

HIGH-ALTITUDE THERMAL DRILLING

Friday 19 September 2025 13:05 (20 minutes)

The Thermal Drill maintained by the U.S. National Science Foundation (NSF) Ice Drilling Program (IDP) was recently used for ice coring at high-altitude sites in both the northern and southern hemispheres. In 2022, researchers from the University of Maine and an IDP engineer/driller joined international colleagues in an ice coring effort on Quelccaya Ice Cap in Peru. In 2023, three IDP drillers operated the Thermal Drill on Mt. Waddington in British Columbia, Canada. This presentation will highlight recently-designed features of the drill, such as the ethanol deployment system, describe borehole deviation in attempts to drill around embedded rocks, and discuss logistics challenges in accessing these remote locations.

Primary author: MORAVEC, Elliot (University of Wisconsin-Madison, U.S. National Science Foundation Ice Drilling Program)

Co-authors: MORTON, Elizabeth (University of Wisconsin-Madison, U.S. National Science Foundation Ice Drilling Program); Mr KOEHLER, James (Koehler Design Works LLC); Ms SLAWNY, Kristina (University of Wisconsin-Madison, U.S. National Science Foundation Ice Drilling Program)

Presenter: MORAVEC, Elliot (University of Wisconsin-Madison, U.S. National Science Foundation Ice Drilling Program)

Session Classification: Oral sessions

Track Classification: Special aspects