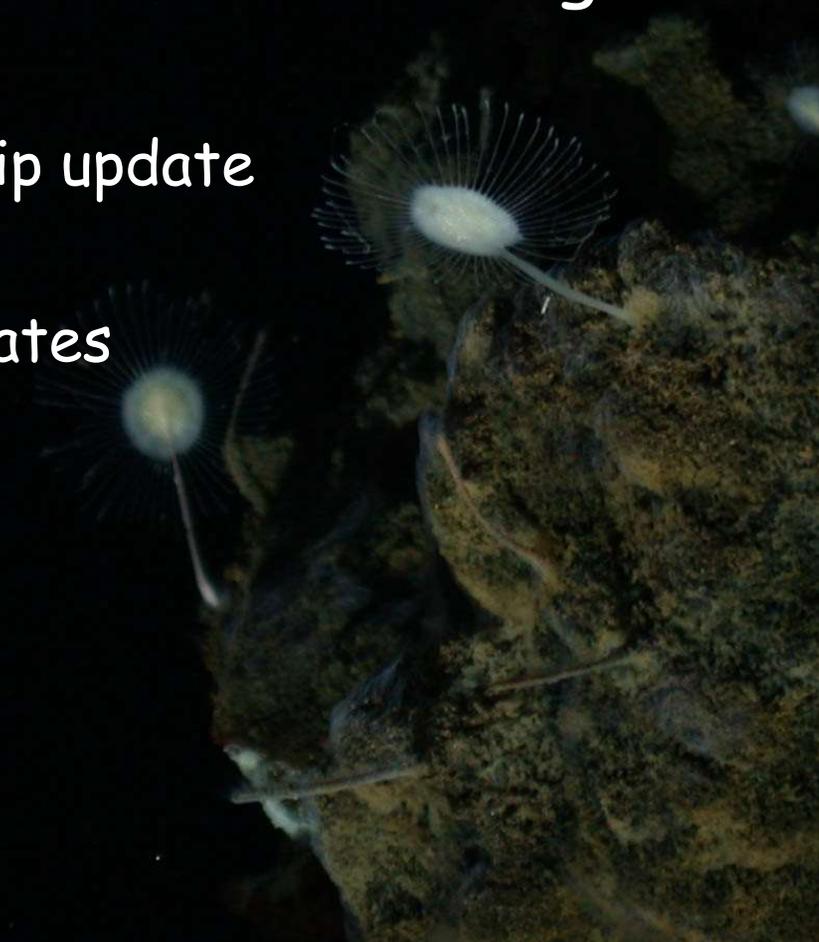


DeSSC report November, 2019 UNOLS Meeting

- DeSSC membership update
- NDSF vehicle updates
- Other activities

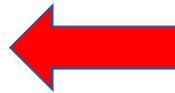


DeSSC Membership

Current members

Roxanne Beinart (*URI*)

David Caress (*MBARI*)



Amanda Demopoulos (*USGS*) , Vice Chair DeSSC

Brian Glazer (*Univ. Hawaii*)

Leila Hamdan (*Univ S Miss*)

Anna-Louise Reysenbach, Chair (*Portland State U*)

Andrew Thurber (*OSU*)

Dorsey Wanless (*Boise State U*)

Scott White (*Univ, SC*)

Peter Girguis, (*ex-officio, Harvard*)

Rob Munier (*ex-officio, WHOI*)

Tim Shank (*ex-officio, WHOI*)

Adam Soule (*ex-officio, WHOI*)

