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Coordinating Committee Meeting, Madison, Wisconsin, July, 1993

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Notes from the LTER PI Meeting - Madison, July 30-31, 1993

Following are notes regarding the LTER principal investigator meeting held at the University of Wisconsin prior to the meeting of the Ecological Society of America. The notes have been rearranged by discussion topic rather than the order of discussion and have been updated with new information.

-John Vande Castle, LTER Network Office, University of Washington, AR-10. Seattle WA 98195

In summary, the LTER Ten-Year Review document was seen as a very positive document although there were some ambiguities and concerns about long-term funding at the proposed increased levels. LTER involvement with EMAP was seen as a positive step for specific projects. LTER and LMER principal investigators should expect to see an RFP targeted to these programs from EPA/EMAP in the near future.

The LTER/PI meeting began with introductions and discussion from the chair, Jerry Franklin regarding the goals of the meeting. The primary discussion of the first afternoon of the workshop was to discuss the LTER 10yr review document. This discussion would form the basis for a formal response to NSF prepared and submitted by Jerry Franklin. This 3 page document has been completed by Jerry, and a copy of it will be sent to LTER principal investigators and to NSF.

It was mentioned that although the 10-year review document was released for LTER use, it is still essentially an internal document until NSF receives input from the LTER sites and formally publishes the document. As such, the current NSF version of the 10-Year Review, and the response by the LTER Chair are not meant for general distribution.

Other discussion issues from the sites:

There was a question regarding the LTER All Scientists meeting in reference to hosts for international participants and the International Summit in general. The hosting was meant to help visitors during the main part of the All Scientists meeting, to include them in discussions, and help them with any logistics that might come up once at Estes Park. Jerry Franklin said a list of foreign attendees would be circulated so that LTER people could sign up to host the visitors.

Caroline Bledsoe discussed the status of the LTER "synthesis volume" and mentioned that two publishers were interested, including Springer-Verlag who might send a representative to the All Scientists meeting. It was suggested that the volume be focused, perhaps with an organizational workshop.

Discussion of the LTER Site Map was again brought up because of concerns of how the map will be used. It was decided that the map was not meant to show the specific biome etc. represented by each site, but simply to be used for informational purposes such as in the brochure.

There was a discussion of deciding when and where the datamanagers would meet in the future due to some scheduling conflicts. However, the datamanagers had already proposed changes and no final decision on this was proposed by the LTER/CC.

ILTER 10 Year Review Discussion:

Comments from the sites began with a concern with the large proposed increase in the funding amount as well as a fairly large increase in the number of sites. There was some question as to how the recommendations came about - some thought was involved, and the process would be good to know. Standardization should be considered as they are needed. Discussion continued with the need to pay attention how a large number of sites would be managed. This included discussion on the need for a review of the management structure, especially if LTER were to be expanded. The LTER chair pointed out that the management structure would be a key item for upcoming LTER/CC discussions. How "we" organize ourselves was an important point of discussion since LTER is a large, complex group. LTER needs to decide how we do this and still keep "everybody" involved. The role of the Chair and Network office should be defined. Infrastructure support should be incremental, not competitive. The individual research projects could be competitive, but not the base-line funding. If program expansion within LTER is not planned to be equally distributed, attention to the criteria on how sites would be selected for expansion would be important. As mentioned in the report, coordination of LTER remote sensing activities, should be discussed and decided by the LTER/ CC at some point.

There were contradictions in the report that were difficult to deal with, and perhaps need some explanation. Contradictions, in the document were pointed out, such as specific hypothesis, i.e. the importance of site level research compared with cross-site comparisons and the needs for standardization. Some contradiction on role of LTER/CC and LTER/EXEC. Direction in the report seems to be lacking on what proportion of funds are dedicated to long-term, versus other important, perhaps short term studies. There is a question on expectations of NSF, and of reviewers, and "who's rules" the sites have to adhere to. This was pointed out by the LTER Chair regarding the expectations of the Network Office, and how it must report to the LTER/CC as well as NSF which provides its funding and who reviews its own proposal. It was suggested that the coordination tasks of the Network Office be contracted rather than included in a research proposal. With the review document now released to LTER, there was some question as to what set of rules sites had to pay attention to that they are now up for renewal. It was suggested that principal investigators from sites submitting proposals be included in an expanded LTER/EXEC meeting with NSF in Washington D.C.

