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Millennial-Scale Climatic Oscillations in New Zealand During the Last Glacial Cycle; PEP III Transect

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Final Report for Period: 01/1997 - 03/1999**Submitted on:** 02/25/2004**Principal Investigator:** Denton, George H.**Award ID:** 9700633**Organization:** University of Maine**Title:**

Millennial-Scale Climatic Oscillations in New Zealand During the Last Glacial Cycle; PEP III Transect

Project Participants**Senior Personnel****Name:** Denton, George**Worked for more than 160 Hours:** Yes**Contribution to Project:****Post-doc****Graduate Student****Undergraduate Student****Technician, Programmer****Other Participant****Research Experience for Undergraduates****Organizational Partners****Other Collaborators or Contacts****Activities and Findings****Research and Education Activities:****Rationale:**

A key question about paleoclimate is whether the millennial-scale oscillations of the last glacial maximum were synchronous between the hemispheres, or whether one hemisphere led the other. The purpose of the seed money from this Small Grant for Exploratory Research was to examine stratigraphic sections in moraines exposed by coastal erosion alongside the Tasman Sea for organic material suitable for radiocarbon dating. The hope was to establish the age of the moraines and hence the millennial-scale oscillations which they represent, and then to compare the results with similar data bases from the Northern Hemisphere.

Activities:

An examination in 1996 of part of the coast of the Tasman Sea revealed three datable moraines. One was deposited at 18,100 14C yr B.P., another at 16,400 14C yr B.P., and the third at 23,500 14C yr B.P.

Findings:**Training and Development:****Seeded Research:**

The purpose of a Small Grant for Exploratory Research is to seed a long-term research project. This has occurred, although the funding has been generated through the paleoclimate program of NOAA. A long-term project in the Southern Alps of New Zealand began in 1999 and is still ongoing. Glacial geomorphology maps have been constructed for the entire core region of the Southern Alps. The maps have been digitized and produced in color. Two hundred radiocarbon dates provide the necessary chronology. Snowlines have been reconstructed for the last glacial maximum and the late glacial reversal. The results will be forthcoming shortly in a dedicated bulletin of the Crown Institute of Geological and

Nuclear Sciences, Wellington.

Outreach Activities:

Journal Publications

Denton, G.H., Heusser, C.J., Lowell, T.V., Moreno, P.I., Andersen, B.G., Heusser, L.E., Schluchter, C., and Marchant, D.R., "Interhemispheric linkage of paleoclimate during the last glaciation", *Geografiska Annaler*, p. 107, vol. 81A, (1999). Published

Books or Other One-time Publications

Web/Internet Site

Other Specific Products

Contributions

Categories for which nothing is reported:

Organizational Partners

Activities and Findings: Any Findings

Activities and Findings: Any Outreach Activities

Any Book

Any Web/Internet Site

Any Product

Any Contribution