

Welcome Back ERTAB Members!

2011 External Research and Technical Advisory Board Meeting

University of Nevada, Reno
Reno, NV

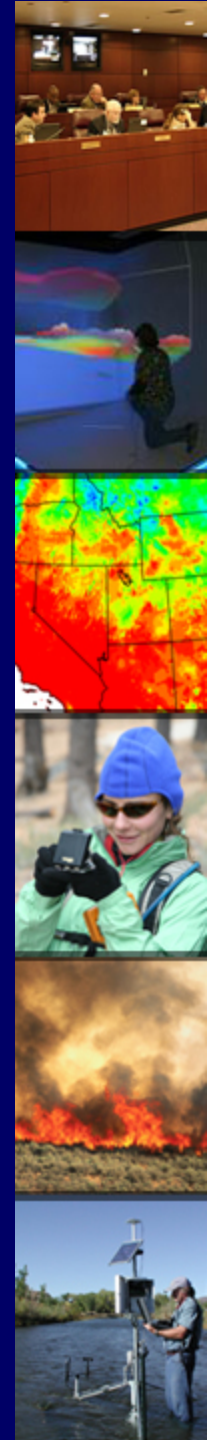
January 31, 2011



Nevada Infrastructure for Climate Change Science, Education, and Outreach

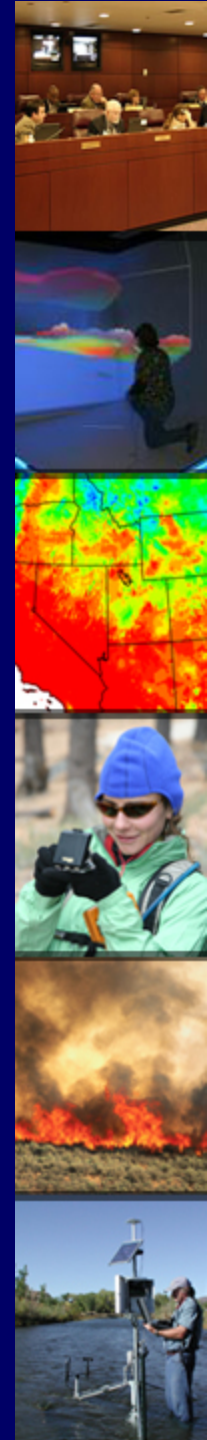
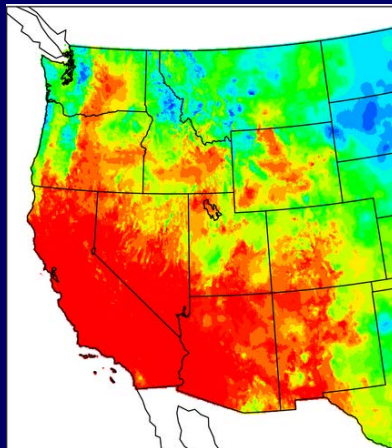
Overarching Goal

Strengthen Nevada research, education, and outreach in climate change science through sustainable improvements in R&D capacity



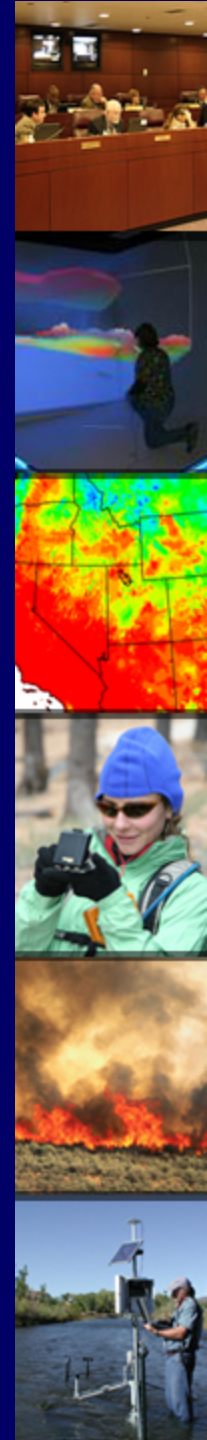
Major Outcome

New interdisciplinary capability to detect, analyze, and model effects of regional climate change on landscapes, ecosystems, and water resources and communicate research results to decision makers and the public



