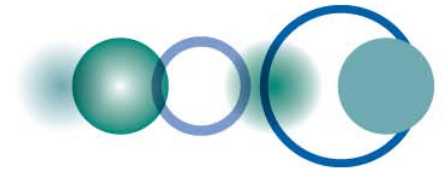




AR-09-01a GEOS Core Architecture Task Report

September 2009





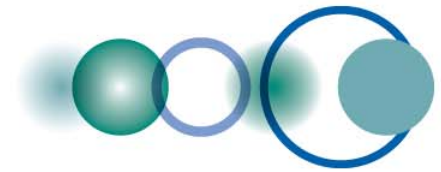
Sub-Task items to report

- Component and Service Registry
- User Requirements Registry
- Standards and Interoperability Registry and SIF
- Best Practices Wiki
- GEOSS Clearinghouse
- GEO Web Portals



AR-09-01a Sub-task Report: GEOSS Component and Service Registry





Deployed Capabilities

For GEOSS Resource Contributors:

- Secure Registration Portal
- Registration Wizards to facilitate population of a valid Component and Service entry
- Geospatial Resource: Registration/ Modification/ Delete
- Affiliated Service Interface: Registration/ Modification/ Delete
- Request for approval
- Service Test for well-known service types
- Automatic Notice when the status of standards referenced in their Services changed

For GEOSS CSR end users:

- Non-secure public search
- Service Test for well-known service types

For GEOSS Clearinghouses:

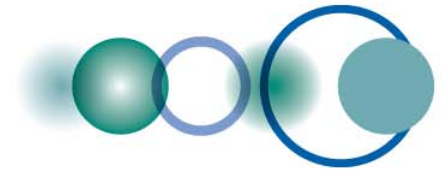
- API Interface

For GEO Secretariat and CSR Record Review Working Group Members:

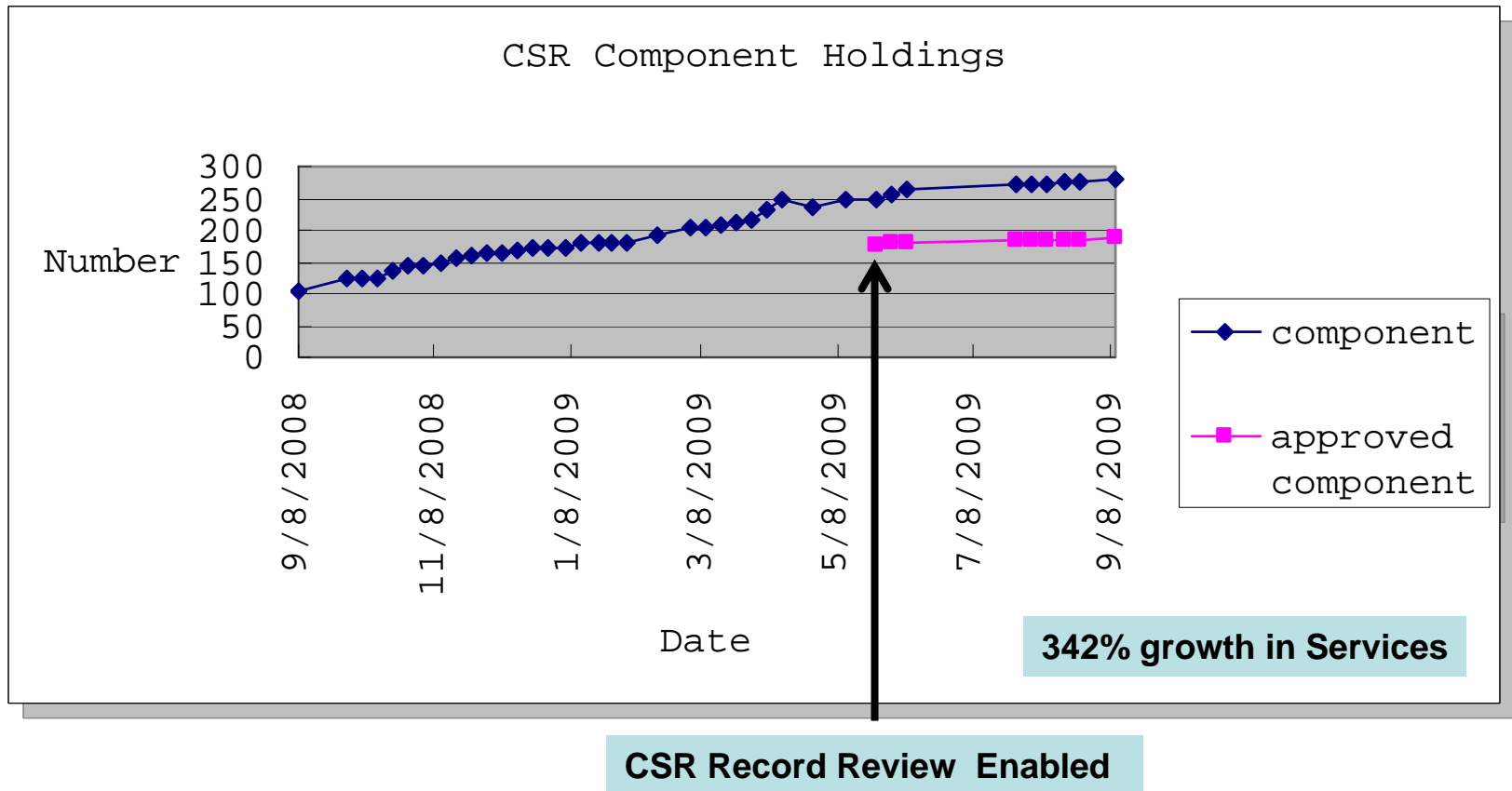
- Record Approval / Disapproval
- Service Test for well-known service types

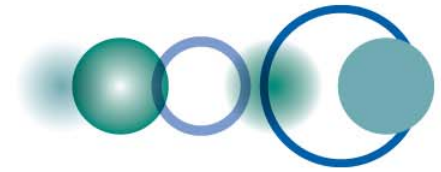
For GEOSS Standard and Interoperability Registry (SIR):

