LTER Coordinating Committee Report
Luquillo LTER site 22-24 April 1999

Contents:

Images:

- Jim Gosz, Scott Collins

- Volleyball

- Rio

- Working Group Shot

Working Groups Topics:

- ***Introduction***

The LTER Coordinating Committee held its April meeting at the Rio Grande Plantation in Puerto Rico. Hosted by the Luquillo LTER site, this year's spring meeting initiated a new format designed to foster increased focus on specific LTER issues and challenges.

Eight working groups were charged with addressing a variety of topics critical to the continued success of the LTER program. Summary reports from each of these working groups are appended below. Pre- and post-meeting field trips as well as an evening walk in the rain forest rounded out the meeting activities.

Reports from Committees :

Business Meeting

Scott Collins presented a report from the National Science Foundation to kick off the meeting. Scott discussed a series of upcoming competitions, including Undergraduate Mentoring in Environmental Biology (UMEB), Microbial Observatories, Biocomplexity, Information Technology, and the Biological Sciences Directorate post-doctoral program will include appointments in biology, with microbial biology as a focal area. In addition, Scott provided information on the status of the REU and SLTER supplements, and suggested that a competition for cross-site research might be held next year. NSF is going forward with plans for the Biodiversity Observing Network (BON) and the National Ecological Observatory Network (NEON), and further information about these initiatives will be forthcoming. A 20-year review of the LTER program is being planned, but the timing and mechanism is still under discussion.

The Coordinating Committee elected Phil Robertson (KBS) to the Executive Committee to replace David Foster, whose term had expired. The CC initiated a review of LTER priorities in response to a recommendation of the National Advisory Board (NAB). The purpose of this review is too provide guidelines for prioritizing participation in the many opportunities that are available to the LTER Network. The Executive Committee was charged with gathering information from sites and developing a draft report for the fall CC meeting. The NAB also recommended that the LTER Network develop a strategic plan for outreach and education. The Network Office was assigned the responsibility of drafting this plan. The issue of standardization of data collection was discussed at length. An ad hoc committee comprised of John Porter (chair), Bob Parmenter, Ray Smith and Susan Stafford will organize a further discussion of tis issue at the fall CC meeting.

John Dennis gave a brief overview of the LTER video that is in production. Considerable footage has been obtained from several LTER sites, and additional funding will be sought to expand coverage to other sites. If funding is obtained, several film crews will be employed to meet the fall 2000 premiere date. In addition, the Network Office will assist sites to get access to the appropriate video equipment to record site activities on a regular basis. LTER scientists are urged to contact John Dennis with ideas and advice on exciting LTER stories to include.

The fall Coordinating Committee meeting will be held at Hubbard Brook from October 2-4. The science theme for that meeting will be patterns and control of primary productivity across biomes. Potential products from this meeting include a book on standards for measuring productivity, a workshop for the All Scientists Meeting, and a synthesis article for Bioscience.

Summary Reports from Working Groups

Network Strategy for NEON – J. Gosz, discussion leader, P. Robertson, raporteur

This working group discussed various activities and strategies that could increase the probability of LTER sites and their collaborators to be involved in the potential National Ecological Observing Network (NEON). As presented by NSF representatives, NEON is intended to be a consortium effort. In its establishment phase, proposals will be funded through a competitive process from well-established sites that have demonstrated their interest and success as forming networked research efforts addressing important questions and issues. After the initial establishment phase, it is anticipated that these sites will be logical facilities to perform research that is funded through subsequent proposal competitions.

The working group made the following suggestions for LTER sites to prepare for this initiative:

- Each LTER site should assume a role as a principle node for a NEON consortium in order to start the process. The site can initiate activities that identify potential partner sites, museums, agency facilities and installations that could be collaborators in a NEON activity; a consortium. Lines of communication can be initiated and tentative plans for collaboration formulated.