There was additional concern with the infrastructure of NSF itself, and its ability to deal with a greatly expanded program. This is mentioned in the report, but not emphasized, and no suggestions are given as to how NSF will handle this. Also, if LTER funding is dramatically increased, consideration on outside (i.e. general ecological) funding, and funding through LTER (such as REU's etc) needs to be addressed. Overlap with other programs (EPA, NASA etc.) should be considered in this regard also.

Discussion regarding the LTER Core areas included concern of replacing core areas with very broad goals as implied in the review document. The reduced focus might be a problem. The concept of doing more applied work, especially beyond biology could be difficult. The focus provided by the core areas for current LTER work is one of its strengths. It was also pointed out that LTER is sold and thought by agencies as a complete network and data-rich. The real diversity of the sites need to be considered as a strength in itself.

The expectations and means of funding for cross-site and comparative work is not given in the report. Cross-site broad scale research perhaps could be a funding program within NSF. Comparative work should be emphasized and encouraged. As an example, there could be an LTER synthesis activity. This would be a significant effort, perhaps an 8 year project. The review did offer support for long-term

documentation and measurements. Some of the suggestions in the report involved synthesis work - i.e. its link with NEBSC (or its future acronym). Regarding discussions in the report for standardization, it was suggested that comparable data rather than specific measurements should be considered for standardization issues. Quality control issues need to be considered. A standardization workshop, was suggested for the All Scientists Meeting. Question driven research might be needed to initiate this. As part of this, perhaps several groups would look at specific questions, perhaps arranged in logical groups like aquatic and terrestrial etc. Perhaps some specific measurements like chemical parameters could be used. Primary production, biodiversity could be good places to start. Perhaps some working groups perhaps stream, primary production, soil measurements, decomposition etc. The goal would be to lead to some synthesis activities. The CC decided that working groups should handle standardization issues. Individuals were suggested as workshop leaders at the All Scientists meeting. A specific charge of enabling cross-site comparisons will be given. Issues of comparability and interconvertability of information should be addressed. Future efforts regarding comparative issues/standardization should be addressed.

It was noted that the report is visionary, but there are no clear marching orders. It was suggested LTER take the lead and pull items out of the report, and suggest what should be implemented soon. The staging of increments is an issue (given the 6/2 year funding cycles). Given the current funding levels, fixed for perhaps 2 years, it was not clear what can be done at the LTER and NSF level to begin to implement the initiatives.

Jerry Franklin mention that LTER needs to be grateful on how the 10 year review process was handled, and the product was a very positive document. There are a lot of inconsistencies. Cross site work and standardization has to be discussed and worked through. Some parameters should be defined on what can be done as a Network, as a subset, and also what standards need to be defined. LTER has to decide as a group if (p. 25) the LTER program will evolve into a true network. This means moving to a new goal, not originally spelled out when LTER began. In the report to Mary Clutter, Jerry Franklin said that it would say LTER is willing to accept the challenges documented in the report. The issues of the funding and NSF staffing need to be addressed by the Foundation. Instructions to sites up to be renewed as to what rules are being followed, preparation of NSF for the review, and communication of this to the sites needs to be done. Inconsistencies in the report need to be recognized.

In the expansion of sites, a process at what type of sites would be added, as well as criteria for expansion needs to be considered. Partnerships with other agencies as well as consideration for inclusion of other research sites, such as NPS or the future NBS. The interagency links would fit well with the suggestion for satellite sites which was endorsed by the LTER/CC. The governance structure will need to be address in the future by LTER. The report did not seem to grasp the governance structure that exists and what it should become. NSF and LTER needs to realize the partnerships involved, between the LTER/CC, the LTER/EXEC, the Network Office and NSF. The proposed network management structure suggested in the report is unrealistic.

Jerry suggests that priority, be set, in order:

1. Providing adequate funding for current research.
2. Provide separate funding for comparative research
3. Expand number of sites

LTER/EPA-EMAP Discussions

(These notes, previously sent out were compiled by John Hobbie)

In the first afternoon, the initial discussion regarding EPA EMAP was started. EPA EMAP is interested in collecting information at LTER sites for the EMAP program. As part of this meeting, the process to define how EMAP would set up a call for proposals. There would be about \$500k funded EPA with proposal sent to NSF for peer review. The meeting continued in the evening to discuss LTER involvement with EMAP, and how the process should be initiated.

