

The Global Change Information System

Reports, Data, APIs, Communication and Information

Brian Duggan¹², Steve Aulenbach¹²,
Robert Wolfe²³, Justin Goldstein¹²

¹UCAR, ²USGCRP, ³NASA

July 10, 2014

<http://data.globalchange.gov>
<http://github.com/USGCRP/gcis>

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 - Discussion

- Scientists
- Science analysts
- Editors
- Graphic designers
- Web developers
- Project Managers

How

- Spreadsheets
- Google docs
- Email
- Endnote
- Scientific Software
- Graphics Software
- Content Management Systems
- Wikis
- Various miscellaneous desktop and cloud software

What

The tools are used to represent and manipulate various resources.

- Journal Articles
- Reports
- References
- Images, Figures, Tables
- Findings
- Organizations
- People
- Datasets

Role of the GCIS

- Common points of reference
- Common vocabulary across teams
- Language, terminology, vocabulary, ontology
- Uniform Resource Identifiers
- URLs are actionable : URLs
- Information manipulation via API or web forms
- Information extraction via API or browsing
- Information modeling with relational or semantic models
- Fine grained tracking of all changes.
- Convenient useful information entry
- Highly scalable information retrieval

Functionality

- Support `nca2014.globalchange.gov` (jquery)
- GCIS provides JSON backend
- Figures have client side calls
- Also uses dataset landing pages
- API used for data ingestion and retrieval
- Support semantic queries
- SPARQL endpoint
`http://data.globalchange.gov/sparql`
- JSON, RDF, RDF-A, HTML, Turtle, RDF/XML

Architecture

- RDBMS (PostgreSQL) for storage
- HTML templates
- Turtle templates into other formats
- Scrape into triple store
- data structures into JSON, YAML

Server

- Perl (mojolicious)
- nginx, proxies
- postgres
- Virtuoso
- Caching

Clients

- Python (Andrew)
- Perl
- Javascript (jquery)
- php (Drupal)

Versioning

- git
- Postgres audit triggers

Testing

- Test driven development (unit tests)
- QA (gcis-qa)

Narrative vs structure

Semantic vs Relational

Resources

Identifiers

Publications, Contributors

`http://data.globalchange.gov/resources`

Thank you