8-1992

Coordinating Committee Meeting, Fairbanks, Alaska, August, 1992

Long Term Ecological Research Network

LTER Coordinating Committee Meeting

University of Alaska, Fairbanks
August 2, 1992

M I N U T E S

IN ATTENDANCE

LTER/CC Representatives:
Phyllis Adams (BNZ), Liz Blood (NIN), Linda Blum (VCR), Emery Boose (HFR), John Briggs (KNZ), Indy Burke (CPR), Charles Driscoll (HBR), Tom Frost (NTL), Jim Gosz (SEV), Dave Grigal (CDR), Bruce Hayden (VCR), John Hobbie (ARC & LMER), Wesley Jarrell (JRN), Glenn Juday (BNZ), Alan Knapp (KNZ), Tim Kratz (NTL), Bill Lauenroth (CPR), Judy Meyer (CWT), Eldor Paul (CDR), Langdon Quetin (PAL), Robin Ross (PAL), Timothy Seastedt (NWT), Frederick Swanson (AND), Keith VanCleve (BNZ), Leslie Viereck (BNZ), Bob Waide (LUQ), Jackson Webster (CWT), Mark Williams (NWT), John Yarie (BNZ)

LTER Network Office: Caroline Bledsoe (University of California-Davis, NET), Jerry Franklin (NET), Stephanie Martin (NET), Rudolf Nottrott (NET), Daniel Pommert (NET), John Vande Castle (NET),

National Science Foundation: Mary Clutter (Division of Biological Sciences), Linda Duguay (Biological Oceanography), Penny Firth (Biological Oceanography), Neil Swanberg (Polar Programs)

Land-Margin Ecosystems Research Program (LMER): Jeff Cornwell (Chesapeake Bay), Chris D'Elia (Maryland Sea Grant), Chuck Hopkinson (Plum Island), Charles Simenstad (Columbia River), Stephen Smith (Tomales Bay), Ivan Valiela (Waquoit Bay)

Other: William Cole and Andrew Gordon (Ontario Ministry of Natural Resources, University of Guelph, Canada), Barbara Kronberg, Lakehead University, Ontario, Canada), Jim Drew (University of Alaska-Fairbanks), Kenneth Steube and Dan Sulzbach (San Diego SuperComputing Center, California)

MORNING SESSION:

Introduction
Keith Van Cleve, principal investigator of Bonanza Creek Experimental Forest, the host site, introduced Louis Pruenza, Vice-President for Research, University of Alaska-Fairbanks. Dr. Pruenza welcomed the group to Alaska and the campus and emphasized the importance of the region for research. He noted that research in the Arctic is beginning to take an interdisciplinary approach (15 different agencies collaborate to direct Arctic research) and to address global change questions increasingly tied to policy and economic issues. Scientifically, economically and geographically, Alaska is ideal for global change work; the dimensions of the resources are immense. He encouraged the Committee to consider the state as a location for future research projects.

DR. MARY CLUTTER/NATIONAL SCIENCE FOUNDATION

Chair Jerry Franklin introduced Dr. Mary Clutter, who addressed the larger picture for the Long-Term Ecological Research Program. She noted that she has been at NSF for the life of LTER and that, although as a cell biologist she is not from the same scientific community, she is deeply committed to the Program's concept. She provided the following information on the status of funding and opportunities for long-term ecological research.

Mary Clutter, continued

Funding: In this election year, all that is clear is that there will be changes that will affect support for science. Noting that there will likely be many new legislators, Dr. Clutter asked LTER scientists to be involved in educating the "new" Congress. On the up side, there will be opportunities. On the down side, funding will remain at FY 1992 levels, and there may be as much as 2 percent less overall. Programs emphasizing education will be given a full increase, while the research directorates will take cuts. The Foundation will honor all current commitments: this comprises 65 percent of the budget, which goes to the Office of Management and Budget this month. The remaining 35 percent, at most, is designated for "new things." The Synthesis Center proposed in the FY 1993 budget will be put on hold.

Opportunities: With the possibility of an Administration change and a change in Congress, the effort to fund a National Institute for the Environment could become a high priority; however, there is no chance a new bureaucracy will be created. Several groups are developing recommendations, including the Federal Coordinating Committee on Science and Technology and a National Academy of Science committee. Dr. Clutter recently testified before Democratic Vice-Presidential candidate Senator Al Gore. In this climate and, as an organized body, LTER is in a unique position to offer advice.

