

TOWARDS A SUITE OF US ITASE WEST ANTARCTIC PALEOCLIMATE RECORDS

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Instrumental climate records extending back in time more than ~50 years are rare in Antarctica. To further complicate climate interpretations, coastal regions of Antarctica receive relatively heavy snowfall as a result of the frequent incursion of cyclonic systems while the majority of the continent is a polar desert.

The International Trans-Antarctic Scientific Expedition (ITASE) is a 20-nation effort designed to collect and interpret a continent-wide array of environmental parameters relevant to both modern and past climate. Since its inception in early 1990, ITASE has collected more than 20,000km of snow radar data, drilled and recovered more than 240 shallow ice cores totaling more than 7000m in length, remotely penetrated more than 4000m beneath the ice sheet surface, and sampled the atmosphere to heights of more than 20km from traverses spanning much of the Antarctic continent (Mayewski et al., 2005a).

Until now, the United States component of ITASE has concentrated the majority of its collection efforts in West Antarctica, but a few US ITASE East Antarctic sites complement this spatially expansive US environmental data archive. Here we will highlight some of the proxy records developed thus far from recent US and other ITASE coring efforts and provide some insight into the potential for US ITASE derived climate proxies.