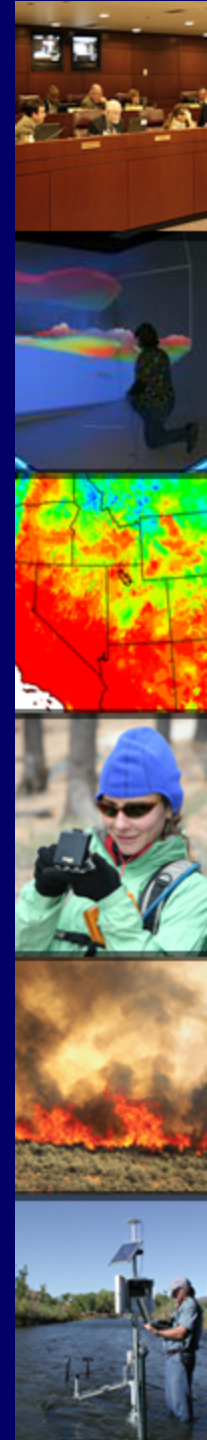
Leadership Changes

- Dr. Lynn Fenstermaker (DRI) – Water Resources Component Lead
- Dr. Gale Sinatra (UNLV) – Education



Year 2 Project Milestones

- April 2010: 2nd Tri-State Meeting
- July 2010: Annual Report Accepted by NSF
- July 2010: AAAS Site Review
- Oct 2010: Science Planning Meeting



Fall 2010: NSHE Climate Change Seminars

EPSCoR

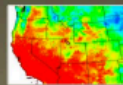
Nevada Infrastructure for
Climate Change Science, Education, and Outreach



Policy,
Decision Making,
Outreach



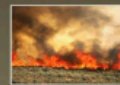
Cyberinfrastructure



Climate Modeling



Education



Ecological Change



Water Resources

Nevada Climate Change Seminar Series

“OPERATION OF COLORADO RIVER RESERVOIRS IN A CHANGING CLIMATE”

PRESENTED BY:

DR. TERRY FULP

U.S. BUREAU OF RECLAMATION
LOWER COLORADO DEPUTY REGIONAL DIRECTOR

Come learn about how the U.S. Bureau of Reclamation is integrating climate variability into reservoir operations in the Colorado River Basin.

February 9, 2011

**11:30 AM: Mixer with Refreshments
(UNLV)**

12 PM – 1 PM: Presentation

The presentation will also be available via
live stream at:

<http://www.nevada.edu/epscor/nsf/climate/1/seminar-series.html>

RSVP to michele_casella@nshe.nevada.edu
and let us know how you'll be attending.

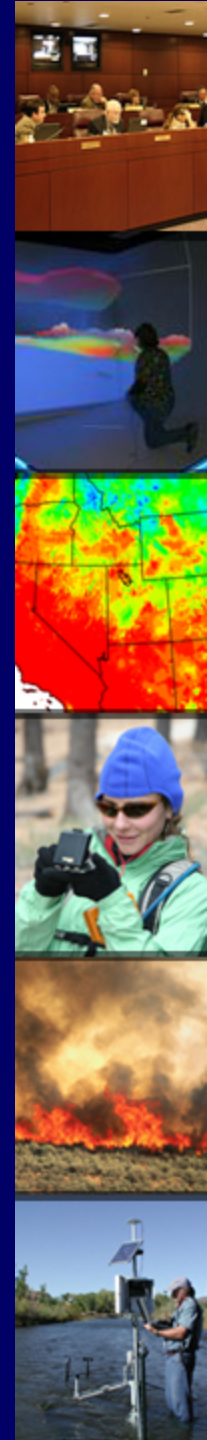
Locations:

Live at UNLV, Las Vegas
Greenspun Hall Auditorium
(GUA 1st floor)

Desert Research Institute, Reno
Conference Room B

Western Nevada College, Carson City
Reynolds Center 102

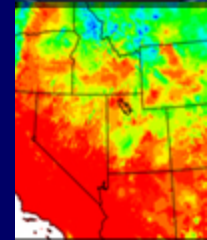
Great Basin College, Elko
High Tech Center 137



Year 3 Science Planning Meeting

October 7, 2010 at UNR

- Revisit Strategic Plan
- Develop Strategic Tasks
- Identify Science Questions
- Develop Integrated Science Projects