NSF Long-Range Planning: Dr. Clutter noted that the current LTER 10-Year LTER Program Review process is also an opportunity to fit into long-range planning underway at NSF. The agency's strategic plan for the next 10 years includes expanding environmental biology programs along five themes: (1) intellectual integration, (2) partnerships across directorates, programs, agencies, [a new definition of partnerships with] universities, states, other countries and industry, (3) [most important] people and how they relate to site investigators, the education community, outreach to students, etc., (4) accountability to taxpayers, the ability to access and develop criteria to measure [emphasis on quality over quantity of publications], and (5) internal management.

Dr. Clutter challenged the group to think ahead to the year 2000 and ask what LTER (and LMER) could/should be. She urged them to be ready, "think big" and plan for the future this year, noting that biologists have rightly been accused of small thinking compared, for example, to scientists at the Department of Defense or at NASA. She encouraged thinking of LTER sites as Science and Technology centers funded at levels of $2 to $3 million per year, considering hardware, personnel, new sites—perhaps even "an LTER in every biome." She invited comments and suggestions both at the meeting and following via electronic mail.

Comments: David Foster (HFR) suggested that LTER involve more social scientists, or that social science LTERs be set up.(Dr. Clutter: Opportunities in this area are especially great since the reorganization at NSF. Cora Merritt, Assistant Director of Social, Behavioral, and Economic Sciences (SBE) is involved in NSF's long-term planning efforts; initially, opportunities to involve social sciences will be in the form of supplements to work at adjacent sites and/or on urban ecosystems.)

Bob Waide (LUQ) asked if NSF would continue to offer support for involving minority students in science. (Dr. Clutter: This refers to an internal NSF planning document based on current Census figures that was picked up by the press. NSF had projected data to 1995 with fewer people trained in science. The press translated this into job shortages. The agency plans to change training to be all-inclusive, and will not abandon its minority programs.

Chris D'Elia (LMER) expressed concern that NSF may be trying to do too many things at once, asking whether it is possible to do them all well.

LTER 10-YEAR PROGRAM REVIEW

Jerry Franklin (JF) introduced the LTER Executive Committee (LTER/EXEC) for the benefit of guests and new representatives, acknowledging their role and that of the Coordinating Committee (LTER/CC) at the Trout Lake meeting last March in preparing the 10-year LTER Review questions and recommendations for NSF. (Copies had been sent to PIs prior to the meeting and were also included in the packet of meeting materials.) The final document, recently submitted to NSF, is a positive review of LTER's accomplishments looking to the future of the Program. JF noted that the document will fit in well with Mary Clutter's encouragement to plan for the next 10 years and beyond, and asked for any final comments or questions.

Comments/Questions: Indy Burke (CPR) expressed concern that most people qualified to review the LTER Program are already involved in LTER. JF agreed that there is a real problem finding reviewers because "we have co-opted the community; most potential reviewers are compromised." Judy Meyer (CWT) asked if it is still possible to suggest names of reviewers, and JF replied that it is. Bob Waide (LUQ) asked if reviewers can be brought in from outside the United States. (Yes?)

LTER 2000. JF asked each participant for ideas of any nature on what LTER should be in the year 2000. During the bus drive to Toolik Lake, the LTER/EXEC met to organize and structure the suggestions collected to form a document to be sent to NSF. Ideas ranged broadly and, among many others, included: more partnerships with other agencies, methods for providing quality control, partnerships with other nations, more LTER sites, greater technologies in place, developed linkage with social and economic scientists. A draft of the document will be circulated to the sites for further comment.

PROPOSED LTER-NASA COLLABORATION

Jerry Franklin summarized LTER interactions with NASA since the unanimous vote at Trout Lake to pursue a collaboration agreement. The LTER/EXEC met with representatives from two divisions of NASA in Washington, D.C. in June to develop the beginnings of an agreement. Subsequently, John Vande Castle (NET) met with NASA and some LTER site representatives in Seattle, Washington to draft protocols and develop initial plans for a workshop. Copies of the draft agreement, preliminary workshop proposal, and recent LTER-NASA correspondence were provided and suggestions for changes or additions to the drafts were solicited.

