LTER Information Management Committee (http://intranet.lternet.edu/im/)
Annual Report, Spring 2009

1. **The 2008 LTER IM Annual Meeting** was held September 8-9, 2008 in Albuquerque, NM and was attended by 41 participants from 25 sites and the LTER Network Office, and one guest, Susan Stafford. The agenda included a working dinner with introductions and rotating discussions on cyberinfrastructure development across sites. Several working groups continue to focus on community processes and standardized products as reported below. Wade Sheldon (NISAC Co-Chair) presented an update on NISAC activities and we discussed issues including challenges to data access with Henry Gholz and Todd Crow from NSF by VTC. Please visit the meeting website for a complete report http://intranet.lternet.edu/im/news/meetings/2008 or see the complete meeting report in the LTER document archive: http://intranet.lternet.edu/modules.php?name=UpDownload&req=viewsdownload&sid=6&orderby=dateD . (contact: Nicole Kaplan) The 2009 LTER IM Annual Meeting is planned for September 12-13 in Estes Park, CO (contact: Corinna Gries). Several All Scientist Meeting workshops will be submitted by Information Managers (IMs).

2. **2008 Environmental Information Management Conference (EIMC)** was held September 10-11, 2008 in Albuquerque, NM with the theme "Managing Sensor Data in Near Real Time". Although the idea for this large conference was developed at the 2007 LTER IMC meeting and logistical support was provided by LTER/LNO, the scientific program was developed by a committee drawn from the larger community and involved leaders in IM from NBII, NCEAS, PISCO, USGS and others. This conference brought together informatics practitioners, developers and environmental scientists interested in technologies that enable data collection, description, curation, discovery, access, integration and analysis in all disciplines of environmental research. It provided a forum to build partnerships, explore solutions to the common challenges faced by environmental observatories, and to present advances in community standards, practical system design, implementation and assessment. Participants gave oral presentations along with posters and demonstrations of new developments, which were published in a Conference Proceedings (http://intranet.lternet.edu/modules.php?name=UpDownload&req=viewsdownload&sid=68). Authors of oral presentations were invited to submit a paper to a special volume of Ecological Informatics, a peer-reviewed international journal. (contact: Corinna Gries)

3. **Virtual Updates** are informal IMC monthly meetings by video tele-conferencing (VTC). These sessions have been successful in disseminating knowledge and facilitate a more focused annual meeting. They encourage discussion and collaboration among site IMs. The main focus has been to create a venue for working groups to engage with the broader community and move network wide projects forward. Notes from these sessions are available online: http://intranet.lternet.edu/im/news/virtualupdates (contact: Suzanne Remillard)

4. **Cyberinfrastructure Implementation Planning** IMExec continues to communicate with NISAC with more specific information on how IMC activities and working groups can facilitate implementation of CI. It was suggested to set metrics to track progress and create opportunities for feedback. (contacts: Wade Sheldon) Lastly, IMC is helping to revise a CI survey, which should be available before ASM 2009. (contact: John Vande Castle)

5. **IM Training** was held at the LTER Network Office Training Lab, Albuquerque, NM the week of May 19, 2008. IMs helped plan the sessions to meet their needs by completing a four step survey prior to the training. The course covered the basics of XML, XML schemas and editors, and how to create entry forms that use the latest technologies). Cybersecurity issues were also presented. In addition, training tools have been created using videography techniques and are available for colleagues in the ILTER. The IMC is looking forward to more training opportunities in the future and maintains a list of areas of interest (http://intranet.lternet.edu/im/node/200) (contacts: James Brunt or Kristin Vanderbilt)

6. **The Unit Dictionary/Registry working group** has developed a best practices document to be reviewed by HBR, PAL, PIE, SBC, NTL, AND, NWT and they will provide comments/feedback on a prototype application. Mason Kortz and James Conners have been working on a redesign of the unit registry schema. This group plans to demo the unit dictionary query application and web service at ASM. (contact: Todd Ackerman)

7. **The Controlled Vocabulary working group** and partners at LNO implemented a browse tool for data discovery that uses keywords and data set titles from EML documents in the LNO Metacat. A preliminary standard keyword list is being evaluated by the IMC currently. Future work includes developing a process for adding or subtracting words, a browse polytaxonomy or thesaurus or ontology, and tools to aid in keywording datasets and searching. For more information please visit the working group webpage: http://intranet.lternet.edu/im/news/committees/working_groups/controlled_vocabulary (contact: John Porter)

