

USGCRP Global Change Information System (GCIS) Overview

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ESIP Federation Summer Meeting

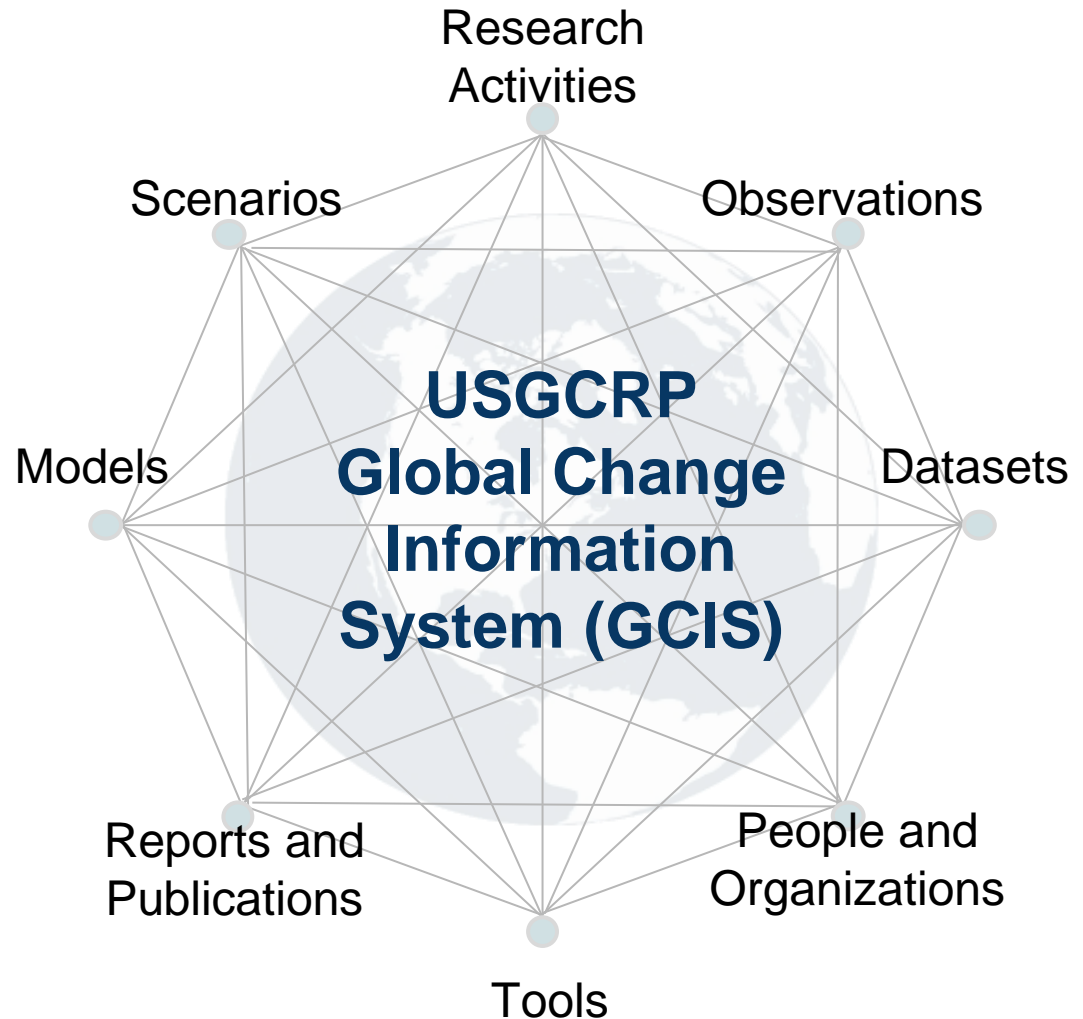


U.S. Global Change
Research Program



What is GCIS?

GCIS connects global change information for scientists, decision makers and the public.



