

**Minutes from LTER CLIMATE COMMITTEE WORKSHOP**

**at LTER All Scientists Meeting, Estes Park, CO, 9/27/90**

Recorded by Phyllis Adams (BNZ) and slightly edited by David Greenland (NWT)

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**REVIEW OF PAST ACTIVITIES:**

Initially in 1981 an LTER Meteorology Committee was formed with representation from the first six sites and with Larry Ragsdale and Lloyd Swift, both from Coweeta, acting as co-chairs. This committee was later abandoned. The current Climate Committee, which is a standing committee of the LTER Coordinating Committee, was formed in 1984 at the last All Scientists Meeting at Lake Itasca, MN. The accomplishments of the group are :

- # Established protocols for climate monitoring.
- # Created the site climate description book
- # Held a workshop on Climate Variability and Ecosystem Response
- # Published a monograph from this workshop.

A list of products is in appendix 1 to these minutes.

**VARIABILITY MONOGRAPH**

This monograph on the proceedings of the Climate Variability and Ecosystem Response workshop should be published soon. This publication has been delayed because the authors had difficulty working with the Forest Service format and blue sheets and because David Greenland had been occupied as department chairperson for the past three years. The title has proved to be popular and the monograph will, therefore, probably receive wide distribution.

The final summary chapter, "Overview of Climate Variability and Ecosystem Response", will be published as an article perhaps in the Bulletin of the American Ecological Society. The authors of this article will be Greenland and Swift with other contributors listed in a footnote.

**MEMBERSHIP UPDATE**

The membership list of the committee will be updated from the attendance list of this workshop and from the E-Mail mailing list.

**MODE OF OPERATION**

Traditionally the Climate Committee has undertaken only one or two major projects at a time with one or two people assigned responsibility for each project.

## MODE OF FUNDING

Some projects are completed without funding when individuals donate their time, and no extra costs are incurred. The LTER Coordinating Committee has provided funds in the past for meetings and workshops. However, this group no longer distributes funds for workshops, and proposals must be submitted directly to NSF.

## ASSOCIATION WITH DATA MANAGERS ACTIVITIES

The Data Managers Committee has proposed to create a prototype online intersite climatological database which could be accessed by anyone with Internet E-Mail capability. John Gorenz (Kellogg) and Rudolf Nottrott presented ~~this~~ proposal to the Climate Committee and requested support in implementing the database.

A database of this type could be of use to this group when preparing summaries for workshops, when sharing data in a network context, and for cooperative studies. It was suggested modellers could contribute to decisions about what variables to include and the standardization of these data.

## POTENTIAL NEW ACTIVITIES

The following potential new activities were suggested and discussed:

# from the Climate Variability Monograph:

- Clarify terms dealing with climate variability
- Identify scales of important climate variability for ecosystems
- develop "new" proxy indices of climate variability which would have utility for ecosystems e.g. air mass climatology, storm track data etc.

# Soil water budgets - a longstanding potential field of study for the committee. This may be addressed by the new Hydrology group.

# Update Climate Description Document. - This includes adding sites not presently in the book and updating the site comparison chapter.

# from LTER Global Change Workshop:

- Hydrology modelling
- Regional climate change modelling
- Scaling

# Examine GCM output for  $2\times\text{CO}_2$  at LTER sites.

# Provision for sites of information on projected and

historically based suggestions of the range of climate changes which sites might reasonably expect to experience.

# "First Signs" - an exercise in which the committee assemble, within a comparative framework, information of first signs of potential moves into new climatic episodes of warming, cooling, drier conditions or wetter conditions. e.g. the Bonanza site seems to be experiencing noteworthy signs of warming at present.