ROV Jason

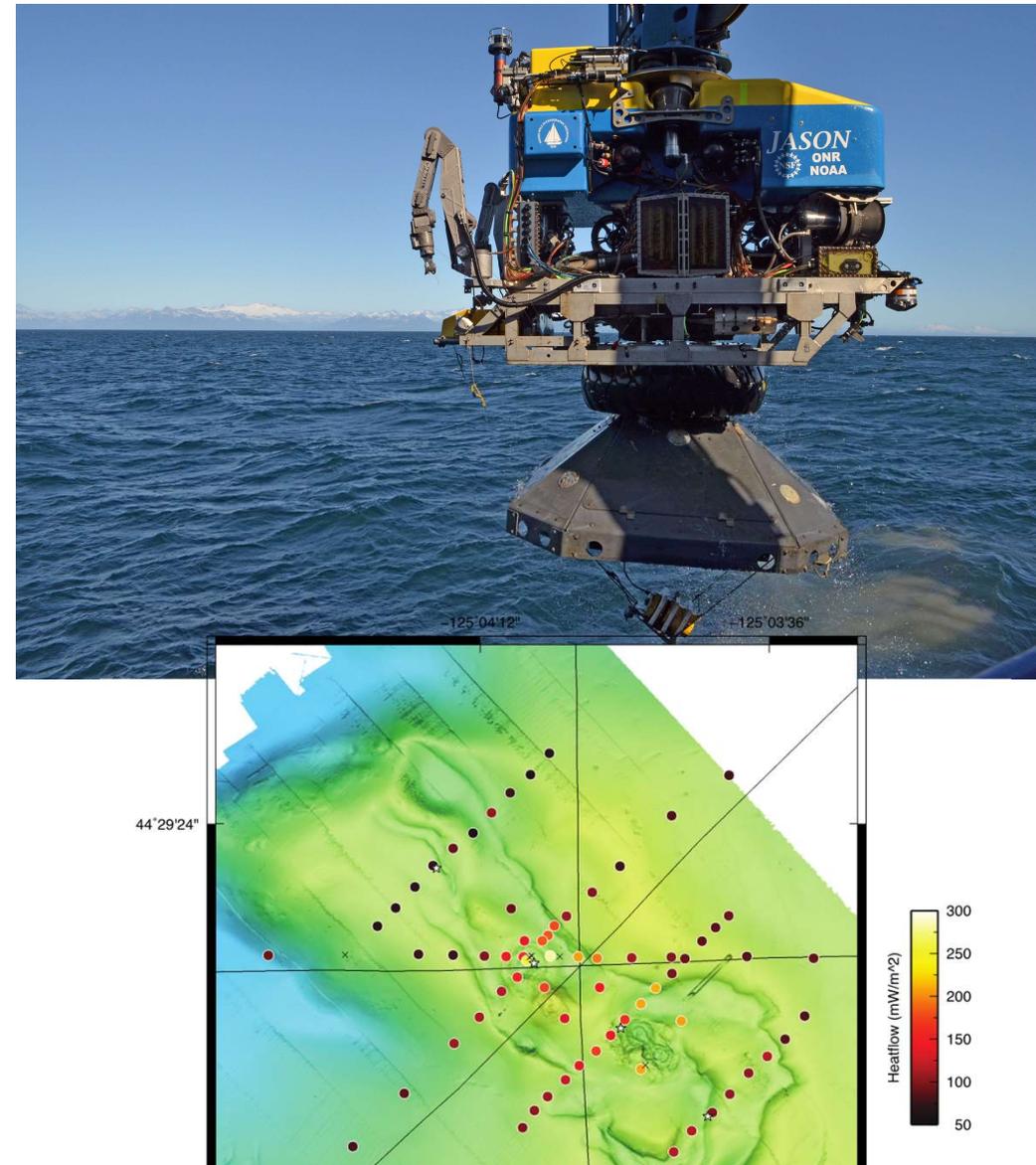
- Had a very successful and busy year in 2019
 - 11 expeditions
 - Many associated with the array

- Jason setting records for number of dives and instruments turned at RCA



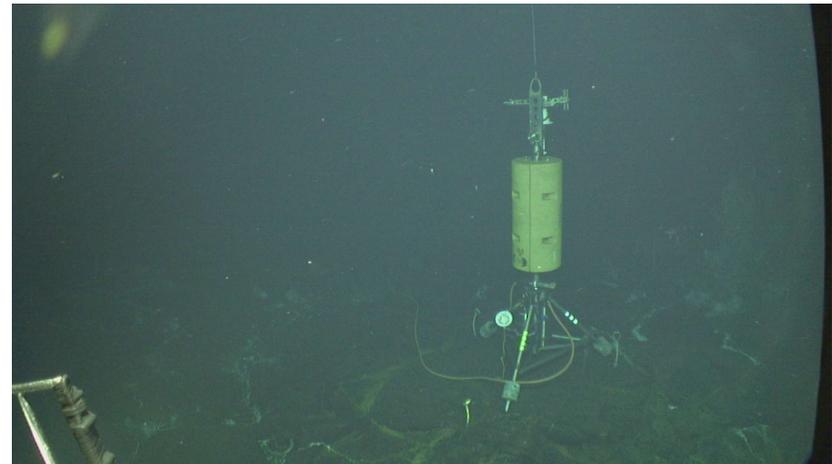
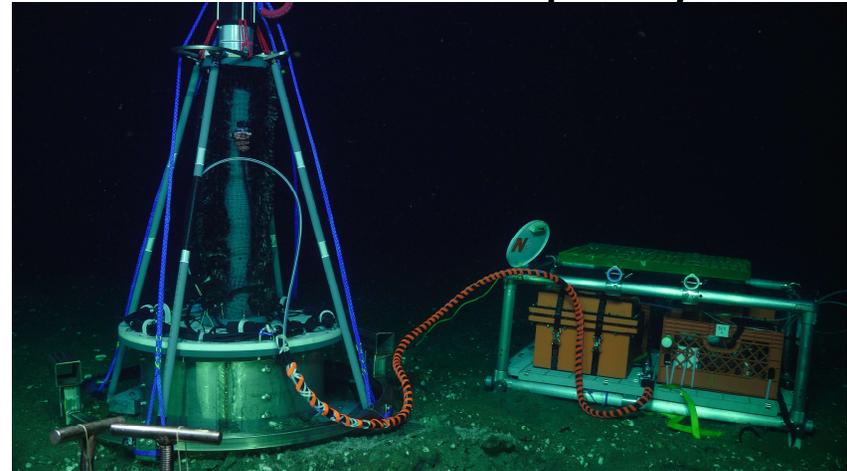
Jason- a workhorse!

