

**Collaborative research: Preliminary Investigation Of Paleoenvironment, Processes,  
And Carbon Stocks Of Drained Thaw-Lake Basins, Arctic Coastal Plain, Alaska  
NSF-OPP/ARCSS-9911122**

DATE: 9/2/2002  
TO: NSF-ARCSS-OPP Researchers  
FROM: Wendy Eisner, Jim Bockheim, and Ken Hinkel  
RE: August 2002 Field Activities

This report briefly describes our summer field season, which took place from 2-28 August 2002. The field team consisted of Wendy Eisner, Ken Hinkel, Richard Beck, graduate student Julie Bell, undergrads Rebecca Hamilton and Ben Jones (University of Cincinnati), Jim Bockheim, William Bleam and graduate student Heidi Bialk (University of Wisconsin), Kim Peterson (University of Alaska Anchorage), and high school student Matthew Masters.

We visited and sampled a total of 14 drained thaw-lake basins and 6 upland (non-basin) remnant landforms within a 80 km radius of Barrow. The basins were selected based on their relative age, which was determined using spectra from Landsat 7+ imagery and the degree of basin polygonization. The classification scheme includes young, medium, old, and ancient basins. We expanded our research area by investigating thaw lake basins further afield, collecting soil samples from landscapes which appear never to have been impacted by thaw lake processes. The vegetation and geomorphological context of the sites was described. We also obtained basal organic samples for radiocarbon dating from several basins which are truncated along the coast as a contribution to studies on coastal erosion rates on the Barrow peninsula.

The sites were accessed by helicopter, and samples were collected using a hand-held drill and corer. Cores and peat monoliths were transported to laboratory facilities at BASC/NARL where they were described, photographed, and subsampled for pollen and radiocarbon dating. We then sectioned the cores into 10-cm segments, weighed them, and oven-dried the samples for transport to the home institutions (University of Wisconsin and University of Cincinnati) where they are being analyzed for organic C, other key morphological and chemical properties, and soil texture.

Our team presented lectures and demonstrations as part of the Barrow-Toolik Schoolyard Project. The first was given on August 10 by William Bleam, who stood in for Jim Bockheim (who had to leave the field early due to a family emergency). The second lecture was presented at the Inupiat Heritage Center on August 15<sup>th</sup> by Wendy Eisner entitled "Studying the Landscape History of Barrow." Wendy Eisner, Ken Hinkel, and Jim Bockheim were also interviewed for a video presentation on climate change which will become a permanent display at the Heritage Center in Barrow.

We also were involved with the Barrow community at a more personal level. Wendy visited the Barrow Senior Center for lunch, gave a short presentation on our research, and spoke at length with Ms. Margaret Glastetter, Sr. Citizen's Program Coordinator. We are involved in arranging, with the help of Ms. Lollie Hopson (BASC community liaison), further interactions with Barrow Elders as consultants on Barrow landscape change and history.

Wendy, Ken, and Richard were invited to a dinner given for Senator Ted Stevens on Friday, August 16. This was a unique opportunity to talk with Senator Stevens and to listen and discuss community concerns regarding scientific research, economic development, and environmental change in the Barrow region.

As always, BASC was extremely helpful in arranging logistical support.

Web page: <http://k2.gissa.uc.edu/~weisner/aug02/>