

Community Updates

- COLDEX
- Herc Dome
- ICE CR eW
- La Jolla Open Ice Core Science Meeting

COLDEX

Center for Oldest Ice Exploration

Director: Ed Brook, College of Earth, Ocean, and Atmospheric Sciences (CEOAS), Oregon State University

Funded by the NSF Science and Technology Center Program September 2021

www.coldex.org

COLDEX Institutions

Oregon State University

University of Washington

Princeton University

University of California - Berkeley

Dartmouth College - Ice Drilling Program

University of Minnesota Twin Cities

Amherst College

American Meteorological Society

Earth Science Women's Network

University of Kansas

University of Texas

University of California - Irvine

University of Maine

University of California - San Diego

University of Minnesota Duluth

Brown University

Inspiring Girls Expeditions

Alaska Native Science and Engineering Program



BROWN



PRINCETON UNIVERSITY



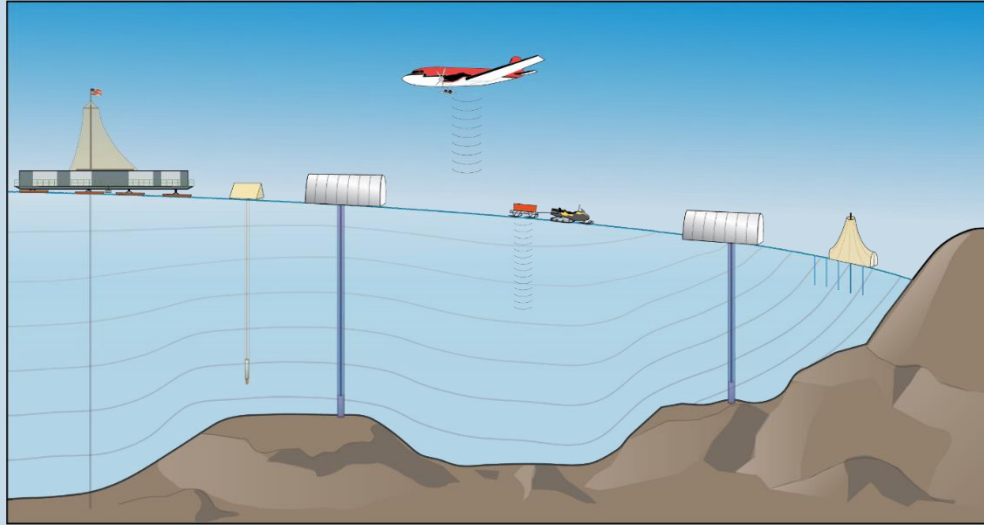
Oregon State University



Amherst College



COLDEX is Designed to Find and Analyze the Oldest Possible Ice Cores



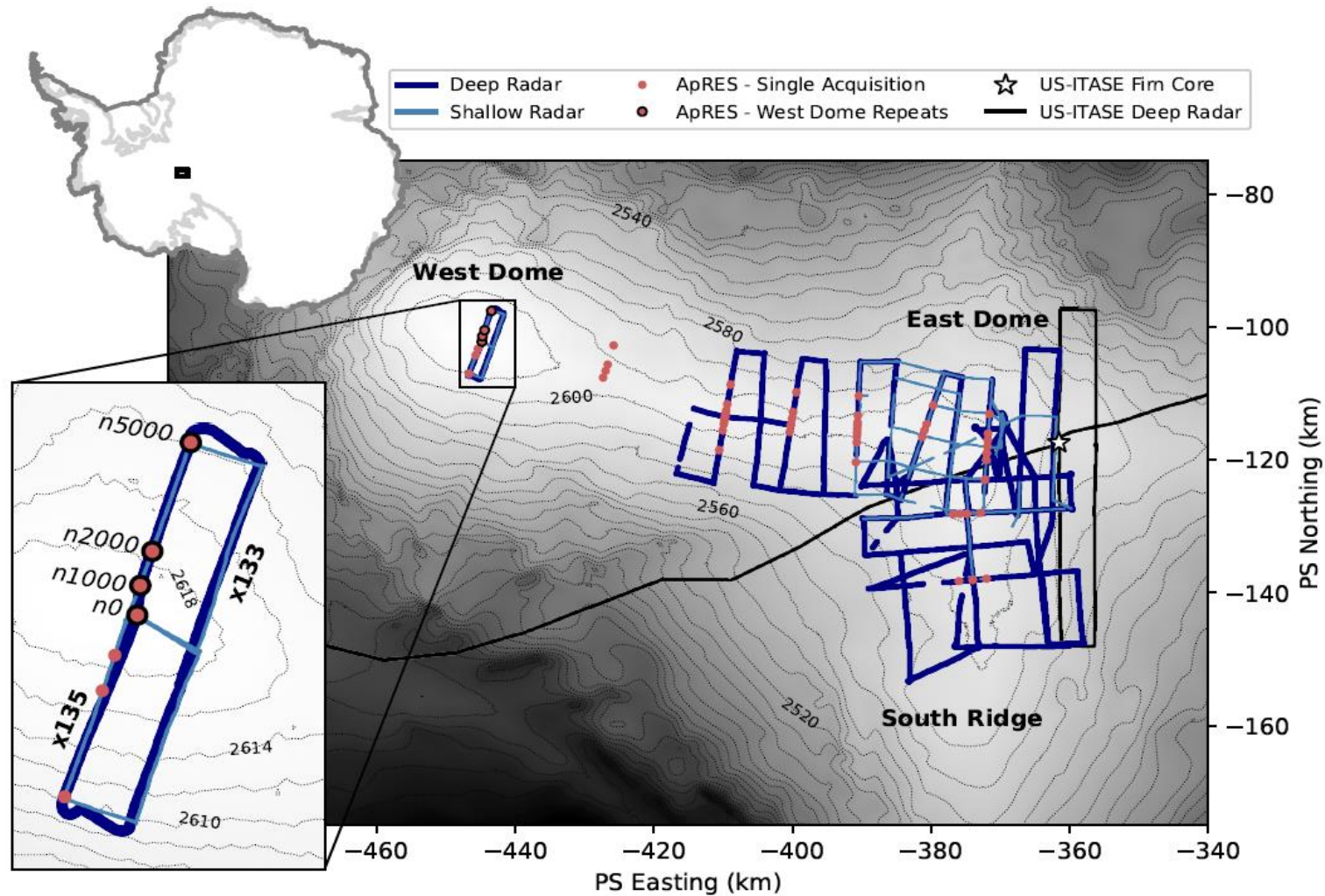
Goals

- Modelling ice flow and history to understand old ice
- Advanced radar imaging of ice sheet structure and dynamics
- Novel thermal probes for ice sheet age vs. depth relationship
- Ice coring on margin and interior
- Ice core analysis including dating old ice with advanced methods and new centralized facility
- New efforts in broadening participation, diversity and

Status

