

IDP Science Advisory Board (SAB) Meeting

May 01, 2023

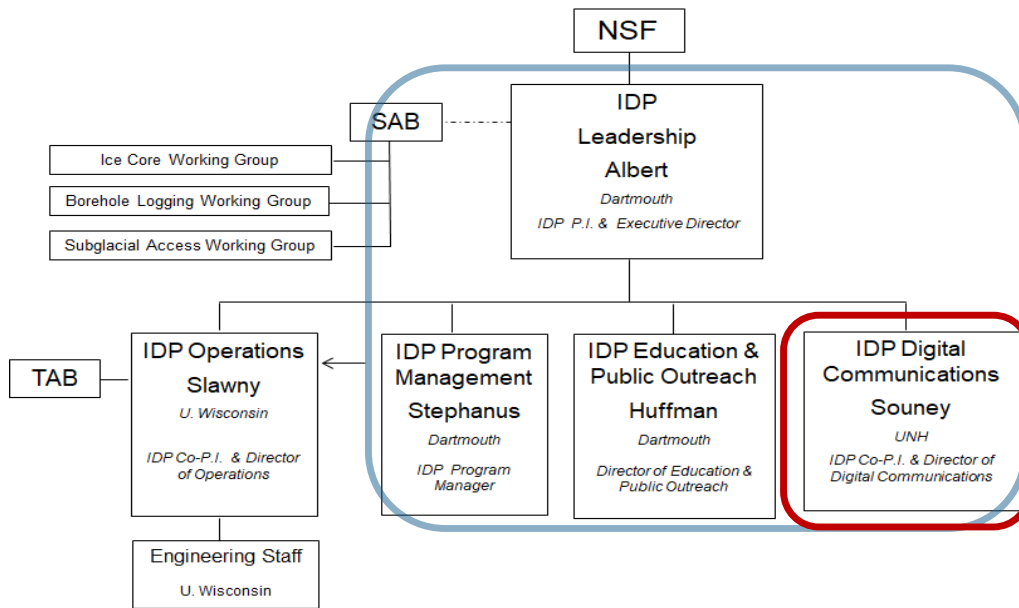
Communications Update

Joe Souney

IDP Co-PI & Director of Digital Communications



ORGANIZATION / STAFFING



0.5 FTE *

* Plus, as-needed support from **UNH IT** (web server administration, website hosting, Drupal security updates, custom programming) and **UNH Geospatial Science Center** (GIS support)

Main duties:

- Newsletter
- IDP mailing list
- Communication via other outlets (community listservs, social media)
- Website (public)
- Website (internal password-protected staff area)
- PI field project feedback

NEWSLETTER <https://icedrill.org/icebits>

4x per year

Digital online format and hardcopy PDF format

Content includes:

- Upcoming (or recently completed) fieldwork descriptions
- Meeting and workshop announcements or summaries
- Calls for community input into the Long Range Science Plan
- IDP equipment maintenance and development work updates
- IDP education & outreach information and updates
- Reminders to acknowledge IDP support in publications
- Information about requesting IDP ice drilling support or education and outreach support in NSF proposals

ICE BITS

SUMMER 2021
Quarterly update of U.S. Ice Drilling Program (IDP) activities

2021-2031 Long Range Science and Long Range Drilling Technology Plans Updated

The U.S. Ice Drilling Program (IDP), in collaboration with its Science Advisory Board and with input from the research community, updated the Long Range Science Plan. The purpose of this plan is to articulate goals and make recommendations for the direction for U.S. ice coring and drilling science in a wide variety of areas of scientific inquiry and to make recommendations for the development of drilling technology, infrastructure, and logistical support needed to enable the science. A companion document, the Long Range Drilling Technology Plan, provides details about drills available through IDP. Both plans are revisited and revised as appropriate each spring. The Long Range Science Plan is available at <https://icedrill.org/long-range-science-plan>. The Long Range Drilling Technology Plan is available at <https://icedrill.org/long-range-drilling-technology-plan>.

If you envision the need for ice drilling for your project in the coming decade, please make sure that the high-level articulation of your science is captured in the Long Range Science Plan. If it isn't, send several sentences to icedrill@dartmouth.edu describing the science driver and the envisioned field date and location for your project, so that your plans are voiced in this planning document.