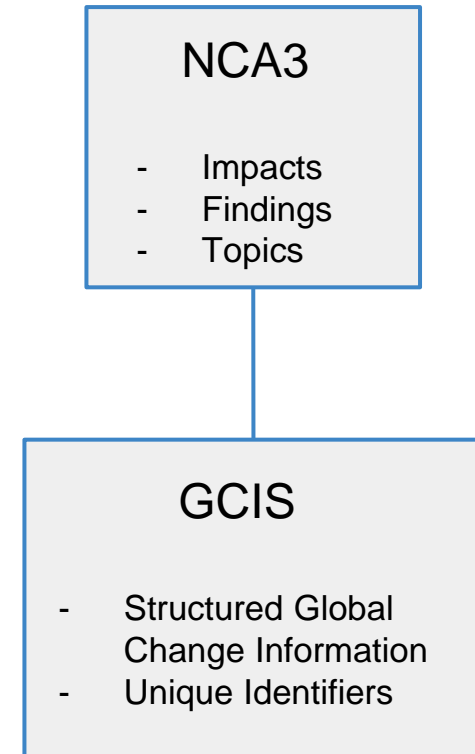
Why GCIS?

The U.S. Global Change Research Program ([USGCRP](#)) established the Global Change Information System (GCIS) to better **coordinate and integrate** the use of Federal information products on **changes in the global environment** and the implications of those changes for society.



GCIS History

| | |
|------------------|--|
| May 2012 | GCIS initial concept |
| Jan 2013 | Draft National Climate Assessment 3 (NCA3) Release |
| May 2013 | GCIS live (with Draft NCA3) |
| May 2014 | NCA3 & GlobalChange.gov Release |
| July 2014 | CEOS instruments & platforms |
| Nov 2014 | Climate Models |
| Apr 2015 | Indicator Release |



What does GCIS do?

Capture

Direct and automated retrieval from contributors, agency data centers, publishers, agency partners, etc.

Identify

Assign persistent, resolvable, controlled identifiers.

Organize

Capture and represent relationships between elements, across data center and agency boundaries.

Present

Provide interfaces to retrieve, search and mine structured metadata

Maintain

Develop tools and processes to ensure quality and integrity of content over time.





Highlights

Explore highlights of the National Climate Assessment including an Overview, the report's 12 overarching findings, and a summary of impacts by region.



Full Report

Explore the entire report covering our changing climate, regions, cross sector topics, and response strategies in full detail.



nca2014.globalchange.gov



Figure Metadata

Figure : observed-us-temperature-change

Observed U.S. Temperature Change

Figure 2.7

Cooperative Institute for Climate and Satellites - NC
Kenneth Kunkel

This figure appears in chapter 2 of the *Climate Change Impacts in the United States: The Third National Climate Assessment* report.

The colors on the map show temperature changes over the past 22 years (1991-2012) compared to the 1901-1960 average, and compared to the 1951-1980 average for Alaska and Hawai'i. The bars on the graphs show the average temperature changes by decade for 1901-2012 (relative to the 1901-1960 average) for each region. The far right bar in each graph (2000s decade) includes 2011 and 2012. The period from 2001 to 2012 was warmer than any previous decade in every region. (Figure source: NOAA NCDC / CICS-NC).

When citing this figure, please reference NOAA NCDC / CICS-NC.

This figure was created on August 03, 2013.

This figure is composed of these images :