Key Strategic Tasks

Ecological Change and Water Resources

Task	Duration	Effort	Outputs	Strategic Plan Goal	Person
1. Transect and Data Coordination	Years 3-5	1 mo/year	Data to data portal	Goals 2, 3 5 with links to Goal 1	Franco Biondi
2. Development of Transects and Stakeholder Coordination	Years 3-5	0.5 mo/year	12 functioning observation towers and data provided to stakeholders	Goals 2 and 3 with links to Goal 1	Dale Devitt
3. Science Plan Coordination	Years 3-5	0.5 mo/year	Identification of key research questions	Goals 2, 3, 8 with links to Goal 1	Jay Arnone
4. Linking Transects to Modeling	Years 3-5	0.5 mo/year	Initiate modeling efforts, identify key data	Goals 2 and 3 with links to Goal 1	Laurel Saito
5. Long Term Transect Maintenance	Years 3-5	1 mo/year	Maintenance, calibration, sustainability plans	Goals 2 and 3 with links to Goals 1 and 5	Lynn Fenstermaker
6. National Network Coordination	Years 3-5	0.5 mo/year	Communicate with national networks	Goals 2 and 3 with links to Goal 1	Brett Riddle

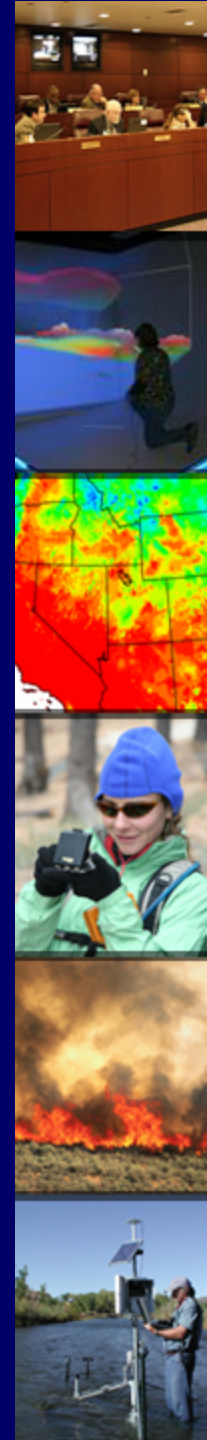
Key Science Questions

Climate Modeling

Science Question	Research Activities	Output (mapped to SP)	Infrastructure Utilized	Linkages to other components?	Researcher(s)
1. How was the climate different in paleo periods resulting in high and low stands of pluvial lakes in the Great Basin.	Develop & utilize hydrologic models to a) simulate climatic conditions needed to maintain steady state high & low paleo lake levels& b) evaluate pale GCM model results over Great Basin.	Improved understanding of abrupt climate change impacts in the Great Basin.	Doug Boyle (EPSCoR new hire), Linux cluster, data portal?	Cyber – data portal?	Doug Boyle, Scott Bassett, John Mejia, Darko Koracin
2. How the uncertainties I global climate models propagate into the regional climate model	Sensitivity analysis using ensemble modeling approach	Uncertainty levels associate with global and regional climate model (geospatial data – temperature and precipitation)	EPSCoR Linux cluster	Hydrology, policy, cyber	John Mejia Eric Wilcox Darko Koracin
3. What are the climate factors causing water stress in the Great Basin-Mojave desert regions?	Run RCM and hydrological models and link the results	Stream flow variability under different climate scenarios	EPSCoR Linux cluster	Hydrology, ecology, water resources	John Mejia Doug Boyle
4. How global climate models reproduce stationarity and extremes in past climate	Use global climate model results and run statistical downscaling; use climate station data for validation	Downscaled climate parameters for different global model inputs for past and future climates	EPSCoR Linux cluster	Hydrology, ecology, water resources	Benjamin Hatchett Darko Koracin
5. What is the role of aerosols in regulating regional climate?	Global climate simulations and satellite data analysis	Geospatial data set	EPSCoR Linux cluster	Education	Eric Wilcox Student (TBD)
6. What are the effects of climate change on urban form?	Global climate simulations and satellite data analysis	Geospatial data set	EPSCoR Linux cluster	Ecology, policy, hydrology	Scott Bassett Student: Mike Dolloff

2010 - Value Added

- NSF EPSCoR Track 2 Project in 2nd year
- NSF EPSCoR C2 Project funded
- Tri-state Interdisciplinary Modeling Course
- Tri-state Innovation Working Groups funded
 - CyberScience development
 - Increasing diversity
 - Indicators of ecological thresholds in a changing climate
 - Mountain-to-valley ecohydrology at multiple scales



Upcoming in Year 3

- April 2011: 3rd Annual Tri-State Meeting – NM
- Fall 2011: NSF Reverse Site Visit
- Fall 2011: NSF Workshop at NSHE:
Communicating Science: Tools for Scientists
and Engineers