- Each LTER site should develop a scientific theme or set of appropriate themes that would form the basis for their research efforts. A theme could comprise the basis of a NEON activity for the sites identified in the previous bullet or a theme that can be developed across a number of NEON consortia. These scientific themes

are likely to be subsets of major environmental questions that may drive the overall NEON activities (see working group on Scientific Questions that can Drive NEON). We suggest the following criteria for the scientific themes that are foci for LTER consortia:

- Theme criteria:
    - scientific breadth (a single site and/or research program cannot answer the theme by itself)
    - long term nature (long term studies needed)
    - require large infrastructure (technologies)
    - multiple site requirement (to demonstrate the requirement for consortia)
- Following the identification of themes by site-based consortia, the LTER Network can compile thematic ideas to demonstrate the array of scientific efforts that can be covered by LTER in NEON, start identifying collaborations and networking that can occur across the network based on theme compatibility/comparability, and to develop strategies for maximizing networking across all LTER sites and their consortia partners. This could allow each LTER site to participate in a number of different themes that represent different combinations of NEON consortia and sites. For example, LTER site A might participate with sites B and C in a grassland network and with B, D, J in a below ground processes network.
- The Network should identify centers of excellence (technological, expertise) needed to accomplish the themes and a strategy to maximize the ability of these centers to satisfy the needs from across the Network. This may mean developing a Center for a certain activity in one NEON effort, a different Center for a different activity in another NEON effort but the ability to have each Center serve sites in other consortia. These centers should identify the cutting-edge technologies that can advance the science, major and high-cost instrumentation that cannot be afforded by normal activities, or particular types of expertise that are needed to develop interdisciplinary efforts from the technological perspective.

Action Items and Timelines:
Immediate (May - September):

- Supplements to the LTER Network Office are expected put OBFS and Museum/Collection personnel in the Network Office to facilitate networking and information management needs.
- LTER site identification of potential partners in the consortium effort for that area.
- LTER site recognition of the scientific themes that it would like to develop for NEON. These should be submitted to the LTER Network Office to allow compilation across the entire LTER Network.

Spring 2000:

- Workshop to evaluate and further refine themes, networking activities, technology requirements, centers of excellence.

August 2000:

- All Scientists Meeting to host workshops that can facilitate development of themes, partnerships, involvement of the broader scientific community. This should lead/allow the development of proposals as early as fall of 2000.

Scientific Questions for NEON – I. Burke, Leader, A. Knapp. raporteur

This group addressed the development a set of broad overarching questions to guide infrastructure needs for NEON. They began from the assumption that large scale changes in abiotic (land use, CO2, N deposition, temperature, hydrology) and biotic dynamics have global implications for ecosystem structure and function. The following questions were suggested:

1. How is the movement of matter and energy among the 3 major components (geosphere, hydrospehere, atmosphere) controlled?
2. What are the roles of external (abiotic) vs. internal (biotic) drivers in controlling ecological processes? This encompasses interactions between biological diversity/community structure and ecosystem function.
3. How do local processes scale up to regions and continents? Are there important effects of adjacency? Do the rules of scaling vary among regions?

Action items

Prepare a draft report to working group for NSF by June 1999.

- Planning for BON – R. Waide, discussion leader, J. Porter, raporteur

In anticipation of the upcoming competition for Biodiversity Observatories, this working group was charged with examining strategies that might benefit sites in the LTER Network. The working group developed the following goals and strategies:

- Educate sites so all are ready to prepare a strong BON proposal
- Suggest strategies for sites to write successful proposals
- Mutually reinforce proposals by finding common themes/resources
- Look beyond BON to NEON
- Influence how BON is implemented

The Network Office is in the process of implementing these suggestions.

- **Future of LTER Information Management**

The importance of planning for the future of LTER data management was the inspiration for this working group. Increased funding for information technology is a priority at NSF, and the LTER Network needs to develop strategies for interacting with new initiatives. We will need to target our efforts based on LTER science priorities, while we foster sophisticated approaches to information and analysis and provide integrated access to diverse ecological data.

Achieving new levels of functionality, while maintaining core activities, will require additional resources. There are currently only ~1.5 FTEs in data management per site. These people have a wide array of educational backgrounds and tend to be generalists rather than specialists. They are often expected to conduct a diverse array of site support tasks beyond basic data management (e.g., GIS, technical support)

Basic strategies include:

- vBNS (Internet ll) connection to ALL LTER/BON/NEON sites
- Training grants & Distance learning modules
- Use partnerships in context of consortium to increase IM resources at sites
- Find ways to increase both quantitatively and qualitatively the personnel involved in LTER IM
- Develop partnerships in the context of an EcoInformatics Consortium
- Leveraging positions between LTER and other institutions
- Use NET support to subsidize activities by site information managers working on network activities
- Write new proposals to NSF for additional resources
- Prepare for BON, NEON etc. so that we are well positioned to acquire additional resources
- Increase PI involvement with LTER IM activities
- Use training efforts to leverage increased resources