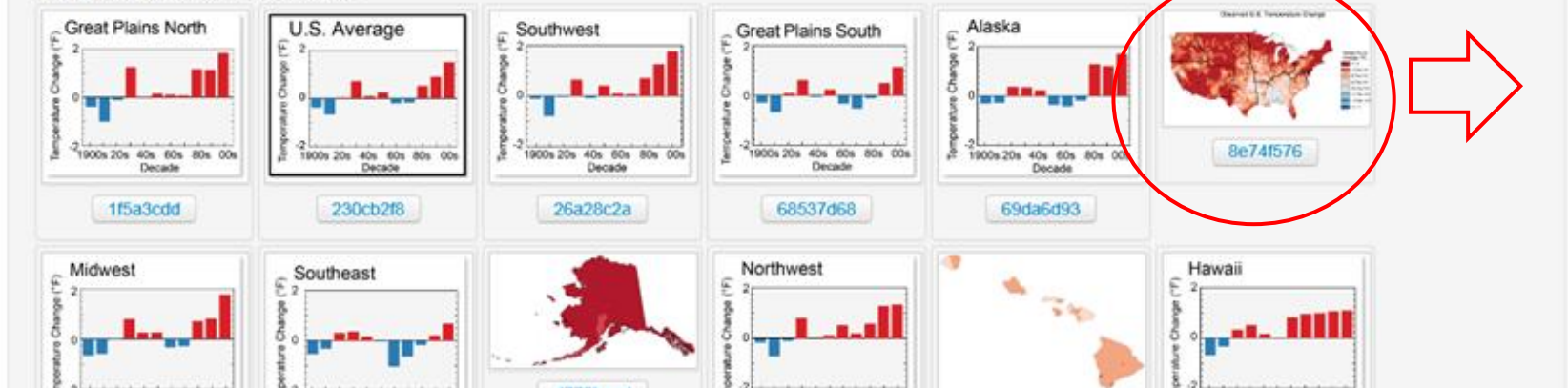
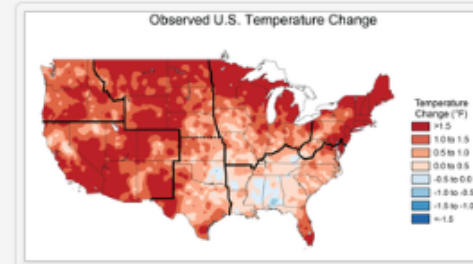


Figure Metadata (cont.)

image : 8e74f576-a5af-46c0-b33a-f30072118b86

Observed U.S. Temperature Change Map - Contiguous U.S.

National Oceanic and Atmospheric Administration National Climatic Data Center
Russell Vose



The time range for this image is January 01, 1901 (00:00 AM) to December 31, 2012 (00:00 AM).

This image was created on August 01, 2013.

The spatial range for this image is 24.50° to 49.38° latitude, and -124.80° to -66.95° longitude.

Attributes : Contiguous U.S., temperature, observed.

This image was derived from [dataset nca3-cddv2-r1](#) using the activity [8e74f576-nca3-cddv2-r1-process](#)

This image is part of this figure :

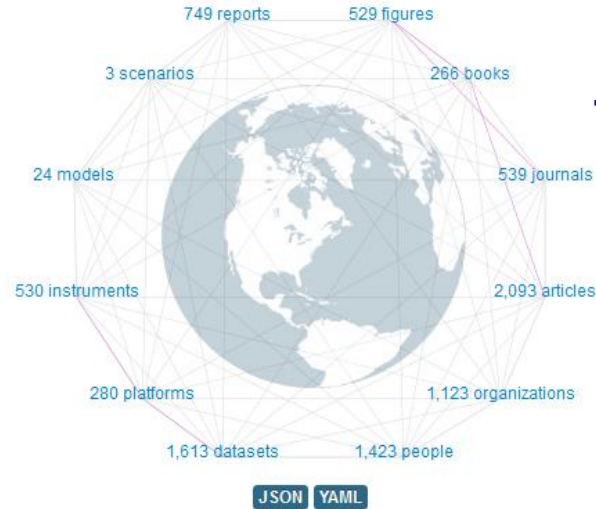
Dataset

Activity



Global Change Information System

Connecting global change resources.



data.globalchange.gov

Featured report : [The Third National Climate Assessment](#)

About

Who we are, what the GCIS is, and how we use identifiers and semantic information to provide points of reference and traceability.

Examples

Examples and tutorials for using this system as a researcher, citizen scientist, application developer or information theorist.

