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Research poster: Climate change science for northern Nevada educators

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Climate Change Science for Northern Nevada Educators

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Introduction

The EPSCoR Climate Change Education Component is a professional development program designed to facilitate Nevada middle school educators in implementing climate change science content and processes into their classrooms. A two-week summer institute provided the framework for the EPSCoR program. One institute was held in Las Vegas for Clark County School District teachers, and the second institute was held on the University of Nevada, Reno campus for Washoe County teachers. Institute focus comes directly from the original grant proposal. The essential question which directed the Summer 2009 Institute was:

How will climate change affect water resources and linked ecosystem resources and human systems?

Standards, SE & Inquiry

Three of the six participants teach in middle schools, the other three are elementary educators. Standards were addressed in a way that engaged participants' current teaching. The Nevada State Science Education Standards and National Science Education Standards (NSES) were studied and discussed in order to find Climates Change themes. Content Standards were then used to design original lesson plans aligned with Washoe County School District (WCSD) guidelines.

Content Data

Content test items were taken from the question bank for the National Assessment of Educational Progress (NAEP). These items are used to collect national data on norm referenced tests. The NAEP items were used to gauge teacher expertise on science content and to measure growth over time due to the Summer Institute experiences. Items were hand selected to reflect climate change, ecosystem and earth science content.

Lesson Plans & Assessments

Participants kept science journals of their experiences, reflected daily on the content provided, took part in climate change learning activities and lectures, examined the Nevada State and National Science Education Standards, and designed and presented a lesson plan based on the Summer Institute experiences. Many formative assessments were used during the Summer Institute 2009. These assessments included daily journal entries, Facebook discussion posts and Exit Tickets (above).

Summer Institute Experiences

During the institute, participants received direct instruction from local and regional scientists currently working on climate change and water resource research. Participants traveled to several area labs to observe and discuss the water and climate change research occurring at the University of Nevada, Reno and the Desert Research Institute.

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The look ahead...

The second group of Nevada educators have already begun their Spring 2010 online course ENV 794 through the University of Nevada, Las Vegas. instructed by Dr. David Hassenzahl. This course will prepare participants for learning experiences this summer. Participants will complete the course in May, earning graduate credit from UNLV. UNLV and UNR Summer 2010 Institutes will be conducted July 26-30th and August 2-6th. Once these teachers have implemented Climate Change lessons in the Fall they will receive graduate credits from UNR. The use of researchers as climate change instructors made a large impact on 2009 participants. Soon, the Education Component will again be looking to fill this role with local and regional researchers of climate change.

The Essential Question to guide Summer Institute experiences is:

How will climate change affect disturbance regimes and linked ecosystems?