

Holocene ice core records in the North Pacific region

Karl Kreutz¹, Dom Winski¹, Erich Osterberg², Seth Campbell¹, Doug Introne¹, Mike Handley¹, Andrei Kurbatov¹, Luke Copland², Dave Ferris³, Cameron Wake⁴, Jack Dibb⁴, Christian Zdanowicz⁵, Margit Schwikowski⁶, Ling Fang⁶, Theo Jenk⁶, Knut Christianson⁷, Alison Criscitiello⁸, Martin Sharp⁸, Bradley Markle⁹, Bess Koffman¹⁰, Eric Saltzman¹¹, Stijn Hantson¹¹, Ross Edwards¹², Natalie Kehrwald¹³

¹University of Maine; ²Dartmouth College; ³University of Ottawa; ⁴University of New Hampshire; ⁵Uppsala University, ⁶Paul Scherrer Institute, ⁷University of Washington, ⁸University of Alberta, ⁹California Institute of Technology, ¹⁰Colby College, ¹¹University of California Irvine, ¹²Curtain University, ¹³USGS

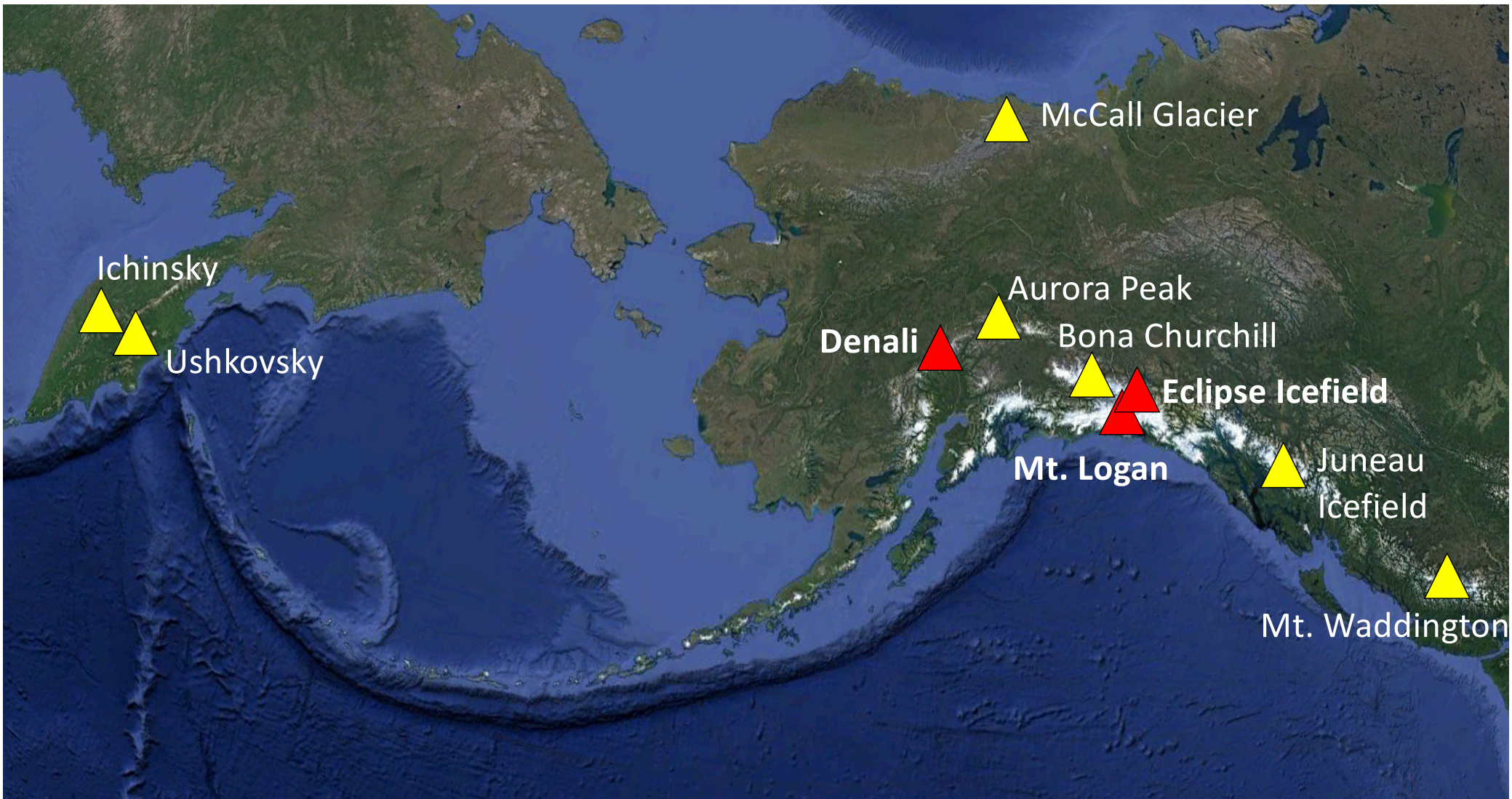


