Report of 2006 Field Activities and Preliminary Results: Cape Bounty, Melville Island

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Field activities

We camped at Cape Bounty from June 1- August 4. Work involved collecting sediment cores from the two lakes, measuring river flow, water quality and sediment transport, and measuring the amount of carbon dioxide that the plants and soil released. We also measured the snow cover in the spring and collected weather observations at three locations. These stations were left over the winter to continue recording.

Preliminary results

The sediment cores all contain layers that are likely produced each year, and should allow us to count back thousands of years to estimate past river and weather. We now have four years of sediment transport data to compare with river and weather records and this will help us understand the record in the sediments. 2006 was a very warm year with a heavy snow cover. The spring melt was the largest of the four years we have measured and the sediment and nutrient load was high. Our results suggest that these conditions do not transport as much sediment as we would have expected based on another high snowfall year in 2004. Therefore, we may have observed a limit on the amount of sediment available to be transported.

Proposed work for 2007

We will establish a camp a Cape Bounty from May 27-August 5 to measure river and sediment delivery processes. We will also collect several short sediment cores from both lakes and continue to record the weather. We will be collecting samples from several small streams that flow over vegetation and ground disturbed by the melting of ground ice, to see what impacts the disturbance has on the water quality. It will be important to continue this work for several years to collect enough information to understand what the sediment record tells us about past river and weather conditions. We will continue the vegetation sampling and measure the amount of carbon dioxide that is released at Cape Bounty.

We hope, with funding from IPY, to hire two students from Resolute to come to the field camp to learn how sample and handle water and weather measurements. We hope that this experience will be useful for future employment and help show the community the kind of work we do.

ᐅᓂᒃᑳᓚᐅᕈᑦ 2006-ᒥ ᓄᓇᒥ ᓱᓕᕆᐊᖑᔪᓂᒃ ᐊᒻᒪ ᖃᐅᔨᓴᐅᒋᐊᙵᖅᑕᐅᔪᓂᒃ: ᓄᕗᒃ ᐸᐅᓐᑎ, ᐅᖅᓱᕆᐊᒃ

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ᓄᓇᕗᒥ ᓱᓇᑐᐃᓐᓇᕐᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᓚᐃᓴᓐᓯ 0202106-**M**

ᔮᓐᓄᐊᕆ 25, 2007

ᓄᓇᒥ ᓱᓕᕆᐊᖑᔪᑦ

ᓄᓇᒋᖃᑲᐃᓐᓇᓚᐅᖅᐳᒍᑦ ᓄᕗᒃ ᐸᐅᓐᑎᒥ ᔫᓂ 1-ᒥᑦ ᐋᒡᒌᓯ 4-ᒧᑦ. ᓱᓕᕆᐊᖑᔪᑦ ᐃᓚᖃᓚᐅᖅᐳᑦ ᓄᐊᑦᑎᓂᕐᒥᒃ ᒪᕐᕋᕐᓂᒃ ᓴᐅᓈᕐᓂᒃ ᒪᕐᕉᓐᓂᑦ ᑕᓲᓐᓂᑦ, ᐆᑦᑐᖅᓯᓂᕐᒥᒃ ᑑᒃᑎᒥᓂᕐᒥᒃ, ᐃᒥᐅᑉ ᐱᐅᑎᖕᒋᓂᖕᒐᓂᒃ ᐊᒻᒪ ᒪᕐᕋᐅᑉ ᑎᓲᖅᐸᓪᓕᐊᑎᒋᓂᖕᒐᓂᒃ, ᐊᒻᒪ ᐆᑦᑐᖅᓯᓂᕐᒥᒃ ᐱᑕᖅᑎᒋᓂᖕᒐᓂᒃ ᐳᔪᕐᓘᑉ ᐱᕈᖅᑐᓂᑦ ᐊᒻᒪ ᐃᔾᔪᒥᑦ ᓴᖅᑭᐊᓪᓕᐊᔫᑉ. ᐆᑦᑐᖅᓯᓚᐅᕆᕗᒍᑦᑕᐅᖅ ᐊᐳᑎᒥᒃ ᖄᖕᒐᓃᑦᑐᒥᒃ ᐅᐱᕐᖓᓚᑦᓵᒃᑯᑦ ᐊᒻᒪ ᓄᐊᑦᑎᓪᓗᑕ ᓯᓚᓐᓂᐊᕈᑎᓂᒃ ᐱᖓᓱᓂ ᐃᓂᒥᔭᓂ. ᑕᒪᒃᑯᐊ ᓯᓚᓐᓂᐊᕐᕕᒥᔭᐅᔪᑦ ᕿᒪᒃᑕᐅᓚᐅᖅᐳᑦ ᐅᑭᐅᕐᒧᑦ ᓯᓚᓐᓂᐊᕈᑎᓂᒃ ᓄᑦᑎᔾᔪᑕᐅᖕᒋᓐᓇᓂᐊᕐᓗᑎᒃ.