Action Items

- White paper to BioScience – 1999: Future of LTER IM (Peter McCartney et al.)
- Begin building consortium
- Increase PI participation
- Continue and expand NET<->Site Exchange program
- Continue tool development with partners; incorporate PI and scientific community in the "testing" of the tools

- Training grant (IGERT)
- Prepare for BON and NEON at Annual LTER IM meeting
- Work with LTER CC on call for ideas that need synthesizing; NPP workshop will be first candidate
- Standards paper with John Porter, Ray Smith, and Bob Parmenter

New Metrics for Evaluation of the LTER Program

The report from the National Advisory Board recommended that the LTER Network develop a set of metrics that can be used to measure the accomplishments/successes of the activities of the network that range from individual sites to the broader network level activities. These metrics also would be valuable for NSF to use in instructing the 20 year review of the LTER program in 2001. The working group at the Coordinating Committee reviewed a broad range of ways that LTER science and the LTER network have made important contributions. These vary from the use of the LTER model by other agencies, the value of scientific publications addressing societal issues to the education aspects from K through
graduate student levels. Examples can be viewed at (newmetrics powerpoint presentation - link to come). The next step in the process will be for the Executive Committee to develop a draft list of these metrics that can be presented at the Coordinating Committee meeting in October.

The Consortium Approach

This working group discussed the strategy of developing consortia between LTER and institutions like the National Center for Ecological Analysis and Synthesis, the San Diego Supercomputer Center, and the Organization of Biological Field Stations. The Network Office is already involved in developing a consortium with NCEAS, SDSC, and the University of Kansas KDI program in the area of bioinformatics. Involvement in this consortium will allow LTER to compete for funds in information technology and training. The mission of this proposed consortium is to promote advances in ecology and systematics through cooperative initiatives in bioinformatics. The working group endorsed the development of the consortium.

In discussing the bioinformatics consortium idea, the working group identified a need for closer cooperation between information managers and the Coordinating Committee in calibrating research efforts. It became clear that science themes and information management initiatives were developing without cross-consultation among the scientists involved in these efforts. The working group suggested that the LTER community needs to prioritize for data managers what LTER Network datasets need to be available for scientific initiatives. The working group identified the following action items (with responsible entity in parentheses):

- Request LTER community to list priority projects - NET
- Rank these projects by importance – Committee on Scientific Initiatives
- Authorize data managers to proceed to integrate high priority data sets- CC
- Authorize NET to support effort - CC
- Start with NPP as pilot effort - DMAN

Interactions with other Organizations - Led by Art McKee; Dave Coleman, recorder

Summary Notes:

Strategy: Develop MOUs between LTER and appropriate levels within various agencies that state mutual benefits, common goals/objectives, and outline roles/responsibilities. Other items to consider for a meaningful MOU: what the agency does in terms of in-kind contributions, data sharing, direct research support.

Agencies/organizations discussed/considered are:

Agencies:

-US Dept of Agr.
-Forest Service
-Natural Resources Conservation Service

-Agriculture Research Service
-US Dept of Int.
-Geological Survey
-Biological Research Division
-National Park Service
-Fish and Wildlife Service
-NOAA
-NASA
-CIA
-Global Fiduciary
-EPA
-Dept of Energy
-Nat. Environ. Res. Parks (NERPs)
-Ameriflux (?)
-Dept of Defense
-OSTP National Monitoring and Research Network

Professional Organizations:
-OBFS
-NAML (National Association of Marine Laboratories)

NGOs/Private Organizations:
-The Nature Conservancy
-Audubon

From above list, the following are considered priority agencies for MOU development:

- **US Forest Service**. Need to reaffirm existing MOU, and set stage for renewal in 2001.
- **NOAA**. Currently have some SeaGrant funding at both coastal LTERsites. Once we have total of five coastal sites, need to aggressively develop links with NOAA. Suggest that accomplish this by bringing in LTER and USFS personnel to meet with NOAA to show benefits of association.
- **USDI**. Seems appropriate in this instance to work at Dept level (Babbitt's office -- Mark Schaeffer contact) to develop links with USGS/BRD and other Interior agencies.
- **NASA**. Some sites already well linked, might be a quick victory. Ray Smith has two grants; MCM has some contacts, AND has two or three grants. Many of LTER sites are validation sites in the MODUS program. We need to have some sort of MOU to formally recognize these contacts and future possibilities.
LTER Exec. Comm. is the appropriate body to contact the Washington offices to promote MOU formation. Will need to work Clutter and counterparts in respective agencies. May take some research to determine most appropriate level within each agency to achieve good, strong MOUs.