Photo by D. Medrzycka

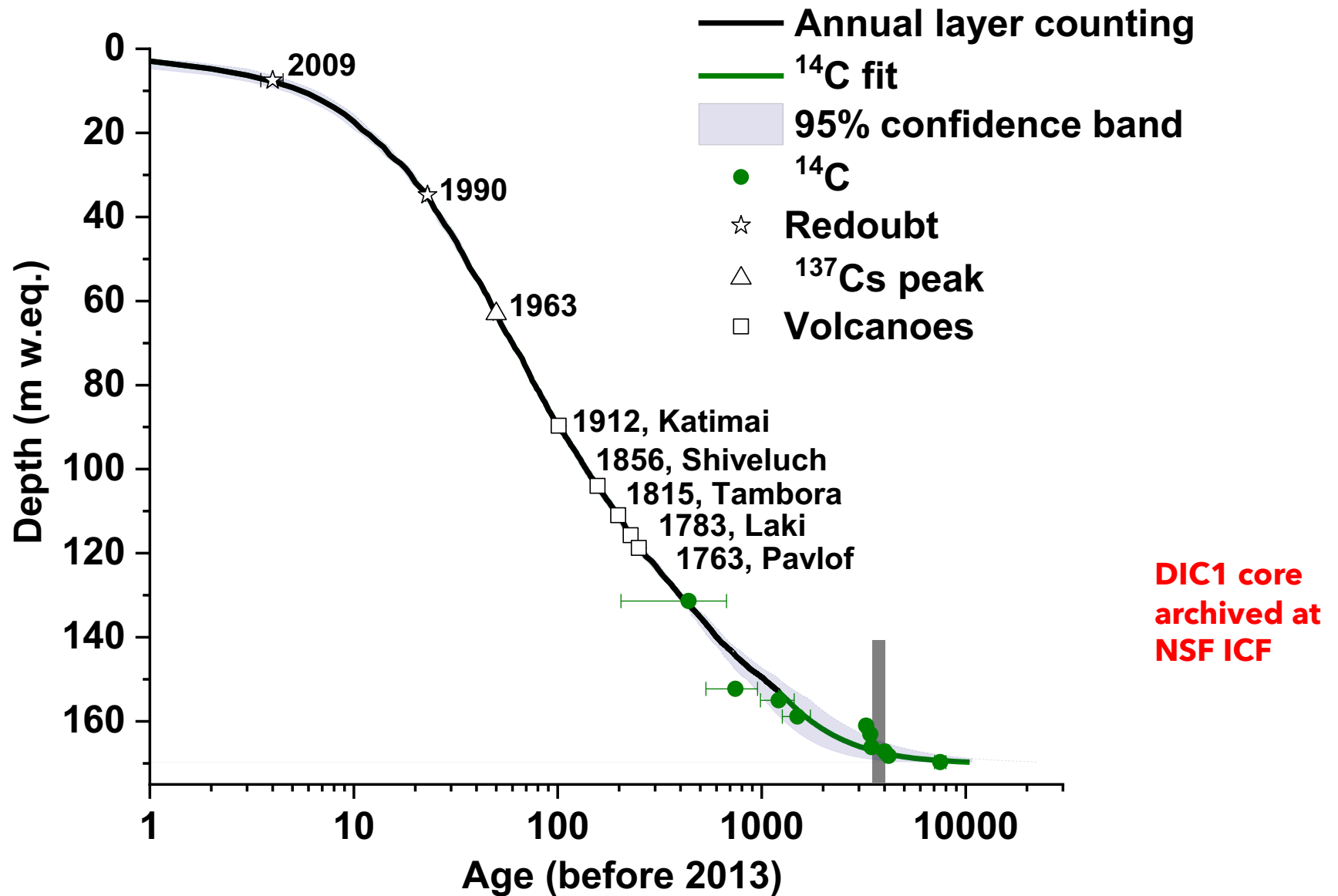


North Pacific Ice Coring Sites

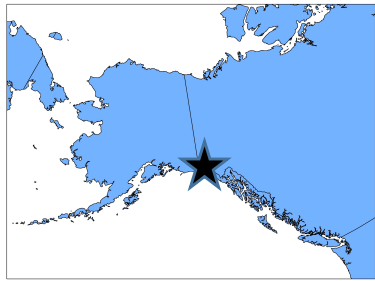
Red = Holocene length



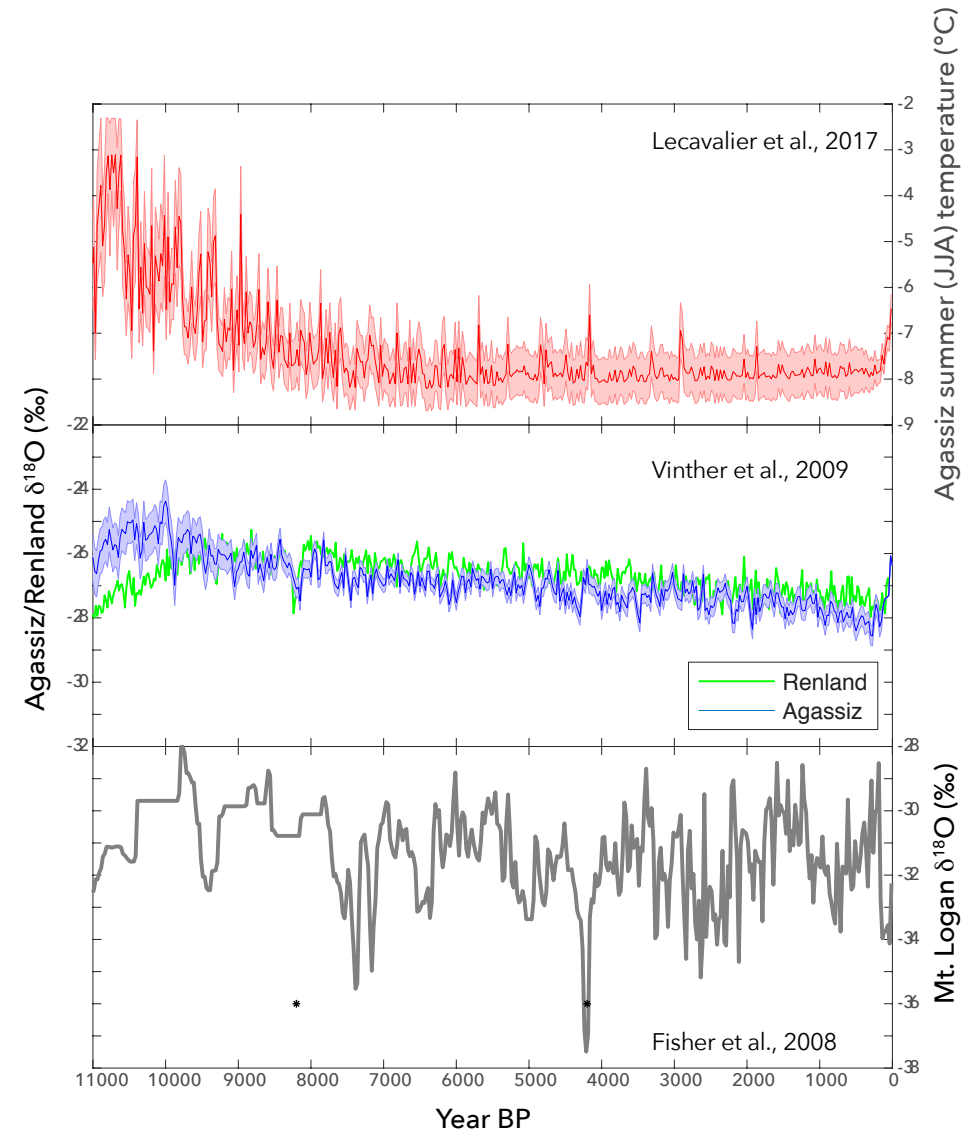
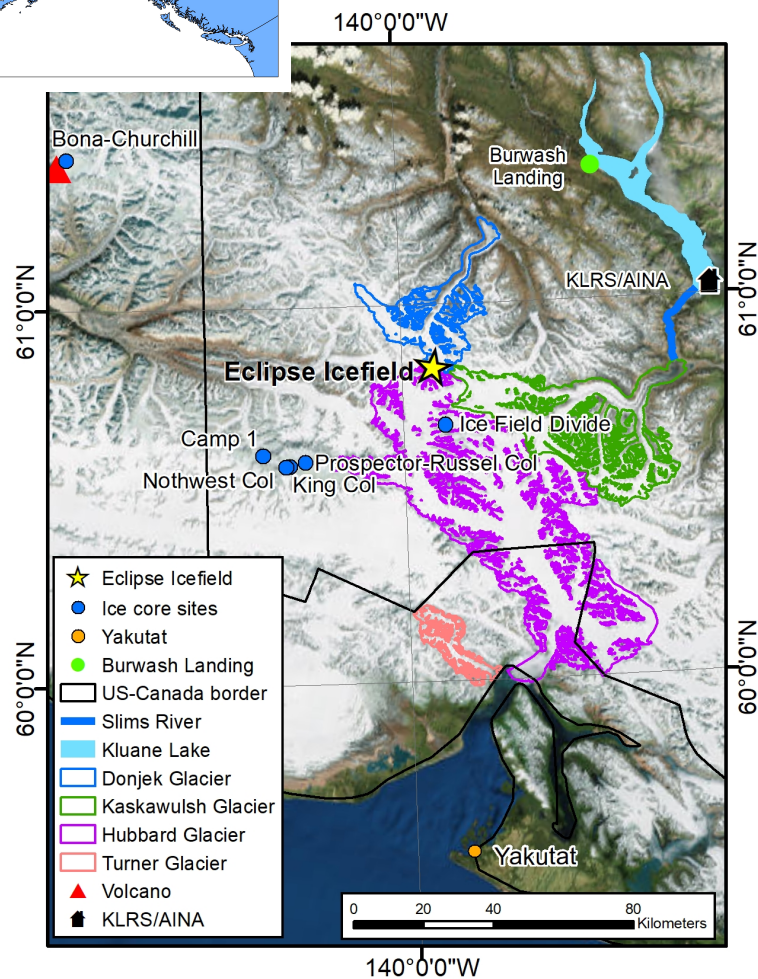
Denali (Mt. Hunter) ice core



