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*Western Consortium of Idaho, Nevada, and New Mexico*

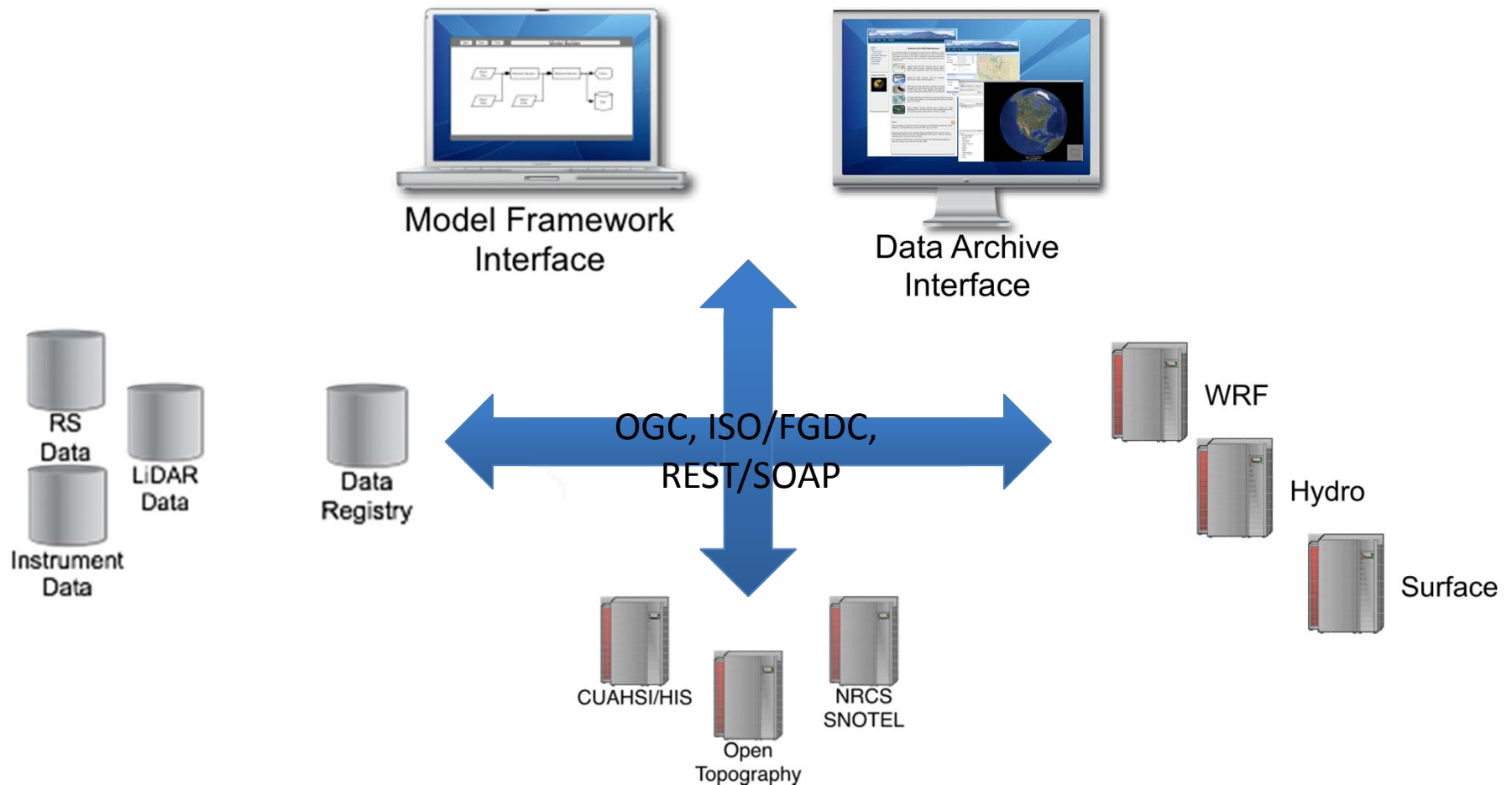
# Model and Data Interoperability

Karl Benedict, Tri-State CI Lead (UNM)