- Funded by NSF Office of Integrative Activities 2021-2026, renewal proposal to 2031 expected
- Programs and staff gearing up now
- First airborne geophysics and possible ground based work in 2022/2023 season (S. Pole → Dome A region)
- First ice coring at Allan Hills in 23/24 (I-165 [Higgins] drilling there in 22/23)
- Workshops, annual meetings, seminars, REU program, scholarship funds in progress – many programs will be open to all ice coring community in US

Herc Dome – promising drill location at West Dome



Manuscript to be submitted next month

Traverse in 23/24
Drilling beginning in 24/25

ICECReW

- Ice Core Early Career Researcher Workshop
- I think we had a student of everyone on the ICWG
- 55 participants
- Great virtual* meeting
- Goal 1 – connect and mobilize early career folks most impacted by pandemic
- Goal 2 – develop synthesis papers
- 1/3 of time spent on career and community development
- 1/3 time on scientific development
- 1/3 of time spent on developing ideas for synthesis papers

Thursday, January 6th

Start Time (MST)	Schedule	Speakers
8:00	Welcome	
8:30	Synthesis Breakout Discussion 1	
9:30	Mental Health Awareness + Q&A	Dickerson
10:30	Mental Health Breakout Discussion	
11:00	Ice Core Successes + Q&A	Alley, Orsi
12:00	Lunch	
13:00	Science Communication + Q&A	Rosen
14:00	Synthesis Breakout Discussion 2	
15:00	Break	
15:30	NSF & Community Resources + Q&A	Cutler, Sutherland, Souney
16:10	Proposal Writing + Q&A	Greg Balco, Laurence Yeung
17:10	Synthesis Breakout Discussion 3	

