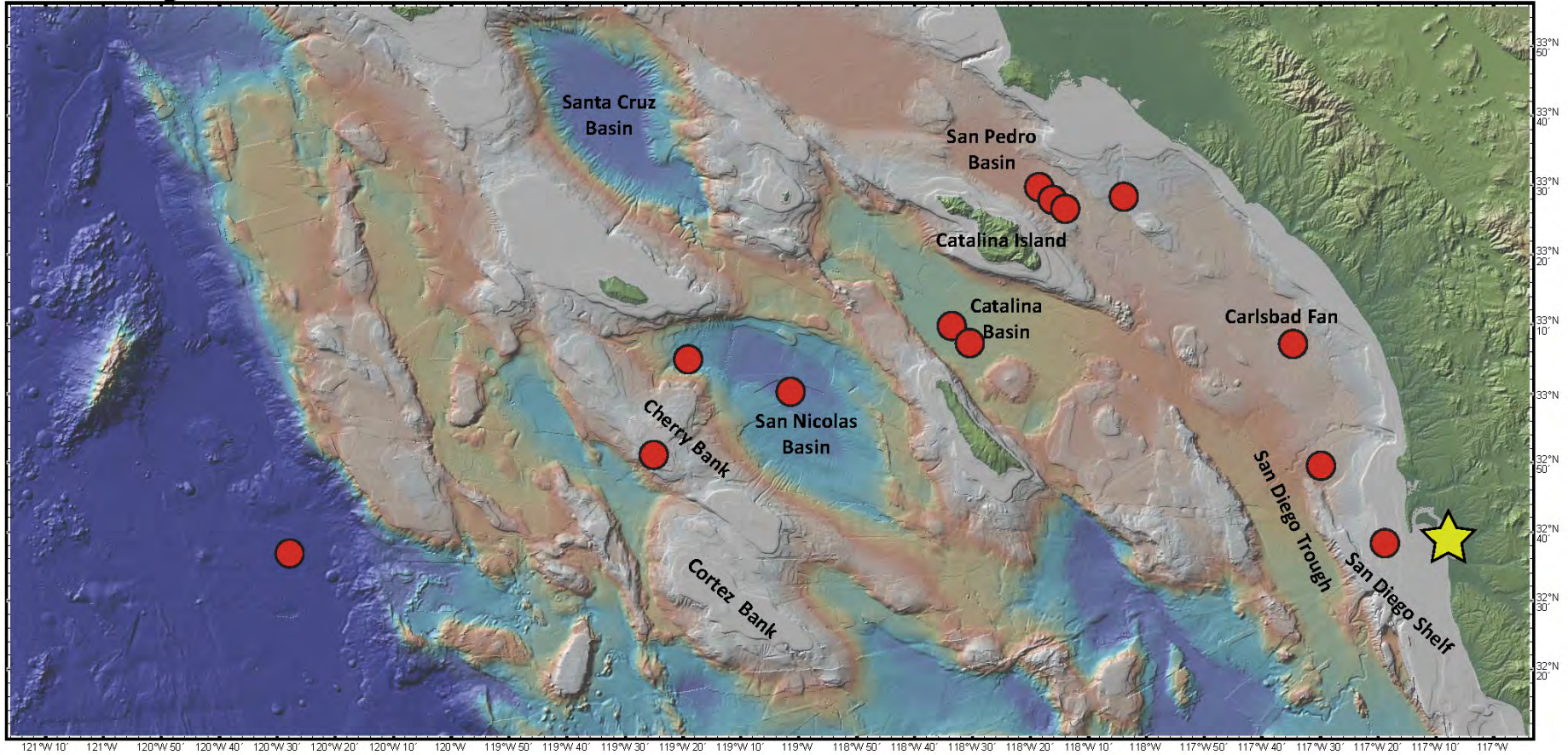


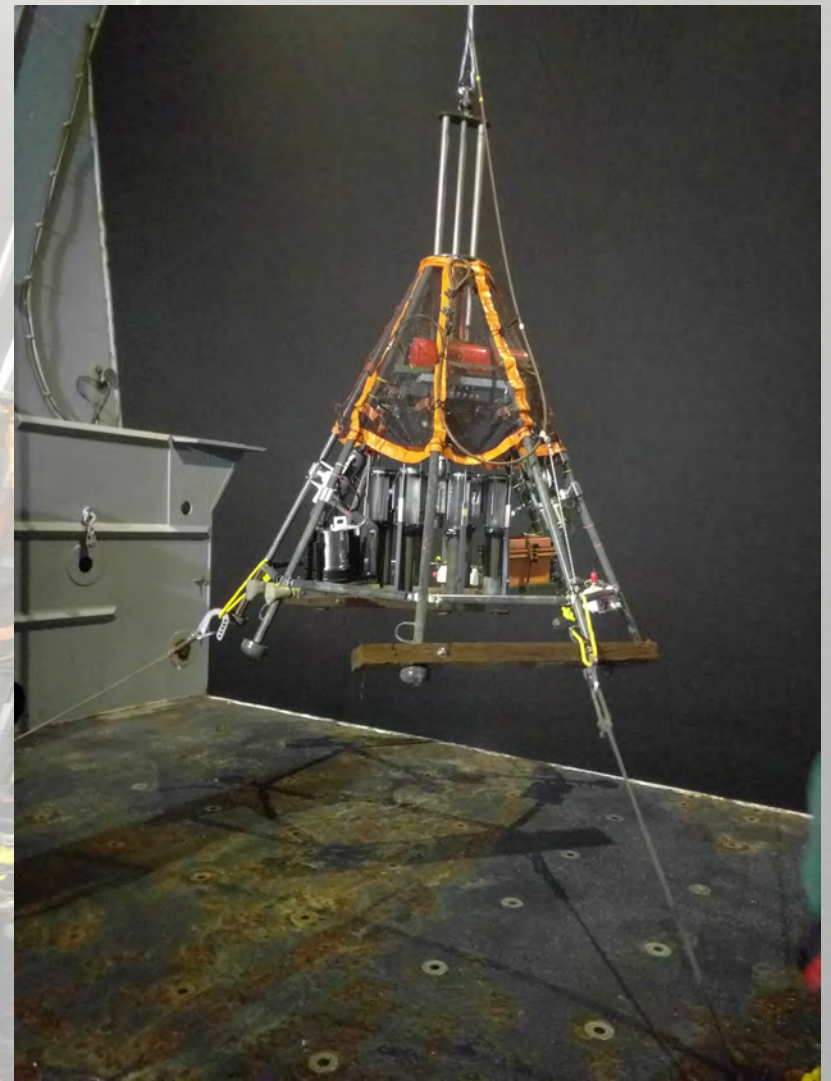
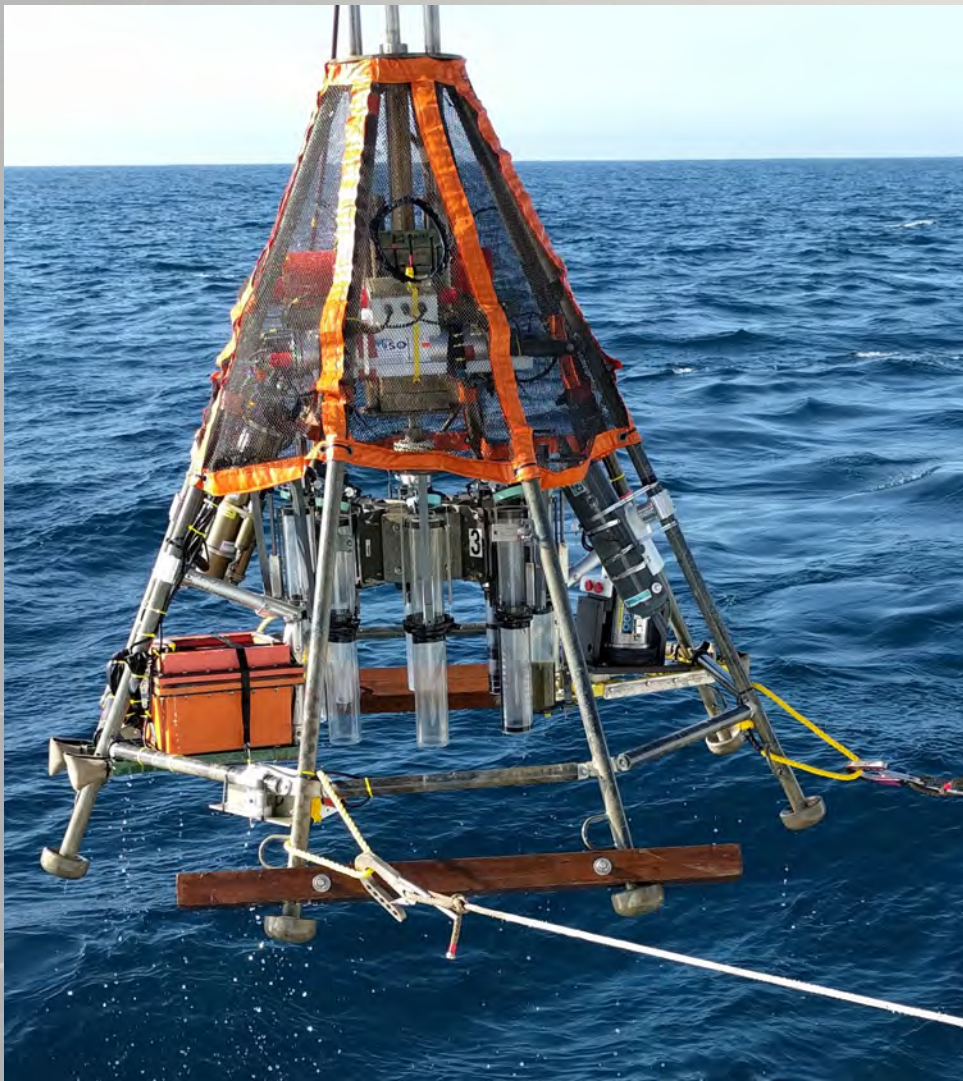
MISO Supported Cruises (8) – 2016

- Feb. – RV Thompson – UW Chief Sci. training cruise
- Mar. – RV Sikuliaq – Science Verification Cruise – coring
- Mar. – RV Atlantis –AT33-07- M. Kurz – TowCam &
MISO cameras on Alvin – down and forward-looking
- May – RV Savannah – M. Taillifert – MC800 and miniTowCam
- June – RV Armstrong - Science Verification Cruise – TowCam
- Aug. – RV Atlantis – NDSF Early Career Training Cruise
MC400 w/MISO camera/data system
MISO cameras on Alvin – down and forward-looking
- Sept. - RV Sikuliaq – L. Juranek/M. Goni – Chuckchi Sea
MC400 w/MISO camera/data system
- Nov. - RV Atlantis –AT37-05- T. Gregg – TowCam &
MISO cameras on Alvin – down and forward-looking