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700 Drill Detailed Design Progress

Following NSF approval, IDP Engineers have now moved into the Detailed Design phase for the 700 Drill. The drill design is guided by and meets the science requirements identified by the research community. The small-diameter ice coring system will operate in a fluid-filled borehole to collect ice cores down to 700 m depth, all while maintaining logistics as much as possible. The 700 Drill will produce a 70 mm diameter core (potentially adapting to 64 mm in the future) and 88 mm diameter borehole, which will minimize the quantity (i.e., volume and weight) of drilling fluid and the number and weight of core boxes. IDP plans to hold an external design review with community scientists, ASC personnel, and the NSF in early FY 2022.

Ice Core Early Career Researchers Workshop (ICECREW)

January 5-8, 2022
Salt Lake City, UT and Online

Sponsor: US Ice Drilling Program
Conveners: Jessica Badgley, Amrita Banerjee, T.J. Fudge, Bess Koffman, Summer Ruppert, Katie Wendt
Application Deadline: September 30, 2021
Website: <https://icedrill.org/meetings/ice-core-early-career-researchers-workshop-science>

The IDP-sponsored Ice Core Early Career Researchers Workshop (ICECREW) is a professional development workshop for early-career researchers. This workshop was conceived by members of the IDP Ice Core Working Group, and it will be held both in-person and online January 5-8, 2022, at the University of Utah in Salt Lake City, UT.

The workshop is free to attend. Travel stipends and childcare are available.

ICECREW is intended for early-career researchers whose work contributes to the drilling, processing, or interpretation of ice core data. The hope is to attract a diverse group of participants who may not have extensive experience working with ice core data. Participants will connect with potential collaborators, learn about opportunities of future ice core drilling and research efforts, learn how to utilize resources available from past ice core projects, and engage in career development activities. Participants will also work together to develop two synthesis papers.

Deadline for registration is September 30, 2021. Participants must be affiliated with a U.S. institution to be eligible. Please see the [workshop website](https://icedrill.org) for additional information.

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Successful School of Ice Held at Oregon State University

IDP led another highly successful School of Ice (SOI) on July 31-August 4, 2021, at Oregon State University in partnership with Dr. Ed Brook. The SOI provides professional development workshops for faculty from minority-serving institutions, training participants to understand paleoclimate evidence derived from ice cores. It also provides participants with the opportunities and training to acquire the skills necessary to bring this exciting inquiry into new and existing Earth and environmental science classes on their campuses.

Eleven OSU researchers, an IDP engineer, and eight graduate students shared their research and expertise with this year's SOI participants. In addition, two educators led participants through hands-on inquiry labs that will be used in current and future courses back at their home institutions. Dr. Brook led two field trips related to course content. One trip was to the Oregon coast, where participants observed evidence of past sea level rise, ocean acidification, and fossil evidence of climate from 23 to 5 million years ago. A second field trip was to an overlook near Mt. Hood to observe evidence of the retreat of Elsie Glacier.

A highlights video from this year's SOI is available at <https://www.youtube.com/watch?v=8u3cm783ko>.

Learn more about SOI and other Ice Drilling Program education and outreach opportunities at <http://icedrill-education.org/school-of-ice/>.

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Presentations Available - U.S. Science Traverses on the Greenland Ice Sheet: a Planning Workshop

On June 11, 2021, the U.S. Ice Drilling Program and the Summit Science Coordination Office co-sponsored a U.S. science community planning workshop to identify and articulate U.S. science community interests for long term planning of potential scientific traverses on the Greenland Ice Sheet. The interdisciplinary science community workshop identified future sites and traverse routes on the Greenland Ice Sheet where ground-based measurements and/or ice coring will be needed and the associated timeline over the coming decade for advancing science on multiple frontiers. The presentations from the workshop are available on the [workshop's](https://www.icedrill.org) website. In addition, workshop participants are currently working on a set of white papers that will also be available on the workshop's website.

DISC Drill - Survey of Community Interest

The U.S. Ice Drilling Program is planning use of its drills for the coming decade. If you intend to submit a proposal to the NSF that would require use of the DISC Drill, please send an email expressing your intent to icedrill@dartmouth.edu by October 1.

Deep drilling at [Heterolite Dome](https://www.icedrill.org) will be conducted using the [Tara 3000 Drill](https://www.icedrill.org). A comparison of Tara 3000 Drill and DISC Drill capabilities and associated logistics requirements is available [online](https://www.icedrill.org) and summarized in the table below.