ᖃᐅᔨᓴᐅᒋᐊᓐᖕᒐᖅᑐᑦ

ᑕᐃᒃᑯᐊ ᒪᕐᕋᐃᑦ ᓴᐅᓈᑦ ᑕᒪᐃᑕ ᐱᑕᓖᓐᓇᐅᓚᐅᖅᐳᑦ ᖁᓕᓃᓂᒃ ᐱᑕᖃᓕᖅᑐᒃᓴᐅᕙᑦᑐᓂᒃ ᐊᕐᕌᒍᑕᒫᕐ, ᐊᒻᒪ ᓈᓴᐃᔾᔪᑎᒋᔪᓐᓇᓂᐊᖅᑕᒃᓴᕆᐸᕗᑦ ᑭᖑᒧᑦ ᑕᐅᓴᖕᒋᓐᓃᑦᑐᓂᒃ ᐅᑭᐅᓂᒃ ᓇᓚᐅᑦᑖᕈᑎᒋᔪᓐᓇᓕᕐᓗᒋᑦ ᓯᕗᓂᖕᒐᓂ ᑰᖑᒍᓯᒪᔪᒥᒃ ᐊᒻᒪ ᓯᓚᒥᒃ. ᒫᓐᓇ ᑎᓴᒪᓄᑦ ᐅᑭᐅᓄᑦ ᒪᕐᕋᐅᑉ ᑎᓲᖅᐸᓪᓕᐊᓂᖕᒐᓂᑦ ᑲᑎᖅᓱᒐᖃᓕᖅᐳᒍᑦ ᓇᓕᒧᑎᑕᒃᓴᓂᒃ ᑰᒻᒥᑦ ᐊᒻᒪ ᓯᓚᒥᑦ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᐊᒻᒪ ᑕᒪᓐᓇ ᑐᑭᓯᐋᓪᓕᕈᑎᒋᓂᐊᖅᐸᕗᑦ ᖃᐅᔨᔾᔪᑎᒃᓴᓂᒃ ᒪᕐᕋᕐᓂᑦ. 2006-ᒥ ᐊᕐᕌᒍᒥ ᐊᒃᓱᐊᓗᒃ ᐃᔾᔨᑭᖃᑦᑕᓚᐅᕐᒪᑦ ᐊᐱᓪᓗᐊᖅᓯᒪᓚᐅᖅᑐᓂᓗ. ᐅᐱᕐᖓᓚᑦᓵᒥ ᐊᐅᓕᕐᒪᑦ ᑰᒐᕐᓂᖕᒐ ᐊᖕᒋᓂᖅᐹᖑᓚᐅᖅᐳᖅ ᑎᓴᒪᓂ ᐊᕐᕌᒍᓂ ᐆᑦᑐᖅᓯᒪᔭᑦᑎᓐᓂ ᐊᒻᒪ ᒪᕐᕋᖅ ᐊᒻᒪ ᐆᒪᑦᓯᐊᓇᓐᓇᖅᑐᑦ ᐱᑕᖃᖅᑐᑦ ᐊᖕᒋᔫᓚᐅᖅᐳᑦ. ᖃᐅᔨᔭᕗᑦ ᑳᖕᒋᓇᕈᑕᐅᕗᑦ ᑕᒪᑐᒪ ᖃᓄᐃᓐᓂᕆᔭᖕᒐ ᑎᓲᕈᑕᐅᙱᓂᖅᓴᐅᔭᕆᐊᒃᓴᖕᒐᓄᑦ ᒪᕐᕋᕐᒧᑦ ᓂᕆᐅᒥᓯᒪᔭᑦᑎᓐᓂᑦ ᒪᓕᒃᓯᒍ ᐊᓯᐊ ᐊᐱᓪᓗᐊᕐᓂᐅᓚᐅᖅᓯᒪᔫᖅᑕᐅᖅ ᐊᕐᕌᒍᒥ 2004-ᒥ. ᑕᐃᒪᐃᓐᓂᑯᖕᒐᓄᑦ, ᑕᑯᔫᒃᓴᐅᓚᐅᖅᐳᒍᑦ ᐊᖕᒋᓂᖅᐹᒥᒃ ᒪᕐᕋᕐᒥᒃ ᑎᓲᕈᓐᓇᕋᔭᖅᑐᒥᒃ.

