NISAC Meeting Report
3-5 Mar 2009, LTER Network Office, Albuquerque, NM

Attendees: Barbara Bond (AND), John Briggs (KNZ), James Brunt (LNO), Bill Michener (LNO), Will Pockman (SEV), John Porter (VCR), Linda Powell (FCE), Mark Servilla (LNO), Wade Sheldon (GCE), John Vande Castle (LNO), Kristin Vanderbilt (SEV), Bob Waide (LNO), Libe Washburn (SBC/MCR)

NISAC Meeting Bullets and Action Items

- Report on prior business: action items from the 12-Dec-2008 VTC:
  - The committee reviewed and endorses the Fall 2008 EB directive to improve and standardize access to LTER data. We recommend that work be expedited on developing and implementing controlled keyword and attribute name vocabularies to improve cross-site data searching, and improving site EML implementations to support data access through metadata in the LTER Data Catalog in support of this effort.
  - The Committee discussed the request to add a ChemDB module to ClimDB/HydroDB. We agree that biogeochemistry data are collected at most sites and this module could be an import resource for cross-site comparisons, but believe additional information is needed to gauge potential interest and compatibility with the ClimDB/HydroDB data model. We recommend that Julia Jones and colleagues conduct an ASM workshop or site survey to assess interest and identify candidate data and reporting standards before we move on this request.
- The Committee briefly reviewed LNO NIS priorities and recommended that they be accepted in their current state. We were very concerned about the necessary diversion of LNO IT and NIS staff FTEs to other projects, due to flat-funding of the LNO budget in the renewal, and feel that this will significantly hinder progress on CI implementation tasks. We recommend that the EB, NISAC and IMExec provide whatever support LNO requires in ongoing negotiations with NSF to restore cost of living increases and acquire supplemental funding towards decadal plan CI.
- The Committee reviewed the EcoTrends web site in detail, and provided extensive feedback on usability and implementation to the EcoTrends team and LNO. We recommended that high priority changes be implemented as possible before requesting final review by data contributors (i.e. to facilitate their review), but did not feel any issues were serious enough to delay the planned public release of the web site. We further recommended that a broader community review be conducted prior to additional website development.
- The Committee drafted sections of the CI Implementation Plan describing four key initiatives (1. Building community-based services, 2. Building CI capacity at the site level, 3. Building CI capacity to increase data discovery, access and integration, 5. Building capacity to increase collaboration). The remaining initiatives were viewed as dependent on future decadal plan activities, and will just be summarized in the CIIP.
- The Committee plans to conduct video teleconferences quarterly to move business along in a more timely fashion. The annual NISAC meeting will continue to be scheduled prior to the annual Science Council meeting.

Site Data Search Directive – We discussed the best practices for site-level data presentation approved by the EB in November 2008. We agree with the conclusions of the EB data accessibility subcommittee, and endorse the short-term solution they recommend. We also discussed three fundamental issues affecting data accessibility that we will need to address as a network for a long term solution:

1. Providing online access to data in a timely manner. This issue is primarily a site responsibility, and is a matter of complying with existing NSF and LTER data release policies. However, we noted that sites use a variety of approaches to provide online data access, including direct download links, one-time registration forms and registered logins. In order to standardize this process, we recommend that sites use the Data Access Server architecture at LNO to support direct, audited data access after a one-time registration process, with optional data access reporting to the site and contributor. The DAS was designed to support the LTER data access policy, and will improve both consistency and network identity of data access.
2. Consistently associating investigator names and search terms (e.g. core areas, thematic keywords) with data sets. This issue stems from a lack of network policies and best practices for associating personnel and keywords with data sets in metadata documents. The long-term solution requires development of such standards and practices, and this will be included in the CI Implementation Plan. We also recognize that the IMC Controlled Vocabulary working group is currently assembling a keyword vocabulary for LTER data sets, and we recommend that this effort be fully supported.
3. Providing consistent and effective search interfaces to discover data. This issue is complicated by the first two issues, but also stems from a long history of independent web and database development at sites resulting in highly divergent data catalog interfaces across the network. Although all sites now provide EML metadata for some or all data sets, data access information is often omitted (due to EML implementation issues) limiting the utility of the LTER Data Catalog (Metacat) as a central repository for discovering LTER data. We recommend that EML implementations at sites be improved to support metadata-mediated data access, and that the LTER Data Catalog interfaces be augmented to support the EB recommendations so that all LTER data can be searched and downloaded from a central location. We further recommend that the LTER Data Catalog search forms be modified to support embedding on LTER site web pages and to support remote queries, so that more LTER sites can leverage this network resource rather than developing their own solutions.

ChemDB NIS Module Request – We discussed the request from Julia Jones (AND) to extend ClimDB/HydroDB to support biogeochemistry data (ChemDB). Although we did not receive a copy of the original request from the EB, Don Henshaw (AND) and Bob Waide (LNO) provided the essential details. We agreed that biogeochemistry data are collected by most or all LTER sites and that a ChemDB module could be an important resource for cross-site comparison and collaboration. However, we felt that several key issues need to be addressed before we can make a specific recommendation to the EB and LNO regarding the proposed NIS module:

1. The scope of the database (e.g. potential parameters) and plans for developing data and metadata requirements (i.e. as in the LTER Climate Standards) should be described, as outlined in the "Request for New Network Information System Modules" guidelines

approved by the CC in 2004 (http://intranet.lternet.edu/modules.php?name=UpDownload&req=viewdownloaddetails&lid=94)
2. The potential interest across the network should be assessed
3. Compatibility with the current ClimDB/HydroDB database model should be considered (i.e. sampling of parameters at regular intervals, ca. daily, at fixed locations using consistent methodology)

If network interest is low or sites use sampling schemes to collect biogeochemistry data that are not well suited to the ClimDB model (e.g. event-based sampling, part-year sampling, probabilistic sampling), then EcoTrends may be a more suitable venue for these data. We recommend that Julia Jones and colleagues organize an ASM workshop or work with LNO to conduct a survey to address the issues outlined above, and resubmit their request. We also noted that ClimDB/HydroDB is currently being migrated to LNO, and that LNO is operating with reduced support staff due to budget issues, which are complicating factors.