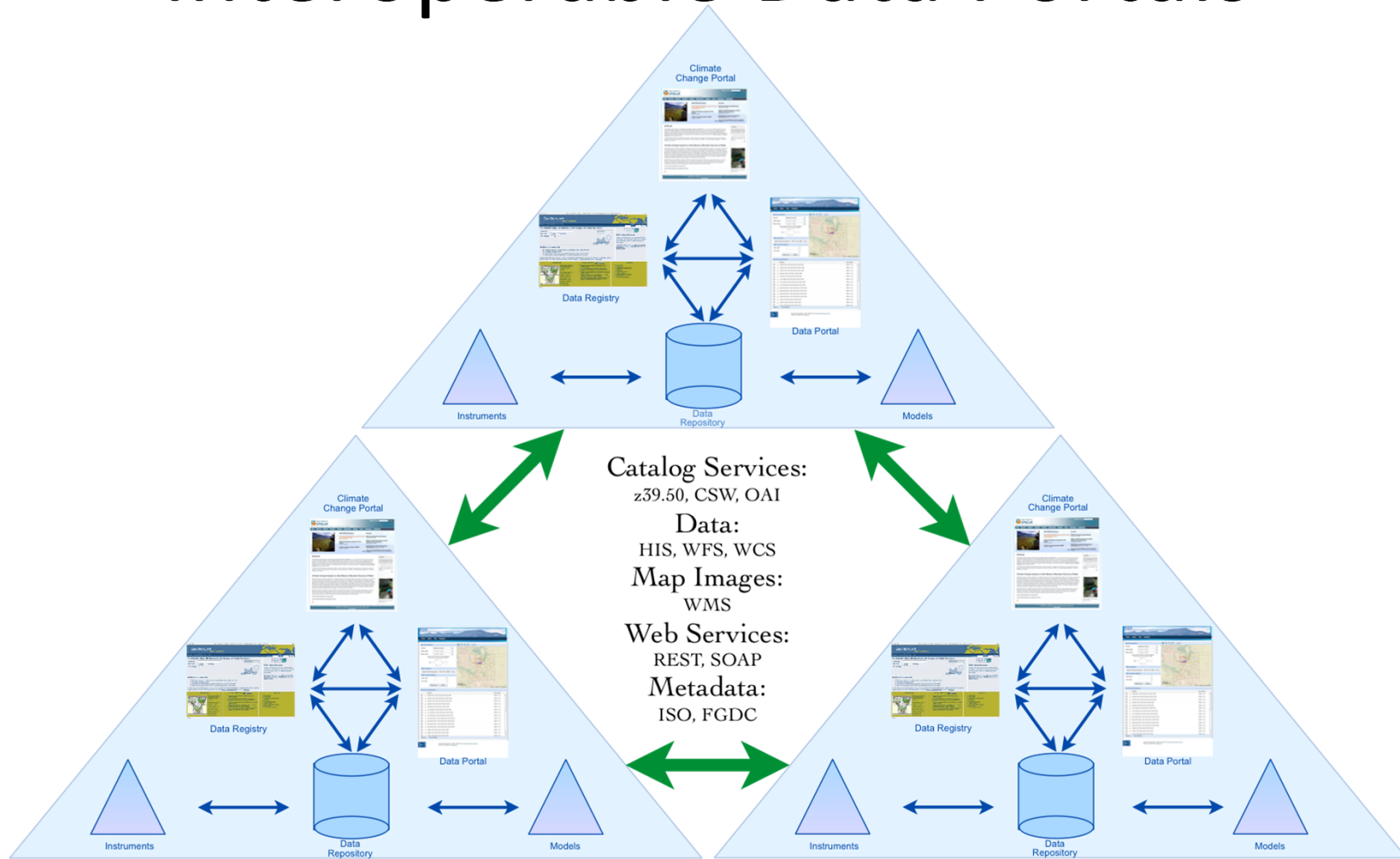
Sergiu Dascalu, NV Lead (UNR)

Greg Gollberg, Luke Sheneman, ID Leads (ISU)

