

Welcome to the Deep Submergence Science Committee (DeSSC) Business meeting 2025

Andrew Thurber – Chair of DeSSC

NDSF NATIONAL
DEEP SUBMERGENCE
FACILITY



Code of Conduct

Everyone is treated respectfully and collegially.

- Good practices for intercultural collaborations are utilized to ensure all participants are afforded respect.
- Participants are mindful of their surroundings and of their fellow participants.
- Everyone is accountable: When we as organizers or participants fail to meet these guidelines, we work together to identify problems and adjust policy and practice together.

Ground rules

- I will model the behavior I expect to see from others.
- I will speak from my own experience and no one else's.
- We will give credit appropriately.
- We will practice respectful communication.
- We will respect and include all voices.
- We will not interrupt.
- We will focus on listening as well as speaking.



Forecasting the Ocean: The 2025-2035 Decade of Ocean Science (2025)

DETAILS

164 pages | 8.5 x 11 | PAPERBACK

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The Academic Research Fleet (ARF), including the National Deep Submergence Facility (NDSF), remains a vital part of collecting oceanographic data at sea and is required infrastructure for basic ocean science research and for research related to the urgent ocean science priorities described in this report. The ARF also plays an important role in ocean science workforce development by providing support for early-career training onboard vessels.

CONCLUSION 4.7: The ARF, including the assets in the NDSF, are the backbone of OCE-funded ocean science research programs and are required infrastructure for addressing the portfolio of urgent ocean research over the next decade. OCE has an important role to play in regaining U.S. leadership in ocean sciences by providing access to the sea with research vessels.

CONCLUSION 4.6: The NDSF provides access to vehicles that are essential for research related to the report's three science themes listed in Conclusion 2.2. The following enhancements would improve the assets offered to the oceanographic community:

- Expand the array of assets available to users, including lower cost ROVs and AUVs for deployments on coastal and regional vessels (i.e., used in nearshore and coastal regions).*
- Expand the scientific footprint of each HOV, ROV, or AUV dive by enhancing remote science capabilities and the inclusion of autonomous assets that can work alongside the vehicles and perhaps be deployed simultaneously.*
- Increase access to deep-sea research for early career professionals, by continuing to host workshops for early career scientists, among other activities.*
- Enhance international cooperation to enable U.S. scientists to lead global-scale research efforts, including but not limited to supporting the use of commercial, philanthropic, and foreign national deep submergence assets when either it is more cost-effective or when U.S. assets are otherwise committed.*
- Develop a formal trainee program that serves the needs of the facility and the greater needs of the maritime science, technology, engineering, and mathematics (STEM) workforce.*

Not losing a generation of Deep-Sea Scientists

graded to explore greater depths and to have longer-duration deployments and new modes of biological sampling, such as environmental DNA. The NDSF was also a pioneer in launching a “new user program” that facilitated the development of a larger user base. Additionally, the NDSF has worked to streamline the acquisition, curation, accessibility, and archiving of data (including video) collected by its assets to ensure that the data products are of the highest quality and broadly available. Recently, in response to community

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DeSSC New User Program (NUP):

Facilitate the success of early career researchers

Program Goals:

- 1) Demystify the process (proposal through post cruise) of accessing and using the nations deep-submergence assets
- 2) Encourage new users to reach out to operators and programs early and often
- 3) Excite early career scientists about deep-sea research
- 4) Connect new users to the diversity of groups that can fund their research or support their research
- 5) Increase the efficiency of new PIs and Chief Scientists
- 6) Welcome all researchers into the best scientific community

DeSSC New User Program (NUP):

Facilitate the success of early career researchers

2 flavors:

Meeting associated

- 1) 0.5 day workshop for New Users
- 2) Associated with Ocean Sciences or AGU (swap every year)
- 3) Followed by 1 day DeSSC Community Meeting
- 4) NDSF/Agency Reps/DeSSC
- 5) ~20 participants

Non-Meeting associated

- 1) 1.5 day workshop for more advanced New Users
- 2) At WHOI
- 3) Significant time with operators including ship schedulers
- 4) Aimed at post-doc/early faculty