TN-338 Coring Stations



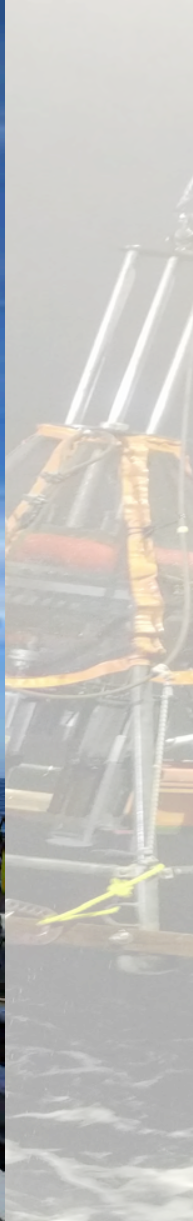
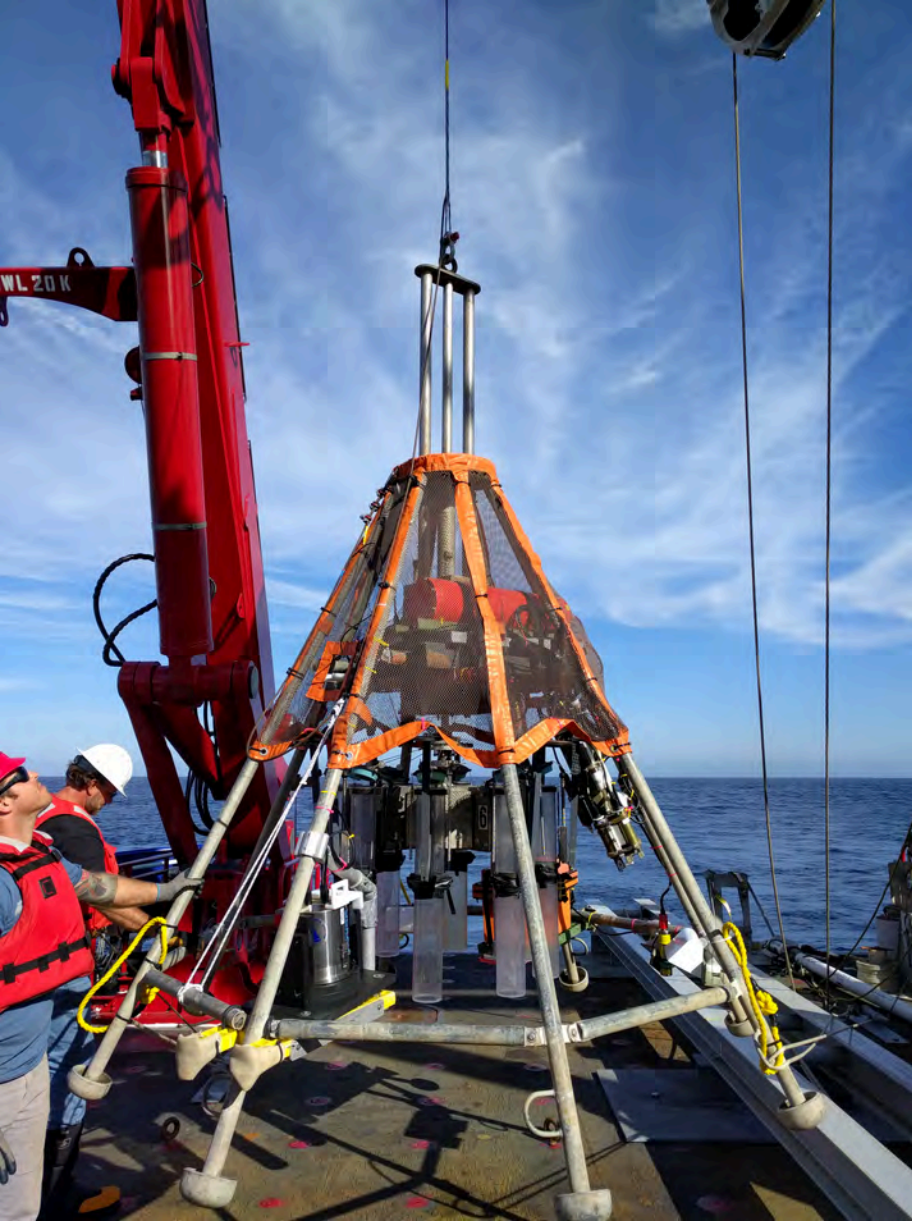
Feb. – RV Thompson – UW Chief Sci. training cruise- Location of MC800 & other coring stations



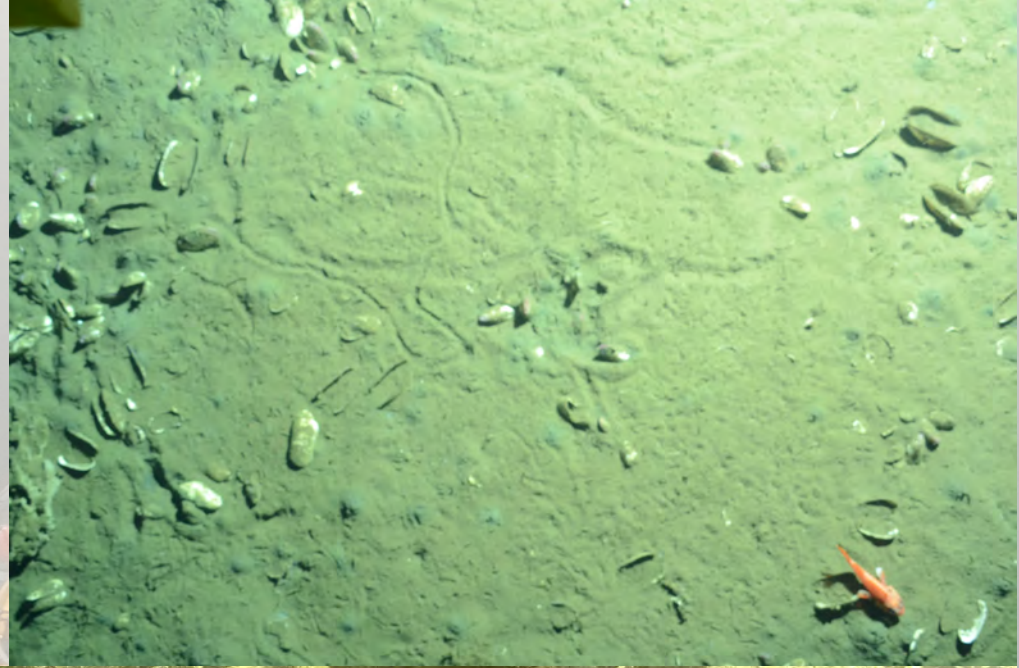
Feb. – RV Thompson – UW Chief Sci. training cruise- MC800 rigged with MISO 16-MP camera & strobe and depth/altimeter system and SBE25plus CTD with SBE43 O2 sensor – supported by M. Swartz and E. Roosen - WHOI



