Summary of the First UIC/ADC Joint Meeting
May 8, 2009 in Stresa, Italy

INTRODUCTION

This meeting was chaired by Jay Pearlman (ADC) and Thierry Ranchin (UIC) and attended by members of both committees. The chairs reviewed potential areas for collaboration:

- UIC activities that would benefit from ADC involvement include: the joint UIC/CBC call for proposals; GEO portal usability testing, the UIC Activity Plan, and a user type analysis.
- Several user-related ADC activities would benefit from UIC involvement:
  - The ADC has been considering what user types the GEOSS architecture should focus on in the near and long term. A survey of users might be important here.
  - Additional user surveys and input will also be important as the GEOSS Common Infrastructure (GCI) is developed for external use.
  - Development of a user requirements registry clearly would benefit from UIC involvement.
  - The ADC would like to better identify data gaps—i.e., what users need that is missing. The inventory of services and components is far from complete.

In addition, the also chairs suggested that clarification on the status of CoPs would help them be used more effectively. In particular, there would be benefits from clarifying the domains of the SBAs.

ARCHITECTURE IMPLEMENTATION PILOT (AIP) PHASE 2

Nadine Alameh presented the ADC's Architecture Implementation Pilot Phase 2 (AIP-2) work (part of GEO Task AR-09-01b). Phase 1 of the AIP established initial operating capability for GEOSS. Approximately 120 organizations participated in Phase 1, which ended in early 2008 and involved ten demonstrations of initial operating capability. Early in Phase 2, the ADC issued a call for proposals (June 2008), from which the Committee selected scenarios/use cases in four priority areas identified via ADC/UIC collaboration (disaster response, climate change and biodiversity, renewable energy, and air quality and health) to demonstrate how users can utilize the pilot GEOSS architecture to discover, access, and apply Earth observation data in support of GEO societal benefit areas (SBAs). Phase 2 work includes applying insights from the scenarios/use cases to augment the GEOSS common infrastructure (GCI) (i.e., the portals, clearinghouse, and registry components of GEOSS), develop persistence exemplars that other providers and communities can follow, and develop a series of engineering reports to be considered for the GEOSS best practices registry. The demonstrations will be available on www.ogcnetwork.net/Alpilot after May 15, 2009. The scenarios/use cases included demonstrations of how the GCI could be used to:

- Inform decision-making by investors and electricity producers interested in investing in solar plants.
- Investigate how climate change and biodiversity were impacting the distribution of pika.
- Find, access, display, and use data from three hurricane events to aid disaster management.

- Retrieve air quality data and leverage air quality applications to analyze smoke events.

The ADC also needs to consider issues of security, policy, and digital rights management associated with GEOSS use. The UIC can help the ADC identify other SBA areas to work on to enhance the GCI. For more information about the demonstrations, contact Nadine Alameh at nadinesa@mobilaps.com.

Discussion

- Users want recipes about how to use Earth observations in their decision-making.
- How-to guides for users who are developing new databases and services would be helpful, both to show users how they can access and take advantage of expertise and information available to them in GEOSS and how they can construct their databases and services to be compatible and interoperable with the GCI. The ADC may need to do more experimentation and cross-fertilization in order to develop these guides.
- To facilitate communication between the ADC and the UIC/user community, it would be very helpful to have a glossary of terms the ADC typically uses. Nadine Alameh agreed the ADC would provide a glossary.
- The demonstration examples may be misleading because accessing the data was more complex than the video suggests. Also, pilot participants had free access to data that others users would need to pay for. Still, the videos are a useful tutorial about the types of uses that GEOSS can support.
- Viewers of the videos have requested more detailed information delivered in a step-by-step fashion to help them replicate the process.
- Nadine Alameh hoped that the UIC could help the ADC understand and connect with the various types of users. The ADC seeks UIC input on user scenarios and hopes to get more users to use the GCI. The ADC would also like user feedback on what data are missing, what groups users want to collaborate with, whether users would like other ways to search for data, and generally, how the GCI can be improved.
- Lawrence Friedl (UIC) mentioned that users will have the opportunity to link to GEOSS at an upcoming air quality conference in June.