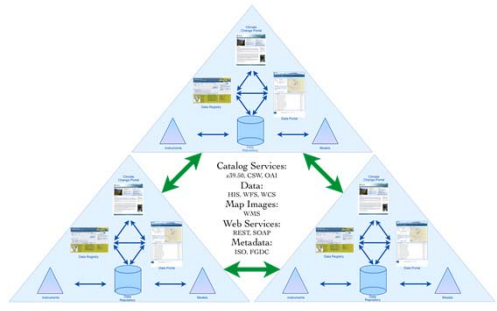
# Goals and Objectives



# Interoperable Data Portals



# Interoperable Data Portals



**NEVADA CLIMATE CHANGE PORTAL**

THE PROJECT | RESEARCH SITES | DATA RESOURCES | PEOPLE | LIBRARIES | CONTACT US | HOME

**MONITORING NEVADA: DATA RESOURCES**

As the name implies, the Nevada Climate Change Project is focused on collecting climate change data as it relates to the state of Nevada. Detailed information is available through the links below:

- Introduction
- Research Sites (NevCAN)
- Sensor Data

**WELCOME TO THE NEVADA CLIMATE CHANGE PORTAL**

The focus of this website is to advance the quality, and quantity of infrastructure and data collection for climate, hydrological and ecological information pertaining to the state of Nevada. This website provides information on the Nevada Climate Change Project and access to both the NevCAN (Nevada Climate-ecohydrology Assessment Network) and climate modeling output. All information and data is publicly available for download to any person or group that seeks to use it for any purpose, be it research, education, personal interest, or otherwise.

**EPSCoR**

Nevada Infrastructure for Climate Change Science, Education and Outreach

One of the major goals of this project was to create an easily accessible, and expandable infrastructure for geospatial data (such as climate information). By providing access to real-time and archived environmental data (such as climate information), by providing access to real-time and archived environmental data the project significantly enhances the ability of scientists, land managers educators and students to analyze and graphically present environmental data observations.

This effort was funded by the National Science Foundation EPSCoR (Experimental Program

**New Mexico EPSCoR**

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

Home | About NM EPSCoR | Science Focus | Education & Outreach | For Researchers | Data Portal

**Discover data: Spatial Search**

Filter data by Title

Filter data by when updated

Filter data by Theme

- ANM EPSCoR
- Climate
- Digital Cartography
- Elevation
- Environmental Data
- Geology
- Soils
- Transportation
- Vegetation
- Water Resources

Define Area of Interest by Placename or Quadname

Current theme: All themes

Showing 15 of 9391 results.

Dataset title (description)

