REACCH
Regional Approaches to Climate Change – PACIFIC NORTHWEST AGRICULTURE

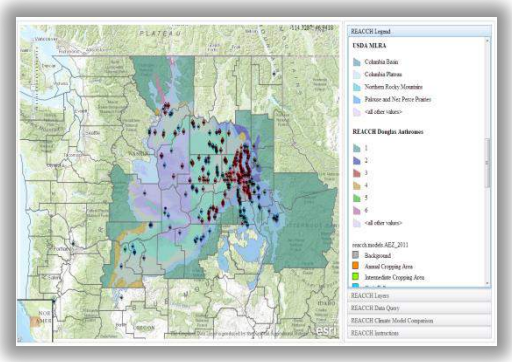
Annual Meeting 2013
Speed **Science Presentations**

http://reacchpna.org

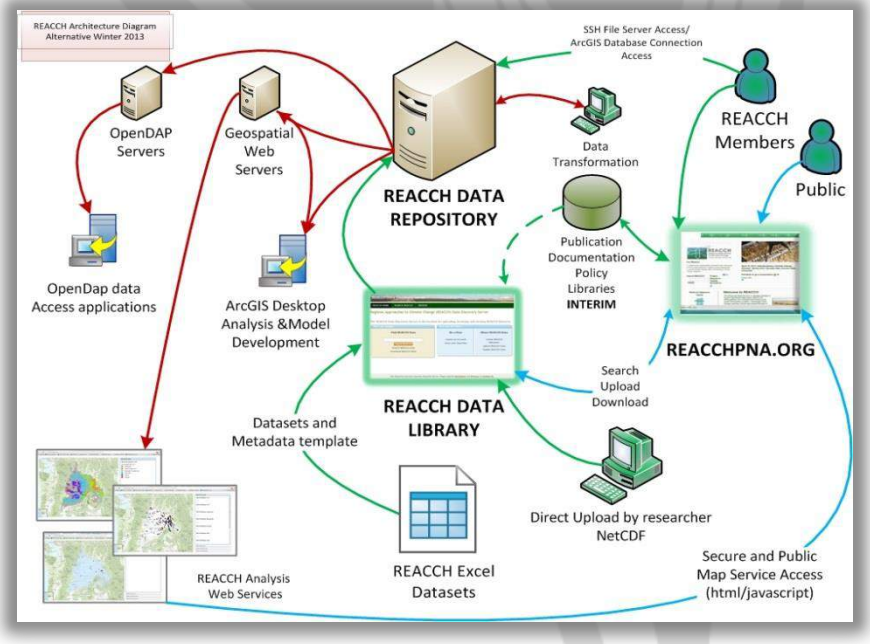
REACCH Data Management Architecture 2013

Erich Seamon, University of Idaho

The REACCH Data Management team has made considerable progress in 2nd year of REACCH's five-year project effort – with a core focus on implementing the defined strategy that was described in Year 1. That strategy outlined the development of modular, sustainable, and extensible systems and processes that would allow for the collection, storing, and analyzing of REACCH-related data and content. In support of this strategy – the REACCH data management team has built out three core systems to implement this approach. 1) Our reacchpna.org portal, 2) The REACCH Data Repository, and 3) REACCH Libraries.



Supporting these three core areas is a developed architecture that includes a three-tier server environment (data, applications, web), a geospatial server environment for web mapping services, an LDAP secure login server for unified user logins across systems, replication/mirroring of data @ Idaho National Laboratories (INL), and authentication methods for allowing REACCH members outside of the University of Idaho to securely access data, based on user roles.



Pictures shown, from top to bottom, are:
1) REACCHPNA.ORG web site;
2) REACCH Data Viewer web application

This presentation was given at REACCH 2013 Annual Meeting. This handout and supplemental video are available at reacchpna.org. Funded through Award # 2011-68002-30191 from the USDA National Institute for Food and Agriculture.

