

Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Login Information (same for both days)

<https://washington.zoom.us/j/96874325334>

Meeting ID: 968 7432 5334

Passcode: 395770

Dial in:

+1 720 928 9299 US (Denver)

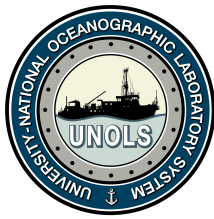
+1 253 215 8782 US (Tacoma)

All times are in Eastern Standard Time

Wednesday 25 May 2022

- 1300 Welcome & Code of Conduct and update on COVID-Pivot-** Andrew Thurber/OSU/ DeSSC Chair & Rob Munier/WHOI
- 1310 Brief Introductions** including Agencies, DeSSC, and NDSF identifying what they hope to get from this meeting
- NSF - Brian Midson*
- People Updates
- Terry Quinnn - rotation is ending
 - Debbie Smith - Retired
- Budget Updates -
- FY22 - 4% increase for NSF which includes a the directorate - TIPS - <https://beta.nsf.gov/tip/latest>
- Technology Innovation & Partnership TIPS - Directorate
- FY 23 budget **request** - significant increases.
- Largest increase is for the ARF - which NDSF is a part
 - Request a 20% increase. Entire increase for all of OCE
 - Science programs are flat
- What does Brian want to get out of the meeting?
- Need to support the Waveglider in a facilities - hear DeSSC outcome
 - Bottleneck of ROV support - potential need for more ROV support - start the discussion for RCRV
 - COVID caused a bottleneck for JASON but it doesn't look like it is going away.
- 1320 Summary of Vehicle Use and PCAR Responses** – Andy Bowen/WHOI
- DEIJ in NDSF - Michel - [See Slides](#)





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

- Big Issue with housing - even if there are rooms -

Roxanne -

- Is there a pathway to get these folks into the JASON team?

Anna -

- Yes, some have already become a part of the NDSF teams.

NDSF Upgrades - Bowen - [See slides](#)

1340 Waveglider Update - Andrew Thurber/OSU (1min)

Thurber - DeSSC had internal discussion regarding the waveglider - the DeSSC will support the Waveglider as a tool to be used with the NDSF vehicles. DeSSC will produce a letter of support which will be passed to UNOLS Council and then to NSF>

Midson - trying to get the waveglider cost out of the science programs.

Fornari - can we make that document available to the public?

Alice - Yes - we can do that.

1341 Discussion 1: *How to provide the vehicles to support current and future research needs.*

What are the science needs?

Jason on RCRV - issues with bunk space for Jason Crew 24hr ops and also deck space- it could happen but it would be a limited science party.

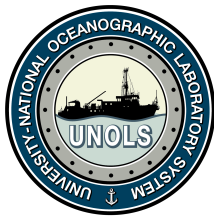
Hamdan - The RCRV project is pursuing an opportunity for each vessel to come with a personnel van so they can have more space for vehicle crew and/or a larger scientific complement. Brings # up to 20 science berths

Caress - Fly away system for RCRV? Could a fly away vehicle that is rated to 4Km rather than 6.6Km and does not have the lifting capacity for the OOI work be a starting point?

What are the issues with the existing ROVs [Lu'ukai, SIO] they are deep rated but limited capability - is this correct?

- What are the requirements for an ROV for the RCRV that cause us to NOT think of the existing SIO & UH ROVs





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Fornari - UH vehicle - pretty consistent & SIO is not. Dave's point is critical - must match vehicle with expectation. Capabilities on the smaller ship. Important to talk about and not an easy solution.

Midson -

SIO ROV - notially updated from 1K-2K - has not been a solution. Mothballed

UH- Lu'ukai & ROPO & Pelagic -

Thurber - Will the smaller vessels support mid-water capability? Or vehicle for polar work? Will fly away increase the opportunity for science support? Doesn't ONLY have to work on RCRVs but should be able to work from RCRVs.

Marlow - What are the key problems? Jason is over subscribed but is this only temporary? Is this a long term problem?

Midson - those are not independent variables - OOI RCA uses prime ROV time annually. Will Jason's over subscription prevent folks from writing proposals? We are pretty beholden on a single asset.