Data model

A description of how the information is structured, including the overlaps between relational and semantic representations of the information.

API reference

Complete documentation for the API, including methods for browsing and finding resources.



Current GCIS Activities

Expanding observational and model assets

- Airborne missions, ground-based networks, hydrology monitoring networks, station data, ships
- Climate, land use, hydrologic, and other models

Interagency collaboration

- Identifying and listing high impact/high value datasets

Scaling up content

- Currently 2400 datasets, 280 platforms, 530 instruments, 1200 organizations, 8900 people, 820 reports, 540 journals, 230 books, 33 models

Supporting front ends for reports, assessments, etc:

- GlobalChange.gov, NCA 2014, Indicators, Upcoming Health Assessment

Continuous quality assurance

- Verifying against authoritative sources: e.g. Library of Congress, Web of Science

Continuous adaptability

- Extending information model to accommodate new concepts

Preparing for support of next NCA

GCIS Supports Federal Directives

“to develop and provide authoritative, easily accessible, usable, and timely data, information, and decision-support tools on climate preparedness and resilience.”

[Executive Order 13653 - Preparing the United States for the Impacts of Climate Change]

“guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies”

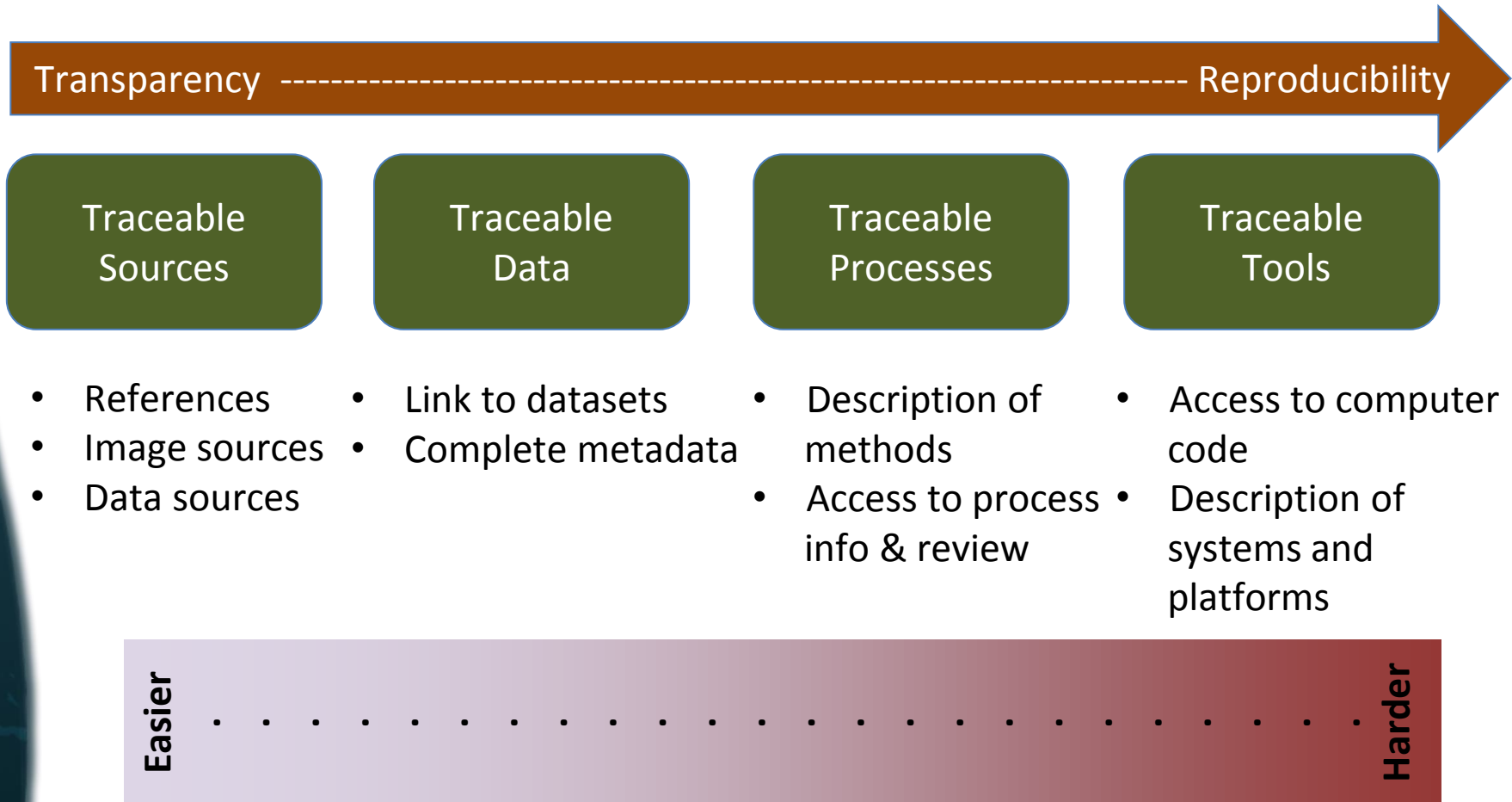
[U.S. Information Quality Act (IQA) - Public Law 106-554, Section 515]