LNO Renewal Funding Status – Bob Waide reported on the status of the LNO renewal. LNO was renewed but with flat funding, but the requested 15% cost of living increase may be restored after a 2009 budget is passed. Consequently, LNO is concentrating only on core activities, and funding for key support personnel (web developer, NIS developer) is being leveraged with other (non-LTER) projects. However, NSF has asked for a separate $5M proposal in mid-March for cyber-infrastructure to support decadal plan work targeting economic stimulus money. If funded, this grant will provide salary support for IMs to work on products and support targeted working group activities, but will entail extra reporting on impact to meet stimulus plan criteria. LNO is hopeful, and suggests NISAC plan as if the funds will be approved. Other committee members noted that although the funding environment looks extremely promising at NSF for the next few years, many states and universities are severely cutting services and support. Faculty and staff furloughs and hiring freezes may prevent some LTER sites from benefiting from stimulus-funded programs.

NIS Development Projects Report – In order to expedite work on the CI Implementation Plan, and in recognition of the current budgetary restrictions faced by LNO, a detailed review and discussion of NIS activities was deferred to a later date. Mark Servilla and James Brunt briefly reported on the status of ongoing activities such as the EcoTrends web site, Data Access Server testing and feedback, and migration of ClimDB/HydroDB from AND to LNO. Mark Servilla also described a recently-funded collaboration with the National Evolutionary Synthesis Center (Dryad project). This project will extend the service interfaces of the Metacat metadata database to support Open Archives Initiative Protocol for Metadata Harvesting, and Library of Congress' metadata search and retrieval standards. Once implemented, these new interfaces could provide broader access to LTER metadata and data through other national databases, and provide more options for searching and retrieving metadata that could be leveraged in new LTER applications.

EcoTrends Website Review and Recommendations – Prior to the March meeting, NISAC members were provided with a login to access to the EcoTrends web site and asked to review the layout, content and usability. Deb Peters, Christine Laney and Ken Ramsey traveled from JRN to meet with NISAC and discuss the committee findings and recommendations. A detailed report of this meeting has been compiled, and will be submitted to the EB under separate cover. Overall, the committee was impressed by the amount and quality of work completed by the EcoTrends

team and LNO NIS developers. Several high priority changes were suggested to improve the functionality of the search and browse pages, and provide users with more options for refining searches to drill down to data of interest. Additional lower-priority changes were suggested to improve overall appearance and usability. Although we recognize that LNO has completed all planned work on the first version of the web site, we agreed that several key changes should be implemented if possible to facilitate the planned contributor review of data sets in April/May 2009. Specifically, support for data search by author and rearranging left navigation menus and fields on the advanced search page to clarify operation. (Note: these changes were quickly implemented by Mark Servilla and Duane Costa, largely on their own time, and NISAC commends them for their diligence).

CI Implementation Plan Progress – Draft sections describing four key initiatives of the CI Implementation Plan (CIIP) were completed during the March meeting. These sections include:

- Building community-based services and a service-oriented architecture (SOA)
- Building CI capacity to increase data acquisition, management and curation at the site level
- Building CI capacity to increase data discovery, access and integration
- Building capacity to increase collaboration

The remaining CI Strategic Plan initiatives were also discussed, but the committee felt that planning will need to be conducted in concert with decadal plan proposal activities to define appropriate CI goals and priorities. Consequently, only general, preliminary recommendations will be included in the CIIP. These additional sections include:

- Building CI capacity to increase modeling and analysis activities
- Integrating cyber infrastructure into social-ecological research, education and training
- Collaboration with other observatory networks

An executive summary of the CIIP is being prepared in advance of the May 2009 EB meeting in La Jolla, and work continues on the finalizing the complete text.

NISAC Membership Rotations – Deb Peters, Alan Knapp, Ken Ramsey and Kristin Vanderbilt rotated off the committee in 2008. Barbara Bond (AND) and John Briggs (KNZ) were put forward as new domain science candidates, and their nominations were approved by the EB in December 2008. Both have agreed to serve 2-3 year terms on NISAC. An election was held to select new IM representatives at the 2008 IMC meeting, and John Porter (VCR) and Kristin Vanderbilt (SEV) were selected. The committee thanks Deb, Alan and Ken for their service, thanks Kristin for her continued service, and welcomes Barbara, John Briggs and John Porter to NISAC.

Linda Powell is scheduled to rotate off in 2009, and an election will be conducted at the September 2009 IMC meeting to fill her seat. Wade Sheldon (co-chair) is also scheduled to rotate off in 2009, but discussion of chair rotations was tabled at the March meeting to expedite work on the CI Implementation Plan. This issue will be discussed via VTC prior to the September IMC meeting.

Attendance Notes: Chuck Hopkinson was not able to attend the meeting due to prior PIE meeting commitments. John Briggs was not able to attend in person, but participated in portions of the meeting remotely via Polycom VTC. Wade Sheldon was delayed in attending due to inclement weather, but participated via VTC for portions of the first day.