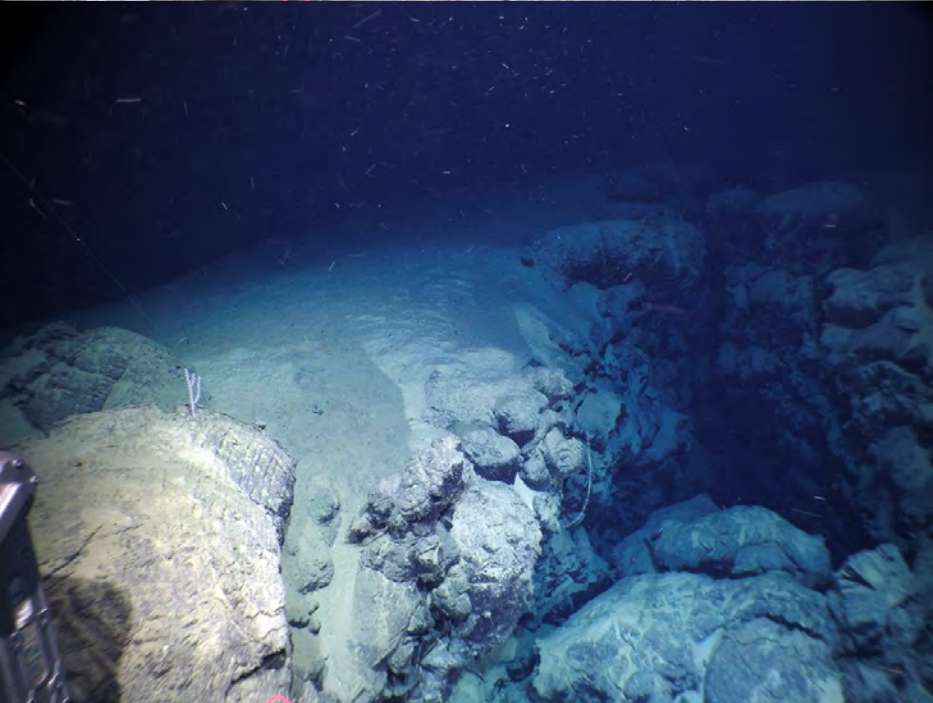
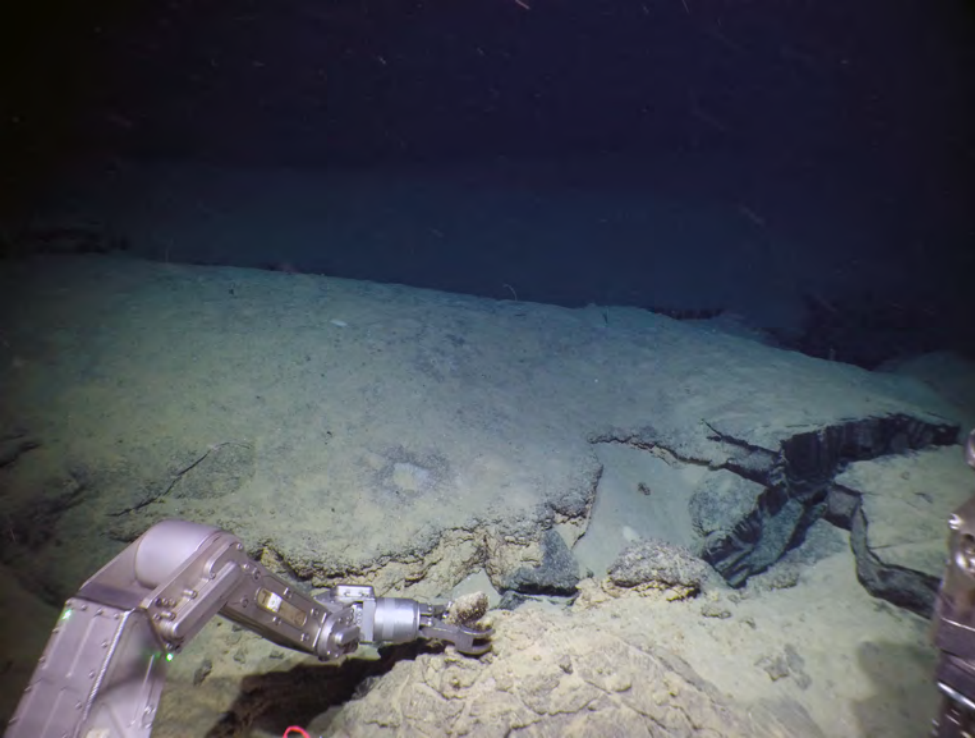
Feb. – RV Thompson – UW Chief Sci. training cruise-
MISO OIS 16 MP camera image of coring site – pre-impact - ~75 cm across image



Mar. – RV Sikuliaq – Science Verification Cruise – coring - MC800 rigged with MISO 16- MP camera & strobe and depth/altimeter system and SBE25plus CTD with SBE43 O2 sensor – supported by M. Swartz - WHOI

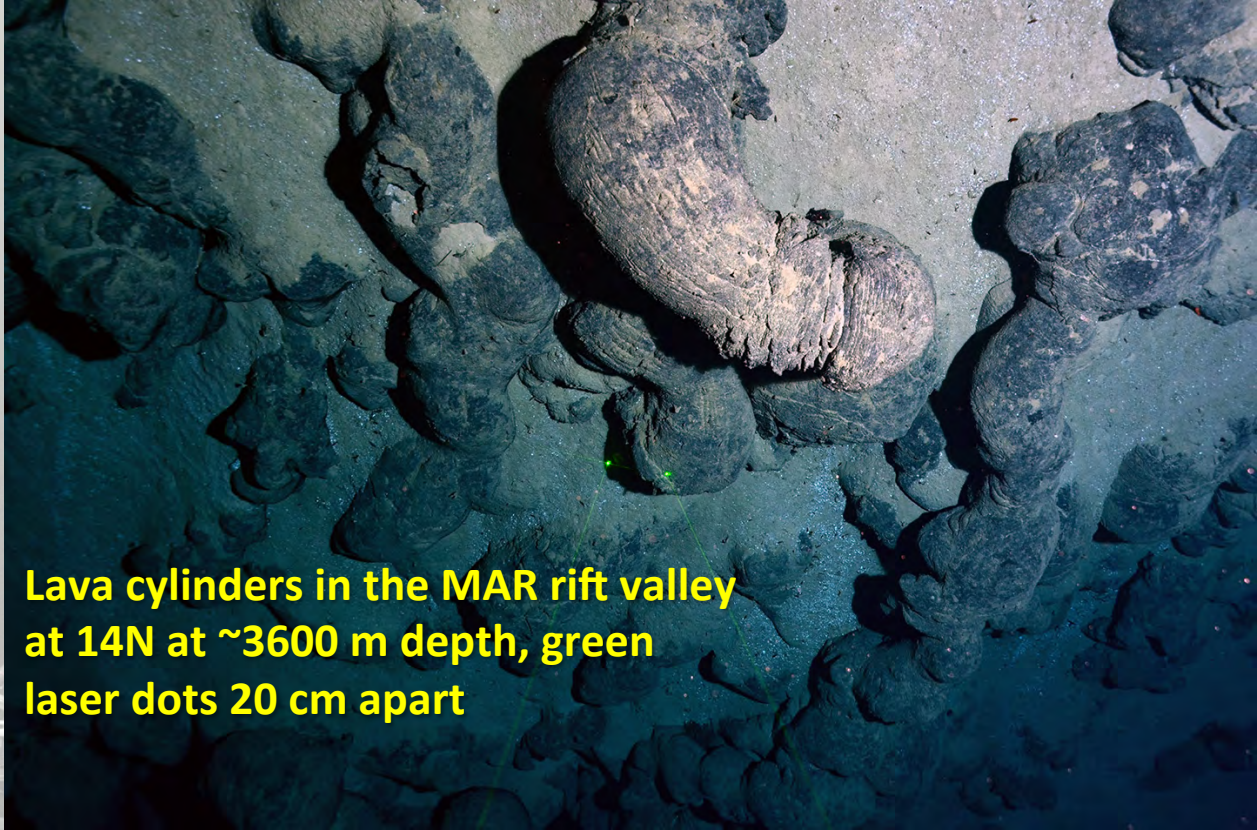


Mar. – RV Sikuliaq – Science Verification Cruise – coring - MC800 rigged with MISO 16-MP camera & strobe and depth/altimeter system and SBE25plus CTD with SBE43 O2 sensor – supported by M. Swartz - WHOI