Fornari - Really need to match the science requirements to the ROV.

Hamdan - Mantra has been increasing inclusion to deep submergence science. If we only have 1-2 assets, we can't materialize this. Anytime we have a chance to bring more assets, we should go for it.

Huber - first Falkor - only 9-10 berths (smaller science team). Duplicating the system we have now would be great but having something more flexible with

Thurber - almost talking about 2 different things -

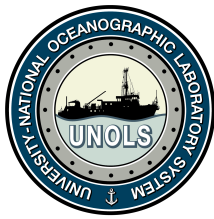
- OOI servicing
- Something
- Challenge with smaller science party is that they can require more ship time.

Bowen -

- Need to think of different ways of doing science - like having a "back bench" virtually so onboard PIs are not run ragged.
- RCRVs - will be very different at the time of their mid-life
- Requirements can be interpreted in a more broad sense.

Thurber -





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

- Remote operations cause different challenges - sometimes it creates more work for those onboard.
- Sentry incredibly successful for remote operations

Michel -

- Must discuss expanded bandwidth - especially with less berthing. Recent Sentry cruise is a great example of how to engage folks that don't have to be on the ship.
- How do you use this effectively with smaller sci party

Beinart -

- Increased bandwidth should be standard
- Helped with science, technical issues,

Caress-

- In thinking about vehicles that can work off the RCRVs to take load off Jason, there is a big difference from 2K rate and a 4k rated or trying to keep a 6.5k capability that is less.

Focus on Science Need, current assets are heavily utilized, when using smaller vessels berthing and ship/shore bandwidth becomes more critical.

1410 Discussion 2: How can we more efficiently plan cruises and dives?

- 3d dive planning Roxanne Beinart/URI (5min)

See Slides

- Group Discussion

Fornari

- No matter what discipline of deep submergence science, you need to know where you are, where you want to go.
- Much of this - we don't necessarily need to DEVELOP new tools - are a range of geo spatial mapping tools that are essential for dive planning.
- One of the key things is that we need to make sure that new users and scientists avail themselves of these tools

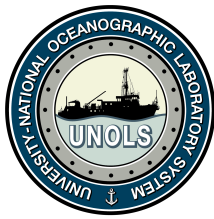
Roxanne

- Agree with this but we didn't have the expertise and had to rely on the NDSF team.

Fornari -

- If this was raised in the pre-cruise planning someone from the science team could be trained.





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Thurber -

- This could be challenging if not at an oceanographic institution.
- Can NDSF support this ?

Carress -

- This must be addressed in pre-cruise planning. Sci party must understand how they are going to do the planning.
- There are many different tools that could do this.
- Need to ensure no one winds up on the boat without dive planning

Bowen -

- Great discussion.
- Where does NDSF see their place? Increasingly convinced that the future challenges are driving the technology into the hands of the users to help them extract the most out of it.

Beinart -

- This connects to inclusion - we need to make this accessible to those who may come to this without a background.

Rachel Medley - NOAA Federal

- Urge folks to look at OER's Deep Ocean Mapping procedure manual from OER
- OER is in final stages for defining the telepresence operations & ROVs manual - specific to OER but could be a data point to adapt to other parts of the community.

Soule -

- This conversation made me think about the Sentry Cruise Planning Guide. This has a lot of technical and practical info.
- Great to come up with Best Practices
- For ALVIN SVE - should start to put this together.

Pace -

- Way to have a 3D component built into MFP?

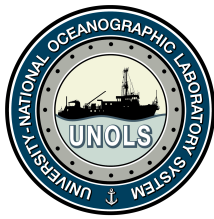
Fornari -

- MFP is not the correct tool.

-

Beinart -





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

- This should come from NDSF.

Doyle -

- How does NDSF feel about this?

Bown -

- We are here to serve. It is obvious this is a need and we will see how we can recapitalize
- This is an area we feel like we can help make a difference. We are here to help.

Ferrini -

- Trying to liberate the data already at WHOI to put the data where it should go to help people prepare.
- Used to do this more granularly with RIDGE so the database structure is there.

Beinart - Both tools & data are a part of this.