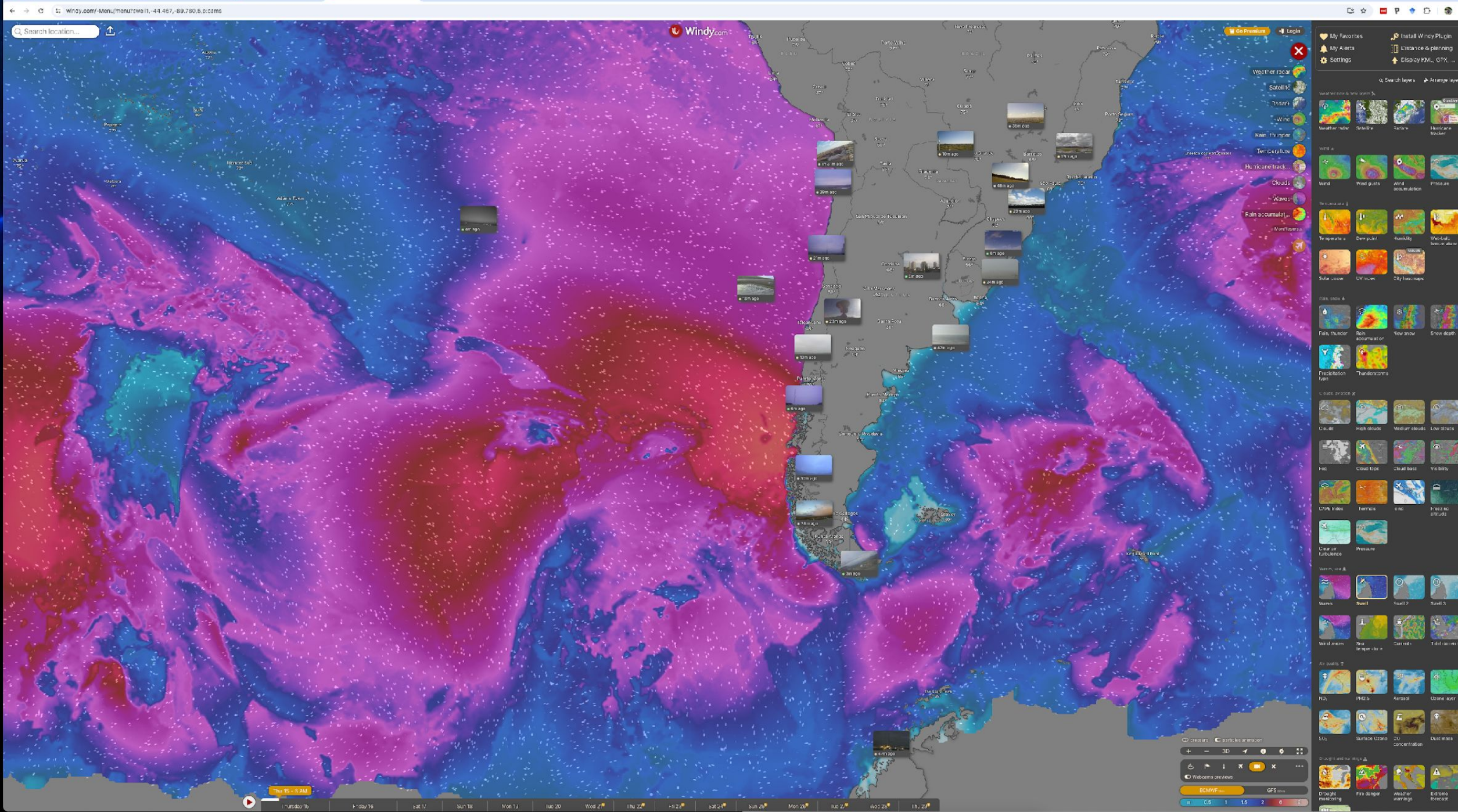
Looking forward (and a bit back)

- NUP “Flavor I” at AGU in December
 - No NUP in Glasgow
- Unclear (as in unlikely) to have “Flavor II” for a while?
- Chief Scientist Training Cruises
 - MATE program?

Aspirations - Expanding the Weather Window

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Rain accumulation
Marine forecast

World map
Wind gusts
Wind speed
Pressure
Temperature
Dew point
Humidity
Wet-bulb
Solar radiation
UV index
City forecasts

Rain, snow &
Rain, thunder
Rain accumulation
New snow
Snow depth
Precipitation type
Thunderstorms

Clouds, pressure &
Clouds
High clouds
Medium clouds
Low clouds
Fog
Cloud type
Cloud base
Vis. billy
CLOUD INDEX
hazards
cnd
Precip. altitude
Clear or turbulence
Pressure
Waves, wind &
Waves
Swell
Swell 2
Swell 3
Wind of waves
Sea surface temp
Currents
Tidal currents
Air quality, T
AQI
PM2.5
PM10
Ozone layer
BQI
Surface ozone
CO concentration
Dust mass



What would help?

Replace the CTD with an ROV?

Different deck space amidship?

Thinking of new Globals....

A-Frame/LARS changes?

DeSCEND 3 Report

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Developing Submergence Science
for the Next Decade
(DESCEND-2016)



**Workshop
Proceedings**

January 14-15, 2016

Membership

2nd Term is

Ending:

Roxanne Beinart

David Caress

Leila Hamdan

4 of 11 members

Looking forward -2026:

Jeff Marlow

1st Term Ending:

Jeff Karson

Stepped down:

Andrea Quattrini