John Vande Castle (JVC) reported that for NASA's part, consistent thematic mapper data will be provided at least once every year, more for some sites. On July 1, an agreement between EOSAT and NASA for 1992 one-time data purchase was formalized. This includes all but the Palmer Station, Antarctica (PAL) LTER site, for which data acquisition is planned in the next fiscal year. NASA will be acquiring these data as part of an acquisition of 121 scenes with other collaborating groups. It is not yet clear when the scenes will be taken, which the sites want to know to coordinate ground-truthing. JVC will be in contact with NASA to confirm specifics. NASA has committed more than $40,000 to the acquisition which, without their bulk purchase agreement, would cost LTER about $90,000. NASA's Pathfinder program will generate 1-km vegetation data which will be available to the sites. JVC has requested geo-corrected/geo-coded (more heavily processed) scenes because the data are much more useful in this form and most sites don't have the capability to geo-code scenes. NASA may also want to provide specific instrumentation for sites interested in collecting high-accuracy radiometric data in conjunction with met-station data (such as sun photometers).

LTER-NASA, continued

In exchange, NASA wants a classification of scenes to verify models. (No specifics were mentioned, but this will be under a five-year time-line). NASA would like data from the scenes inside and outside sites to be identified (extent and kind of vegetation cover, snow extent, water boundaries). During preliminary meetings between the LTER Executive Committee, NASA and LTER site representatives, it was agreed that this would not be a calibration program, but a research exchange program. The problems that still need to be addressed include coordination, and determining consistent methods of obtaining, exchanging, accessing and archiving the data.

LTER-NASA Workshop. The LTER/NASA exchanges to date have resulted in a proposed joint workshop, now ***tentatively scheduled for November 11-13 in Albuquerque, New Mexico.*** This will be an initial exchange between NASA and LTER scientists to identify a common research agenda, what kind of data to acquire, and how to acquire it to the greatest benefit of both groups. Diane Wickland's research group at NASA is interested in the detection of geochemical and other information with new sensors, a topic which will be included in the November workshop.

JF noted that the Memorandum of Understanding is a minimum agreement with vague expectations of LTER and NASA (see document for details), and asked for discussion on whether its content was acceptable to the LTER/CC.

Comments: Bob Waide noted that he generally supports the idea, but cited EOSAT's poor track record. Data acquired so far has been spotty and not available for all sites. If the agreement means that on an annual basis sites have to go to the field to get remotely sensed vegetation data—especially if areas extend outside sites—he is concerned that the effort will exceed the benefit. (JF: Most sites currently have vegetation maps.)

Indy Burke (CPR) felt that remote sensing is appropriate for LTER, but that relatively few sites have it as part of their core research program. Clearly LTER would have to have accountability. This could be solved at the proposed workshop: identify a core group of people whose research specialty this is, who will use the data and provide NASA with what they need. She suggested this would allow LTER both to tap into the technology and have credibility. (JF: It would be a local option whether to use the data or not. The intent of the activity is to move to identify research proposals.)

David Foster (HFR) felt it would be helpful to have a list of work that already exists between LTER and NASA that identifies who can make the greatest use of the collaboration. He suggested that non-LTER people with existing NASA efforts also be pulled into the workshop. If the source of the data was reliable, he would support collaboration. But, he noted, we tend to look at individual scenes and can't get comprehensive data. (JF: Sites which may not have current NASA involvement shouldn't be hung with a heavy responsibility.)

JF summarized the discussion by saying that it appeared that the group supported the idea of the agreement, that some kind of an effort or agreement with NASA is needed, but many have reservations. **A show of hands indicated approval of the general LTER-NASA agreement, to be developed in greater detail at the joint workshop.**

(The LMER site representatives decided to explore their interest in participating at their meeting the following day.)

1993 ALL SCIENTISTS MEETING

Date: *September 18-24, 1993* **Place:** *YMCA of the Rockies, Estes Park, CO*

Jerry Franklin introduced Caroline Bledsoe (CB), Program Committee Chair for the 1993 LTER All Scientists Meeting, and reminded the group that funding for the event is contingent on approval of the 1993-1995 LTER Network collaboration budget proposal currently being drafted. Travel support from the Network Office will be according to need/distance traveled to attend meeting.

JF noted that the All Scientists Meeting was originally approached as a team-building exercise, but that it has also become an important opportunity to think about future directions, take a broader view, and address leadership development needs. He recommended that participants consider planning pre- and post-All Scientists Meeting workshops to cover special topics not included or not possible to address fully in the agenda. An added element will be "international summit" involving representatives of a maximum of 20 countries.