USABILITY TESTING

Gary Foley (UIC) described the portal usability testing that had just taken place during the prior four days of the ISRSE conference. Earlier, he had personally tested the portals and found it difficult to find even components he knew were registered. In the CONOPs document, he had pointed out that the GCI did not seem to address all user types, and particularly seemed lacking with respect to inexperienced users—i.e., scientists or policy makers who are not themselves doing research and do not have prior knowledge of GEOSS. These users are often interested in a particular subject with respect to a specific geographic location. They want to know what types of relevant data are available and how to access them. This is a very different mindset from someone who is IT-savvy and often already knows what sources to check for needed data. Seeing that few people were testing the portals online, he and Ellsworth LeDrew (UIC) proposed to the Initial Operating Capability (IOC) Task Force that the portals be tested at ISRSE. Gary

Foley then funded a contractor to coordinate the testing. The contractor worked closely with the IOC Task Force and providers.

During four days at ISRSE, 117 users tested the portals. Of these, 75 had not visited GEO Portals before and 100 (86%) reported they would visit the GEO portals again. With respect to user types, 85 users classified themselves as scientists/researchers, 4 as policy analysts, and 3 as decision support personnel. Testers reported that the most useful feature was the mapping interface (suggesting users want to see the data visually) and the most frustrating area was searching (users had to keep guessing what key words would lead them to the resources they needed). The basic problem is that GEOSS is set up to search only on the key word field, not the abstract. A written report of the ISRSE user testing will be available within a week. While some portal users experienced significant frustrations, many would likely return if the portals were improved. He thought it important that the portals be improved soon, followed by outreach to encourage users to test Version 2.

Discussion

Several ADC members expressed interest in the testing results as a resource for understanding user needs. There was also interest having the ADC participate in any future portal testing. Possible venues included the GEO Workshop XXVIII: Health and the Environment **(**July 8-9 in Geneva) and the GEO Plenary in Washington, DC, in November. An ADC member suggested that librarians who provide assistance with information retrieval might be a good source of insight into the needs of the naïve user. Another participant said that some GEOSS users had been frustrated with the lack of content—i.e., what they were searching for simply was not there.

An ADC co-chair summarized take-home messages for the ADC. The Committee has a two tiered challenge: 1) getting appropriate information registered in GEOSS, and 2) refining the search capability. He suggested that Committee members digest the input from the joint session on their next call. The ADC comes from the provider point of view, but needs user perspective. For example, the GCI architecture is working and the technology is good, but the system needs to be refined from the user perspective. Currently, different portals enable access to different content because of the different registries. The ADC needs to consider what recommendations it wants to make with respect to the number of portals.

GCI CONTENT

Siri Jodha Singh Khalsa (ADC) described some of the challenges of populating GEOSS. Eighty percent of the elements currently registered in the components and services registry are simply Websites, which provides visibility for the registering organizations. Yet the GCI will not have its full value until more components are registered. A push to get people to register components has met with limited success—the GEO community has not responded to this call. The ADC would appreciate recommendations about how to increase component registration. Contributors need to see the benefit of registering their components. Currently, they may see no benefit beyond registering their catalogue. They may also be concerned about losing their identify if they make an entry in the GEOSS registry.

Content review is another challenge. Users need to know the standards for the content they are utilizing, and the standards should have an authoritative reference. The ADC has been trying to clean up the records for standards and components and establish interoperability between the two. The ADC has established a process to review entries in the registry for completeness and appropriateness, but has had a difficult time getting people involved because it takes time.