- Enable in-place Special Arrangement/Standard Registration

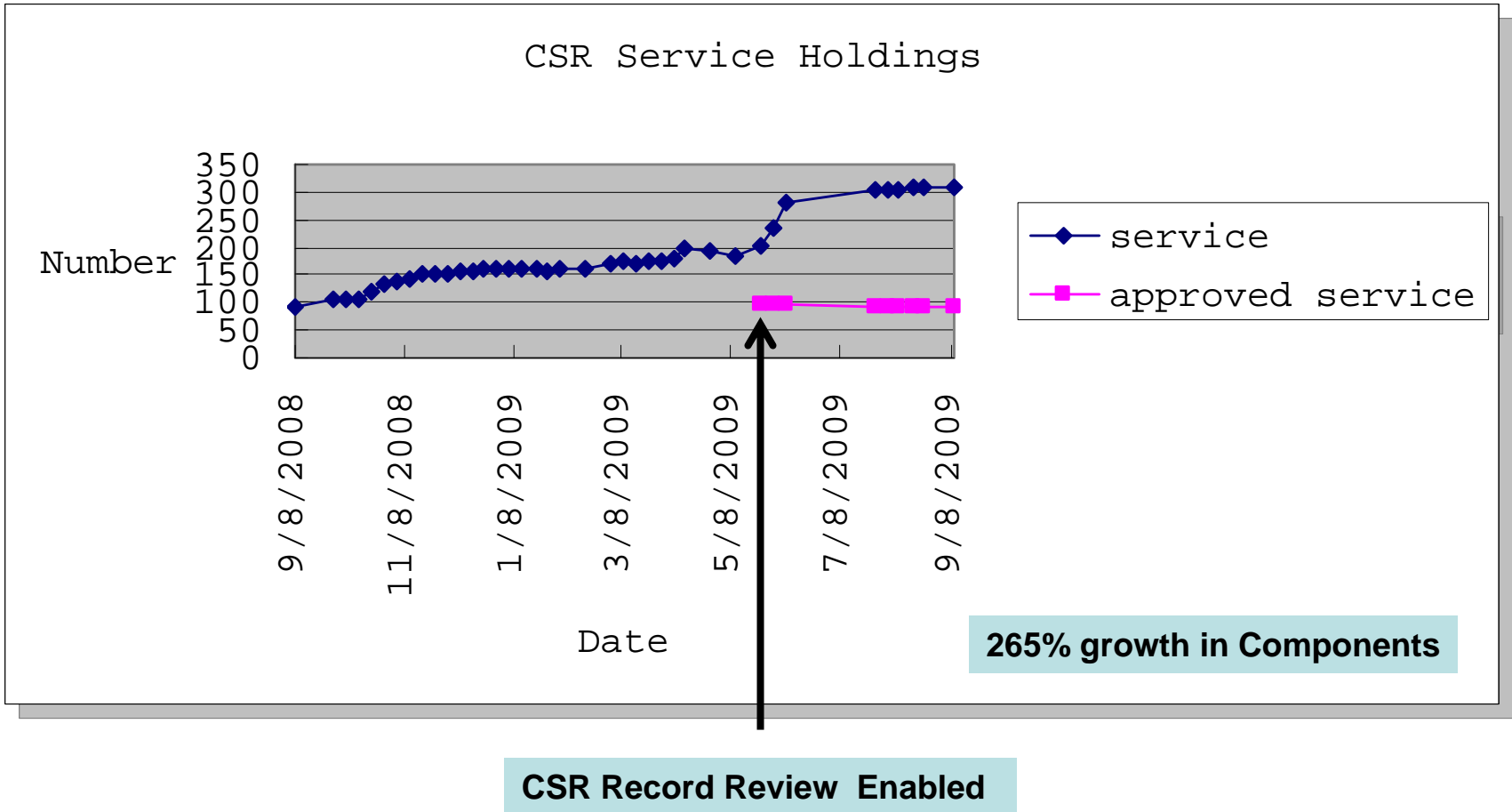


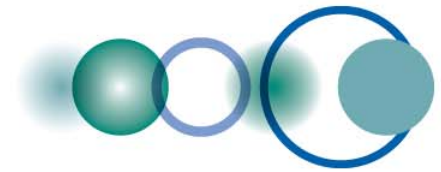
CSR Holdings During AIP-2 (Component)





CSR Holdings During AIP-2 (Service)

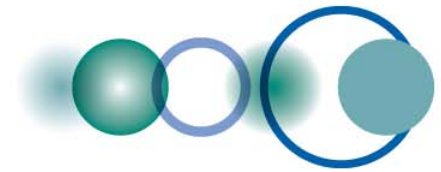




Mind the (service approval) gap

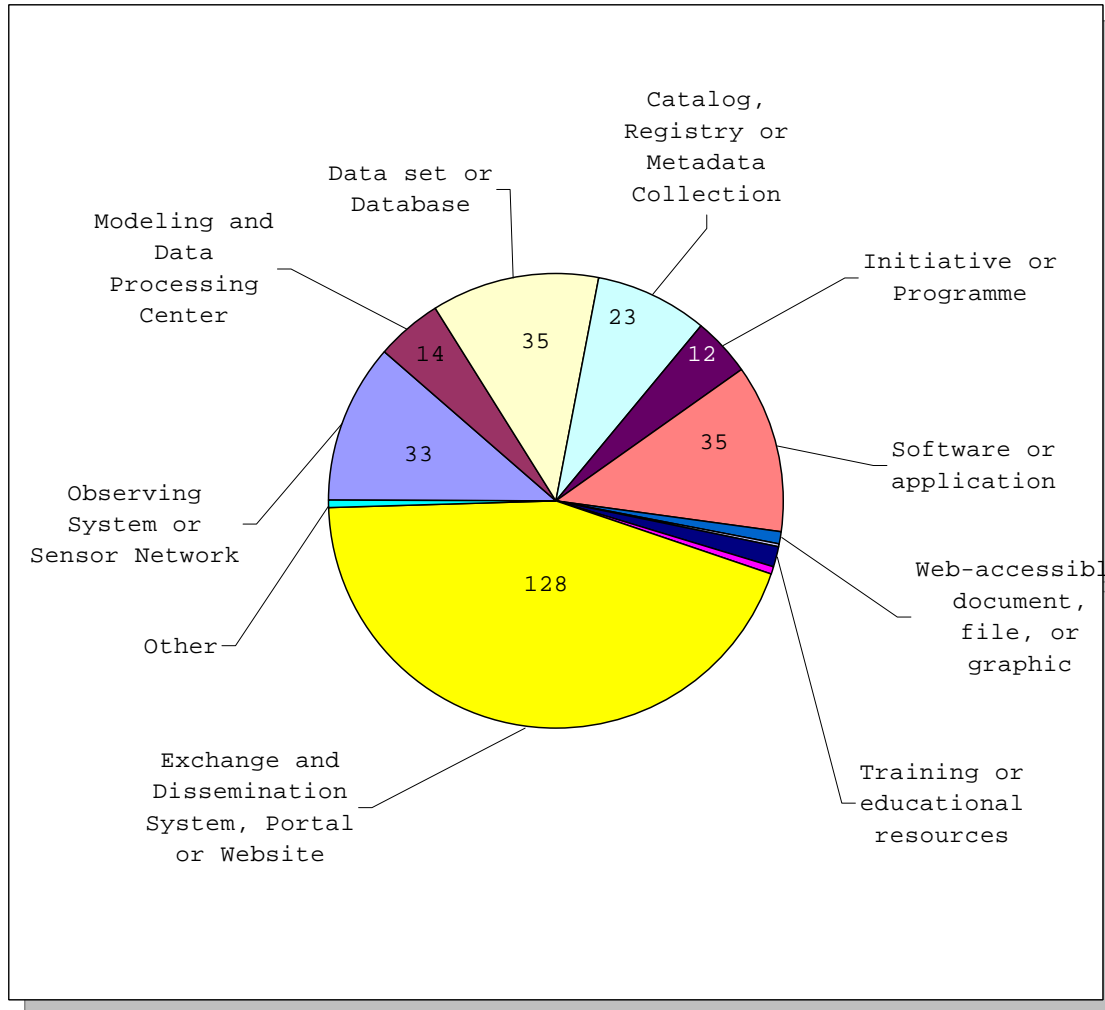
121 un-approved service records from Arctic SDI:

- 1) the records are not registered under the service providers' account [60%]
- 2) the record should be treated as "component" [20%]
- 3) the record does not have api interface [10%]
- 4) the record does not have valid contact information [5%]
- 5) the record does not contain valuable information [5%]

