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Department of Marine Sciences Presents a Seminar by

Blake Dyer

University of Victoria

Sea level trends across the Bahamas constrain peak Last Interglacial ice melt

The seas are rising as the planet warms, and reconstructions of past sea level provide the opportunity to study the sensitivity of ice sheets to temperatures above present. Past sea level can be reconstructed from the geologic record by measuring the elevations and ages of fossilized marine sediments and coral reefs. However, the elevations of these features also include local uplift or subsidence due to the growth and decay of ice sheets before and after time of deposition (glacial isostatic adjustment). In other words, the observable "fossil sea level" in the geologic record is a complex function of space and time. To remove this spatial complexity and more accurately reconstruct global mean sea level, we require better constrained models of the land motion associated with the growth and decay of past ice sheets. To constrain such models, we collected high resolution last interglacial sea level data across the Bahamian archipelago, a region with predicted large lateral gradients in paleo sea level. I will present the comparison of these new observations to a range of models to argue the Laurentide ice sheet may have been significantly smaller during the penultimate glacial maximum than it was during the last glacial maximum. This alternative ice-loading history for North America leads to lower estimates of last interglacial global mean sea level, perhaps suggesting that polar ice sheets are less sensitive to high-latitude warming than currently thought.

Host: David Lund

Time & Date: 11:00 am, Friday, April 22, 2022

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