Draft Meeting Program: CB provided an overview of the draft meeting program and invited additional comment. The program focus will be on the Network-level perspective to enhance awareness and participation among people who don't attend Network meetings. Proposed meeting structure (to include topics of Disturbance, Biodiversity, Productivity, Regionalization, Scaling, Education) will be broken up into four sections: (1) Site Overviews, (2) New Directions, (3) Multi-Site Experiments, and (4) Synthesis.

18th	Saturday	Travel-in day & LTER Executive Committee Meeting
19th	Sunday	Site Overviews, Workshops, Posters
20th	Monday	New Directions, Workshops, Posters
21th	Tuesday	Multi-site Experiments, Workshops, BBQ/Dance, Politics
22nd	Wednesday	Synthesis, Workshops, Workshop Highlights
23rd	Thursday	Travel-out and post-meeting field trips
24th	Friday	Travel-out day

Daily Schedule:

8 am - 12 pm	Presentations
1 pm - 3:30 pm	Workshops
3:30 - 6 pm	Free time, hikes

Initial response from meeting participants:
10-minute site presentations would be hard to manage; a whole day of them could get pretty boring
Posters should be used for specific discoveries
Allow for spontaneous workshops
Don't combine keynote speakers with BBQ—ineffective use of key people
Provide a break period after lunch (people get sleepy in afternoons)

Morning Sessions: Focus and preliminary suggestions for topics and speakers

Sunday:
Introductions, Site Overviews (10 minutes each)

1993 All Scientists Meeting, continued

Monday:

New Directions, applications of LTER Research - forests (Swank/Franklin?), arid lands, agriculture, water resources
Sociology (Bill Riebsame, geographer, University of Colorado)
Environmental Economics (Costanza)
International LTERs
Communications/Technologies

Tuesday:

Multi-site Experiments/Comparisons
Comparative Ecology (Gene Likens?)
Landscape Ecology, Disturbances and Legacies (drought - Swank, Hurricanes - Foster)
Decomposition (LIDET, Trace Gas Network)
Streams

Wednesday:

Synthesis
Sensitivity of Ecosystems to Climate Change
Climate Retrospective for LTER Network
Ecosystem Models & Applications (Buzz Holling)

Ideas from meeting participants:

1. Address relationship LTERs have with "hosts" (Nature Conservancy, Forest Service)
2. Highlight interaction with international networks
3. Invite key science writers
4. Focus on individual intersite projects and how they relate to topics
5. To what extent should outsiders be brought in to preach their disciplines? To the extent success can be shown (strike for a balance)
6. Possibly have a pair of keynote speakers
7. Provide poster of site backgrounds for educational effort
8. Have three, four, or five talks that incorporate similar sites (choppy, grueling format to have individual site overviews all in morning session)
9. Provide a presentation on the 10-year review (key part of opening session?)
10. Cover new areas, such as molecular probes for ecosystem science (Jim Tiedje)
11. Emphasize synthesis, an integrated approach, in site presentations
12. Halfway through meeting provide international perspective on LTER
13. Place sites in broader continental/regional perspective; integrate, don't pass off as of interest only to graduate students
14. Provide an opportunity to demonstrate individual science which leads to synthesis
15. Aim for a mixture of senior and junior personnel, especially in workshops
16. Assign topics to teams
17. Invite professional ecologists with environmental organizations, resource management agencies and private industry to invite
18. Provide a panel format to include non-LTER representatives
19. New insights from LTER should include global environmental change, synthesis
20. Address the role of regulators who will use LTER research
21. Highlight partnerships with agencies
22. Invite and pay transportation for cultural/country representatives to obtain their feedback on LTER
23. Consider what can be accomplished that is different from a society meeting.
24. Include representatives from developing networks (U.K., Canada, New Zealand, etc.)