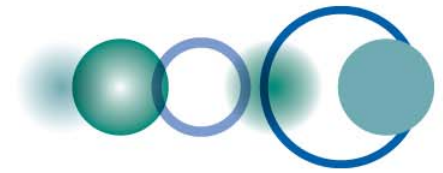


Component Resource Types Registered in CSR

11 September 2009

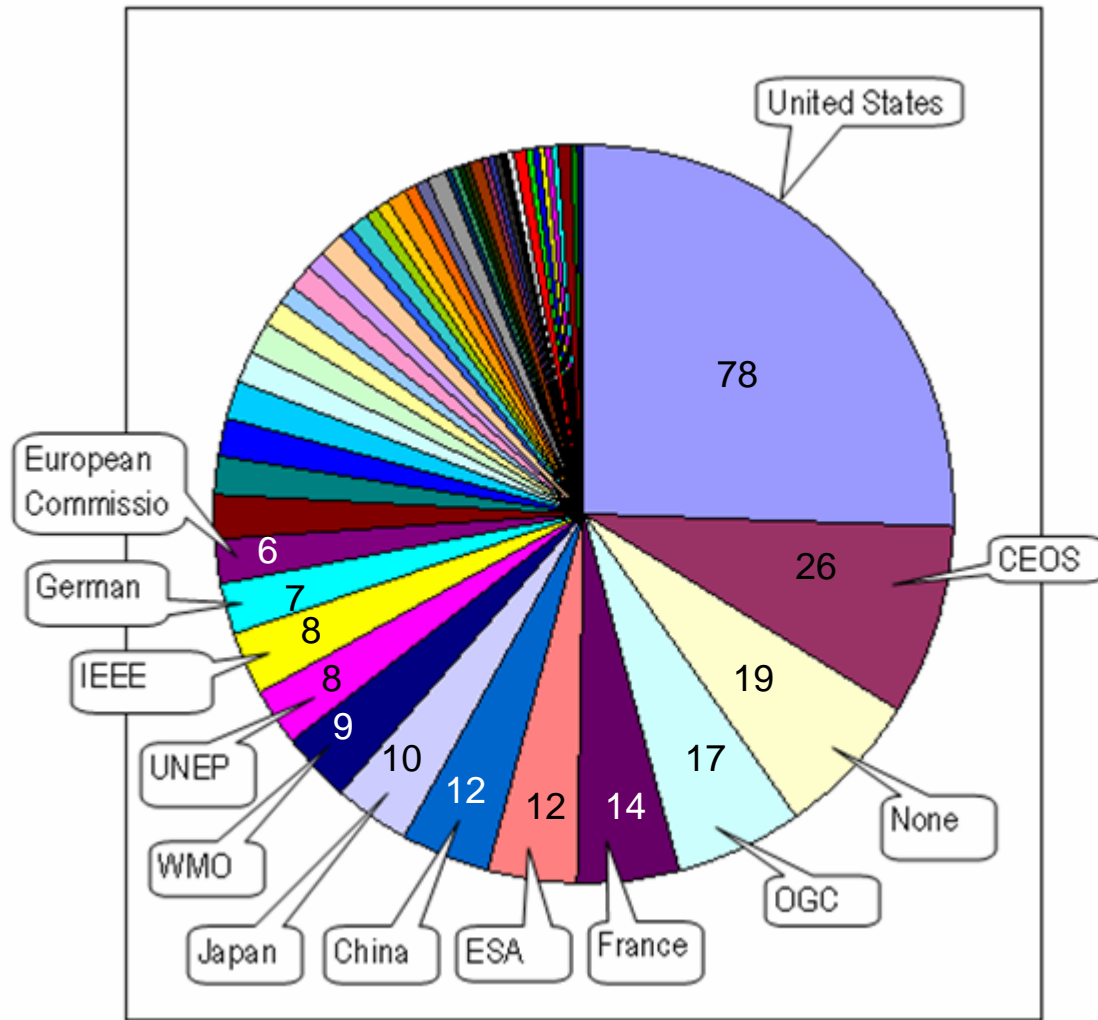


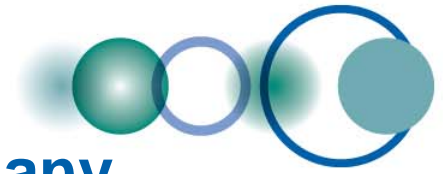
- Majority of offered 'Components' are really websites
- A growing minority are exposing registered Web services