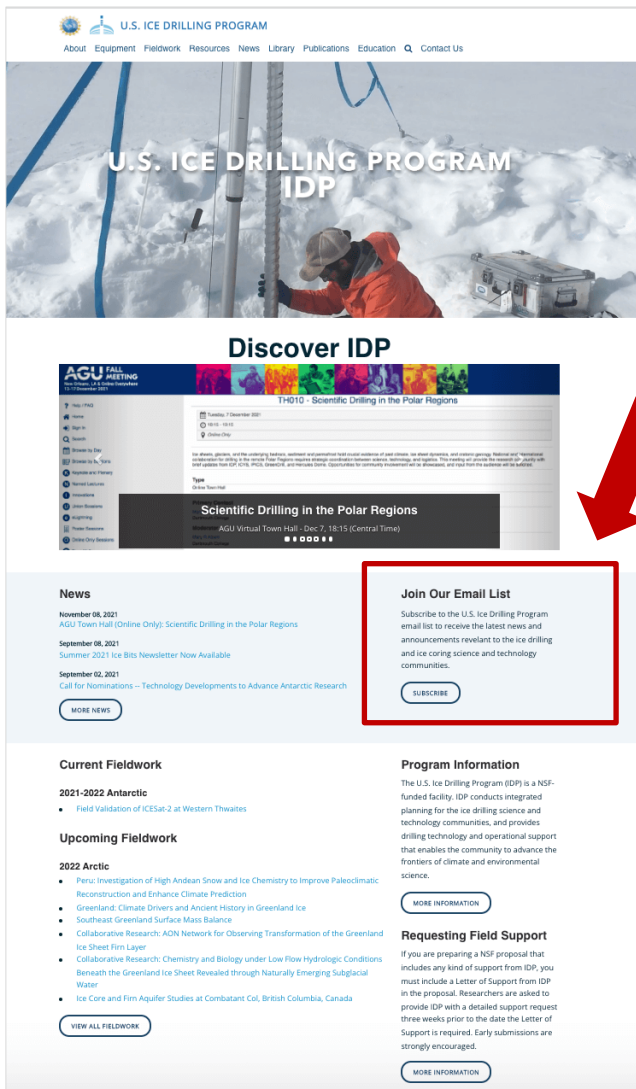
Thank you for contributing to future planning for the U.S. Ice Drilling Program!

Drill System Parameter	DISC Drill		Tara 3000	
	3.2	4	2	3
Core length (m)	3.2	4	2	3
Core diameter (mm)	122		98	
Replicate coring capability	Yes - active system		Passive system in development	
Time for setup/takedown (days)	71	71	28	24
Drilling days required to reach 2,800 m (days)	122	100	165	125
Number of seasons to reach 2,800 m (assuming 90 day field seasons)	3.9	3.4	3.9	3.1
Drill crew size (people)	10		7	
Core handlers/scientists (people)	7		4	
Drilling fluid required (drums) (53 gallons per drum)	385		210	
Power requirements at sea level (kW)	135		35	
Fuel requirements (gallons)	26,000	22,400	9,900	7,500
Core processing equipment (lbs.)	5,000		Included in cargo wt. & vol.	
Drill and core processing building	21,000 lbs., 1,300 ft ³		Included in cargo wt. & vol.	
Core storage area (below -20° C)	Required		Required	
Drill volume (cubes) (includes MTEC for DISC and Bloom shop for Tara 3K)	8,600		2,900	
Drill weight (lbs.) (includes MTEC for DISC and Bloom shop for Tara 3K)	136,300		40,500	
Drill fuel weight (lbs.) (assuming 428 lbs. per drum)	162,900		88,900	
Diesel fuel weight (lbs.)	184,900	159,300	70,400	53,400
Ice Core weight (lbs.)	72,200		45,500	
Total weight (lbs.) (heavy only on the way out)	582,300	556,700	246,300	229,300

Comparison of DISC Drill and Tara 3000 Drill system parameters for a 2,800 m deep ice core coring project. Some information concerning the Tara 3000 Drill and DISC Drill capabilities and associated logistics requirements is available [online](https://www.icedrill.org).