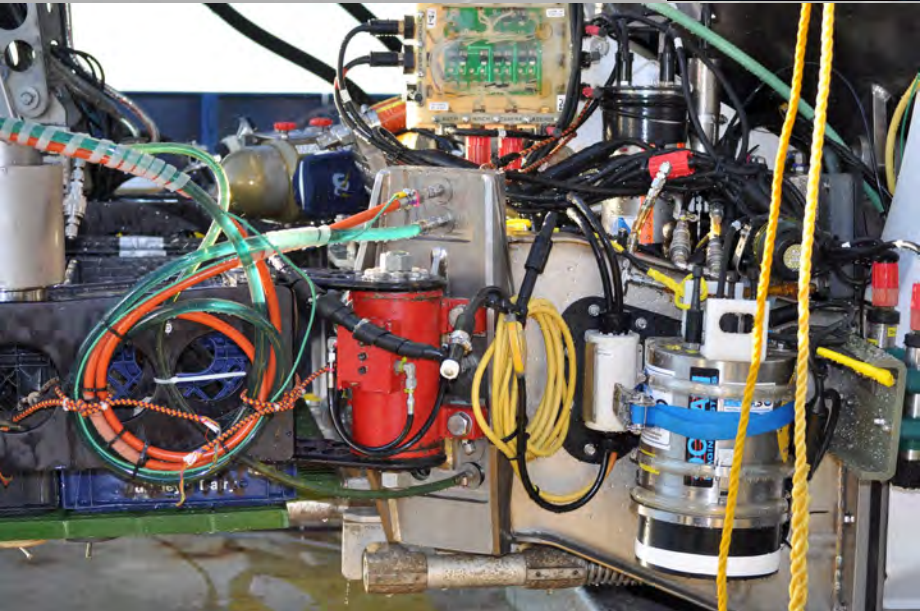


MISO GoPro 12 MP still camera mounted on Alvin

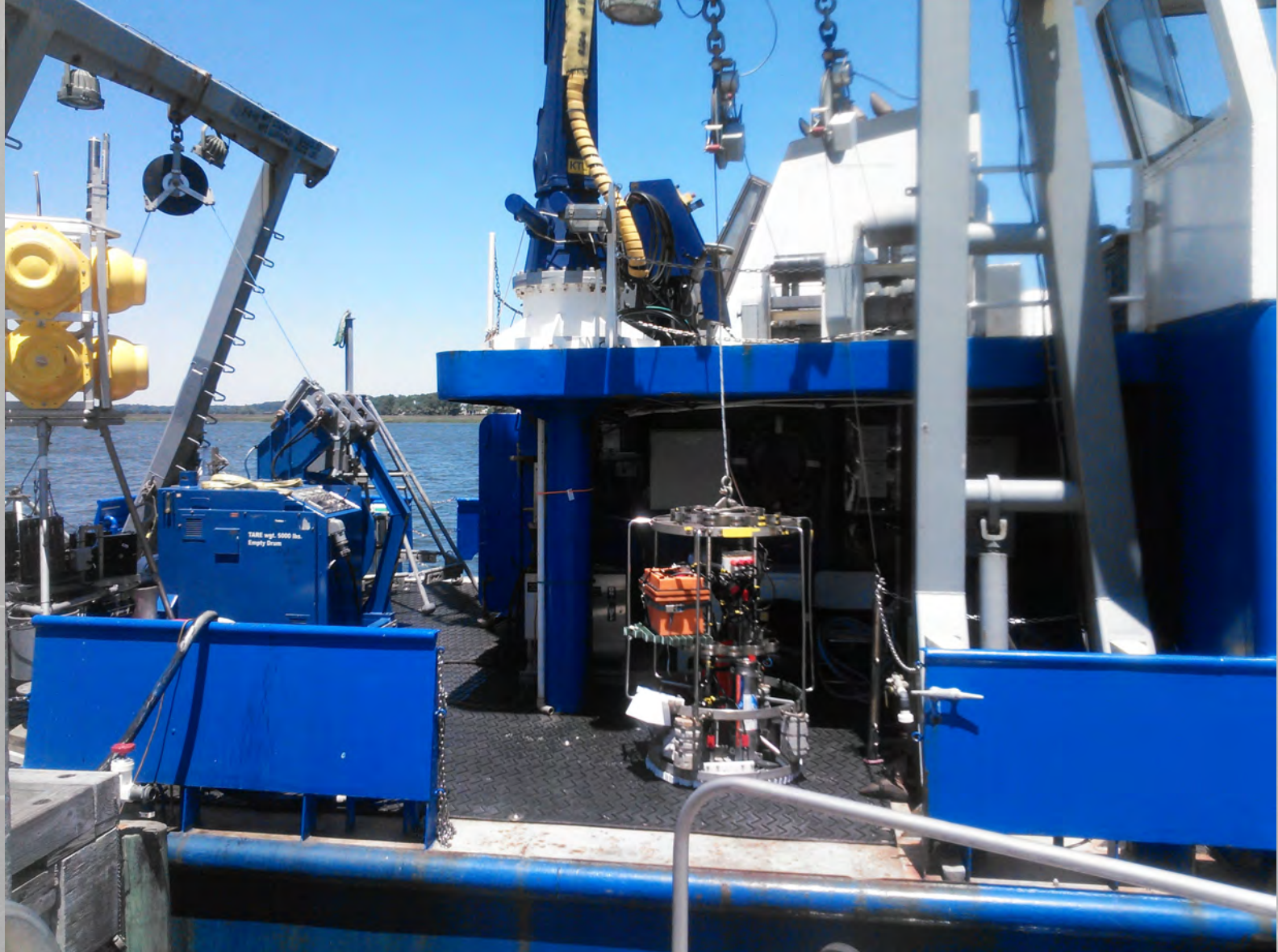
Mar. – RV Atlantis –AT33-07- M. Kurz –
TowCam & MISO cameras on Alvin – down &
forward-looking –
supported by Dan Fornari - WHOI