Components Breakdown Based on Sponsorships

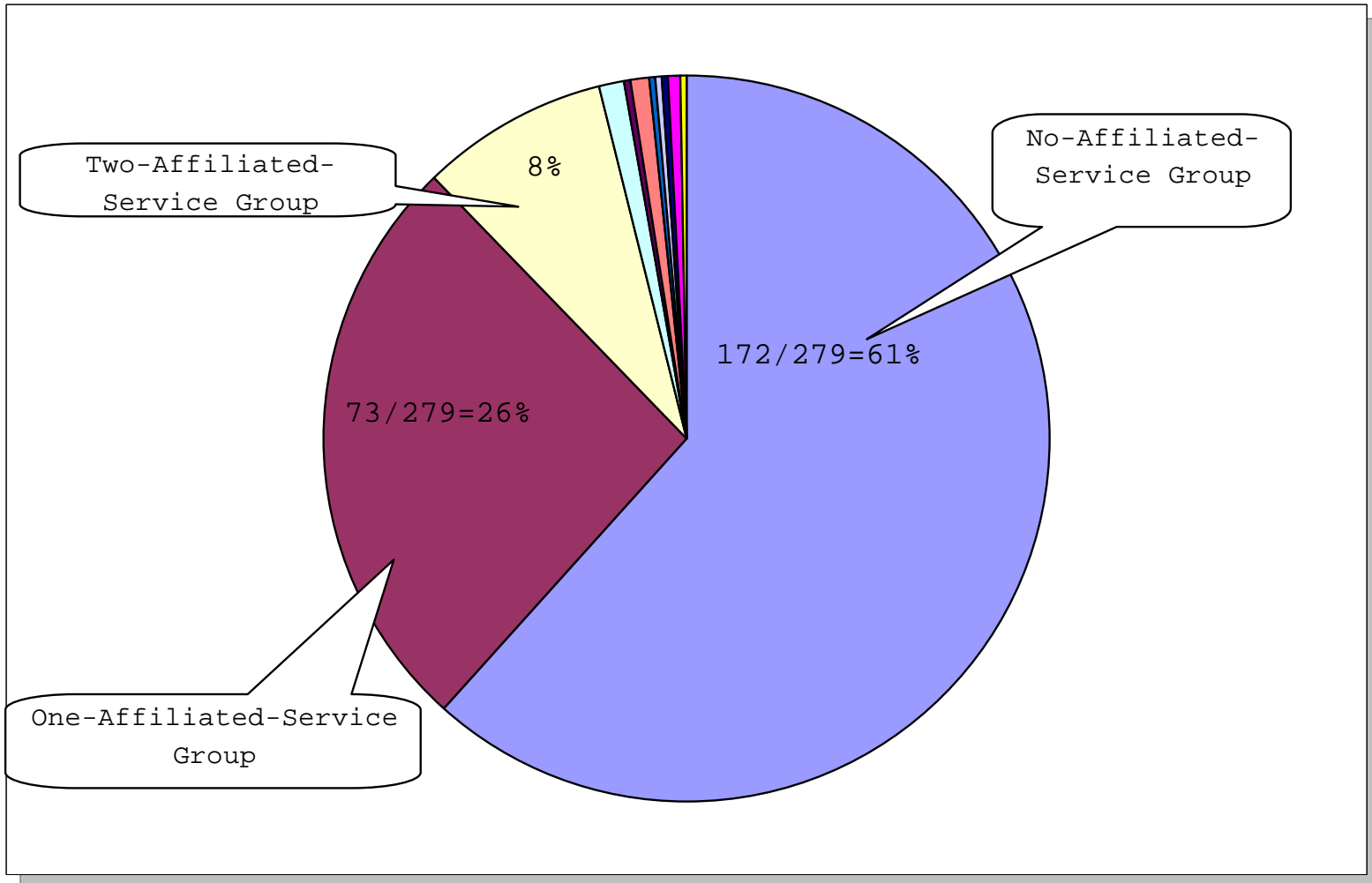
11 September 2009

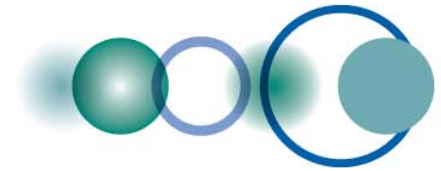




Components Breakdown Based on how many affiliated Service Interfaces

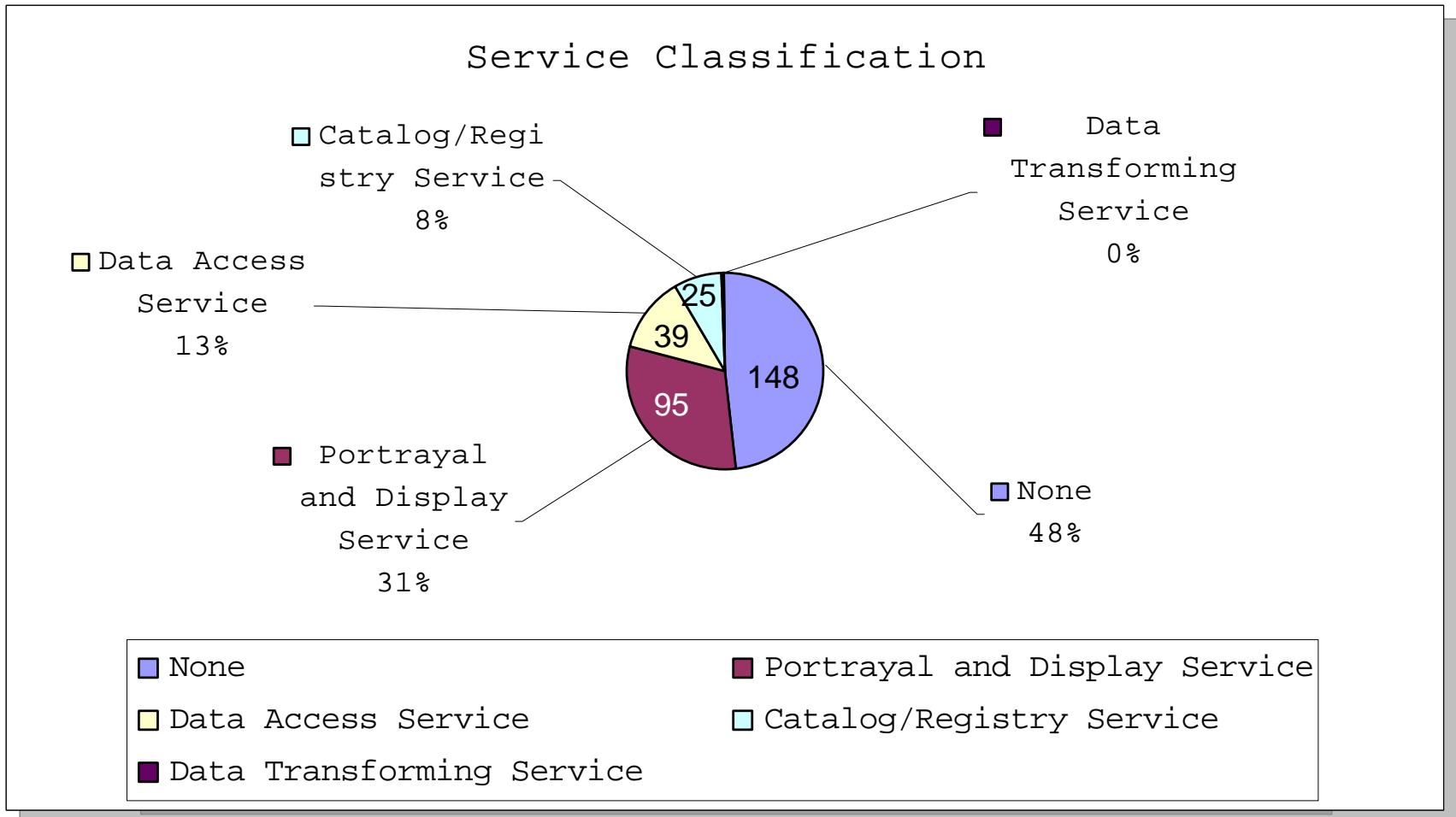
11 September 2009

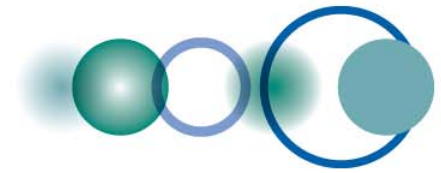




Classification of Registered Service

11 September 2009

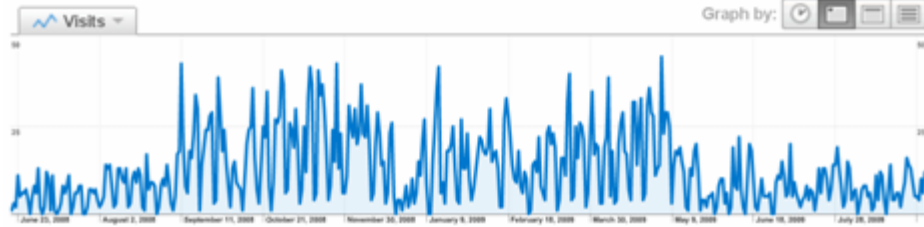




CSR Web Page Visiting Statistics

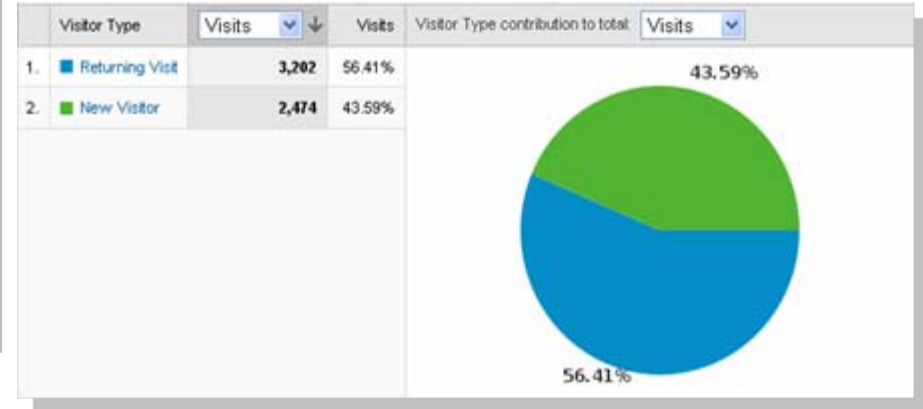
Visits for all visitors

Jun 20, 2008 - Sep 10, 2009



5,676 Visits | **12.67 Visits / Day**

5,676 visits from 2 visitor types



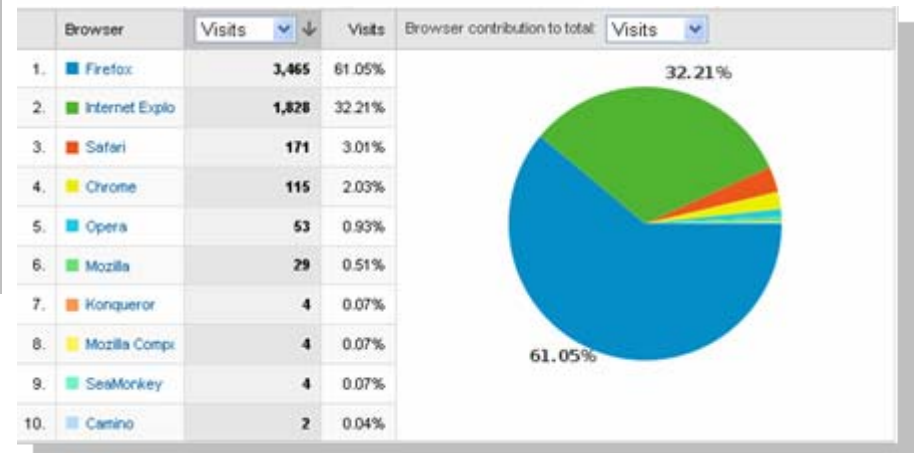
Absolute Unique Visitors

Jun 20, 2008 - Sep 10, 2009

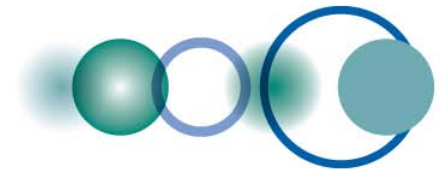


2,474 Absolute Unique Visitors

5,676 visits used 11 browsers



- Generated by Google analytics

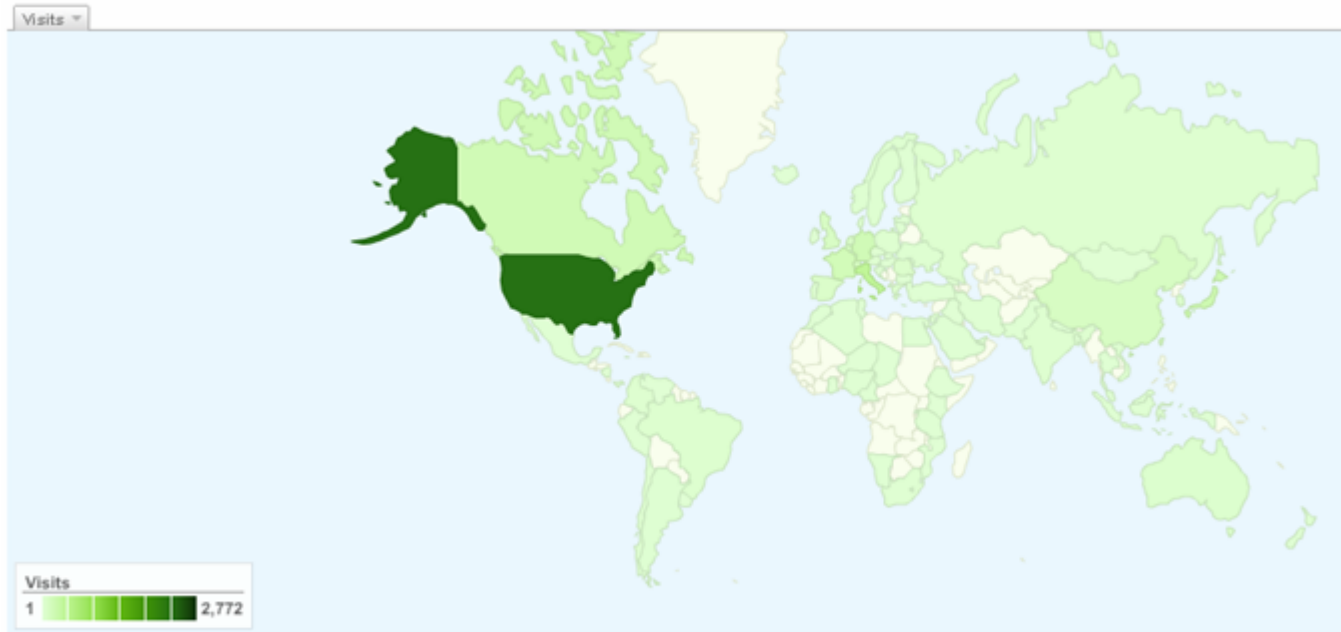


CSR Web Page Visiting Statistics (Cont.)

5,676 visits came from 91 countries/territories

Map Overlay

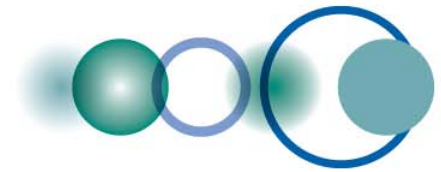
Jun 20, 2008 - Sep 10, 2009



	Detail Level: <input type="button" value="Country/Territory"/>	Visits ↓
1.	United States	2,772
2.	Italy	477
3.	Japan	263
4.	Canada	243
5.	Germany	238
6.	France	220
7.	Belgium	146
8.	Switzerland	144