Fornari - As much as NDSF is important, ultimately it is the PIs responsibility to provide the maps. It is collaborative. Making sure there is a clear understanding of roles & responsibilities.

Thurber -

- VR on ships?

Carress - the technology is there - if there is a need and proper planning it could be done right now.

Soule - interesting how the conversation circled back to the Telepresnce & RCRV - would allow folks onshore to have a richer participation.

Beinart - First step - advocate for these maps, the move to VR.

1435 NDSF Data Management - Vicki Ferrini/LDEO & Tina Haskins/WHOI

[See Slides](#)

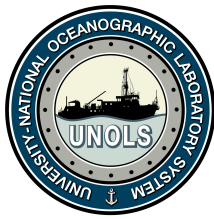
Caress - There have been issues with getting MBARI into MGDS - happy to modify our structures to simplify this. Do you service anyone else that has survey data?

Ferrini - Handle data from SebAstian, Hercules & Argus, a bit of remus

Subastian - trying to automate the ingestion of the data.

Doing the same with Hercules & Argus data - hope to use this approach with NDSF.





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

OECI data management plan - recognize that each operator does not do things exactly the same but everyone must build a map to the data - so they can write a script.

We are looking for a plan to have a robust on-shore visibility for Sea-Log

Soule - Is the data policy opt-in/opt out?

Ferrini - This is not a part of the policy. It is part of the funding organization data plan. Moving data into MGDS does not make it available, system can put a hold on it until the PI says it is open (or 2 years).

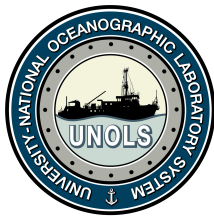
Smith How can we help each other make Sea log better? Where is WHOI on this?

Haskins - we have a fork off of the main SeaLog. WHOI's stuff is in a Git hub. Good to be chance for folks to work together to use features that they developed.

Bowen - This could be a good topic for SOVA.

1500 **Day 1 Adjourned** (We apologize for going over!)





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Thursday, 26 May 2022

1300 Welcome and identification of goals for the day- Andrew Thurber/OSU/ DeSSC Chair

1310 Open discussion *Where does DeSSC want to go in 1-3 years specifically to help the community (5 min each with <5 min discussion)*

- STEM-SEAS like transit focused on deep sea research - Rob Sparrock/ONR
- A mechanism to request novel capabilities - Roxanne Beinart/URI

Beinart - should we rethink our document? Should we make this more open - possibly making it more https://www.unols.org/sites/default/files/2020_Third_Party_Tools_for_NDSF.pdf

Is there a more official and/or transparent way to make this available?

Heintz - comments on UFO - personally Jason reluctant to develop a complicated tool but UFO is example of something of trying to keep simple and help as many end users. This is a big win. We are supportive of integrating new tools but if we will need

Beinart - we are going to make some videos and documentation on how it will be used.

Midson - Pat Hickey - when confronted with proposals with 1 off equipment, he wasn't receptive. Can't deal with 1-off tools. Various examples of other tools that were introduced.

RE - tech subcommittee - usually a plenary - don't necessarily need a subcommittee.

Shank - Appreciate that folks need to take care of their own stuff but it is within the purview to add some equipment. Eg. honeycomb. DeSSC can facilitate this. Is there one place where third party tools are available? Make this transparent on the website.

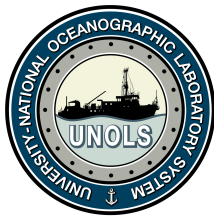
Fornari - the need for devices to sample/do stuff will keep evolving. This is important for DeSSC to continue to have a roll in the process. Getting a community meeting together so that we can have a broader discussion on this and the kinds of needs folks are thinking about. Could be imp. ideas that could come up that could be useful. Add other vehicle operators around the world.

Beinart - having more surveys, meetings, pitch-fest?

Huber - This is a barrier to participation. NSF OTIC grants create these really great instrument but they don't get used. Really the \$\$ - to develop, train and operate at sea. Need to think creatively!

Thurber - This would serve early-career and also folks that do not work at an oceanographic institution.





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Strickrott - any discussion regarding data products produced by these items? if we are thinking about data streams - need to figure out how to manage.