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IDP MAILING LIST



Utilizes the Mailchimp email marketing program

- Allows us to track metrics
 - Email delivery success
 - How many people opened the email
 - Who has, and has not, opened the email
 - Who has unsubscribed from the mailing list

491 Community Contacts (current)

Program Year (PY)	No. Emails Sent	No. Community Contacts (PY end)	Open Rate	Successful Deliveries
2019	10	437	40%	96%
2020	12	469	41%	99%
2021	19	466	43%	99%
2022	12	484	46%	99%
2023 (to date)	6	491	50%	99%

Used to alert community about

- upcoming meetings, workshops, town halls
- requests for community input to the IDP Long Range Science Plan
- *Ice Bits* newsletters
- any news relevant to the ice drilling community

COMMUNICATION VIA OTHER OUTLETS

Community listservs

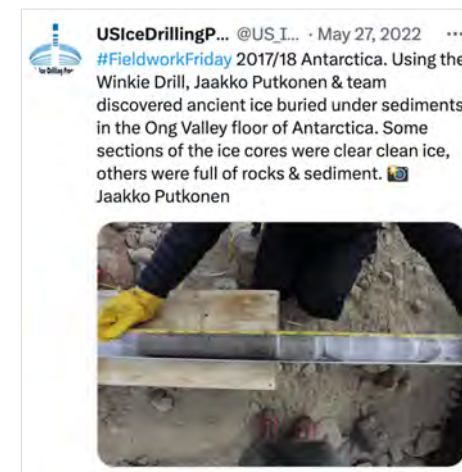
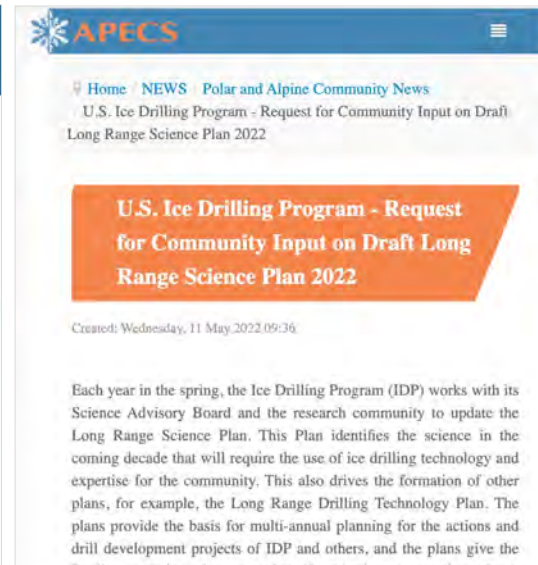
- Cryolist
- Arctic Info
- Ice Core Young Scientists

IARPC Collaborations

Association of Polar Early Career Scientists (APECS)