All Scientists Meeting, continued

25. Include longer case studies, examples of intersite work
26. Provide skills-oriented workshops (GIS, RS, Molecular Probes, etc.)
27. Address issues of leadership development (replacement of retired leaders)
28. Follow team model for workshop presenters (one experienced, one a learner)
29. Address the expansion of multi-site experiments, how to incorporate them into new cooperative agreements, structures for new research (NASA, remote sensing, etc.)
30. Focus on administration and the sociology of science in small groups
31. Provide a workshop on gaining access to policymakers
32. Who should be invited to represent other disciplines?
33. Keep LTER/CC meeting in conjunction short
34. Solicit MEU funds to support more students to attend
35. Provide opportunities for students to be *active* participants
36. Take an outsider's perspective to intersite research and problems. Address the standardization issue, and take a solutions-oriented approach
37. Focus on fewer items, on what LTER does well
38. Bring in innovative educators with a track record
39. Provide hands-on workshops

Program Planning Committee: CB recruited three more planning committee members: Bob Waide (LUQ), Bill Lauenroth (CPR), and Bruce Hayden (VCR). Members identified at the Trout Lake meeting were David Tilman (CDR), John O'Brien (ARC), and John Vande Castle (NET). The committee will review the suggestions from the LTER/CC and will send out a revised program for further comment by the sites. (Since the meeting, the program committee has modified the schedule to spread site talks out over first hour of the first three days of the meeting.)

AFTERNOON SESSION

DATA MANAGEMENT ISSUES

Rudolf Nottrott (RN), LTER Data Manager, reported on Data Management Issues, noting that he would send additional information out to the sites following the Data Managers Meeting in Honolulu.

Data Catalog. RN advised that to be useful to the full Network and the larger scientific community the dataset catalog, now on-line, needs to be expanded. With over 2,000 datasets Networkwide, hard copy documentation would be unrealistic and always out of date. The current catalog only lists 2 percent of the total. LTER needs to go beyond core datasets to include all long-term datasets (not actual data, though that idea shouldn't be ruled out.). RN asked the LTER/CC for feedback, to consider issues such as the definition of "long-term," cost, and dataset quality. JF polled the sites:

AND - Has reservations. Anticipate difficulties with large sites and numerous datasets. Where do you draw the lines—should just LTER be included, or the whole site resource?

ARC - Has reservations. Process studies which result in publications should be emphasized. Datasets should not be a higher priority than publications. Add or merge with annotated list (bibliographic database).

Data Management , continued

BNZ - Supports. Sites which have pre-LTER and long-term datasets should have control over updating.

CPR - Supports with reservations. Concerned about the magnitude of the task.

CDR - Supports conceptually. Concerned about potential scope of task. Suggested using existing library searches for published material, since users would also be interested in unpublished material.

CWT - Supports with reservations. Has datasets in catalog, and is moving to incorporate them on-line. Also has non-LTER data, and is concerned that agency partners get due recognition. Research listed should be question-driven. Cautioned that first we should be certain there is a consumer audience ready to use such a resource.

HFR - Supports conceptually. Need to look at broader implications.

HBR - Supports. Have public access bulletin board with all site publications. USFS offers funds to site investigators to develop this resource.

JRN - Supports. There are problems with the accessibility of old datasets in different forms; existing datasets are OK.

KNZ - Supports essentially. Most people more interested in contacting scientists than in gaining access to a listing which is incomplete. Is intersite research really limited because not all datasets listed?

LUQ - Supports in principle, with controls. Has 62 LTER datasets, 330 others, some published and some not. Is concerned about time and cost of fielding requests. Catalog should include disclaimer.

NTL - Supports conceptually. It is important to know who our audience is and to consider the potential drain on resources. Is it possible to charge for costs of providing access to such a resource?

NIN - Supports philosophically. Has obligations to other agencies that must be considered.

NWT - Supports conceptually. Accessibility an issue; individual investigators may resist.

PAL - Supports. Currently have all information almost available on-line (including proprietary rights information, accessibility, contacts, etc.)

SEV - Supports. This is a concern that will grow. By the year 2,000, LTER will be in the information dispensing business. However, it's clear this effort can't come out of the basic site science budget.

VCR - Supports. All sites should do it, but they need resources to develop critical standards/structures. VCR is proposing to investigate with existing computer people.

Data Management, continued

Other comments: Dan Sulzbach (San Diego SuperComputing Center) suggested that LTER utilize existing Synthesis Centers for backup, archiving, etc. (JF: There is still resistance, psychologically, to releasing data to some outside entity. Mary Clutter: LTER should be ahead of the curve in thinking about sources of funds. Currently the Fed, but maybe there should be user fees eventually.

