

REEF EVOLUTION AND BASIN DEVELOPMENT, DISMAL LAKES AND PARRY BAY GROUPS

Today's magnificent tropical reefs show distinct growth patterns depending on the position of the reef relative to sea level, which controls the amount of sunlight that reaches the reef surface. Reefs that occur in deep water grow rapidly upward toward the ocean surface, where sunlight is more available, and in reefs that occur in shallow water spread outward. Over the lifetime of a reef, sea level changes are recorded in these growth patterns. By examining these growth patterns in ancient reefs, we can begin to understand the relationships between environmental and biological processes in the Earth's geologic past.

The Dismal Lakes Group (Coppermine region) and Parry Bay Group (Kent Peninsula) contain some of the Earth's oldest fossil reefs. These structures are ~1.3 billion years old and are similar in size to the Great Barrier Reef in Australia. However, these ancient structures were built entirely from photosynthetic bacteria, rather than corals with hard skeletons. In order to understand how single-cell organisms could construct such massive reefs, we are trying to reconstruct reef growth and compare it to that of other reefs of similar age.

Over 45 days, we will travel to four localities by float plane, set up mobile camps (4-person, 2-3 tents), and will follow standard low-impact backpacking practices (pack in, pack out). Our research will consist of measuring thickness of rock strata, photographing and mapping reef structures, and removing small (3x5x7 cm) rock samples from surface outcrops. These samples will be examined in the lab to determine how the reefs were cemented into rock. In commitment to both education and northern regions, I am designing a computer CD for local community schools that will show what these ancient geological formations, and similar ones elsewhere in the world, can teach us about the Earth's ancient past.

*NATKANIIOTOT NAOVAKTOT EMAKMI ONALO HAVAKVIOLIKTONI, DISMAL LAKES ONALO
KAGHAOYAKTUMI*

Oblomi taya pinniktot taggiot ataniitot naovaktot emakni pinnikhivaktot emmap ataani taggiomi, ovalo hikkinikmi ataanot kaomavaktok. Ekkalgot naovaktot etinikni taggiop kanganot, ema hikkingop naopkakpagait, ovalo ekkalgottaok hiamayaktikpaktot. Ekkalogt naohimayut kangakyoak, taggioklo emmaoktaktaknia allangokpaktok naovakkamik ekkalgot. Ehivgoktaovaktot hapkoa otokkait ekgot, kanokli ovagut kaoyihakpaktavut emmat aolanigit Nunakyoap kangani.

Onataok Dismal Lakes Group (Kugluktup hivogani) onalo Kaggaogaktumi (Keelingoyami) pikakmiot Nunakyoap okanikhait oyagakat ekgomiitot. Okoa ekgot emaitot ~1.3 billion okioni enggilgaakyoaknitat ovalo Great Barrier Reef ovani Australia-mi. Kihime, okoa otokakyoat oyakat naohimayut oyagangokhimayut omayugaloat, tabkoa naovakhimayut oyakani takokhaovaktot. Kaoyimayami okoat kanok omavakhimayut oyagangokhimayut, ovalgut ehivgiokpaktavut kanoklikiak ekkalgot okiokagiakhaita naonaikhakpaktavut.

Avakomayuni 45 oblani, ovagut aolakniaktogut hitamani nunanot tingmiakot kayalikot, tupiktoklota 4-nik inukaktokhanik, 2-3 tupikaklota), ovalo maliklogit atokpagait nunat kayagilogit (tangmaklota, tupiiyaklota). Ehivgiokhiniaktogut oyagaknik kanok oyakkat evyugigiyakhaita, piksalioklogit ovalo nunaoyalioklogit ekkalgot, pokkoklota mikaknik (3x5x7 cm) oyagaknik ehivgiogakhanik nunap kanganit. Oyakkat ehivgiogavut kanoklikiak ekkalgot naovaktot oyakkanot nipittotik. Okoa eliahotaniaktot sekogviknot ovalo okioktaktomiotanotlo, eliogakniaktatka kongiakhat CD-not sekogviit eliahotikhait oyagaknik kanok enggilgaakyoak oyakkat naovaktot, ajikotaitlo ahini naonaikhakniaktavut, eliahotigilogit ovagut Nunakyoap naovaknianik enggilgaakpakyoak.