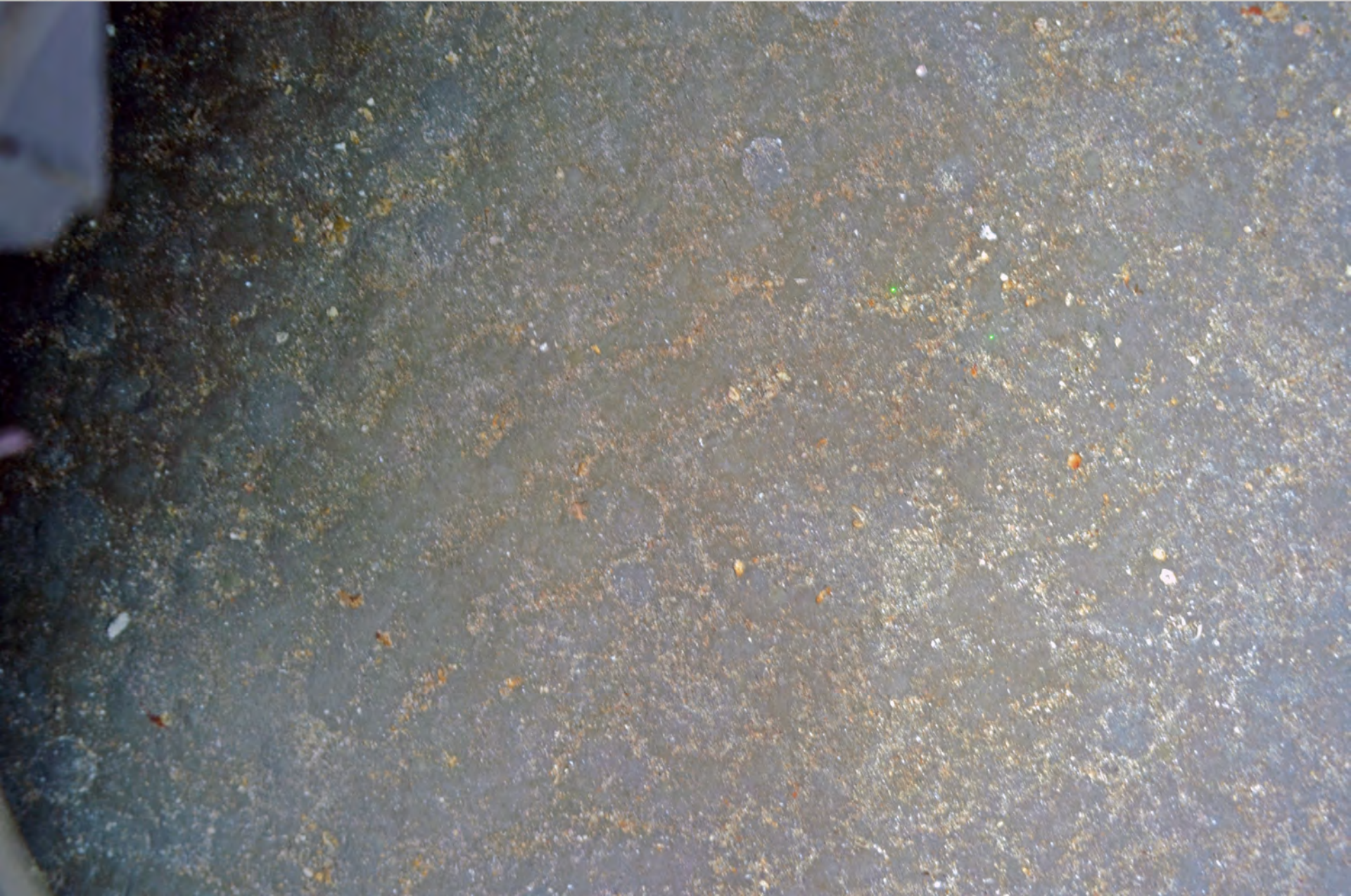
**Lava cylinders in the MAR rift valley
at 14N at ~3600 m depth, green
laser dots 20 cm apart**



**Mar. – RV Atlantis –AT33-07- M. Kurz –
MISO down-looking camera on Alvin –
supported by Dan Fornari - WHOI**



May – RV Savannah – M. Taillifert – MC800 (no conducting wire available) and miniTowCam with MISO 16- MP camera & strobe and depth/altimeter system – supported by E. Roosen – WHOI (with mobilization assistance from R. Sanger – WHOI-Alvin Group).



Bottom photo of gravelly pavement imaged with mini TowCam used on the RV Savannah to survey the seafloor before deploying the multicorer. 2 green laser dots (upper, middle right of photo) are 20 cm apart.

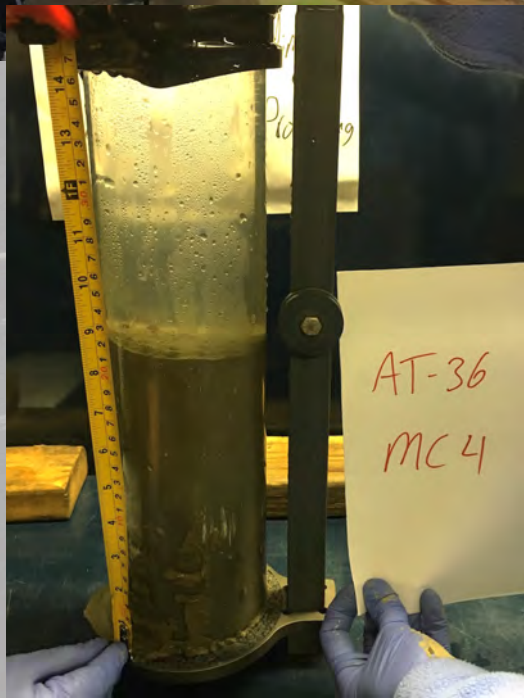
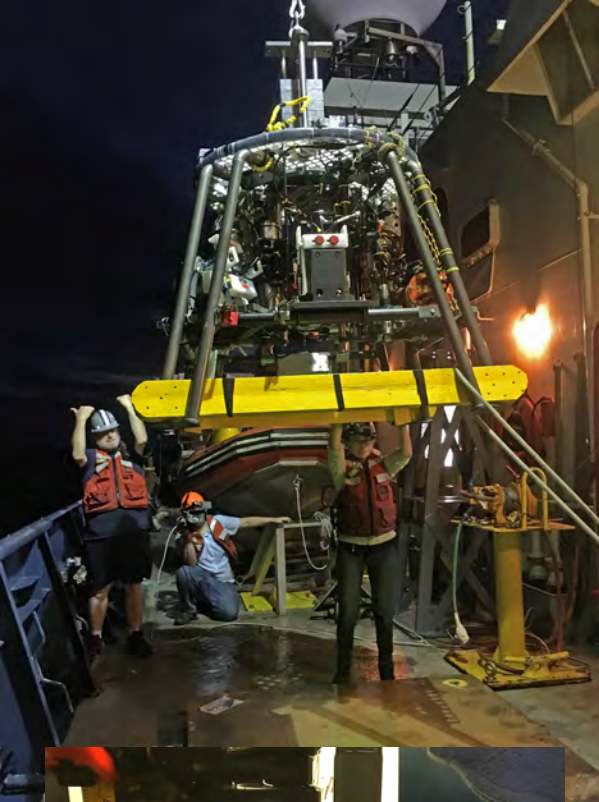


