

Report from the LTER Climate Committee to the LTER Coordinating Committee meeting Sevilleta, N.M., Spring, 2002

Prepared by Douglas G. Goodin (April 3, 2002).

1.) CVER Volume

The major activity of the climate committee over the past year has been preparation of the edited volume *Climate Variability and Ecosystem Response*. The CVER volume is an extension of a project initiated by David Greenland (AND) as a cross-site synthesis of climate and ecosystems effects. As part of this project, the climate committee sponsored a series of workshops at the 2000 All-Scientists' meeting, organized by David Greenland (AND), Ray Smith (PAL), Andrew Fountain (), Berry Lyons (), and Glen Juday (BNZ), Doug Goodin (KNZ), and thematically organized around climate/ecosystems effects at four time scales; century to millennial, interdecadal, quasi-quintennial, and annual/short-term. Participants in these workshops were invited to submit their research for inclusion as chapters of an edited volume, to be edited by the workshop organizers. David Greenland negotiated a contract with Oxford University Press to publish the edited volume, however as part of the contract negotiations, OUP stipulated only three editors. In response to this stipulation, Fountain, Lyons, and Juday agreed to step down as editors (a selfless gesture deserving of recognition and thanks). With Greenland, Smith, and Goodin as editors, a contract was signed on April 26, 2001. Upon completion, the CVER volume will constitute another contribution to the continuing Oxford LTER series.

Currently, 17 of the 20 chapters originally promised to the volume have been received. Of these, 8 have been reviewed and returned to authors for revision. In addition, nine overview and synthesis chapters are being prepared by the volume editors. A list of chapters for the entire volume is given below.

Detailed Outline of Chapters

Part 1. Chapter 1. An introduction to climate variability and ecosystem response. David Greenland, Doug Goodin, Raymond Smith.

Part 2. Climate variability and ecosystem response on different time-scales.

Short-Term Climatic Events

Introductory overview - Greenland, Goodin and Smith.

Chapter 2. The impacts of hurricanes in temperate forests - Emery Boose.

Chapter 3. The impacts of drought at the Coweeta Forest - Brian Kloeppel.

Chapter 4. Climate scaling in the North Central Region: Characterizing Drought Severity Patterns - Stuart H. Gage.

Chapter 5. Climate forcing at the Arctic LTER Site - John E. Hobbie, G Shaver, J Laundre, K Slavik, L Deegan, J O'Brien, S Oberhauer, and S. MacIntyre.

Synthesis - Greenland, Goodin and Smith.

The Quasi-Quintennial Time Scale.(Senior Editor - Ray Smith)

Introductory overview (Brief)- Smith

Chapter 6. LTER Network Overview of ENSO climatic signal and response - Introductory overview - David Greenland.

Chapter 7. ENSO relationships with climate in the southwestern U.S. - Klaus Wolter.

Chapter 8. The climate of the Central Arizona and Phoenix Long-Term Ecological research (CAPLTER) site and links to ENSO. - Anthony J. Brazel and Andrew W. Ellis.

Chapter 9. Watershed hydrological and chemical responses to precipitation variability in the Luquillo Mountains of Puerto Rico. - Douglas Schaefer.

Chapter 10. Climate Variability and Ecosystem Response of the Marine Ecosystem in the Western Antarctic Peninsula (WAP) Region. - Raymond C. Smith, William R. Fraser and Sharon E. Stammerjohn..

Chapter 11. Climate and hydrologic variations and implications for lake and stream ecological response in the McMurdo Dry Valleys, Antarctica. -

Kathy Welch, Berry Lyons, Diane McKnight, Chris Jaros,
Andrew Fountain, Thomas Nylen, Peter Doran, Clive Howard-Williams.

Synthesis - Raymond C. Smith

The Inter-Decadal Time Scale.(Senior Editor - Doug Goodin)

Introductory overview - Douglas Goodin.

Chapter 12. Impacts of decadal scale climate variability: An assessment of selected LTER biophysical data. - Maurice J. McHugh.

Chapter 13. A 200 year perspective of climate variability and the response of white spruce in Interior Alaska - Glenn Patrick Juday, Valerie Barber, Scott Rupp, John Zasada, and Martin Wilmking.

Chapter 14. Decadal Climate Variation and Coho Salmon Catch - David Greenland.

Chapter 15. Decadal and Century-long changes in storminess at LTER sites. - Bruce P. Hayden and Nils R. Hayden.

Chapter 16. Inter-decadal drought cycles in New Mexico: Patterns, consequences and forecasting. Bruce T. Milne, Douglas I. Moore, Thomas W. Swetnam, Julio L. Betancourt, Robert R. Parmenter, and William T. Pockman.

Synthesis - Maurice McHugh, -Doug Goodin.

Century to Millennial Scale (Senior Editors Goodin and Smith)

Introductory overview - Goodin and Smith.

Chapter 17. The importance of climatic legacy on current ecosystem structure and function in a polar desert. Andrew Fountain and W. Berry Lyons.

Chapter 18. Millennial-scale climate variability and ecosystem response at the Jornada LTER. H. Curtis Monger.

Chapter 19. Millennial and century climate changes in the Colorado Alpine. Scott Elias.

Synthesis - Goodin and Smith.

Part 3. Climate variability and ecosystem response at selected LTER sites over multiple time scales.(Senior Editor - David Greenland)

Chapter 20. Ecological response to climate variability at the H. J. Andrews Experimental Forest - David Greenland, Frederick Bierlmaier, Julia Jones, Arthur McKee, Joseph Means, Fred Swanson, and Cathy Whitlock.

Chapter 21. Climate Variability in Tallgrass Prairie at Multiple Time Scales: Konza Prairie Biological Station. Douglas G. Goodin, Philip A. Fay and Maurice J. McHugh.

Part. 4.

Chapter 22. Climate variability and ecosystem response - an overview. David Greenland, Douglas Goodin, Raymond Smith, Fred Swanson.

2.) Other items

In addition to the CVER volume, members of the climate committee continue to work with data management committee on design and implementation of new climate observation and data standards. During the past year, the climate committee has contributed to the ongoing development of the ClimDB+ databasethrough provision of advice and technical information about climate and climate observations. A number of authors used the ClimDB+ data base to prepare contributions to the CVER volume.