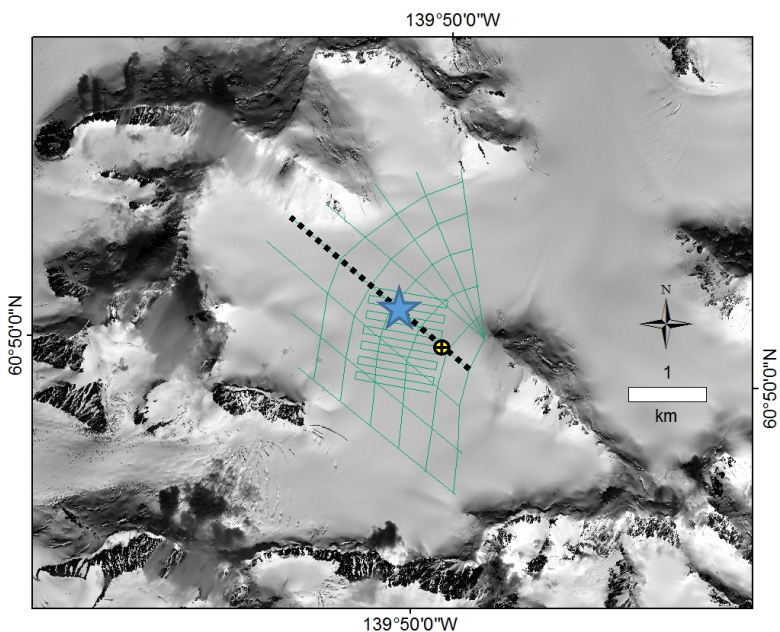
Annual layer chronology from Winski et al., 2017; 2018; ^{14}C chronology from Fang et al., 2019; in prep.