Jerry Franklin **concluded the discussion by asking the Data Managers for a staged proposal for the activity for the Coordinating Committee's consideration.** Part of what LTER is doing, he noted, is creating "footprints in time." We have a tremendous responsibility in archiving for future generations. By the year 2,000, how will we be interacting with other agencies? How will we be providing access to the larger scientific community? The future of LTER as a program and as a network depends on our developing whatever initiatives necessary to enable us to act responsibly in this area.

Minimum Standard Installation (MSI) Update.
Jerry Franklin described the importance of **updating and publishing the Minimum Standard Installation (MSI) document** on which he had asked Rudolf Nottrott to work with the sites prior to the Trout Lake meeting. Since the original MSI document was completed, the Network has revised the old concepts and developed new ones without documenting them. Over the next six months, the MSI will be made available to other sites, and other research programs around the world. JF asked for site input, noting that after the Data Managers meeting, RN will circulate the revised version for further comment. Concerns from initial circulation of the document prior to the Trout Lake meeting include: (1) cost of maintenance and personnel, (2) inclusion of global positioning systems, (3) the steep developmental curve with systematic Networkwide upgrades, and (4) the problems associated with "lockstep" upgrading. RN noted that the MSI will never be definitive, and that the revised document should state that costs, concepts and ideas are constantly changing.

Comments:
1. Change title to Minimum Standard "Capability" to emphasize personnel, not instrumentation.
2. Emphasis is on publication and synthesis as the goal, with the MSI as one tool.
3. Updating raises many questions about protocols and standards for analysis.
4. Useful if written up clearly and concisely.

ALL-SITE BIBLIOGRAPHIC DATABASE

Caroline Bledsoe, reported on the development of an LTER all-site bibliographic database, a proposed project she is exploring under subcontract to the collaboration grant. The project goal is to combine all bibliographies from all sites into a single, on-line searchable database with annual updates. Such a resource would have many science uses.

CB reported that she has been working with Niwot Ridge and Martha Andrews, a librarian at the University of Colorado, Boulder who will attend the Data Managers meeting to discuss software, commercial services, etc., and help to make recommendations, estimate costs, and plan a funding proposal.

NETWORK OF NETWORKS

Caroline Bledsoe provided an update of her "Network of Networks" activities. She described a pilot project she is helping to organize with the Man and the Biosphere Program and IGBP/IGAC (with funding support from MAB) that utilizes existing research of LTER, DOE ParkNet, LMER, etc.

Pilot project: Trace Gas Monitoring and Biological Controls

Workshop: September 1992, Pingree Park, Colorado

Participants: LTER agricultural sites, researchers with trace gas expertise, international representatives

Purpose: Develop common methods, experimental design, data sharing, communication network, link to global change models

Funding: Investigator-initiated projects, many of which are currently funded

Synthesis: Proposal

CB asked Committee members present to send her information on current trace gas work. She will send further detail on the workshop to the sites via e-mail. **Status of the project:** six sites are on board, there is funding for a functional workshop, and a good range of biomes and areas of expertise are represented. It is still possible to include other participants who can pay their own way.

UPCOMING MEETINGS

LTER/EXEC & LTER/CC **April 1-4, 1993** **Jornada site, Las Cruces, New Mexico**

Thursday, April 1	Travel-in day
Friday, April 2	LTER/EXEC meeting
Saturday, April 3	LTER/CC meeting
Sunday, April 4	Field trip and travel-out day

Subsequent 1993 LTER/EXEC and LTER/CC meetings will be in conjunction with the September, 1993 All Scientists Meeting in Estes Park, Colorado.

NETWORK OFFICE

1993-1995 Collaboration Proposal. A two-year proposal is currently being prepared at the Network Office toward a September 31 submission to NSF. JF invited principal investigators to address any related specific concerns to him or to the LTER/CC. The coordinating grant used to do more to facilitate small workshops and collaborative activities until NSF decided to return to the more standard policy of requiring separate proposals. He asked representatives to consider whether the current policy is a barrier, particularly if LTER wants to encourage networking with other agencies and expanding research concepts. JF will discuss the budget with James Edwards and Tom Callahan at the upcoming AIBS/ESA meetings in Honolulu.