9.	China	137
10.	United Kingdom	120

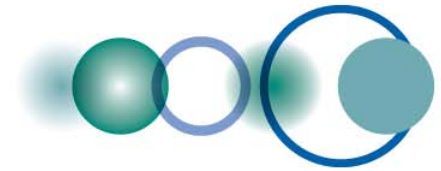
5,676 visits came from 91 countries/territories

Detail Level: [City](#) | [Country/Territory](#) | [Sub Continent Region](#) | [Continent](#) Dimension:



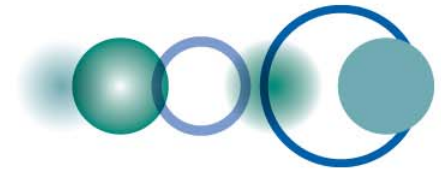
CSR Record review

- Goal: To improve quality, consistency, and completeness for access in GEOSS, as seen by:
 - general public through CSR non-secure public search interface, and
 - GEOSS Clearinghouse instances and clients through catalog API interface.
- Policy approach:
 - Suggest a Review Board to review and adjudicate CSR updates and additions on a weekly basis – criteria for approval will be developed and publicized on the site
 - Approved nominations will be flagged for visibility; non-approved items will be only internally visible (to authors and editors)
- Technical approach:
 - Include “Test the service interface” button to check initial and operational service availability
 - Enable a dedicated “Approval” field for each Component and Service record to be set only by Review Board designee
 - “Approved” will be available for general public search interface and API interface

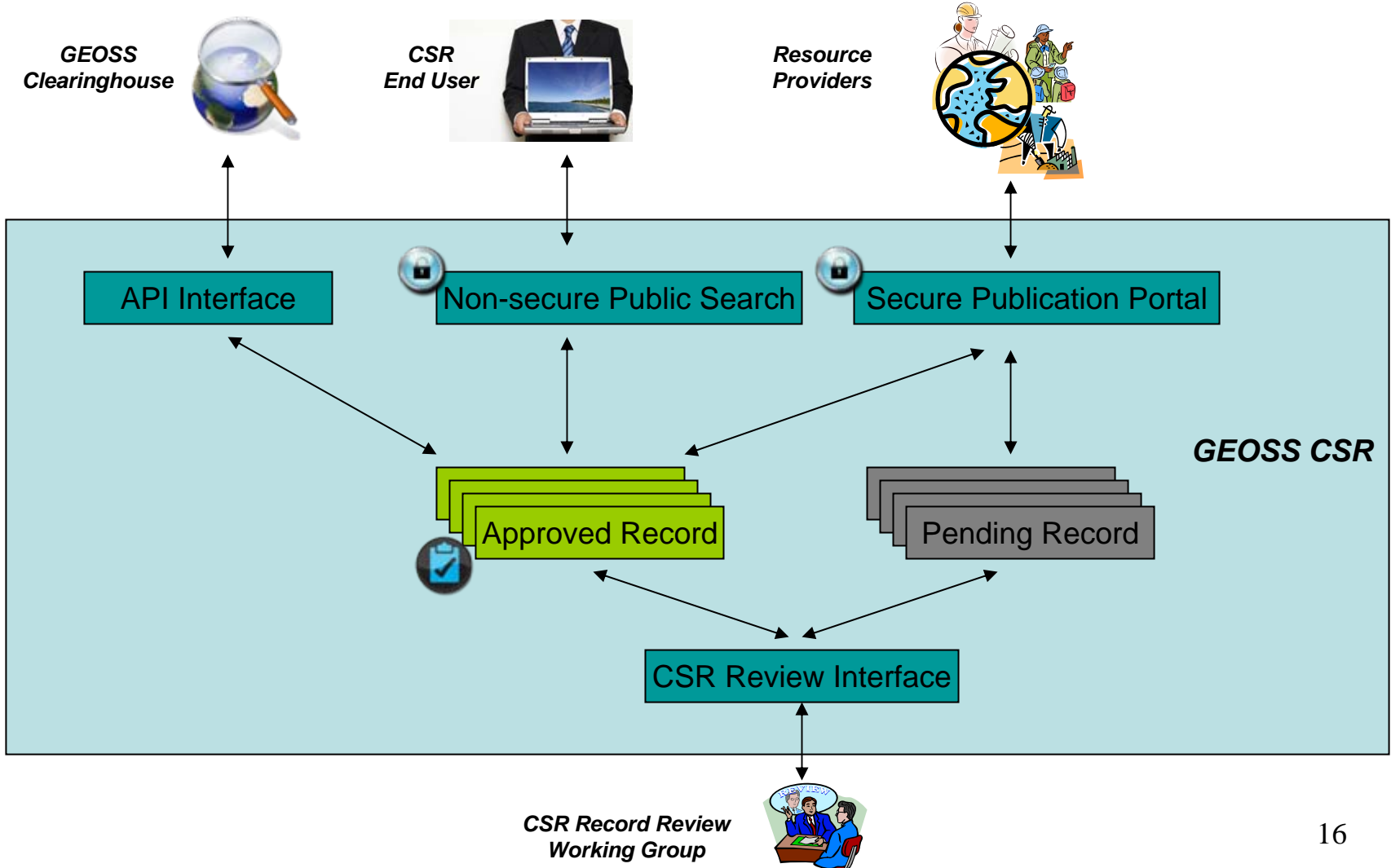


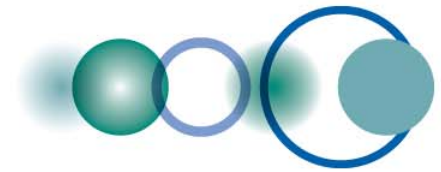
CSR Record Review (Cont.)