St. Elias Mountains – Mt. Logan (PR Col) and Eclipse Icefield

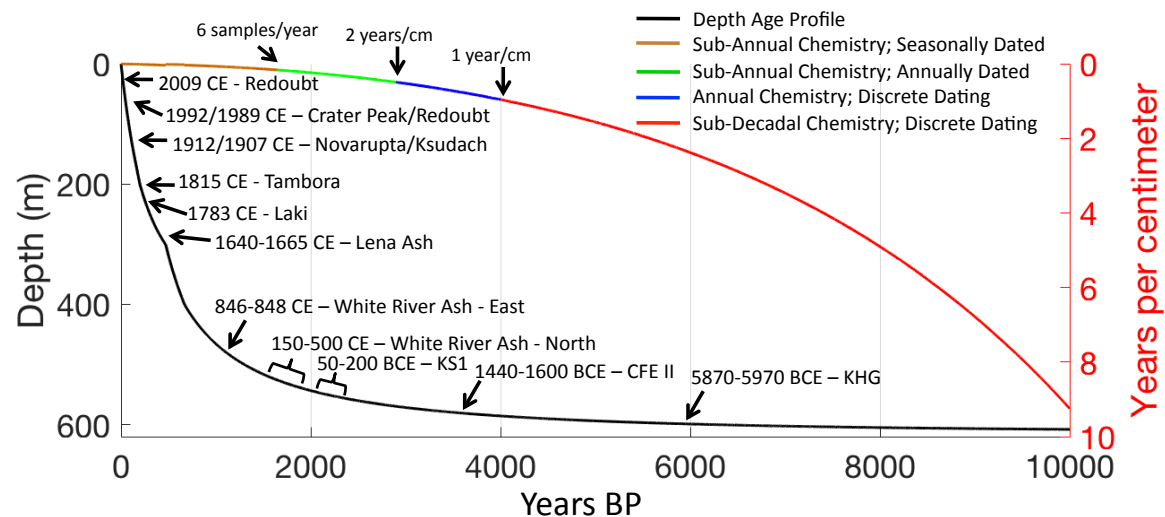
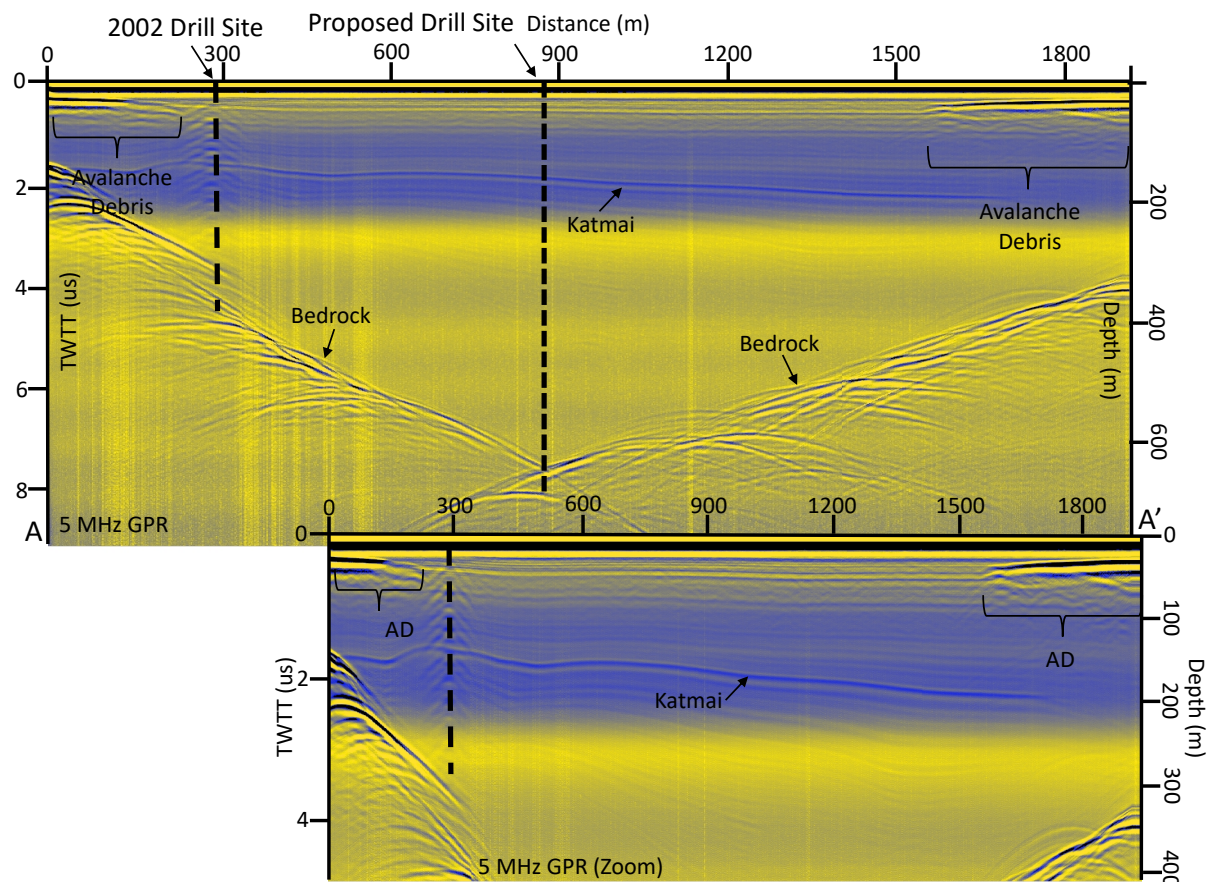


- What is the nature of North Pacific Holocene hydroclimate variability throughout the Holocene, and during specific events?
- What is the relationship between tropical Pacific forcing, North Pacific hydroclimate response, and Arctic climate during the Holocene?
- How well do existing climate models capture observed Holocene hydroclimate variability in the North Pacific and Arctic?



Eclipse Icefield (3010 masl)

1.5 mwe annual accumulation
650 m ice depth



IDP FORO 700 drill

Targets:

- up to 700 meter core recovery in a single season
- Twin Otter support
- Small field crew and minimal logistics