June – RV Armstrong – Science Verification
Cruise – TowCam
Supported by Dan Fornari and Cliff Pontbriand
– WHOI

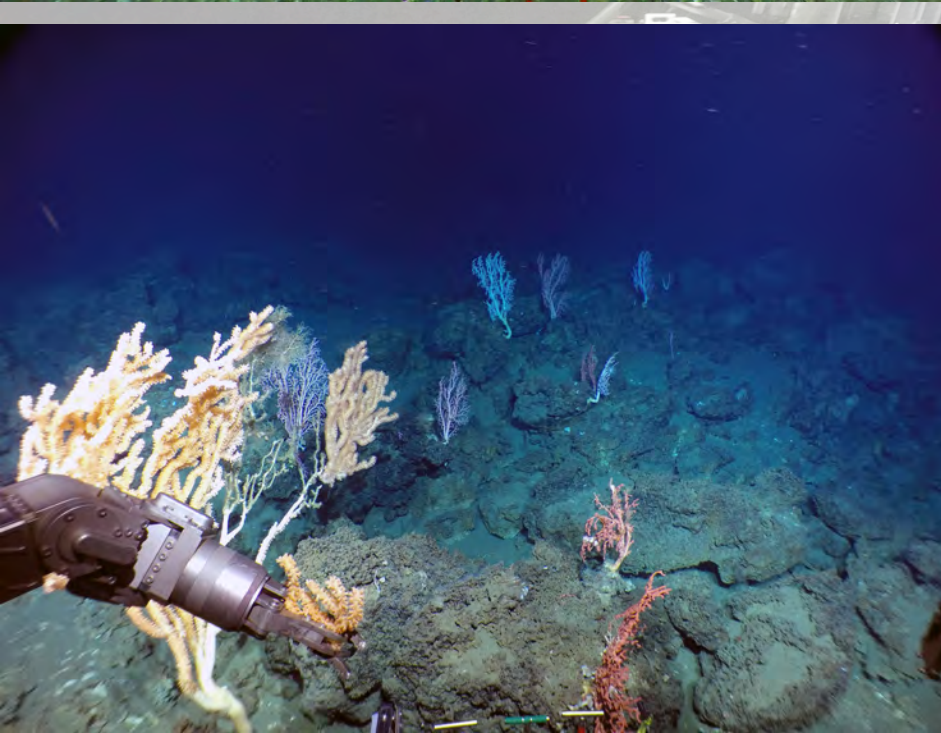
Upper Right – LDEO seismometer in trawl-
resistant frame – upside-down on seafloor
after failed deployment at ~80 m depth.

Lower Right – Anemones and Lobsta's
Around small rock - ~500 m depth at shelf
slope south of Woods Hole, Lasers 20 cm
apart



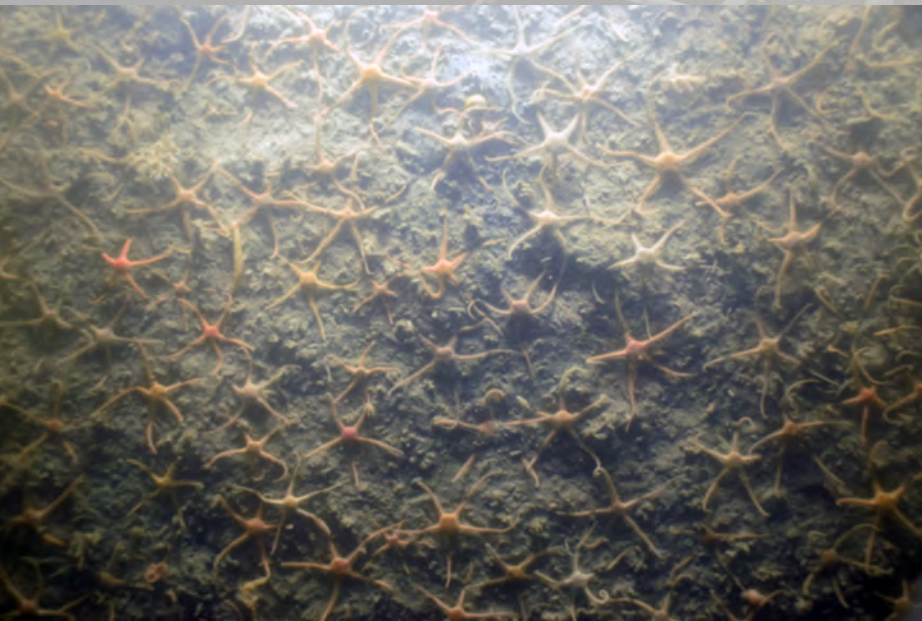
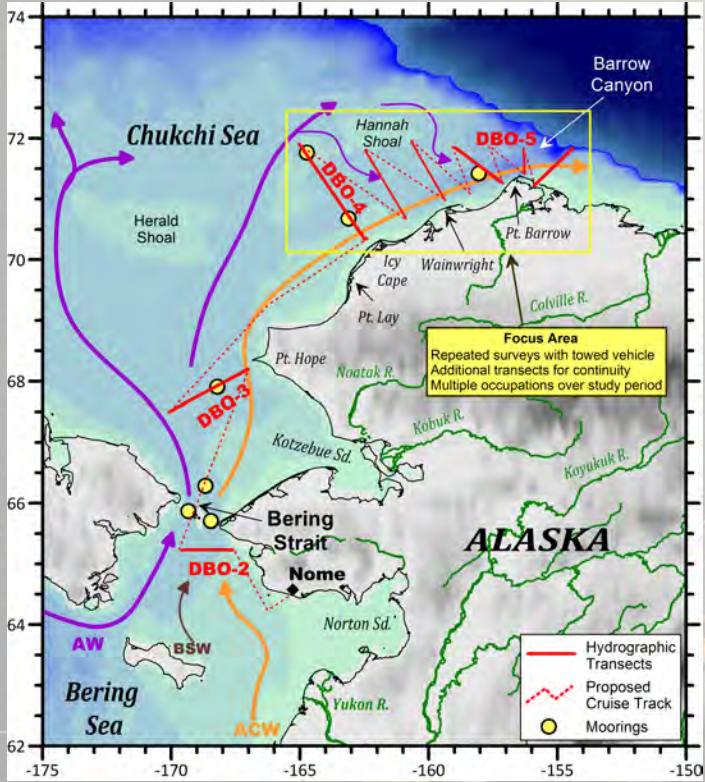