ᐸᕐᓇᑕᐅᔪᑦ ᓱᓕᕆᐊᖑᔪᒃᓴᐃᑦ 2007-ᒧᑦ

ᓄᓇᒋᖃᑲᐃᓐᓇᕐᓂᐊᖅᐳᒍᑦ ᓄᕗᒥ ᐸᐅᓐᑎᒥ ᒪᐃ 27-ᒥᑦ ᐋᒡᒌᓯ 5-ᒧᑦ ᐆᑦᑐᖅᓯᓇᓱᓪᓗᑕ ᑰᑉ ᐊᒻᒪ ᒪᕐᕋᐅᑉ ᖃᓄᐃᓕᕚᓪᓕᐊᓂᖕᒋᓐᓂᒃ. ᐊᒻᒪᓄᐊᑦᑎᓂᐊᕆᕗᒍᑦᑕᐅᖅ ᐊᑕᐅᓯᐅᙱᑦᑐᓂᒃ ᓇᐃᑦᑐᓂᒃ ᒪᕐᕋᕐᓂᒃ ᓴᐅᓈᕐᓂᒃ ᑕᒪᒃᑮᓐᓂᑦ ᑕᓲᓐᓂᑦ ᐊᒻᒪ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓗᒍ ᓯᓚ. ᓄᐊᑦᑎᓂᐊᖅᐳᒍᑦ ᖃᐅᔨᓵᒃᓴᓂᒃ ᐊᑕᐅᓯᐅᙱᑦᑐᒥᑦ ᒥᑭᔪᒥᑦ ᑰᓗᓖᒻᒥᑦ ᑰᑦᑐᓂᒃ ᖄᖕᒐᒍᑦ ᐱᕈᑦᑐᑦ ᐊᒻᒪ ᓄᓇᒃᑯᑦ ᐊᑦᑐᖅᑕᐅᓯᒪᔫᒃᑯᑦ ᐊᐅᐸᐸᓪᓕᐊᓂᖕᒐᓄᑦ ᓄᓇᒦᑦᑑᑉ ᓯᕐᒥᐅᑉ, ᖃᐅᔨᓇᓱᓪᓗᑕ ᖃᓄᖅ ᐊᑦᑐᖅᓯᓂᖃᒪᖕᒐᑦ ᐃᒥᐅᑉ ᐱᐅᑎᖕᒋᓂᖕᒐᓂᒃ. ᐱᒻᒪᕆᐅᓂᐊᖅᐳᖅ ᑲᔪᓯᑎᑕᐅᓂᖕᒐ ᑖᒃᓯᒪ ᓱᓕᕆᐊᖑᔫᑉ ᐊᑕᐅᓯᐅᙱᑦᑐᒧᑦ ᓄᐊᑦᑎᕆᓪᓗᑕ ᓈᒻᒪᑦᑐᓂᒃ ᑐᑭᓯᒋᐊᕈᑎᒃᓴᓂᒃ ᑐᑭᓯᕆᓪᓗᑕ ᓱᕆᒥᒃ ᒪᕐᕋᖅ ᑐᑭᓯᒐᓱᐊᖅᓯᐊᕆᔭᕆᓐᓇᕐᒪᖕᒐᑦᑎᒍ ᒥᒃᓵᓄᑦ ᓯᕗᓂᖕᒐᓂ ᑰᒃ ᐊᒻᒪ ᓯᓚᐅᑉ ᖃᓄᐃᑦᑑᖅᑲᑦᑕᕐᓯᒪᓂᖕᒐᓂᒃ. ᑲᔪᓯᑎᓐᓂᐊᖅᐸᕗᑦ ᐱᕈᖅᑐᓂᒃ ᖃᐅᔨᓵᒃᓴᓂᖅᑲᑦᑕᕐᓂᖅ ᐊᒻᒪ ᐆᑦᑐᖃᑦᑕᕐᓗᒍ ᐱᑕᖅᑎᒋᓂᖕᒐ ᐳᔪᕐᓗᒻᒥᒃ ᐱᑕᖅᑲᓕᖅᐸᑦᑐᒥᒃ ᓄᕗᒃ ᐸᐅᓐᑎᒥ.

ᓂᕆᐅᑉᐳᒍᑦ, ᑮᓇᐅᔭᖃᖅᑎᑕᐅᓗᑕ ᓭᔅᖕᒍ-ᒃᑯᓐᓂᑦ, ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᔪᓐᓇᕆᐊᒃᓴᖅ ᒪᕐᕉᓐᓂᒃ ᐃᓕᓐᓂᐊᖅᑏᓐᓂᒃ ᖃᐅᓱᐃᑦᑐᕐᒥᑦ ᐱᖃᑕᐅᒐᔭᖅᑑᓐᓂᒃ ᓄᓇᒥ ᓄᓇᒋᔭᐅᑲᐃᓐᓇᖅᑐᒧᑦ ᐃᓕᓐᓂᐊᕆᐊᕐᓗᑎᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᐊᒻᒪ ᑲᒪᒋᔭᖃᕐᓂᕐᒥᒃ ᐃᒥᕐᒥᒃ ᐊᒻᒪ ᓯᓚ ᐆᑦᑐᖅᓯᔾᔪᑎᓂᒃ. ᓂᕆᐅᑉᐳᒍᑦ ᑖᒃᓯᒥᖕᒐ ᐱᓕᕆᓯᒪᓂᖅ ᐊᑐᕐᓂᖃᕈᓐᓇᓂᐊᖅᑐᒋᓪᓗᒍ ᓯᕗᓂᖕᒐᓂ ᐃᖅᑲᓇᐃᔮᒃᓴᓂᒐᓯᐊᓂᒃᑯᑦ ᐊᒻᒪ ᑕᑯᑎᑦᑎᔪᓐᓇᕈᑕᐅᓗᓂ ᓄᓇᓕᓐᓂᒃ ᖃᓄᐃᑦᑐᓂᒃ ᐱᓕᕆᐊᖃᖅᐸᒻᒪᕚᑦᑕ.