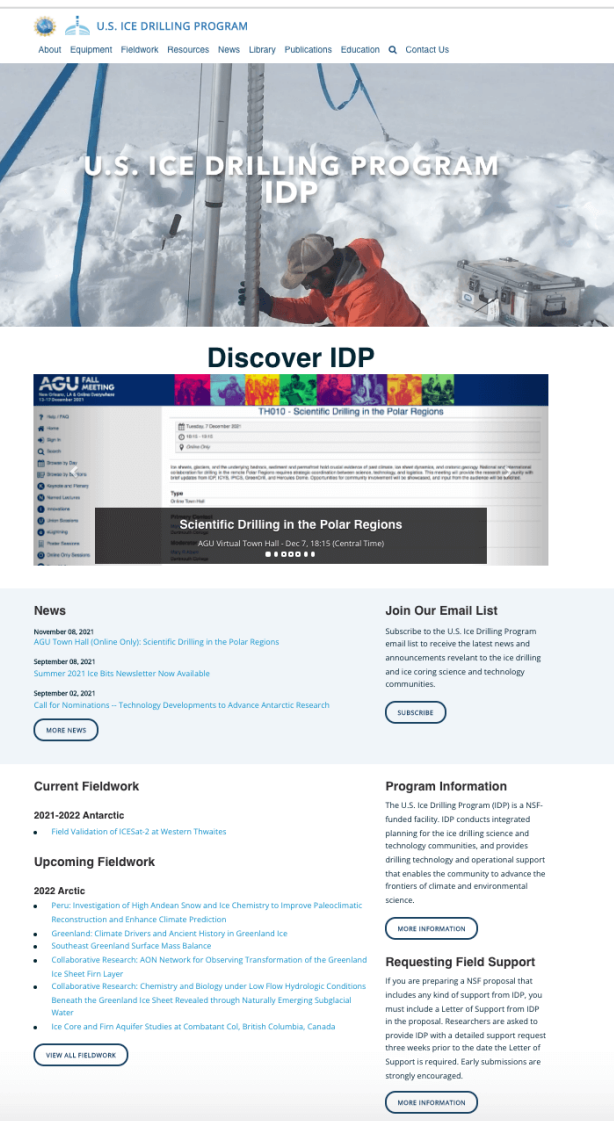
Social Media

- Twitter ([US_IceDrilling](#))
- Instagram ([us_icedrilling](#))
- Facebook ([USIceDrillingProgram](#))
- YouTube ([USIceDrillingVideos](#))



WEBSITE

<https://icedrill.org>



The screenshot shows the homepage of the U.S. Ice Drilling Program website. At the top, there is a navigation menu with links for About, Equipment, Fieldwork, Resources, News, Library, Publications, Education, and Contact Us. Below the navigation is a large banner image of an ice core drill with the text "U.S. ICE DRILLING PROGRAM IDP". Underneath the banner is a "Discover IDP" section featuring a slide from the AGU Fall Meeting titled "TH1010 - Scientific Drilling in the Polar Regions". The main content area is divided into several columns: "News" with recent updates, "Join Our Email List" with a subscribe button, "Current Fieldwork" listing projects like "2021-2022 Antarctic" and "2022 Arctic", "Program Information" about the NSF-funded facility, and "Requesting Field Support" instructions. There are "VIEW MORE" buttons throughout the page.

About IDP (who, what, why, how to contact)

Concise descriptions of IDP **equipment** available, when it is being used, and summaries of **science projects** utilizing the equipment

Easy access to **Long Range Science Plan** and **Long Range Drilling Technology Plan**

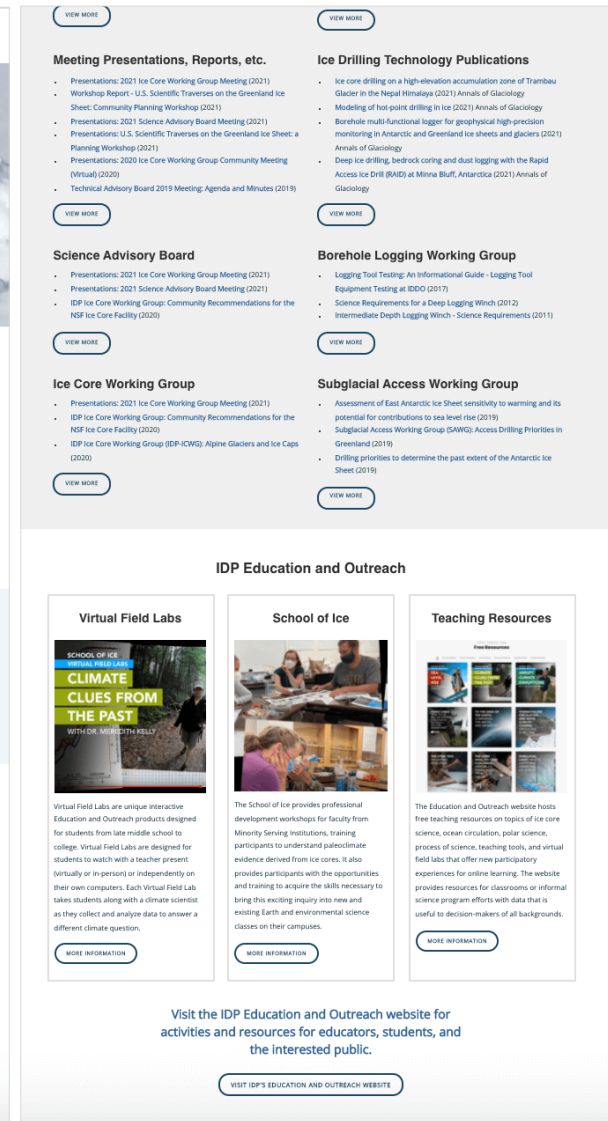
Clear instructions for **requesting IDP field support** and obtaining **assistance with IDP education and outreach activities**

