DISTINGUISHED LECTURE PROGRAM

Abstract: Evolution of Antarctic vegetation cover from the Paleocene to the Pliocene: A review of case studies from the Antarctic Peninsula, the Ross Sea, the Sabrina Coast and the Dry Valleys

Here we review the results of a series of Antarctic palynological studies that were conducted over the past fifteen years to evaluate the type of vegetation changes that occurred in Antarctica in the Paleogene and Neogene, and better constrain the timing and amplitude of these changes. Sites reviewed include a Paleogene section sampled off the Sabrina Coast, a Mio-Pliocene outcrop section sampled on King George Island, a Mio-Pliocene record obtained by SHALDRIL core NBP0602A-5D on the Joinville Plateau in the Weddell Sea, the Mio-Pliocene core obtained by the ANDRILL 2A campaign, and a series of Neogene outcrop samples obtained from the Dry Valleys.

Fossils of pollen and spores recovered at these sites provide a record of vegetation changes that occurred in each of these regions of Antarctica. The timing of these changes are evaluated against known driving factors such as atmospheric concentration in carbon dioxide, plate tectonic activity (or lack of), precipitation, and temperature (sea-surface and atmospheric) changes.

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Video Presentation