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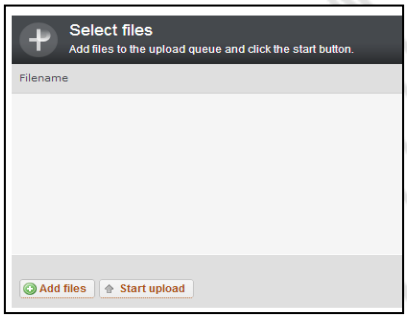
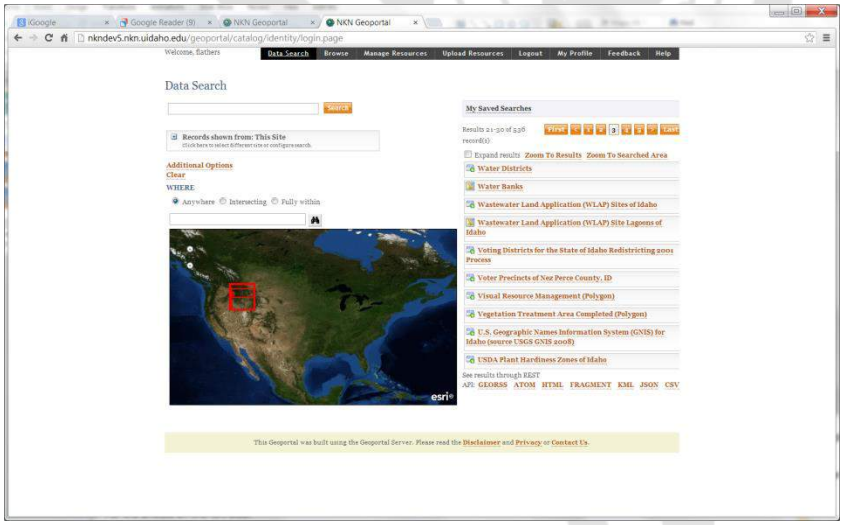
Getting data into our REACCH repository

Edward Flathers, University of Idaho



One of the challenges of distributed science is sharing data resources among colleagues in ways that are simple and that lead to maintainable data catalogs. Data curation provides support for publication, enhances re-usability of data, and satisfies funding agency requirements. Through the application of some simple cataloguing techniques, we can build a collection of data that can be shared among REACCH researchers, and, eventually, the scientific community at large.

The presentation will cover three steps for loading data into the REACCH data repository: preparing and uploading data; tagging data with descriptive metadata that enables cataloguing and discovery; and accessing data that have been made available through the data portal.



Pictures shown, from top to bottom, are:
1) Uploading a file
2) Managing the catalog
3) Viewing data locations

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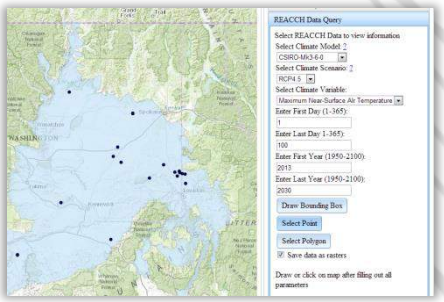
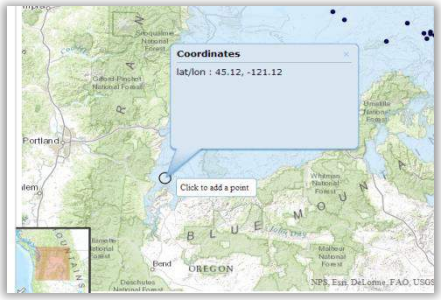
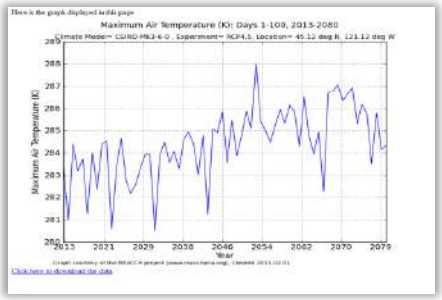
REACCH Data Access and Visualization