8. **The GIS working group** has developed an interactive map interface with images of the US with States as a backdrop, LTER Site points from siteDB and site boundaries, and detailed imagery for zooming in. Trends data will be included in the future and capabilities for the server to interface with a site's system. This group is developing standards for GIS data and will submit working groups for ASM09. There are a few GIS/remote sensing projects going on within LTER and they seem to be very disjunctive, so there is a need to let all the groups know what the other groups are doing.
http://intranet.lternet.edu/im/news/committees/working_groups/gis_data (contact: Theresa Valentine)

9. **EML 2.1.0 ready for release:** This is the first upgrade of EML since 2004 and incorporates many suggestions on structure and function from LTER members. The release also addressed several small schema upgrades, and prepares EML for more refined search and annotation structures. The official release is awaiting completion of support software such as Metacat. (contact: Margaret O'Brien)

10. **Governance working group** is identifying governance practices and developing a set of proposed guidelines for the IMC. IM history documentation and recommendations for our governance will be presented and discussed at the IMC09 meeting. For more information: http://intranet.lternet.edu/im/node/405 (contact: Nicole Kaplan)

11. **ProjectDB** will create a common framework for exchanging information on active and legacy research projects at sites and uses an exchange standard based on EML. The EML Project files will be housed in the open source, native XML database eXist. These databases may be deployed centrally at the LNO or at sites interested in hosting them locally. (contact: Margaret O'Brien or Corinna Gries)

12. **GDI (Grasslands Database Integration Project) GDI (Grasslands Database Integration Project),** a long-term collaboration between LTER IMs and ecologists and computer scientists at The Evergreen College, resulted in the development of a fine resolution integrated ANPP database for grassland sites. This prototype has been successfully utilized by US and international ecologists to add data from additional international research sites and facilitate analysis of long-term relationships between climate and ANPP and species diversity. The scientists involved in the effort agreed that the GDI is a good model for a next generation EcoTrends, where data are integrated by experimental unit. (contact: Nicole Kaplan or Kristin Vanderbilt)

13. **GSC (genomics standards consortium)** does not currently employ a metadata standard. Each experiment is very specific and uses its own standard, but metadata for genomics sequences and environmental data are being discussed. Existing metadata standards, including EML, do not accommodate those data well. IMExec suggested IMs should work with microbial scientists in LTER to address metadata for microbial ecology studies. (contact: Inigo San Gil)

14. **IM Review Criteria and Web Page Recommendations** were updated to reflect decisions to improve Data Access at the sites and Network in the short-term. The revised standard will be used in upcoming proposal and mid-term reviews. (contact: John Campbell)

15. **ClimDB/HydroDB** database server and web pages are being migrated from the AND computer system (run by College of Forestry at OSU) to the LNO. This move will alleviate the responsibility of maintaining this application/project from AND and OSU. The LNO system will mirror that of AND.

Both systems will likely run in parallel for awhile, and then once tested will run from LNO. (contact: Suzanne Remillard)

16. **Data Access Server** Data access server concept was developed by Mark Servilla about 2 years ago to help sites to comply with LTER data access policy of logging data downloads when distributing data through a central metacat (CC 2005). GCE and ARC are currently testing the server function with LNO. (contact: Mark Servilla)

17. **IM website: http://intranet.lternet.edu/im/** Moving the IM website into a content management system is proving to be successful. It is enjoying increasing use by the community and is developing into a valuable resource. (contact: Corinna Gries)

18. **IMexec Members:** The IMC Chair(s) and regular members of the IMExec Committee serve three year terms. IMExec members (with site or other affiliation and year of election listed) include: Corinna Gries (CAP, IMC co-Chair, 2006, EB member 2008), Nicole Kaplan (SGS, IMC co-chair, 2006), Suzanne Remillard (AND, 2008), Todd Ackerman (NWT, 2006), Margaret O'Brien (SBC, 2008), John Campbell (HBR, 2006), and Hap Garritt (PIE, 2007). Barrie Collins resigned November 2008 (CWT, 2007).

19. **NISAC Members:** NISAC members serve two-year terms (with site or other affiliation and year of election listed) and IM elected members include: Wade Sheldon (Co-Chair, GCE, 2007), Kristin Vanderbilt (SEV, 2006), Ken Ramsey (JRN, 2006) and Linda Powell (FCE, 2007).

20. **Outreach: NEON, ULTRA, LTAP** Tony Beasly presented NEON's CI plan at the EIMC in Albuquerque followed by a lively discussion. NEON is planning to use and extend EML for their needs, but no further interaction as taken place. LNO has been contacted by a group of researchers planning to submit for ULTRA and LTAP on how to best align their IM proposal with ongoing LTER IM activities. The EIMC was suggested as a venue for interaction, but specifics will have to be worked out once these projects come online. (contact: Corinna Gries)