Network Office, continued

Publications. Publications Coordinator Stephanie Martin provided handouts on the current status of publication projects (including projects proposed for 1993-1994), topics and assignments for the next issue of *LTER Network News*, and a draft of an updated Network biome map. She asked for feedback on these items, and noted the following:

- **Hone Interactive Video Project.** Robert Hone, who recently sent a letter to the LTER community soliciting participants for an interactive video project to examine the dynamics of nature over short and long timescales, has submitted a proposal to Informal Education at NSF. He is still seeking LTER participation and invites queries through Stephanie, who now has a copy of the proposal in the Network Office.

- **Individual Site Directory Chapters.** Stephanie has prepared disk copies of individual site directory chapters which she will soon send along with camera-ready hard copies to the sites. The files are in WordPerfect 5.1 format on double-sided high-density 3.5-inch diskettes. Included are scanned versions of the line-art site maps developed at the Network Office, in *.tif* format. Photographs from the full book are not included.

- **Request for LTER-supported Publications.** Stephanie asked site principal investigators to provide citations for publications resulting from LTER support in the past two years for attachment to the coordination grant proposal and progress report.

NORTH INLET UPDATE

Liz Blood (NIN) reported that North Inlet is funded for the year at a reduced level to "shut down" the site. They are thinking about ways to maintain a minimum level of activity while seeking other funding, and have decided to request that NSF reconsider its decision not to renew. She noted that she was willing to talk about the issue further on a one-on-one basis while at the meeting.

Jerry Franklin remarked that this situation raises the important question of what LTER should do when a site is lost for any reason. He asked the LTER/CC to consider what is the Network responsibility with regard to archiving datasets, intersite activities, etc. The LTER/EXEC will continue to discuss and address this question, and invites suggestions and comments.

MAB/IGBP WORKSHOP

John Vande Castle (NET) reported on an IGBP-GCTE/MAB/OSS Global Monitoring Network meeting held the previous week in Ury, France. Planning for the meeting started as an IGBP Global Change meeting and was later merged with the meetings of groups from IGBP, MAB and OSS. The meeting included discussions on infrastructures needed for long-term global monitoring and presentations from research networks such as LTER (Vande Castle), CERN (Zhao Shidong, China), and ECN (Bernard Tinker, UK). Discussions included needs for databases and metadatabases, quality controls, regional/ thematic monitoring centers, data sharing and exchange requirements, and commitments for participating members. Recommendations were developed for parameters which should be measured, and global areas and sites where measurements were needed; however, no formal arrangements were agreed upon.

MAB/IGBP Workshop, continued

JF noted it was important for LTER to be represented at such meetings, to provide information about the LTER Network and to keep informed of research developments on a global scale. However, it is not clear how to develop linkages at this stage, with the many differences in structure, research goals, etc., among participants (although some members of LTER are interested and already involved in global interaction). JF pointed out that much of the planned global-scale research is structured top-down. Many of the meeting participants are governmental representatives, and some of the research is pre-defined rather than science-driven.

Other International Opportunities
Mary Clutter remarked that she tends to be suspicious of large programs in which nations jockey for position based on their political agendas. She did, however, encourage the LTER/CC to develop and maintain international contacts, to influence international program development so "the Feds won't make all the decisions." Small-science projects seem to be a workable approach, but not if we expect governments to share costs. Dr. Clutter recommended getting an agreement among a small group of scientists that could later be translatable to larger projects.

NETWORK OFFICE-GCTE FOCUS WORKSHOP

April 12-15, 1993 **GCTE Focus Workshop** **Pack Forest, WA**

Following the Change & Terrestrial Ecosystems (GCTE) Focus 2 Workshop in Trondheim, Norway (John Vande Castle attended representing LTER), GCTE is progressing toward its operational phase. A number of workshops are being held to establish elements of the program. As part of this effort, the Network Office will absorb local costs and provide logistical support for a GCTE workshop April 12-15, 1993 at the University of Washington's facility at Pack Forest, near Mount Rainier, Washington to address the present state of knowledge of global change impacts on forests, provide projects for establishment of a coherent program, and suggest new areas in which GCTE should initiate research. There will be approximately 25 participants. LTER sites will be apprised of the details as this activity develops.

CANADIAN LTER IN ONTARIO

Bill Cole & Andy Gordon
Ontario Forest Research Institute, Guelph University

Andy Gordon of the Ontario Forest Research Institute extended an invitation for collaboration to LTER and described a provincial research effort in Ontario. It is a five-year, $1,000,000-per-year initiative begun in 1990 through the Ministry of Natural Resources. In Canada, the responsibility for the management of public lands falls on the provincial government, because the federal government doesn't own much land in the provinces.