News, newsletter, meeting/workshop announcements

Library of **ice drilling technology documents**

List of peer-reviewed **scientific publications** from IDP-supported projects

Staff area provides a protected common area for critical project documents



This screenshot shows the "Education and Outreach" section of the website. It features a grid of four main categories: "Virtual Field Labs" (highlighted with a blue border), "School of Ice", "Teaching Resources", and "IDP Education and Outreach" (the section title). Each category has a "VIEW MORE" button. Below the grid, there is a call to action: "Visit the IDP Education and Outreach website for activities and resources for educators, students, and the interested public." with a "VISIT IDP'S EDUCATION AND OUTREACH WEBSITE" button.

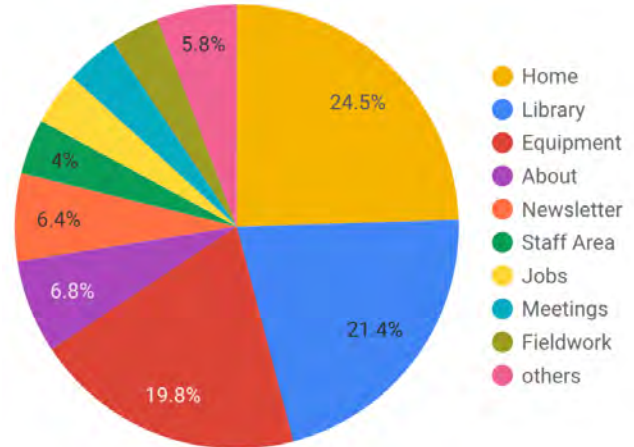
WEBSITE

<https://icedrill.org>

Pageviews

155.0 k

Number of times any pages on the site were viewed. Includes repeated page views by individual users.

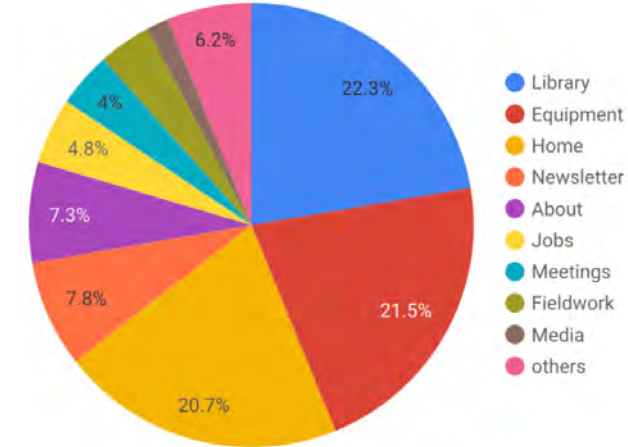


Pageviews

Users

48.5 k

Approximation for the number of users/visitors to the site.