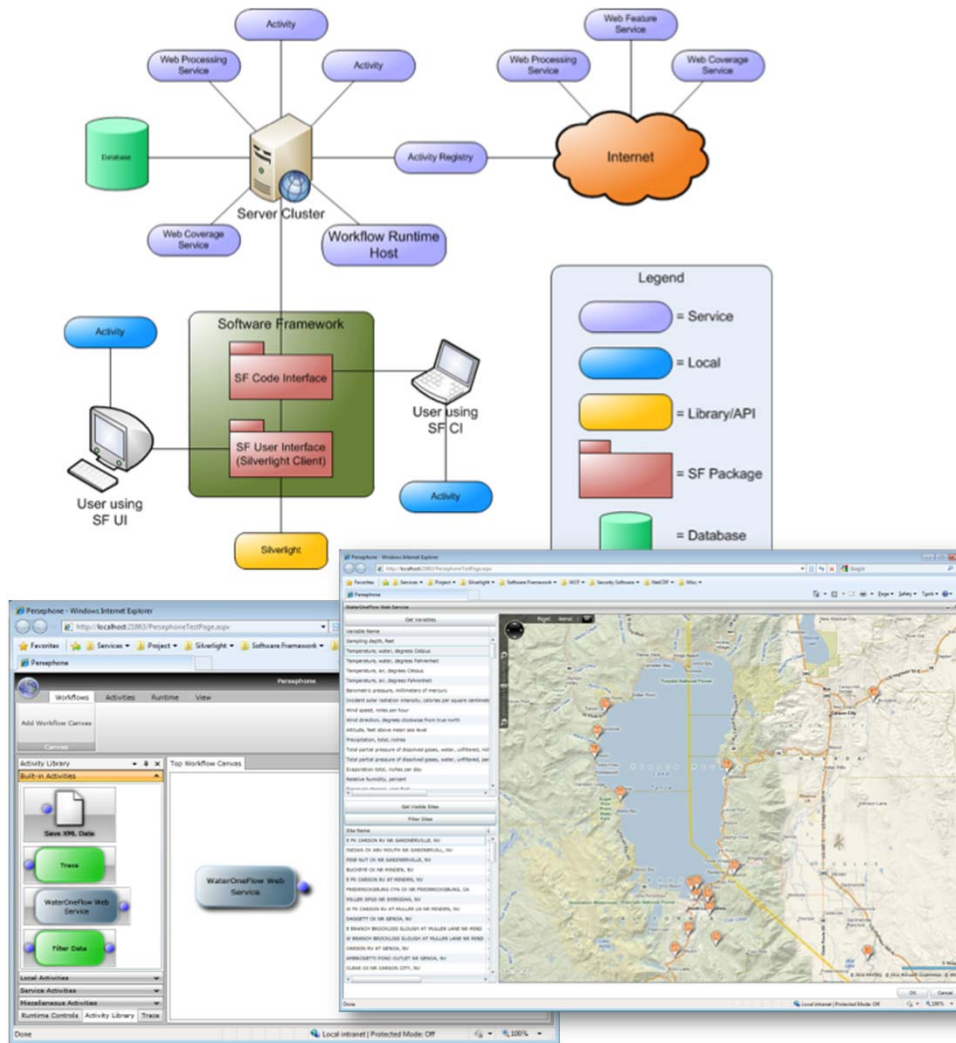
Valencia County Mosaic, 2011

Download: ipg gml kmz json csv Metadata: html xml txt Services: wms wfs WFS: preview

Theme: Digital Orthophotography - 2011 NAD - County Mosaic - ipg



# Data & Model Interoperability



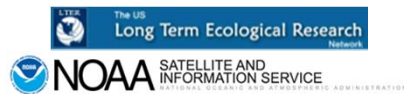
Visual Model Coupler

[Persephone WaterOneFlow Video Demo](#)

# Impacts - Collaborations



Tri-State AGU Session focused on “interoperable Earth science information networks”



Tri-State ISO metadata training co-located at the LTER National Network Office, including LTER personnel in training provided by NOAA metadata experts



DataOne Data User’s Group membership by ID and NM. Hosting of DataOne web services at EDAC. Collaborative storage with DataOne at UNM. Planned DataOne member nodes in ID and NM.

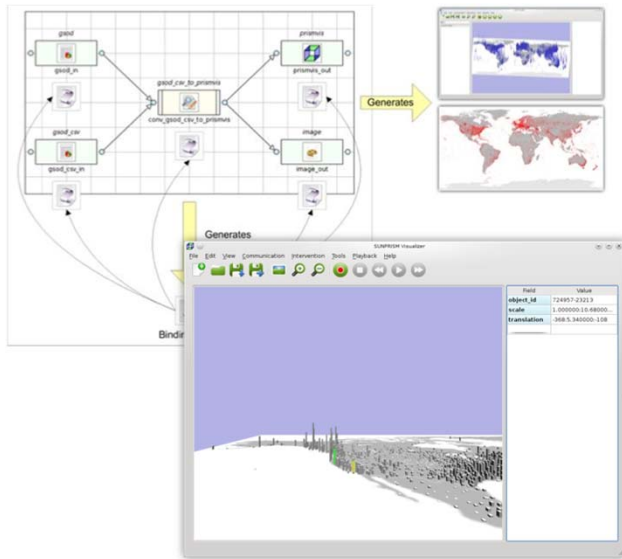


Shared development and use of the .Spatial software package in HydroDesktop and model interoperability framework in NV and ID. Deployment of HIS instances in ID and NM. Continued HydroDesktop development in ID. WaterML indexing in Mercury (ID), WaterML -> ISO.

