Project Summary: The ultra-warm Arctic 90 million years ago

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The 90 million-year-old Arctic region contains a geologic history that records extreme climatic warmth that might provide insight into modern conditions and the potential for future climate change. We are studying fossils (including turtles) from Axel Heiberg Island that attest to the high paleo-temperatures, and volcanic rocks from Axel Heiberg and Ellesmere Islands whose eruption may have contributed carbon dioxide to the ancient atmosphere. We wish to better determine ancient Arctic temperatures and to learn if volcanic activity caused the warm conditions 90 million years ago. My work involves a small group (4-5 students and research assistants) sampling sedimentary and volcanic rocks. We work from small camps with minimal impact on the environment. Our logistic support comes from the Canadian Polar Continental Shelf Project.

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ᐃᖃᓗᐃᔨᔪᐊᖅ ᓇᐃᓕᓕᐊᕆᔨᓕᓪᓚᓂ: ᐅᖅᑯᓂᓴᐅᓂᓱᓕᐅᕆᑦᑐᓕ ᐅᑭᐅᕆᑦᑐᑐᒥ ᐊᖏᔪᐃᓐ 90 ᒥᓕᐊᓐ

ᐃᓕᓴᐃᔨ ᔨᓐ ᐊ. ᑕᖅᓄ

ᐊᖏᔪᐃᓐ 90 ᒥᓕᐊᓐ ᐊᓂᔪᖅᑐᑦ ᑕᐃᒪᓐᓕ ᐅᑭᐅᕆᑦᑐᒥ ᓄᓇᓕᓂ ᐃᓚᓕᖃᐅᖏᒪᑦ ᖃᐅᔨᒪᔪᑎᑎᕐᓂᐊᕐᓂᖅ ᐊᓯᔾᓕᔪᐊᖅᑕᓕᕐᓂᖅ ᓯᓚᓕᓕ ᓄᓇᓕᓐᓄ ᐅᑯᓂᓴᐅᓚᐅᕆᔨᓯᒪᑎᓕᔪ ᒪᓐᓇᒧᓕᓚ ᑐᑭᓯᐅᒪᔪᑕᐅᔪᓐᓇᒪᑦ ᓯᐅᓂᓴᒧᓕᓚ ᖃᓄᐃᓐᓂᐊᖏᓐᓄ ᑐᑭᓯᐅᒪᓱᔪᑕᐅᔪᓐᓇᒪᑦ. ᖃᐅᔨᓴᖃᑦᑕᕐᑕ ᐃᑦᑖᓂᓴᒪᓗᐊᓕᓚᓂᖅ ᓴᐅᓂᕕᓂᓂᖅ (ᐱᖃᓯᐅᑎᓕᒋᑦ ᑎᓯᔪᒥᖅ ᓴᖃᖅᑐᓕᐅᑎᑦ ᐃᒪᒪᓕᓚᐅᖅᑐᑦ) ᖁᑭᖅᑕᒥ ᖃᔪᑎᐅᑐᒋᑕᐅᓂ Axel Heiberg Island ᐊᒪᓚᓗ Ellesmere Islands ᑕᐃᓯᒪᓂᐊᓗᓚᖅ ᐅᖅᑯᓕᐅᖅᓯᒪᓂᖓᒪᑦ ᓄᓇᒥᓪᓗ ᐃᑯᒪᓗᓚᑦᑕᖃᐅᓂᖅᓗᓂ ᓴᐊᖅᓗᓚᓕᑦ ᐃᑯᒪᓗᓚᒥᓐᓄᖅᓄ ᓯᓚᓐᓄᓪᓗ ᐊᖏᔪᑕᐅᓪᓗᓂ. ᑐᑭᓯᐅᖃᓄᖅᓯᒪᓕᑎᑎᑐᒍ ᐅᑭᐅᕆᑦᑐᒥ ᖃᔪᑎᐃᓕᓴᕐᓂᖅᓄᑦᓗ ᐃᑲᓗᓂᓕᓴᐅᓂᖅᓗᓂ ᐅᑭᐅᕆᑦᑐᑐᒥ ᖃᔪᑎᐃᓄᐅᑭᐅᓂᖅᓗᓂ ᓯᓚᓐᓄᓪᓗ ᐊᓂᔪᑦᑐᑦ 90 ᒥᓕᐊᓐ ᐊᖏᔪᐃᓐ. ᐃᖃᓗᐃᔨᖃᑎᖃᑦᑐᖅᓄ ᐅᓄᖅᑕᓂᓂᖅ (ᑎᕋᒪᐃᑦ ᑕᒪᒪᐃᑦ ᐃᓕᓴᓂᐊᕐᑐᑦ ᐃᑲᔪᖅᑎᐅᔪᓐᓇᒪᓗᐊᖅ) ᖃᐅᔨᓴᖃᑦᑕᕐᑕ ᐱᔨᐃᒪᓂᑎᓗᒃ ᐅᔨᔪᓂᓂᖅᓗ ᑲᑎᕕᑎᓂᑎᖅ. ᐃᖃᓗᐃᔨᖃᑦᑕᕐᔪᑦ ᑕᖓᒪᔪᓯᒪᓕᑕ ᒥᑭᖅᑕᐅᓂᖅᓗ ᐃᓕᐊᓂᐅᑎᖅᑕᕐᒥᖅ. ᐊᖏᖅᓯᐃᔨᐅᒪᓂᑎᑎᖅ ᐃᓚᓕᓴᖅᓂᖅ ᓄᓂᕋᑕᐅᔪᓂᖅᓗ ᑲᓇᑕᒥ ᐅᑭᐅᕆᑦᑐᒥ ᖃᐅᔨᓴᖃᑦᑕᕐᓂᒪᑦ ᑐᓴᕐᓂᐊᕐᑐᑦ Canadian Polar Continental Shelf Project.