- Impacts:
 - Providers can still fulfill registration/ modification/ delete operations for their resources and/or service interfaces through the secure publication portal
 - However, their records need a manual approval process to be visible
- Responsible Party
 - An ad-hoc working group, which consists of USGS/FGDC staff and CSR Operation Team



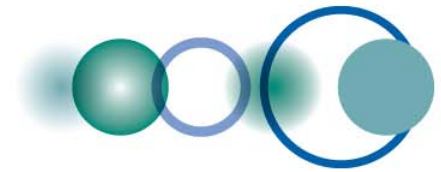
Visibility of Approved Records vs. Pending Records





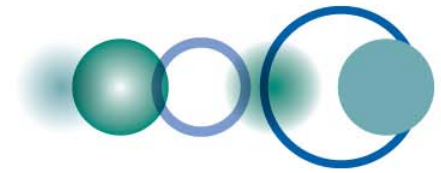
Future Work

- Promoting awareness of CSR among resource providers and geospatial information consumers
- Enhancing the CSR Information Model
 - “Data Collection”
- Improving quality of CSR records
 - Soliciting more detailed metadata information
 - Establishing a common ontology of EO observational requirement terms and definitions, expressed in OWL, to use across GCI
- Service Interface Record quality check interface for single testing and operational daily testing and reporting



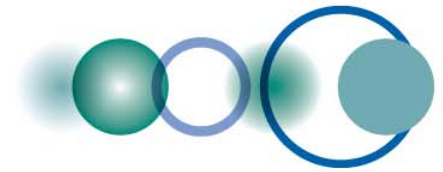
Issue: CSR Registration Review and Approval

- The quality and consistency of GEOSS registrations has not been high, especially for the classification of resources and the service interfaces
- A registration “wizard” is now online to assist in the proper classification of Component Resources
- GEO Secretariat was given authority to validate new GEOSS registrations as being GEO members or participating organizations, but they have not assumed that role
- A need exists to establish a CSR Registration Review Team to review and release the registered information for public view



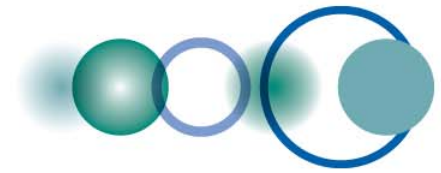
CSR Registration Review Team process

- Review Team members will be solicited from ADC membership
- CSR registrations or updates would trigger a 'pending' status on the change and notification would be sent to the Team
- A Team member would claim the record and review it for consistency, general quality, and availability of the referenced resource.
- If they have a question, the Team list would be used to solicit input and/or a telecon may be held to discuss proposed adjudication or record fix
- The Team member would work with the record owner to update it and approve it for public view and notify the team of its disposition



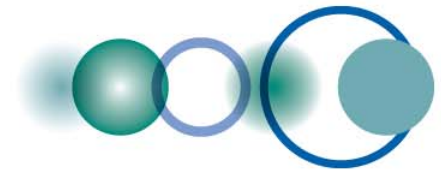
AR-09-01a Sub Task Report: User Requirements Registry





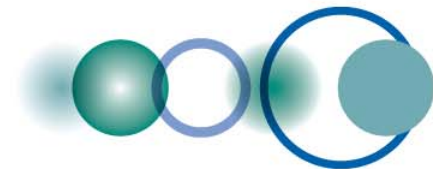
User Requirements Registry

- US EPA, Task Lead for US-09-01a, is funding the development of a Web-enabled database to support the management and analysis of EO user requirements
- Original author/designer will provide provide some usage workflow scenarios to assist in the layout and processing of the multiple tables envisioned behind the URR
- Initial content will come from a subset of requirements from geo-hazards and air quality and will be ready for inspection and discussion in November
- *Note: URR is more conceptual than operational and should be prototyped through AIP process (AR-09-01b)*



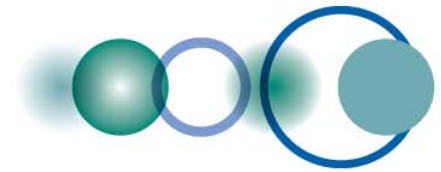
Issue: Linking registered resources

- A single taxonomy/hierarchy/ontology for Earth Observation parameters (i.e. data fields) needs to be developed incrementally based on GEOSS registered data content and on user requirements
- Based on available authoritative ontologies, the GEOSS common ontology would be used:
 - to guide registrants in the classification of Data Resources in the CSR
 - to assist in the discovery of data through topic trees
 - to link observational requirements with data offers and perform gap analysis
- Proposed as a new subtask work element associated with the URR, CSR, and Clearinghouse and AR-09-01c



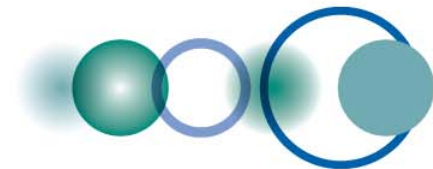
AR-09-01a Sub Task Report: GEOS Clearinghouse





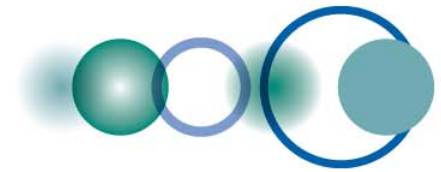
GEOSS Clearinghouse

- Three GEOSS Clearinghouse instances have been created as part of the AIP-2 activity to provide access to all registered content, including access to remote data descriptions:
 - ESRI
 - Compusult
 - USGS
- Each has the same reference content as proof-of-concept for plug-n-play and failover capability
- IOC Task Force recommends the future selection and maintenance of only one Clearinghouse instance
- ***Selection criteria and plan need to be developed***



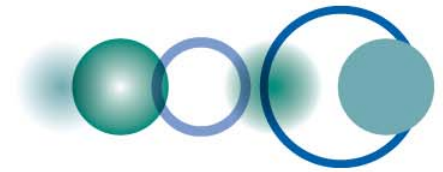
AR-09-01a Sub Task Report: GEO Web Portals





GEO Web Portals

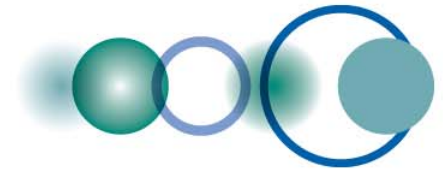
- Three GEO Web Portals have been contributed to provide a human user interface to access all registered GEO content, based on:
 - Compusult Web Enterprise Suite
 - ESA/FAO GeoPortal
 - ESRI Geospatial Portal Toolkit
- Usability testing in May, conducted by US EPA-funded contractor revealed issues for which remedies were proposed and have been addressed by all Portals by August 31
- Second round of usability testing is underway, 9-23 September 2009



AR-09-01a Sub Task Report: Standards and Interoperability Register (SIR)

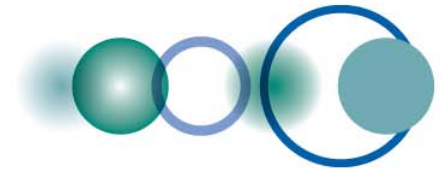
Steven F. Browdy





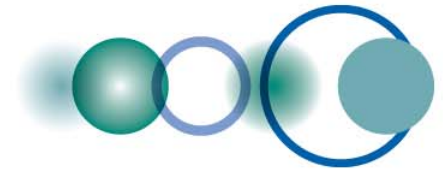
Current Status

- 146 entries contained in SIR
 - 133 Standards
 - 13 Special Arrangements
- Version 2.00 is operational
 - New submission fields
 - GCI Requirements satisfied
 - CSR interoperability
- Formal reviews of SIR entries in progress via SIF workflow tasks



