

# Teacher's Guide to Valles Caldera: The Science

An Earth Systems Approach



Climate Change Impacts on New Mexico's Mountain Sources of Water

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## **Teacher's Guide to *Valles Caldera: The Science An Earth Systems Approach***

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EPSCoR New Mexico helped to support the production of *Valles Caldera: The Science*, a co-production by Tim Aydelott and Santa Fe Productions, as a part of a NSF-funded grant titled: *Climate Change Impacts on New Mexico's Mountain Sources of Water*. The grant brought together research teams from colleges, universities and agencies from New Mexico. The Valles Caldera National Preserve (VCNP) is located in the Jemez Mountains of New Mexico inside a collapsed volcanic crater surrounded by volcanic domes and thought to me one of the best examples of a collapsed caldera in the world. The VCNP's unique location has become an extraordinary science laboratory. For example, the Las Conchas fire impacted approximately one-half of VCNP while the other half was not impacted. Since researchers collected data before and after the Las Conchas fire they have data to compare and analyze. Some of the research will add to the knowledge base of pre and post fire impacts and may provide guidance as climate change is felt throughout the region.

The *Teacher's Guide to the Valles Caldera: The Science* incorporates an Earth Systems approach to the research-taking place in the caldera. The guide is designed as a website for teachers to access video clips from *Valles Caldera: The Science*; to help them set up a STEMs approach to understanding the research and provide guidance in defining the basic concepts as well as providing the teacher with student labs and activities. The format of the website includes researcher's bios and data from the research projects under **Fire, Climate Change, Water Quality** and **Geology**. The units are tied to the Next Generation Science Standards (as they become available) and the EPSCoR Teach Data Portal where students and teachers can learn more about fire, biomass, BioBlitz and other important topics.

EPSCoR New Mexico is invested in making science available to students and teachers. The website with accompanying activities and research opportunities will be presented in various workshops and seminars around the state. The intent of the website is to provide teachers with an opportunity to enhance their students' understanding of the interconnectedness of Earth systems.