- Adams, Sparr, Abers (EOS article)
 - Understanding Alaska's volcanoes- integrating observations on land and sea
 - recovery of 13 shallow-water seismometers with trawl-resistant mounts (TRMs)
 - replacement of a transponder for one GPS-acoustic benchmark at a depth of 1176m
 - tested the Cassius system
- Heat and Fluid Flow Through Pythia's Oasis, Cascadia Margin
 - Jason and Sentry, Rob Harris



Examples of instruments that Jason deployed

- Reimers instrument (Benthic Observer Pro), deployed on Hydrate Ridge
 - Challenging because instrument was a bit too heavy
- COVIS (Cables Observatory Vent Imaging System)
 - Recovery redeployment, other instrument deployments for OOI



HOV Alvin

- 2 Alvin cruises with 1st time users (Sylvan, Hansel)
 - 12 new users on expedition
 - Achieved all and more objectives
 - BBC live
- 4100m abyssal plain (Drazen)
 - Only 4 dives but got lots done!
 - 11 Ekman grabs, 18 sediment cores, 127 animals from sea cucumbers to snailfish
- the importance of engineering trials to ensure both equipment readiness and proficiency for the teams



Alvin: Coming up (Adam Soule covered this)

- Final stages of planning for the Alvin overhaul which will result in the sub being rated to 6500m with planning for science verification
 - Proposal request: **“Expanding Deep-sea Horizons: Scientific Priorities in Abyssal Research”**
 - Plans to be pre-emptive and develop workshops
 - for the community to stimulate discussion and collaboration to study the abyss
 - Identify important technological needs to help address research questions in the abyss

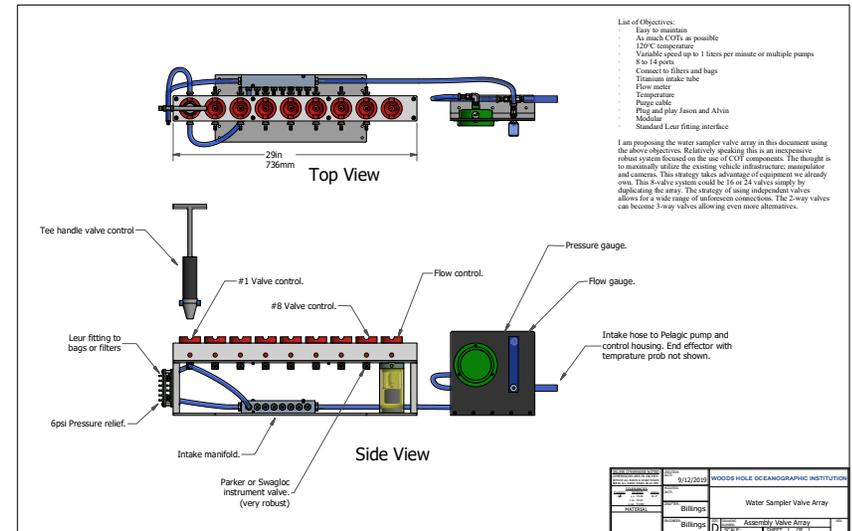
Sentry Operation Highlights

- Concurrent Operations with ROV – Jason (Dave Valentine 2019)
- Concurrent Operations with ASV – waveglider (Henry Dick 2019)
- Concurrent Operations with Dredge (Henry Dick 2019)
- Shallow water dives off Santa Barbara
- Integration of new Kongberg multibeam sonar
- ROS (= robot operating system software) on Sentry with planning for conversion of Jason and Alvin in the works
- Many other upgrades- Servo design for actuating Sentry fins, XR replacements (weight release)



Other activities:

- microbial-biogeochemistry manifold sampler
 - New users request: Rika Andersen, Elizabeth Trembath-Reichert
 - 10L/sample
 - Adjustable flow rate
 - 10-12 ports
 - Temp probe, flow meter, modularity etc.
 - Andy Billings been building it
- WHOI as partner in the new NOAA Ocean Exploration Cooperative Institute



Other activities:

- DeSSC Dec 2019 and New User meeting
- AGU-DeSSC meeting discussions, RCN proposal (Mandy Joye), with a Townhall meeting planned at Ocean Sciences in San Diego in Feb.
- Imagery subcommittee
- Other partners at DeSSC meetings
 - ROV Lu'ukai – Bruce Howe/ U. Hawaii
 - ROV Subastian - Errol Campbell/Schmidt Ocean Institute
 - ROV Odysseus - Ed Cassano/Pelagic Research Services
 - ROV Ropos – Doug Bancroft/Canadian Scientific Submersible Facility
 - OceanGate – Stockton Rush
- Thanks!