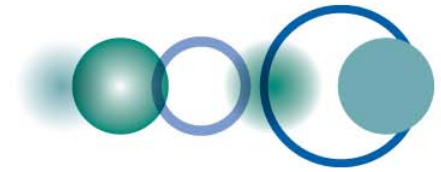
SIR 2.00 New Features

- Additional submission fields for registration
 - Secondary taxonomy category (supports better discovery)
 - Superseded entry
 - Name (compact title), Version
 - Author paired with publisher
- Automatic generation of URNs, when necessary (URNs used as unique identifiers for SIR entries)
- Change history maintained for record integrity

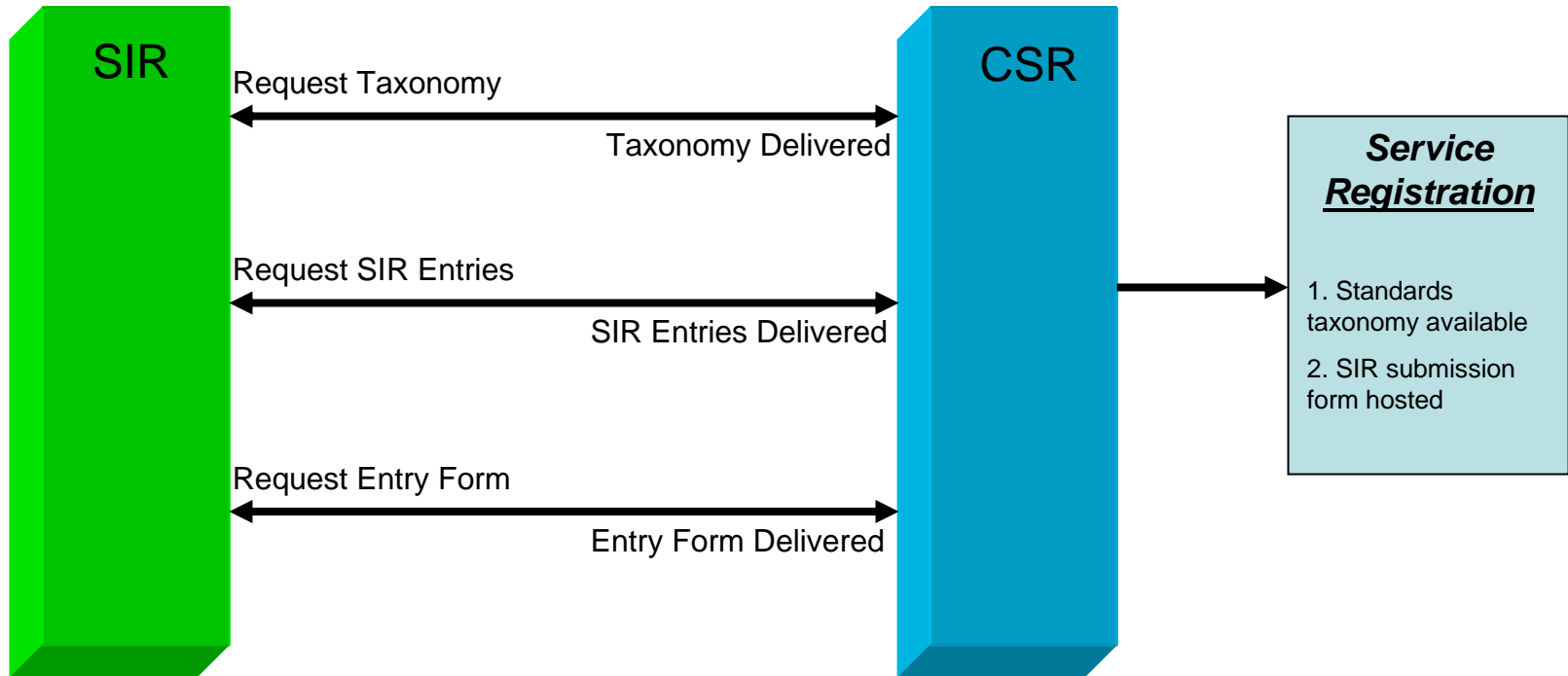


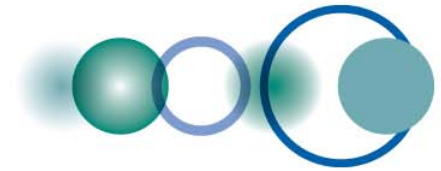
SIR 2.00 New Features

- Enhanced searching options
- Feedback mechanism and HELP forms to meet GCI requirements.
- CSR Interoperability
 - Taxonomy
 - SIR entry form metadata for CSR hosting
 - Notification of SIR changes (final testing)
 - Deletion, promotion
 - State changes (retire, supersede, withdraw)
 - Entry modifications (field values)