#### ACTIONS:

After discussion of the above the following actions were agreed upon:

- 1) The Climate Description Document would be updated. The update would include descriptions of the additional sites, a section on time series analysis of all sites, and a revised comparison chapter including all the sites. Greenland would be in charge of the description and comparison and Tim Kittel (CPER) would be in charge of the time series analysis standardized across all sites. A grant proposal to NSF would be submitted to cover costs of publication and analysis.
- 2) A document on "Potential Climate Change at LTER Sites" would be produced by Bruce Hayden (in association with a forthcoming project with the National Park Service). This document would provide sites with information on projected and historically based suggestions of the range of climate changes which sites might reasonably expect to experience. The study would be based both on GCM output data and the historical record.
- 3) The Climate Committee would support and aid the Data Managers' effort to create an online database prototype.
- 4) There would be a distribution of climate related information to interested people. This will be done using the LTERNET CLIMATE mailing list (or by posting items of interest on the LTER bulletin board. Rudolf Nottrott has offered to post E-Mail messages to the bulletin board. Topics to be circulated include:
  - bibliography of climate ecosystem interactions (from Bruce Hayden).
  - questions about equipment problems.
  - items of general interest.
  - updates on latest global climate change information.

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#### Appendix 1: Products of the LTER Climate Committee

Swift, L.W. and H.L. Ragsdale. 1985. Meteorological Data Stations at Long-Term Ecological Sites. Proceedings of Forest Environmental Measurements Conference; 1983 October 23-28. Oak Ridge TN. Reidel, Holland.

- Greenland, D.E. (Ed) 1986. Standardized Meteorological Measurements for Long Term Ecological Research Sites. Mimeograph. 33pp. Available from LTER Central Office, University of Washington.
- Greenland, D.E. 1986 Standardized Meteorological Measurements for Long-Term Ecological Research Sites. Bulletin of the Ecological Society of America. 67(4):275-277.
- Greenland, D.E. (Ed) 1987. The Climates of the Long-Term Ecological Research Sites. Occasional Paper No. 44. Institute of Arctic and Alpine Research. University of Colorado. 81 pp.
- Greenland, D.E. and L.W. Swift (Eds). 1990. Climate Variability and Ecosystem Response. United States Forest Service. Southeastern Region. General Technical Report. in press.

LTER CLIMATE COMMITTEE October, 1990.

Andrews: Art. McKee, Andrews Experimental Forest, P.O.Box 300,  
Blue River, OR 97413.

Coweeta: Lloyd W. Swift, U.S. Forest Service, Coweeta Hydrologic  
Laboratory, 999 Coweeta Lab Road, Otto, NC 28763.

North Inlet: Bjorn, J., Kjerfve, Baruch Institute, University of  
South Carolina, Columbia, SC 29208  
William Michener, Baruch Institute, University of South  
Carolina, Columbia, SC 29208,,

Konza: Tim Seastedt, Division of Biology, Kansas State  
University, Manhattan, KS 66506.

Cedar Creek: John R. Tester, Cedar Creek Nat. Hist. Area, 2660  
Fawn Lake Drive N.E. Bethel, NH 55005.

Northern Lakes: David K. Hill, Laboratory of Limnology, 650 N  
Park Street, Madison, WI 53706.

CRFP: Tim Cahill, Natural Res. Ecology Lab., Colorado State  
University, Fort Collins, CO 80523.

Jornada: Wesley Jarrell, Oregon Graduate Center, 19600 NW Von  
Neumann Drive, Beaverton, OR 97006-1999.

Hubbard Brook: C.A. Federer, USFS, Northeastern Forest  
Experimental Station, Concord Mast Road, P.O. Box 640,  
Durham, NH 03824.

VA Coast Reserve: Bruce P. Hayden, Dept of Environmental  
Sciences, University of Virginia, Charlottesville, VA 22903.

Arctic Tundra: John Hobbie, Ecosystems Center, Marine Biological  
Laboratory, Woods Hole, MA 02543

Kellogg: James Crum, Crop and Soil Science Department, Michigan  
State University, East Lansing, MI 48824.

Bonanza Creek: Leslie D Viereck and Phyllis Adams, Institute of  
Northern Forestry, 308 Tanana Drive, Fairbanks, AK 99775-  
0082

Harvard Forest: David R. Foster, Harvard Forest, Harvard  
University, Petersham, Mass 01366.

Luquillo: William T. Lawrence, Terrestrial Ecology Division,  
Center for Energy and Environmental Research, GPO Box 3692,  
San Juan, PR 00936. [Until March 1991 Bill is at NASA  
Goddard, Code 923, Greenbelt, MD 20771.]