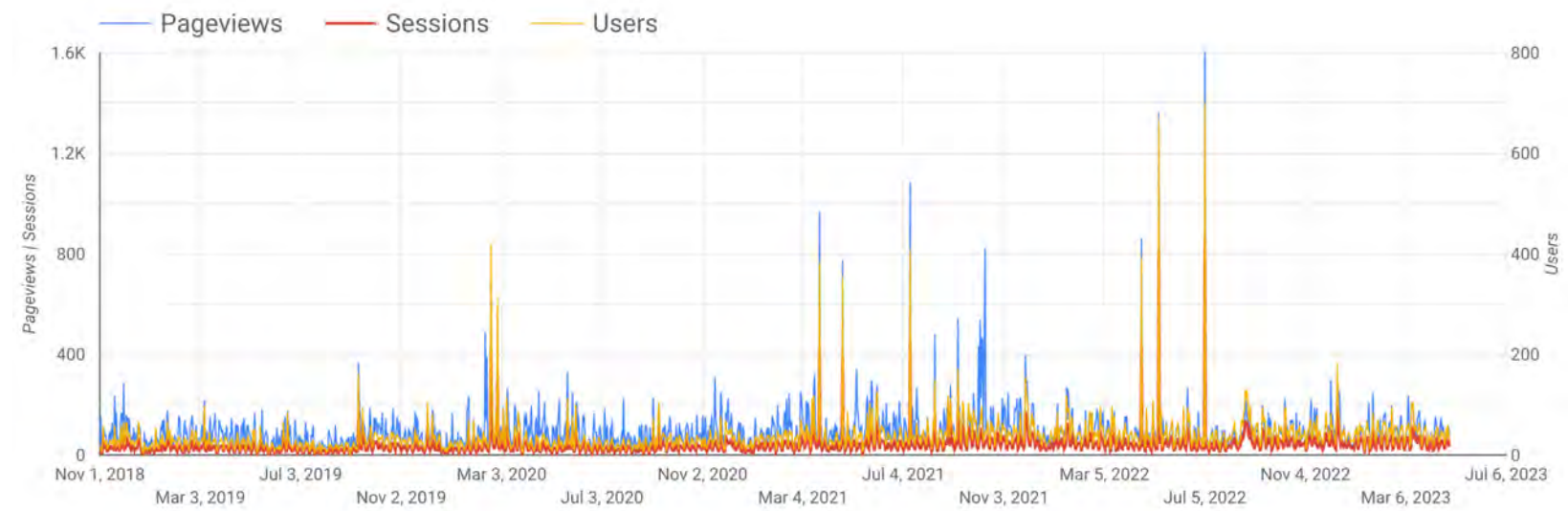
Users

Program Year	Pageviews	Users	Sessions
2019	26,620	7,147	10,093
2020	30,726	8,340	11,981
2021	42,829	11,956	17,086
2022	37,296	14,560	19,643
2023 (to date)	17,514	6,545	9,024

Sessions

67.8 k

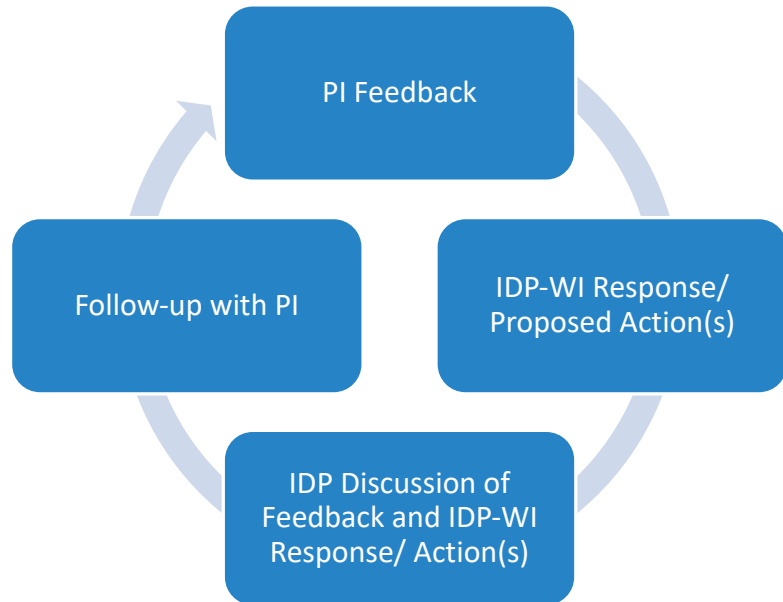
Number of sessions on the website, not individual users/visitors. A session occurs when a user visits the site. Users can have multiple sessions in a day.



COMMUNICATIONS UPDATE

PI FIELD PROJECT FEEDBACK

(1 Poor; 2 Fair; 3 Good; 4 Very Good; 5 Excellent)



	Overall rating	Instructions and Training	Personnel (if applicable)	Equipment	Pre-deployment planning	Feedback Return Rate
2022-2023 Antarctic	4.67	4.50	4.78	4.50	4.67	3:3
2022 Arctic	4.57	4.70	5.00	4.86	4.86	7:7
2021-2022 Antarctic	5.00	5.00	5.00	4.67	5.00	1:1
2021 Arctic	5.00	4.50	5.00	4.83	4.75	2:2
2020-2021 Antarctic	COVID; no fieldwork					
2020 Arctic	4.47	4.00	5.00	5.00	5.00	3:3
2019-2020 Antarctic	4.80	4.50	5.00	4.53	4.60	5:5
2019 Arctic	4.40	4.00	5.00	3.80	4.80	5:5
2018-2019 Antarctic	4.60	4.50	5.00	4.45	5.00	5:5
AVERAGE	4.71	4.46	4.97	4.58	4.84	100%

PI feedback guides decisions on repairs and upgrades to equipment

QUESTIONS

