The Global Change Information System
Reports, Data, APIs, Communication and Information

Brian Duggan[12], Steve Aulenbach[12],
Robert Wolfe[23], Justin Goldstein[12]

[1]UCAR, [2]USGCRP, [3]NASA

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

Assembly
Deployment
Information Model
Discussion

Who
How
What
Role of the GCIS

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

Assembly
Deployment
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Who
How
What
Role of the GCIS

How

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

Assembly
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Who
How
What
Role of the GCIS

What

The tools are used to represent and manipulate various resources.

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

Assembly
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Who
How
What
Role of the GCIS

Role of the GCIS

- Common points of reference
- Common vocabulary across teams
- Language, terminology, vocabulary, ontology
- Uniform Resource Identifiers
- URIs 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

Assembly
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Functionality
Server
Clients
Versioning
Testing

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

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Server

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

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Clients

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

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Versioning

- git
- Postgres audit triggers

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Testing

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

Assembly
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Concepts
Details

Narrative vs structure

Assembly
Deployment
Information Model
Discussion

Concepts
Details

Semantic vs Relational

Assembly
Deployment
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Discussion

Concepts
Details

Resources

Assembly
Deployment
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Discussion

Concepts
Details

Identifiers

Assembly
Deployment
Information Model
Discussion

Concepts
Details

Publications, Contributors

Assembly
Deployment
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Concepts
Details

http://data.globalchange.gov/resources

Thank you