Discussion

- Some people have reported difficulty understanding the forms involved in registering components. It would helpful to provide a "cookbook" that walks people through the process of filling out forms to make it easier to register components that are not Websites.
- Siri Jodha Singh Khalsa: We need to improve the technical guidance on how to register assets.
- A root problem may be that GEO only wants to register components that are GEO-branded as authoritative. Why shouldn't GEO point users to other Websites and register only those components that that are not registered anywhere else? Some communities want users to access components at their Website so that users will have the full context.
- Siri Jodha Singh Khalsa: In the GCI, we should focus on the robust capability of harvesting information from other sources.
- It is not clear to providers what should be registered in GEOSS: Services they already have? Products?
- Siri Jodha Singh Khalsa: The registration site provides some guidance on what should be registered.
- Registered products and services are not visible via the three current portals, so the benefit of registering is not there. Registrants could not locate their own material on the portals after registering.
- People who are registering are often not IT specialists. A wizard might be more helpful to them than documentation.
- When providers are using old software or non-compliant catalogues, they will simply give their Website as an entry point.
- Siri Jodha Singh Khalsa: But they could declare with special arrangement what interface there is.

How can the UIC help the ADC?

- Siri Jodha Singh Khalsa: The UIC feedback from this session has been valuable. We may need to address some of the issues before the UIC gets involved in encouraging further registration.
- The UIC could encourage data providers to open up their catalogues. Internet search engines cannot search catalogues that can only be accessed through an application. GEO should generate site maps for these catalogues and register them on the Internet so they can be searched by Google and other search engines.
- The UIC is the point of contact for CoPs. The ADC needs people to support standards and review and certify content. The ADC would appreciate the UIC asking CoPs to participate in this effort and generally support the work of the ADC.

CALL FOR PROPOSALS

Lawrence Friedl (UIC) presented the recent joint UIC/CBC call for proposals (CFP) for three types of projects. He noted that the CFP does not require users to use GEOSS in the work they are proposing. However, the CFP may serve as a source of self-identified people who are interested in GEOSS and can provide feedback and user perspective during the course of the project. He asked ADC members to distribute the CFP and encourage response. He also hoped the ADC would provide at least one reviewer for the proposal review panels in each of the nine GEO SBAs, as well as people who could serve as advisors on projects and train participants how to use the systems. He thought it might be appropriate to develop a registry of advisors and an online applications showcase via video or other means. For example, Type III projects could include virtual demonstration and training, as well as showcasing work at conferences. Proposers are not expected to travel to sell their proposal to donors. This work can be done via teleconference or with donors who are near the project location.

Discussion

- Whenever a CFP is issued, the committees should be sure to reinforce each other's needs. For work under this CFP, registration of the information in the clearinghouse is included in the management plan.

SUMMARY OF ACTION ITEMS

The chairs closed the meeting by summarizing the key points and action items:

- Collaboration between the UIC and ADC is very important to bring a user perspective to ADC's work. The two committees should hold further joint meetings.
- A glossary of terms would be useful. This relates to the broader issue that the AIP outputs are focused on the IT community, yet their value goes beyond the IT community. The ADC needs to scope or reformat their outputs to make them more broadly available.
- YouTube might be a useful vehicle for outreach to communities the ADC does not normally connect with.
- A cookbook would be helpful for users of the GEO Website and portals.
- Updating the tactical guidance document for those inserting components into the GEOSS registries is an ADC priority to build system's content.
- The results of the GEO portal usability survey provide valuable input to the ADC. The ADC will take them up as soon as the UIC provides the survey results.
- The ADC should actively encourage response to the CFP, get back to the UIC by the end of May regarding ADC proposal reviewers in the nine SBAs, and provide support with respect to the advisors and infrastructure to help this effort move forward. In their own agencies, ADC members can think of the CFP as a compendium of proposals that we could draw on for funding—i.e., as guidance material for accessing their organization's own resources.
- The UIC seeks ADC involvement in analyzing user types.
- For AIP-2, the UIC should promote testing, working with Nadine to determine opportunities for collaboration. For AIP-3, the UIC should be involved from the beginning.

- The UIC should consider how to better use the CoPs to reinforce ADC activities and encourage CoP involvement in the ADC's work.