Adaptable Information Models in the Global Change Information System

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`http://data.globalchange.gov`
`http://github.com/USGCRP/gcis`

Outline

1. Introduction and Functionality
    - Mission
    - Support NCA3 Report Production
    - Service as the NCA3 Website backend
    - Provide Provenance of Resources
    - Be a source of reliable information
    - Connect disparate sources of information
2. Information Model
    - Relational
    - Semantic
    - Examples
3. System Architecture
    - Diagram
    - Updating the Schema
    - Updating the Ontology
    - Updating Content
4. Conclusion, Ongoing Work, Future Plans

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Mission

The US Global Change Research Program (USGCRP) has 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.

Support NCA3 Report Production

In May, 2014, the US Global Change Research Program released the 2014 National Climate Assessment.

Production of this 829 page report and its web site involved collaboration between over 300 authors, numerous editors, graphics producers, scientists, data scientists, software developers, and web teams.

The content included 161 findings, 284 figures, 3,395 bibliographic references (journal articles, books, reports).

The GCIS facilitated the assembly of the report by providing common **identifiers** for resources and concepts, providing a common web interface for entering data, as well as an API for accepting data in a variety of formats.

Service as the NCA3 Website backend

A website, `http://nca2014.globalchange.gov`, was released concurrently with the report. The site received over 200,000 visits in the first two days after launch and continues to receive frequent main stream media attention.

GCIS serves as the backend : the website sends client side requests to `http://data.globalchange.gov` and receives JSON responses which it uses to populated elements of some pages dynamically.

todo insert picture here

Provide Provenance of Resources

The GCIS ensures compliance with the Information Quality Act by providing traceable identifiers for sources of information.
Given a figure, find the datasets and instruments associated the data behind it.

todo sea level rise graphic

Be a source of reliable information

The inverse of provenance.

Given a dataset, find reports with figures generated from the dataset.

Show figures associated with instruments funded by NASA.

Connect disparate sources of information

todo

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Relational

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Semantic

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Examples

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Diagram

todo

Updating the Schema

todo

Updating the Ontology

todo

Updating Content

todo lexicons here

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