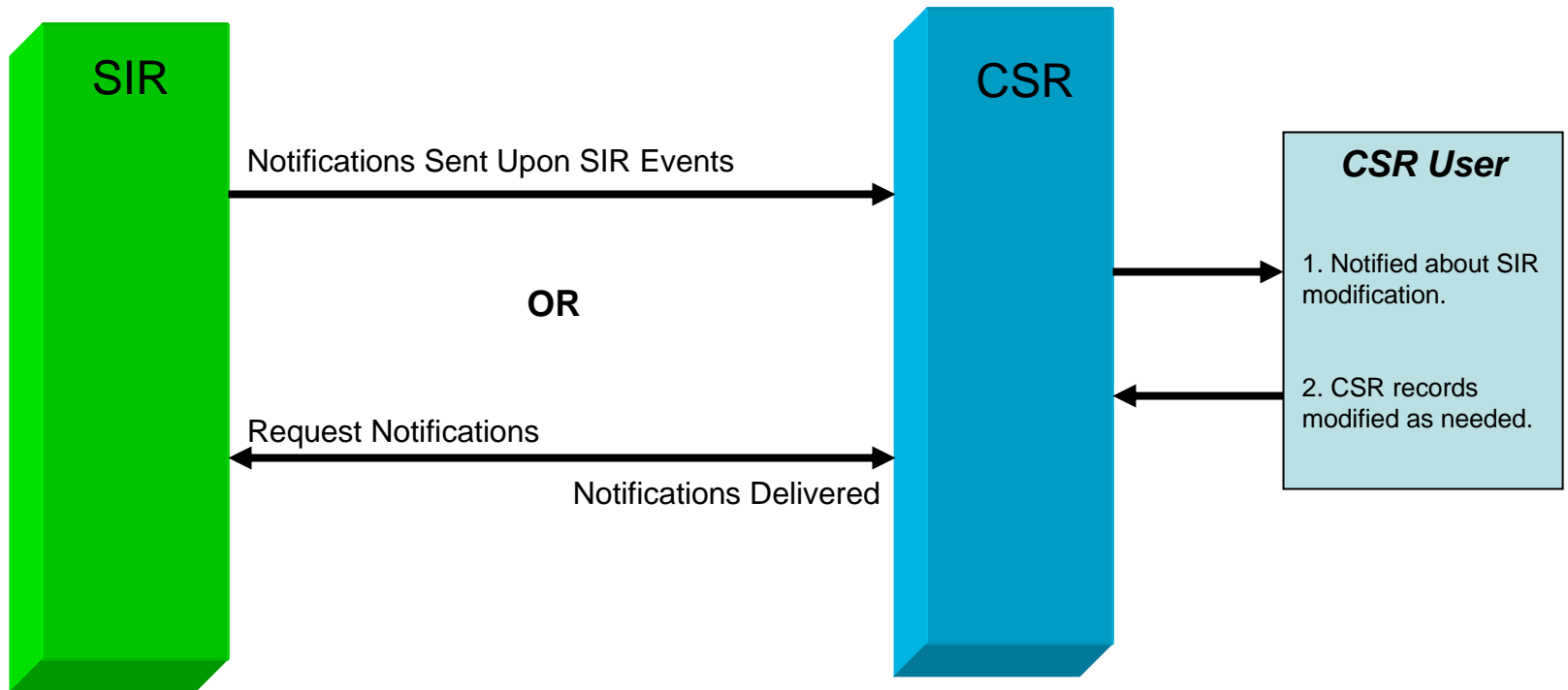


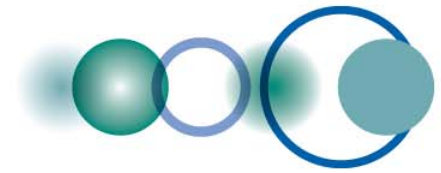
SIR–CSR Interoperability





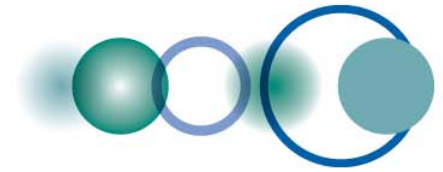
SIR → CSR Notifications





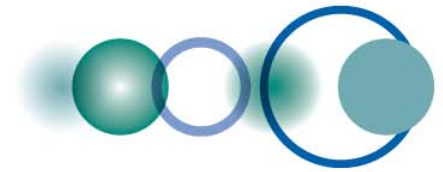
Existing Issues

- Need more registration of special arrangements (SIR is loaded down with known standards) ???
- URN uniqueness
 - URN assignment procedure by SDOs is difficult to follow, where one exists
 - URN resolvers not reliable (duplicate URNs possible)
 - Validating URNs is time consuming and inconclusive
- Duplicate records
 - Identical, or near identical, is easily handled
 - Equivalent standards from different SDOs
 - Looking into associations between SIR entries



Future Plans

- Near-term
 - Access to CSR entries associated with SIR entries
 - New taxonomy
- 2010 (Planned)
 - Associations between SIR entries
 - Enhanced automation between SIR and SIF workflow system
- 2010 (Tentative)
 - CSW interface deployed
 - Design and implement interaction with BPW



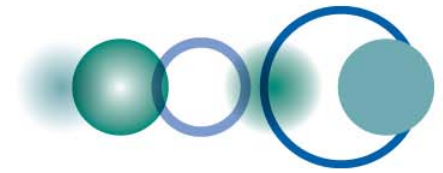
AR-09-01a Sub Task Report: Standards and Interoperability Forum (SIF)

Siri Jodha Singh Khalsa

David Arctur

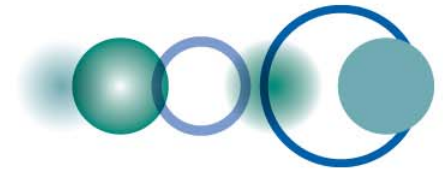
Steven F. Browdy





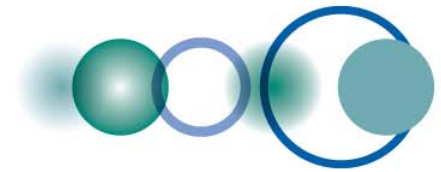
Status

- Regular biweekly meetings
- Business primarily SIR maintenance
- Minutes emailed and available on ftp site
 - so ADC co-chairs can review
- Recent support by GEOSec (Robert Koopman) much appreciated



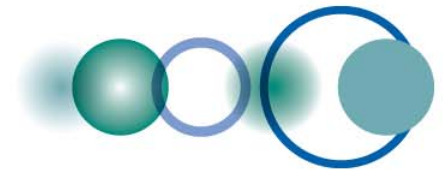
Tracking interoperability issues

- inputs on GCI testing
- participation in IOC evaluation
- review of strategic targets document
- discussion w/ HMA
- AIP engineering reports



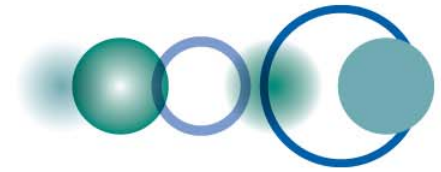
Current issues

- Participation still lagging
 - Having few people means long time to review all registry entries
 - Need more experts
 - Looking into URN procedures by SDOs
 - Difficult to have people tracking all relevant GEO tasks and activities
 - Need full participation to realize mission
- Must have core group
 - representatives from key GEO tasks and SIF Regional Teams



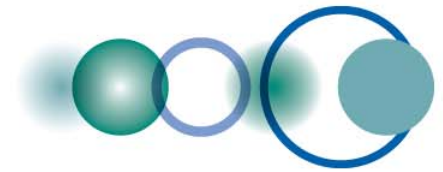
Way Forward – Reinvigorating the SIF

- GEOSec to recommend that each GEO member and participating organization supply an actively engaged individual to the SIF
 - Either to the Management Team or to a Regional Team



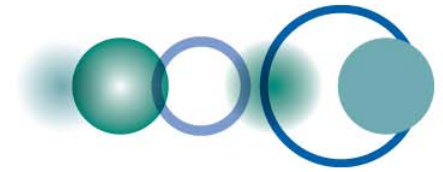
Operations Plan

- Biweekly telecons of SIF Management Team (task review)
 - Every 1-2 months mandatory telecons
 - RTs, WGs report
 - Prepare report to ADC
- Temporary Working Groups set up as needed
- Annual All hands around GEO Plenary meetings
 - Review activities, directions



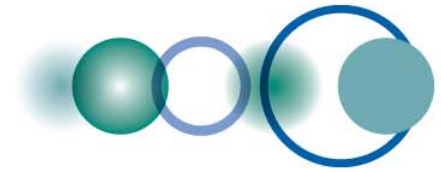
A second SIF Call for Participation CFP

- Time commitment suggested in first CFP (June 2007) was 2 years
- Would be opportunity to have member countries and POs recommit
- Specify online response via SIF contributor webpage already set up



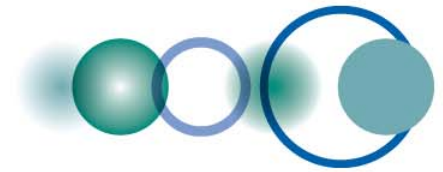
Options for Involvement

- Management Team
 - formal response to CFP required
- SIR Overseers
- Testers
- Interoperability Advocate
- Interoperability Advisors and Domain Experts



Outreach

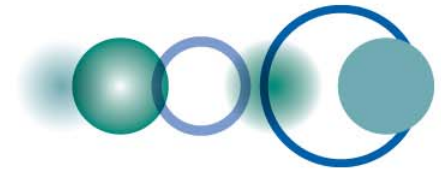
- Important that there is high visibility of SIF on GEOsec web pages, easy access to SIF web pages
- SIF Newsletter
 - focus on what is happening throughout the GEOSS tasks related to interoperability
 - AIP
 - Data Harmonization
 - Ontology
 - be disseminated throughout GEOSS and among potential GEOSS providers, consumers, and CoPs.
 - help us build a strong team of participants
 - mentioned this newsletter idea in the CFP



AR-09-01a Sub Task Report: Best Practices Wiki

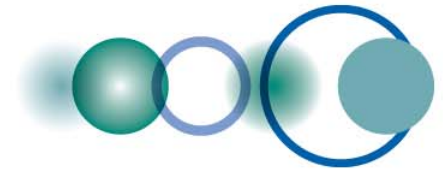
Ruth Duerr
Siri Jodha Singh Khalsa





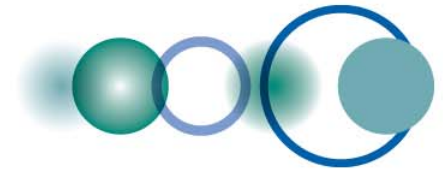
Best Practices Wiki Status

- Best Practices Wiki operational
 - Wiki available at <http://wiki.ieee-earth.org/>
 - Editorial team exists and nominally meets monthly
- Usage is, and submissions are, practically non-existent
 - Capacity Building and User Interface committees accepted the challenge of populating the wiki last January
 - No submissions yet
 - AIP participants agreed to submit to the wiki
 - No submissions yet



BP Wiki Status (continued)

- Lead editor's experience suggests:
 - Groups developing Best Practices already have defined communication paths
 - Submission to wiki seen as a duplication of effort
 - Being seen as a contribution to GEOSS is not sufficient incentive



BP Wiki Status (continued)

- Lack of submissions and use puts existence of editorial team at risk
 - One editor has left the team
 - Lead suggested last winter that transition of lead position to a recognized community builder was needed