The EMAP (Environmental Monitoring and Assessment Program) officials present were Ed Martinko (Director), Rick Linthurst (Acting Director of EMAP Central in North Carolina), and Steve Paulson (Director of the Surface Waters Study). The meeting was arranged by Jim Gosz (NSF). EMAP will fund projects totaling \$500,000 per year. NSF will convene a special panel to judge the proposals.

Ed Martinko described EMAP as EPA's move away from an approach of studying effects of a single pollutant to a regional, cumulative effects approach. They wish to document the extent and condition of ecological resources across the entire nation. They will not be carrying out cause-and-effect research, but will determine where associations exist between condition of a resource and stressor, natural (e.g., drought) or non-natural (e.g., a pollutant). The approach has five parts: 1) regional in scope; 2) uses ecological/biological indicators of condition; 3) uses probability-based sampling; 4) long-term (presently designed for 60 years); and 5) interagency

Several points were made that are pertinent to a possible EMAP-NSF tie. EMAP has 7 resource areas. Some are carrying out demonstration projects, while others are still being planned. EMAP-Estuaries has now completed its 4th field season.

The sampling is carried out once per year at best for each EMAP sampling site; usually it is once per 4 years. The indicators chosen should represent not only the condition of a resource, but also a linkage to an environmental stress. This is an ideal indicator, not usually realized in practice.

There has recently been an EMAP competition for individual scientists on the topic of development of indicators. Now EMAP would like to build a bridge to LTER and LMER with a competition for these groups. The topic will not be specified, but a proposal must help EMAP reach its goals.

The LTER group agreed with Deb Coffin's point that we all are interested in having our data play a role in public policy. Here is a chance to bring the detailed temporal and spatial data on single sites to bear on questions of indicator choice and data interpretation for widely dispersed sites. The links are obvious and we should go ahead.

The LTER group recommended that the first competition should be regarded as exploratory and kept to a relatively small number of groups (e.g., LTER and LMER). Proposals should be considered similar to a supplemental LTER proposal in that they could come from an individual site or from several sites. Finally, the group recommended to EMAP that optimal interaction would occur if EMAP sampling were carried out at each LTER and LMER site. This would be sampling in addition to the regular program of probability-based sampling.

One question raised during discussion was "how will LTER and LMER groups find out more about EMAP and its needs?" The answer from EMAP was "through contacts with the EMAP managers." Documents

can be obtained from the Resource Managers (names and addresses from Rick Linthurst...). Another step to help will be a preproposal submission of 1 to 2 pages. EMAP will assign each of these to one of their program managers for discussion about applicability to EMAP's needs.

The LTER Coordinating Committee expressed concern about the preproposal step. On one hand, they agreed that more information about the program was needed. On the other hand, they worried that discussions with the program managers could stifle creativity and point the proposals down a path determined by the program managers. All liked the idea that a short preproposal would save a great deal of effort wasted on unsuitable proposals. Also, the final judgment will be made by an NSF-convened panel.

The EMAP team summarized the proposed program as follows:

1. The total funding will be at least \$500,000 per year.
2. Although they can guarantee only the first two years of funding, EMAP will make awards for 2-3 years or even longer if suitable.
3. EMAP expects to fund 5-6 proposals (not 1-2, not 20).
4. Proposals would follow NSF 15 p. format.
5. Reporting will be annually. Scientific publications rather than gray-literature reports expected as products.

Discussion produced the following list of potential topics for proposals (note that these are only some of the possible topics):

Indicator Development

1. Variability within system vs. among systems - spatial, temporal
2. Identification and testing of indicators
3. How to sample functional unit (lake, group of lakes, watershed)
4. Standardization of methods (e.g., test at all sites, pilot studies)
5. Index development (groups of indicators)

Association:

1. Develop testable hypotheses of links between condition and stressors
2. Ecological change related to indicators and environmental change

Extrapolation:

1. Spatial models of ecological phenomena could be tested by EMAP's wide-spread sampling.

A tentative schedule is:

- * October 1993 RFP
- * December 1993 Preproposal Due
- * January 1994 Feedback from EMAP
- * March 1994 Proposal Due
- * May 1994 Panel Meets
- * October 1994 Funding