Friday, January 7th

Start Time (MST)	Schedule	Speakers
8:00	Synthesis Breakout Discussion 4	
9:00	Ice Core & Related Projects Part I	Brook, Steig, Criscitiello, McConnell, Rupper
10:00	Break	
10:30	Ice Core & Related Projects Part II	Neff, Osterberg, Winski, Mikucki, Goehring, Pettit
11:30	Projects Q&A	all speakers from morning sessions
12:00	Lunch	
13:00	Synthesis Example + Q&A	Tierney
14:00	Synthesis Breakout Discussion 5	
14:30	Anti-Racism in Academia + Q&A	Berhe
15:30	Break	
16:00	Synthesis Breakout Discussion 6	
17:00	Wrap-up	

ICECReW

- HUGE THANK YOU to
- Summer Rupper
- Jessica Badgeley (PhD student, UW)
- Asmita Banerjee (PhD student, RICE)
- Katie Wendt (Postdoc, Oregon State)
- Bess Koffman (Assistant Professor, Colby)

ICECReW Synthesis Papers

- Desire to community to undergrads and adjacent scientists
- Write 11 two-page articles in Past Global Changes magazine

1. Life cycle of an ice core: Collection, transport, storage, records obtained

Lindsey Davidge, PhD Student, University of Washington

Hanna Brooks, PhD Student, University of Maine

Merlin Mah, Postdoc, University of Minnesota

Bradley Markle, Assistant Professor, University of Colorado

2. Methods used to date ice cores

Kaden Martin, PhD Student, Oregon State University

Meredith Helmick, PhD Student, University of Maine

Samantha Barnett, Masters Student, Northern Arizona University

T.J. Fudge, Research Assistant Professor, University of Washington

3. Atmospheric change through time from ice cores

Asmita Banerjee, PhD Student, Rice University

Ben Riddell-Young, PhD Student, Oregon State University

Ursula Jongebloed, PhD Student, University of Washington

4. Ice core insights on past climate change

Kathleen A. Wendt, Postdoc, Oregon State University

Hayley Bennett, PhD Student, University of Colorado, Boulder

Austin Carter, PhD Student, Scripps Institute of Oceanography

Julia Marks Peterson, PhD Student, Oregon State University

5. Ice core perspectives on human impacts on the environment

Sophia Wensman, Postdoc, Desert Research Institute

Jacob Morgan, PhD Student, Scripps Institute of Oceanography

Kaitlin Keegan, Assistant Professor, University of Nevada, Reno

ICECReW Synthesis Papers

6. Wildfire records from ice cores

Sandra Brugger, Postdoc, Desert Research Institute

Liam Kirkpatrick, Undergraduate Student, Dartmouth College

Laurence Yeung, Associate Professor, Rice University

7. Ice core constraints on past sea level change

Drew Christ, Postdoc, University of Vermont

Justin Toller, PhD Student, University of Nevada, Reno

Julia Andreasen, PhD Student, University of Minnesota

8. Biology in ice cores: What can we learn from studying life within and under the ice?

Madelyne Willis, PhD Student, Montana State University

Heidi Smith, Assistant Research Professor, Montana State University

Nathan Chellman, Postdoc, Desert Research Institute

9. Ice-bed interactions and insights from ice cores

Caleb Walcott, PhD Student, University at Buffalo

Ben Hills, PhD Student, University of Washington

Emma Erwin, PhD Student, University of Maine

10. Firn: Applications in dating, climate reconstruction, and interpreting atmospheric records

Drake McCrimmon, PhD Student, University of Nevada, Reno

Alex Ilhe, PhD Student, University of Rochester

Summer Rupper, Professor, University of Utah

11. Future directions in ice core science

Matt Osman, PhD Student, University of Arizona

Alison Criscitiello, Director of Canadian Ice Core Lab, University of Alberta

Bess Koffman, Assistant Professor, Colby College

La Jolla Open Ice Core Meeting

- May 24-26
- ICWG meeting afternoon of Thursday May 26
- Integrate community/ICWG content throughout

- La Jolla is organized by Herc Dome, IDP/ICWG, COLDEX, and JIRP
 - Eric Steig – Herc Dome
 - Heidi Roop – COLDEX
 - Seth Campbell – JIRP
 - T.J. Fudge – ICWG
 - Murat Aydin – Herc Dome
 - Sarah Aarons – local organizer

- Goal – create a community workshop – not a project specific meeting – similar to the WAIS workshop