Action items:

- Resolve current uncertainties about existing MOU with US Forest Service, and try to institutionalize direct agency support to LTER sites at US Forest Service properties.
- To facilitate discussions with NOAA, several scientists in the coastal, ex-LMER sites will draft a 1-2 pg. paper white paper indicating what LTER would like to see for cooperation and how both agencies or groups would benefit.
- LTER Exec Comm will set up a meeting with NOAA in DC in Jan/Feb 2000 that includes USFS scientists.
- Form a committee from sites with NASA awards to pursue how to establish an MOU with NASA

Timeline: Initiate above action items so that are well along on MOUs, in time for the August 2000 meetings. Set up meeting with NOAA for Jan/Feb 2000.

General issues:

- How connect Antarctic LTERs with US-based organizations/agencies, make better fit with US/LTER sites.
- Ensure that agency scientists within LTER are all networked within their own agency (e.g., USFS).
- Are urban sites linked with city, county governments and their agencies? MOU's needed?

Miscellaneous Notes:
1) current status: USFS MOU and NSF collaboration. Arose with contacts with Doug Ryan in the USFS. This is to be renewed in 2001. Jim Lyons also oversees NRCS, and they would be good contacts. See the MOU on the LTER NET webpage (collaborations, etc.)
2) Other agency networks: SeaGrant funding on both coastal sites. Once we have total of five coastal sites, we need to develop links with NOAA programs. How to attack this: bring in LTER and USFS personnel, and meet with NOAA, and learn how this "marriage" has been profitable? USFS has referred to this as a "crown jewel" for the association. Need to facilitate interactions with Washington office. Explore enhancing University contacts, for Adjunct faculty appointments. Needs to be ironed out before developing other agency contacts.
3) James Brunt has already met and talked with people in the NAML(National Assoc. of Marine Labs.) Also called Labnet. OBFS was interested in this. (Ref. to ESA workshop next August; Beyond the LTER network. Lesser-known Long-term Research studies.)
4. NASA contacts. Ray Smith has two grants; MCM has some contacts. We need to have some sort of MOU to formally recognize these contacts and future possibilities. Most of LTER sites are validation sites in the MODUS program.
5. Global Fiduciary. CIA contacts. John Vande Castle has the security clearance. Can have historical background via >20 years of records. Need to "fuzz" the data to avoid being "terminated" by the CIA.
6. USDI--contact person: Michael Ruggiero, to see if can develop a MOU.
Divisions of Interior: Park Service, F&WS, USGS; try to get a general MOU out of Bruce Babbitt's office (Mark Schaefer). Refer to LTEMonitoring program in the National Park Service.
7. Index sites, vs. monitoring sites. Was set up by Jerry Melillo, through Office of Science and Technology Policy (OSTP). LTER supports this approach.
8. Policy- via the National Monitoring network, air, ozone monitoring, etc. Measurement of all variables to be located at intensive sites. Several sites within LTER are now in long-term collaboration with EPA measurement (air) studies, re ozone, NOx, SOx, etc. Note that there is an EPA/NSF MOU now. Examples are: Water and Watersheds, monitoring efforts. Concern over EPA closing down dry deposition network.
9. NRCS and John Kimball contact for intensive studies. Might need to develop this for a large number of our sites; line sites up with a State Office, and do really intensive soil sampling, ca. every 100 m. in mountainous terrain. Set up an overall arrangement to do this in a coordinated fashion. A possible task for BON and NEON?
10. National Environmental Research Parks (NERPs) at Oak Ridge, Hanford, Savannah River, Los Alamos, etc. Build into a more local effort. Example of SEV and Los Alamos, etc. Could also have Hanford and AND, and CWT and Walker Branch. Keep this at more of a local and not a national effort? Question of level of interest in DOE hdqtrs. The Ameriflux eddy diffusion network effort(100 sites) could be considered.
11. Department of Defense(DOD): Fort Benning model to begin, and may be exploring their own DOD LTER sort of network.
12. International programs, MAB, others. Develop contacts with GTOS, EU (but only for 5 years at a time). NOLIMITS (BLOCK THAT ACRONYM). Diversitas/IBOY as a contact for BON!! LOICZ (Land Ocean Interactions in Coastal Zone) something to help in setting up Internat. contacts for the Coastal programs in LTER.

All Scientists Meeting Program Planning

No Notes here yet - contact Bob Parmenter for more information

Top