Provincial lands in Ontario represent very diverse ecosystems. Fifty percent of Canada's population resides in Ontario; it is a highly industrialized, highly urbanized province with three distinct forest regions: Carolinian Region, Great Lakes-St. Lawrence Forest Region and Boreal Forest Region. These regions are characterized by a high level of forest activity. Rivers and streams have high sediment load and levels of pollutants, with high sediment loss in the riparian zone. In the south, the streams now so degraded that much of Southern Ontario is disappearing into the lake. Landscapes are

Canadian LTER, continued

highly fragmented. Wind rows are utilized as corridors for movement of small mammals. There are limestone soils, and uneven-aged stands of yellow birch and hemlock. The heavy competitors have fallen out leaving ash and oak.

A satellite station has been in place since 1950, so management systems are fairly well understood. The problems are at the local level, dealing with existing forest management legislation and conflicts between environmental and industry groups. Their project has eight years of chemistry data, and datasets on small mammal populations and changes in the agricultural landscape. Agro-forestry work has focused on interactions between perennial woody plants and agricultural plants. They hope to establish a long-term ecological research site in a transition area north of Sault St. Marie. This site is characterized by mixed wood: black and white spruce, birch and aspen, balsam fir and eastern spruce. The stands in northern Ontario are growing on very shallow soils.

Bill Cole provided further information on the Canadian program which, like LTER, has a mandate to collaborate and pursue similar goals. The interdisciplinary program has been in existence for just under two years. They hope to bring the long-term ecological research component through the Ministry of Forestry, but at this point the program is provincial in scale. Responsibility to connect research province to province lies with the federal government. Components of the current program include: investigations of wildlife species movement across managed landscapes, a sustainable forestry program, private land forestry strategy, genetic conservation and heritage, growth and yield studies, old-growth forest studies, and long-term ecological research.

Objectives for the current fiscal year are to (1) develop a research plan that is research-oriented and hypothesis-driven, (2) select a site/sites, (3) refurbish the site(s), (4) assimilate existing programs, (5) disseminate products to resource managers. To help guide the research plan, they have assembled a research committee with representatives for fisheries, wildlife, the federal Forest Service, universities (including Dave Grigal, University of Minnesota, CDR LTER). They have identified 25 sites across the boreal zone, 5,000 hectares of undisturbed land including a transitional zone and an experimental/ manipulative zone. They are working on a model gradient of three sites with the core site in the boreal transition zone and satellites in the south (Swan Lake Reserve—datasets from '50s, hardwood/softwood silviculture, genetics and nutrient cycling since 1972) and north (Algonquin—40 years of research, with over 500 publications).

Dr. Cole noted that the institute program would like to develop a collaborative exchange with LTER on the MSI and via electronic mail, and invited additional suggestions. He offered to host an LTER/CC in Ontario in the future. He also requested an invitation to participate in the All Scientists Meeting.

Comments: Tim Kratz (NTL) noted that an extensive lake database is available for Ontario, and asked if a collaboration with U.S. researchers has been considered? Cole responded that the current mandate is interdisciplinary, and should involve some aquatic systems. However, there exist logistic difficulties accessing the northern lake site. At present, funding is through the forest research branch, but the hope is to eventually incorporate additional sites, both freshwater and terrestrial. Judy Meyer (CWT) suggested that the Ontario group consider adding an urban research component. Keith VanCleve (BNZ) offered to be involved in bringing a northern boreal forest study effort together, perhaps an informal workshop to start.

GIS DEMONSTRATION

The meeting adjourned to attend a GIS demonstration of capabilities for remote data storage, processing and display using Landsat-TM data from the 1991 Sevilleta LTER (SEV) remote sensing data acquisition. The demonstration was based on recent interactions between research groups at the LTER Network Office, SEV and The Khoros Group, and the San Diego Super Computer Center (SDSC). Vegetation analyses from data stored at SDSC were processed both locally and on SDSC's Cray-YMP, and displayed on multiple displays in the University of Alaska's GIS/Remote Sensing Laboratory. Many participants, including Mary Clutter and Jerry Franklin, noted the future possibilities for LTER in linking with such groups as the SDSC and the National Center for Geographic Information Analysis (NCGIA) for specific processing and data storage capabilities.

Minutes by S. Martin