Creating Virtual Fieldwork Experiences of Geoheritage Sites as Educator Professional Development

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Abstract:

Geoheritage sites are identified as such because they include excellent examples of geologic features or processes, or they have played an important role in the development of geologic understandings. These characteristics also make them excellent sites for teaching in the field, for teaching educators about the nature of fieldwork, and for making Virtual Fieldwork Experiences (VFEs, multimedia representations of field sites). Through the NSF-funded Regional and Local Earth (ReaL) Earth Inquiry Project, we have engaged educators in these practices.

The nature of geoheritage sites is anomalous -- if this were not the case, the sites would not gain recognition. Anomalous features or processes can be powerful learning tools when placed into comparison with the more mundane, and the Earth system science of sites local to schools is likely to be mundane. By comparing the mundane and the extraordinary, it is hoped we can learn more about both.

The professional development (PD) in ReaL Earth Inquiry begins with a face-to-face workshop within the teachers' region at a site that is interesting from an Earth system science perspective. Though we recognize and emphasize that all sites are interesting from an ESS perspective if you know how to look, the sites typically have features worthy of geoheritage designation. PD does not end with the end of the workshop but continues with online study groups where teachers work together to complete the workshop site VFE, and transition to work on VFEs of sites local to their schools.

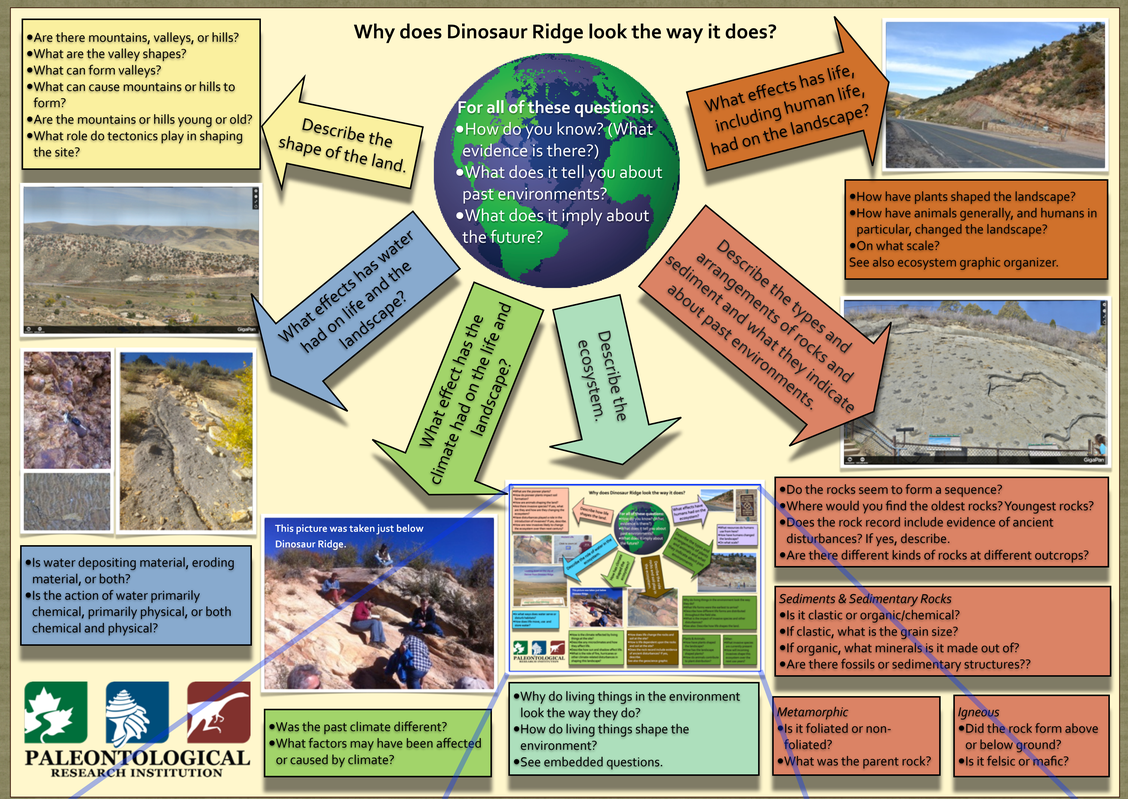
Throughout the program, participants engage in:
- mentored fieldwork that pays attention to the skills and knowledge needed to lead fieldwork;
- instruction in and use of a wide range of technologies for making VFEs;
- study of a coherent conceptual framework connected to the project's driving question: Why does this place look the way it does?
- and, use of resources for supporting all of the above

The resources include templates for making VFEs and a framework summarized in the attached graphic organizer that features a series of questions that can be productively asked of any field site.