“ The more important benefit of transparency is that the public will be able to assess how much an agency’s analytic result hinges on the specific analytic choices made by the agency.”

[Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Notice; Republication, p. 8456]

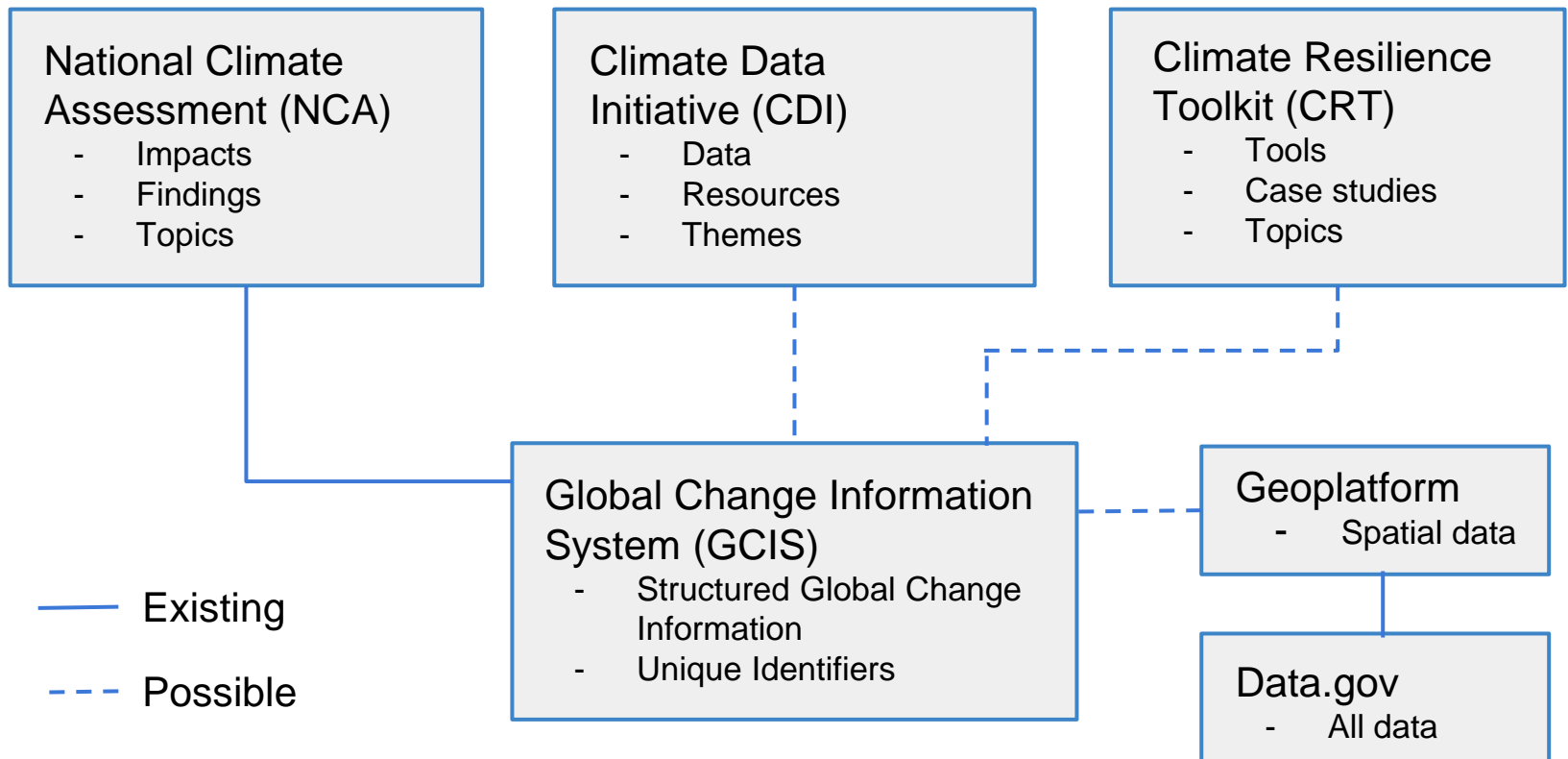