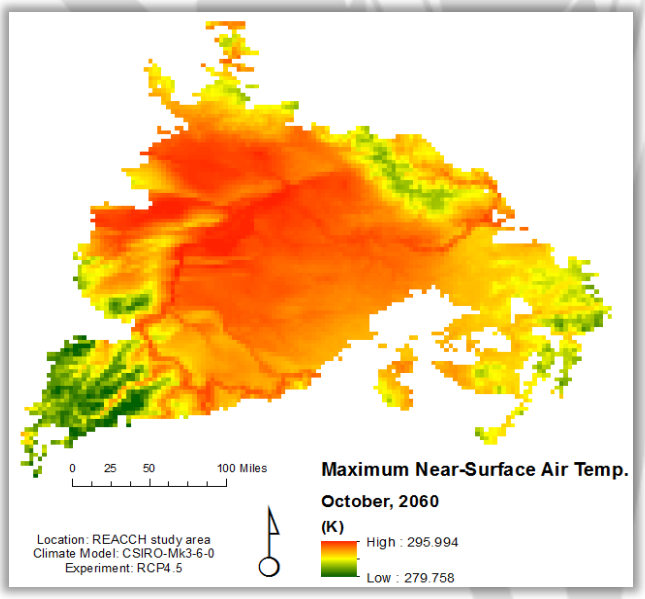
Stephen Fricke, University of Idaho







Data is much more useful if it can be visualized in a meaningful way. There are many datasets with a very wide spatial and temporal extent, and it can be difficult for many to access these datasets in an efficient manner. In order to remedy this issue we have created a variety of geoprocessing services within ArcGIS desktop, as well as web applications using ESRI's web API service. One of the goals of these services is to allow the access of data for a very specific area and time period of interest. Once these extents have been defined, the services we have created allow the capability to create a wide array of maps graphs., as well as the ability for the user to download the data in a variety of formats ranging from CSV's to ArcGIS rasters. We have built a solid foundation in creating these services, so that new services can easily be created which suite a clients unique interests and needs.



Pictures shown, from top to bottom, are:
1) The user-interface for entering data parameters.
2) The interactive selection of the area of interest.
3) The resulting time-series graph.

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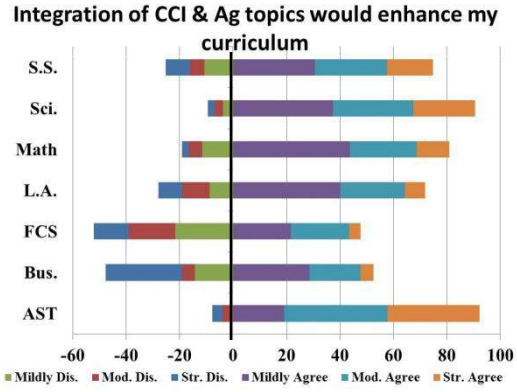
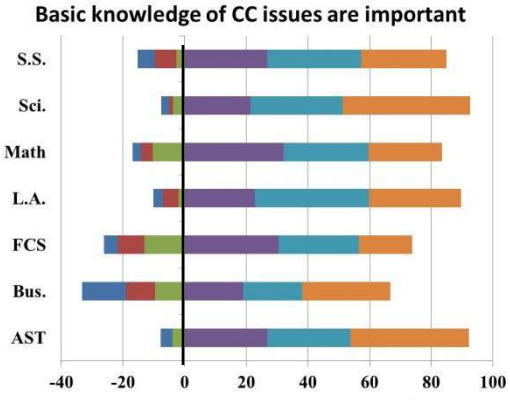
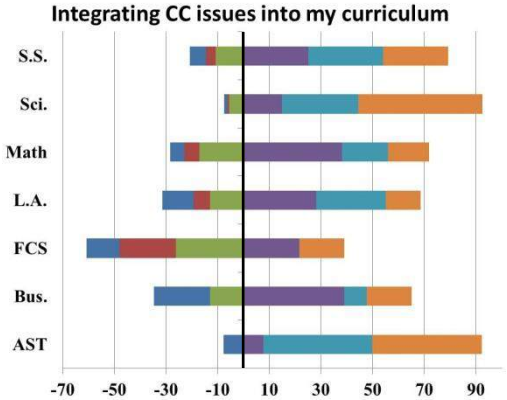
Perceptions of Climate Change in Secondary Education in the Pacific Northwest

P. Troy White, University of Idaho







Teachers in the Pacific Northwest (PNW) generally feel that knowledge about climate change issues (CCI) is important to be a productive member of society. As a group teachers feel that CCI can be incorporated into their curriculum. They also feel that CCI and agricultural topics would enhance their curriculum.

Instruction on CCI occurs most frequently two or three times a year in most disciplines, with 18.6% of all teachers never including CCI. 40.9% of all teachers agreed integration of CCI and agricultural topics would enhance their curriculum, and 85.6% of all teachers agreed at some level that basic knowledge of CCI is important in making socially responsible decisions. Time, available curriculum, and funding were the most frequently cited reasons for not including CCI. Teachers were most likely to participate in a one to two day on site professional development experience.

Graphs shown, from top to bottom, are: Integration of climate change and agricultural topics; A basic knowledge of climate change issues is important in making socially responsible and healthy decisions on a daily basis; and teacher comfort levels integrating climate change. All items were measured using a 6 point Likert-type scale, from "Strongly Disagree" to "Strongly Agree." All charts show percentages in each category by discipline. *Positive values represent agreement & negative values disagreement.*

Abbreviations: SS-Social Studies, Sci-Science, LA-Language Arts, FCS-Family & Consumer Science, Bus-Business, AST-Agricultural Science & Technology

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