- In situ sensing techniques - Anna Michel/WHOI

Frame it on the sensors of the future. [See Slides](#)

Bowen - we are provided engineering dives which is not a tremendous amount of time but it is there to make sure the vehicles are working. Could be expanded/adapted to part of what you were talking about.

Kelley - Operators try to juggle this in the engineering dives but it is a lot of work do this and manage it with the PI. Rarely do we do follow-up after the cruise and ask what worked/didn't work? Could be an easy win - even if it is not possible to do the upgrades, would be good to have the notes.

Caress - From MBARI side - may be some room for collaborative testing of sensors that require a fair bit of comms. We have a high- turnover of ROV ops and for simple stuff, we can probably help. COuld be possilbe for MBARI to do more sensor testing. They could login remotely. NOthing formal but consider reaching out at times.

Fornari - Following up for UFO - not. Make sure that this is included in cruise report. Could DeSSC make these available to the community so folks can see it? This would help to codify it.

SOI - would be willing to test sensors - but more on a case by case - not standard. Will be opportunities

NOAA - Adrienne - we have a time to test sensors on the OE - contact Rachel Medley. There are also funding opportunities.

NSF - This could be good for a DeSSC Tech subcommittee to help the communications. Been a standard expectation of engineering dives - 2 dives (1 each NSF, ONR). These are often plussed up - standard unplanned vehicles.

SOI would be willing to put out something more formal for testing if it would be useful. Example - High performance computer system - people can write proposals anytime. We could do something similar for testing.

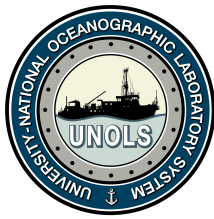
Bowen - SOVA - Would SOI consider formalizing tech that would come out of that group?

SOI - we could consider it. Would need to make sure that it is framed to SOI and a good fit.

- How to better encourage and Welcome DEIJ in Deep Sea Science - Andrew Thurber/OSU

[See slides](#)





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Brian M - neglected to plug the NSF proposal guide - out for public comment. Has a guide for safe field environment.

Beinart - when I see this I see - what is the specific and unique roll of DeSSC? I think we should think about what is our unique roll? For me - great to see NDSF move forward in their roll, as DeSSC can play a part of this. As opposed to trying tput something together that already exists.

Bowen - Anna & Vicki - Deep Submergence draws people in - can use for good. We are all well intentioned and must understand how our intentions are interpreted. It is complex and not very clear.

Fornari - very important - pretty hard to do at this stage bc so many kids are turned off or not exposed early enough. Feel strongly about connecting with middle-school kids. Sometimes a stretch but not really. Can we mobilize this community to broaden this approach? Can we get everyone to go to 3 schools?

Leila - OECI w/ Tuskegee U - lead by USM - goal to put students into OE research/partner labs. the USM staff is also going to Tuskegee to reach out - Dr. Jesse Cassler - spent a lot of time building relationships - by going there. Spent a lot of time on the trust building. Going there really pays off. Now working with Jackson St. U. USM students - look like the state demographics but the graduate program demographics are very different. important to go out there. Also acknowledge - what is our unique roll as DeSSC? Do we need more assets for Deep subm. research - more available?

Midson - could we get an action - brainstorming? from this?

Thurber - think about what deep sea science does globally to see how we

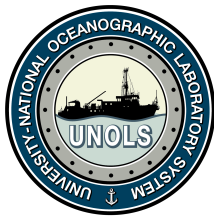
Michel - must also think about the operational side. Astronaut - get loads of applications. Why not for an ALVIN pilot? Are we messaging it properly?

Kelley - agree - we don't message it the same. Not quite as sexy as astronaut/pilot. Ridge 2000 had a large outreach to classrooms. Remember every cruise had an outreach component to classrooms. Haven't see anything take that place. This was useful.

Caress - MATE program

Smith - Large call for people and training. Doesn't guarantee you for a mission. "Space Camp". Maybe we need to create a camp. How do we get kids involved in virtual training? Multi-step level?





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

- Workshop to facilitate deep sea outreach - Jeff Marlow/BU

See Slides

Thurber - Would you envision this attached to a meeting? Or how do you envision this - separate funding? Great idea. We should think about working with OET, and other who do this more.