What is Traceability?

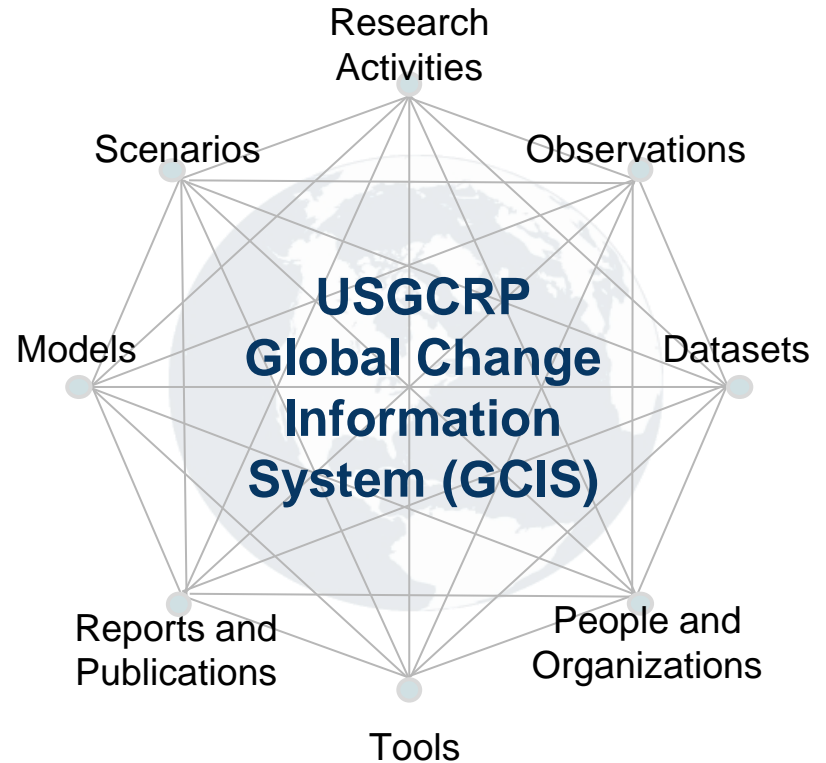


GCIS and Climate Data and Tools (CDAT)

CDI and CRT may leverage GCIS for
structured climate information



Thank You



rewolfe@usgcrp.gov
<http://data.globalchange.gov>



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