Professional Development to Improve the Spatial Thinking of Earth Science Teachers and Students

Agenda – March 10, 2012
Finding Meaning in Clumps and Patterns

1. How did you use spatial thinking in your class this month?
   * Teachers’ reflections

2. “Clumps and Gradients—Making Inferences from Patterns”

   Many important Earth processes result in distribution of structures, materials, and phenomena that are unevenly distributed across the planet in clumps, gradients, or other distinctive patterns. Examples include ore deposits, cloud formations, and hydrothermal vents. Geoscientists are able to look at such patterns and seek inferences about their causal processes.

   Earth Science teachers need more awareness of this professional practice to foster similar skill development and thought processes by students. Today, we’ll consider some examples of making inferences from map data and discuss curricular applications.

3. “Making the Difficult Less Difficult”

   This Project has developed an identification system to categorize the spatial attributes of Regents Earth Science items. Some participants have provided us with data based on the results from their schools (percent correct). In preparation for the April workshop, we will provide sets of items which are both spatial and difficult. We will ask you to work in groups to analyze and report back on possible reasons why these may have been difficult for the students, and what strategies might help make these less difficult for future students.

4. Session evaluation

Final session: 21 April