- Remote Ops - Emily Roland/WWU
- Incorporating AI/ML into deep submergence data sets - Adam Soule/URI
- Sentry Side-Scan data - David Caress/MBARI

Can we/should we make side scan data available more broadly? Everyone agrees the data are important and making good

- make an effort to identify folks who could find this useful in the pre-cruise

Michel

- Emily Roland - brought up the side scan on a recent cruise. Could put together some scripts to help future cruises.

Fornari

- Thanks to DeSSC for looking at this. Ross & Dan also mentioned that there are a lot of files that are not processed.

- New and infrequent user FAQs/ Cheat Sheets/ Videos/ or Office hours - Andrew Thurber/OSU

Fornari - there are merits in gathering cheat sheets/ FAQs - often PIs create these on the

Huber - Leaned heavily onn Anna and Kevin Cavanaugh - office house is a great idea. Once cruise schedule is set- Andrew & Anna maybe could reach out. How can we do better reach out.

Midson - Think about what is the problem =

1420

Closed Session for DeSSC

Code of Conduct - Do we want to adopt UNOLS or - Adopted by committee -

Data management group - do we approve? 2 week deadline.

Want to hear comments regarding new ROV -

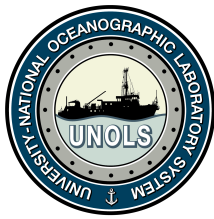
- What is the process, what is the reality, where did it come from?

Midson - had a lot of success getting stuff by having shovel ready projects. If we are prepared with another project to solve a community problem, we might be able to get it funded. Clear cut and welcome case.

White Paper? Yes -

- what we are missing
- bottleneck





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

- RCRV data presence
- expanding access to deep sea

Odysseus & ROPOS tried off of

Would this need to be distinct? smaller vessel, DP, fly away.

APD look at adding new vehicles document

DeSSC Endorses, WHOI develops, go back to DeSSC to put it into the NDSF.

Why aren't other ROVS ok?

- Beholden to assets we don't have control of.
- Strange cost, etc, etc.
- NSF decided to make Jason able to service OOI.

Have document that

- 1) documents the issue - also add inclusion, expansion of user base,
- 2) define high level requirements for doing the science - enables telepresence.
- 3) Makes it possible for someone (NDSF?) to write a proposal to create.

Is there a way to quantify/qualify? Data?

Does perception on likelihood of getting funding is low make someone less likely to propose?

Survey community - what are their preceptions?

Do we need a workshop to show community involvement? Can't work on this timeframe. Too drawn out. Gathering on the expertise of DeSSC to write this up.

2-3 pages - first paragraph is punch.

Few months deadline - **bring this up at the DeSSC Community Meeting.**

DeSSC will put this together and

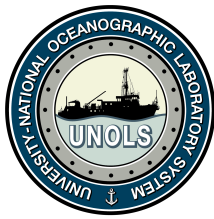
Better integrated dive planning

- Dan & Adam - adamant on the user but as a biologist - do not have the same expertise.

Hears a lot of "I didn't know what questions to ask"

Does DeSSC have a roll in pre-cruise planning protocols?





Updated: 01 June 2022

Meeting Minutes - DRAFT

2022 UNOLS DeSSC Spring Meeting

Virtual

25, 26 May 2022

Have Sarah come to a meeting to understand the pre-cruise planning? Other place to intervene - add a question regarding “do you know how you are going to process your side scan data?” Provoke the PI with questions.

What is the current step?

Dive Planning -

Add a question - add a question to the Debrief - regarding dive planning?

Add - questions/discussions on data files - the data is not QA/QCed but they are expecting it to be.

Getting the perspective of a smaller university - Geo/chemistry

Can WHOI folks be on DeSSC?

- Membership Review
- DeSSC Positions and Assignments
 - Vehicle friends – Alvin (Roxanne?), Jason (Andrew), Sentry (Scott)
 - New User Program –
 - Data Management –
 - Outreach / Facebook –
 - Vice Chair Position and Assignment
 - Early career champion

1500 Meeting Adjourned