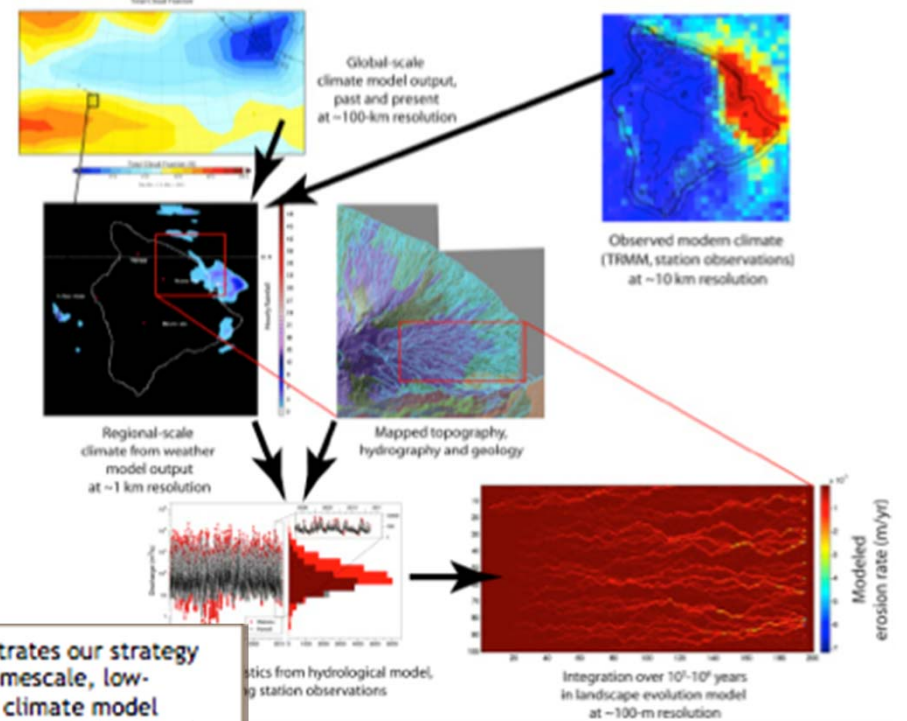


# Impacts - Science

Cross-scale modeling for climate model  
- landscape scale analyses (NM - Joe  
Galewsky's research group)



SUNPRISM Climate Change  
Research Framework (NV -  
Sohei Okamoto)



This diagram illustrates our strategy for taking short-timescale, low-spatial-resolution climate model output and "crossing scales" to use it in a long-timescale, high-spatial-resolution landscape model, using a case study of a strong precipitation gradient in Hawaii.



# Impacts – Knowledge Transfer



NM - work with teachers in defining science data needs and capabilities



Scott Brown - MA Student at UNM in Civil Engineering - HIS ingest and integration with NM data portal



Jigar Patel - PhD Student at UNR - developing Visual Model Coupler for EPSCoR model interoperability activity



Sohei Okamoto - recent PhD graduate at UNR - developed the SUNPRISM framework for climate change research



Dr. Von Walden taught climate science courses and used OPeNDAP modules in Python to dynamically access and subset large downscaled climate model outputs. This could not have been done at this level without EPSCoR-funded infrastructure improvements to INSIDE Idaho systems.

# Outcomes and Metrics

Metadata

FGDC → ISO 19115-2

Inside Idaho → Mercury (NKN)



Data

Downscaled Climate  
Scenarios

Sensor Data

Remote Sensing Data

User Feedback for  
three portals

National Science Foundation EPSCoR Project Data Portal Survey  
Questions marked with an asterisk (\*) are mandatory.

Page 1 of 3

1. \* How did you first find about this data portal?

- Online community
- Informational email or newsletter
- News story (newspaper/television)
- Search engine
- Word of mouth
- Presentation at Conference/Meeting
- Email invitation
- Other, please specify

#### DEMOGRAPHIC INFORMATION

Completion of this section provides basic information to capture the demographics of our data portal users. This information, although voluntary, strengthens future applications for funding, ultimately providing research program sustainability and growth.

2. \* With which gender do you identify?

- Male
- Female



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# Sustainability



**NEVADA CLIMATE CHANGE PORTAL**