

## **Project Summary**

### **Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project Title:** Mineralogical and Geochemical Evidence for Volcanic Sources of the Florissant Formation

**Type of Project:** Research  
**Discipline:** Natural  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** University of Northern Colorado  
**Effective Dates:** September 30, 2009 - September 30, 2012  
**Funding Amount:** \$20,000

**Investigators and Agency Representative:**

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**Project Abstract:** The fossiliferous volcanic deposits of the Eocene Florissant Formation, along with related rocks outside the monument, need to be analyzed by geologists in order to develop a detailed framework for understanding the relation between regional volcanism and the deposition of the Florissant Formation. The fossil plants and insects from the late Eocene Florissant Formation are the primary resource of Florissant Fossil Beds National Monument. These fossils occur in volcanic sediments, and an understanding of these volcanic rocks is critical for understanding the age of the fossils and the ancient landscape in which they were deposited. Several eruptive centers have been hypothesized as producing the ash-falls at Florissant. More information is needed to clarify which of these volcanic source areas actually contributed ash to the Florissant Formation. These may include composite volcanoes and/or calderas. Hence this information will be critical to designing accurate reconstructions of volcanoes in the murals and exhibits for the Monument's planned new visitor center.

**Outcomes with Completion Dates:**

- Project initiation - September 30, 2009
- Field evaluations - May 15, 2010 to September 15, 2011
- Samples prepared and analyzed - September 15, 2010 to March 15, 2012
- Manuscript of scientific results and summary submitted for park and peer review - June 15, 2012
- Final project report submitted to monument - July 30, 2012

**Keywords:** Eocene Florissant Formation, volcanic ash, age, fossil beds, Florissant Fossil Beds National Monument, University of Northern Colorado