could this boundary be located?
Three challenges

• Challenge #1: Distinguish commonalities and differences among similar representations

• Challenge #2: Combine information from two spatial representations, when both are from the same perspective

• Challenge #3: Combine information from two spatial representations which are from different perspectives
Learning Goals

• The class will develop a shared vocabulary with which to discuss spatial attributes.

• Students will sharpen their ability to detect and articulate similarities and differences in spatial representations.

• Students will sharpen their ability to distinguish between observations (descriptions of how the Earth is) ....

..... and interpretations (explanations of how the Earth got to be that way)
This isn’t just about getting through the Regents.

These skills are needed all the way out at the frontiers of Earth Science.