By working with educators, we not only produce curriculum resources in the form of VFEs, we also engage in educator PD that produces evidence of its effectiveness, at least in terms of indications that educators are engaged in field study both at the workshop site and after they return home. Production of local VFEs sometimes involves students.

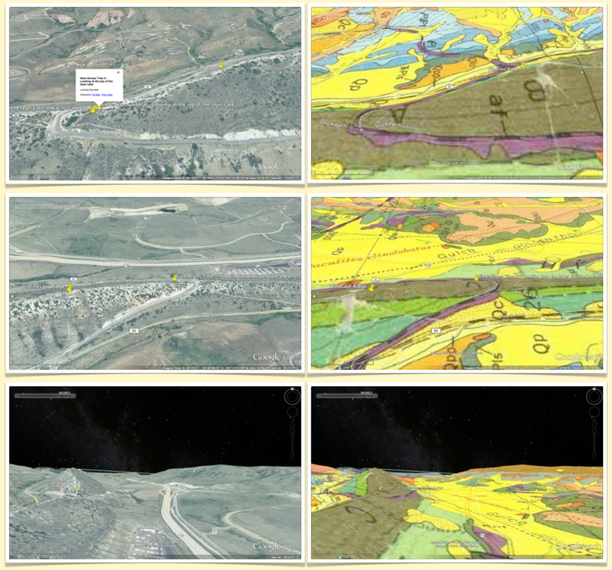
Over the last few decades, technology has increasingly drawn children indoors (Louv, 2008). By using technology to capture and represent aspects of the environment we will turn this problem on its head, and use technology to draw students and teachers outside and engage them in the close study and documentation of their local environment.

Louv, R., 2008, Last child in the woods: Saving our children from nature-deficit disorder. Expanded edition. Algonquin Books, Chapel Hill, NC, 390 p.

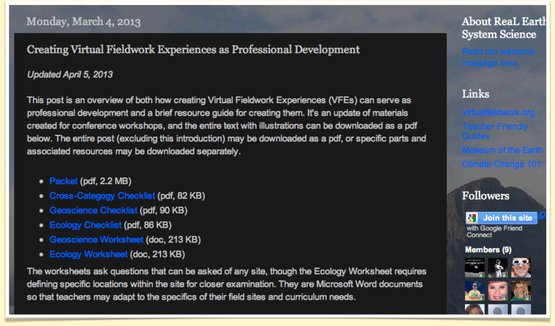


Related Links:

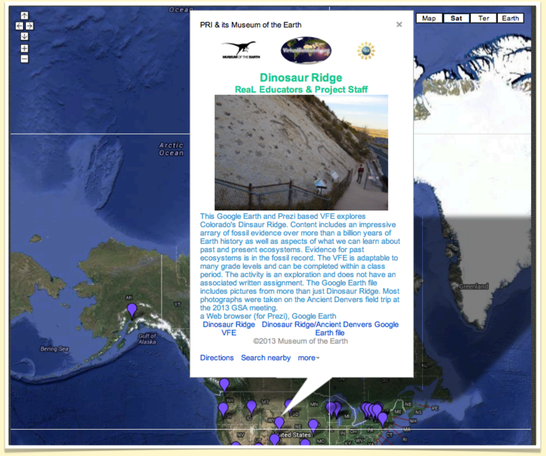
The Dinosaur Ridge VFE (shown to the left):
- In Prezi: http://bit.ly/DinoRidge
- Associated Google Earth file (see below): http://bit.ly/DinoRidgeGE



Creating VFEs as Professional Development Tutorials and Related Resources: http://bit.ly/VFEPD



The VFE Database: http://virtualfieldwork.org/A_VFE_Database.html



Virtualfieldwork.org