Aug. – RV Atlantis – NDSF Early Career Training Cruise
MC400 w/MISO camera/data system &
MISO cameras on Alvin – down and forward-looking

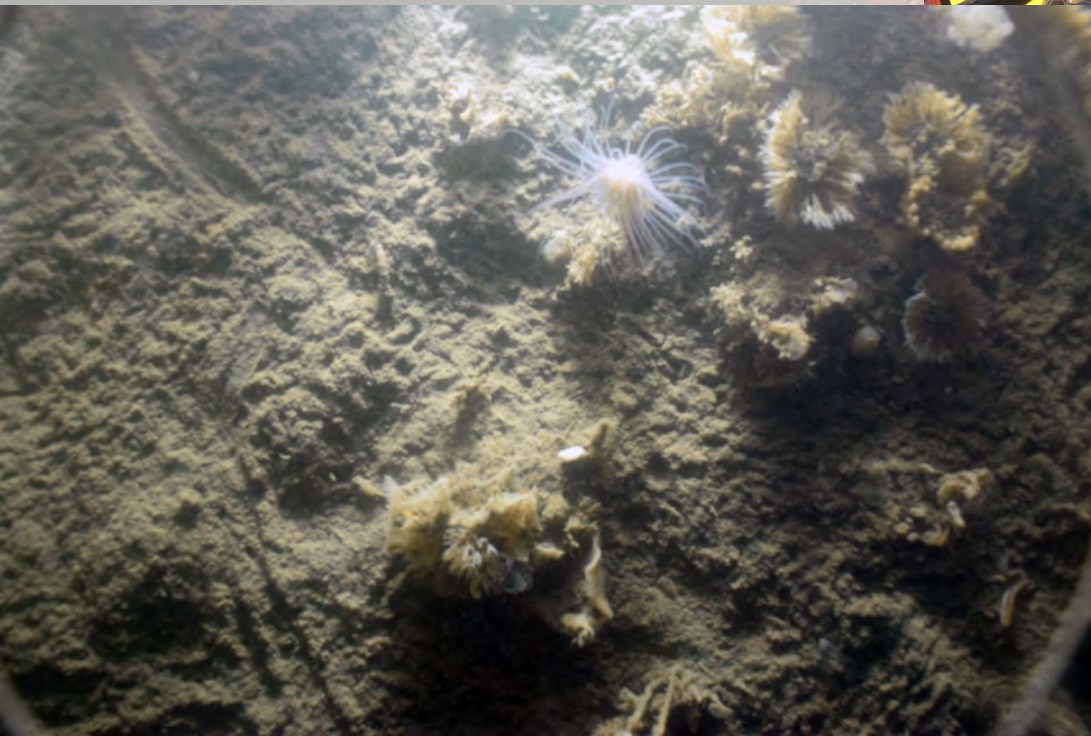
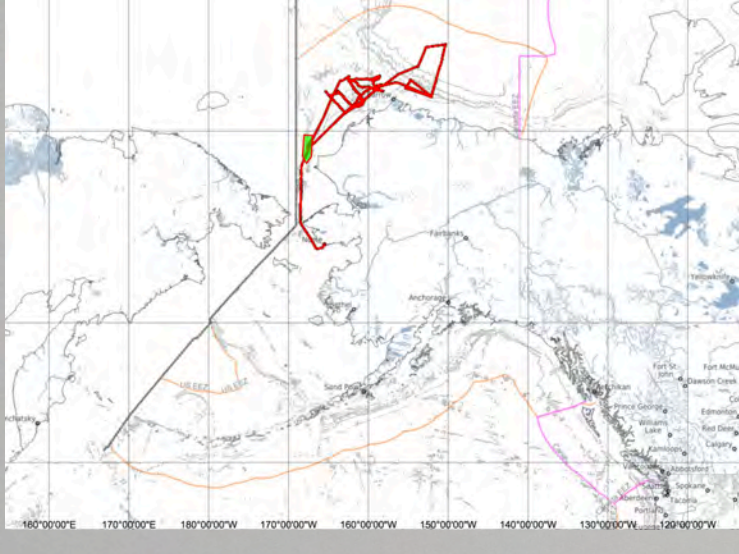


Aug. – RV Atlantis – NDSF Early Career Training Cruise

Examples of MISO GoPro camera on Alvin



Sept. - RV Sikuliaq - L. Juranek/M. Goni (OSU)
 Chuckchi Sea
 MC400 w/MISO camera/data system



Sept. - RV Sikuliaq – L. Juranek/M. Goni (OSU)
Chuckchi Sea - MC400 w/MISO camera/data system

2016 MISO MC400 & MC800 Field Operations generally funded through existing OCE-OI&T Grant for Multicorer w/camera development (in last year of 2-year grant)

With supplements for the following cruises:

RV Savannah – Through Skidaway tech support

RV Sikuliaq – Through supplement to cover shipping and mobilization costs & Tech Swap Program for M. Swartz to be a shipboard tech on the Juranek/Goni cruise in Chuckchi Sea.

Excellent collaboration & communication with participating operators and programs –

UA-F, U. Washington, Skidaway, NSF, OSU, WHOI, SIO, UNOLS

2016 MISO EQUIPMENT UPGRADES AND INVENTORY

(Funded through the MISO Facility grant (2017 is the last year of a 5-year grant, and the multicorer w/camera grant – 2017 is the 2nd and last year of that grant as well). All equipment is 6000 m rated.

MISO now has:

- **five (5) OIS 24 MP color digital still cameras**
- **mounting brackets for all imaging/data components that will fit all UNOLS MC800 systems**
- **eight (8) 600 watt/sec deep-sea strobe electronics and six (6) SS housings.**
- **fourteen (14) 300 watt/sec strobe heads.**
- **two (2) DSPL Flexlink HD video cameras and self-contained recording systems capable of ~11 hrs of recording**
- **six (6) DSPL 5150 SeaLite LED light heads (~9000 lumens each)**
- **six (6) reconfigured power Junction Boxes with new connectors**
- **two (2) 150 watt/sec strobe electronics and four (2) strobe heads**
- **one (1) 300 watt/sec strobe electronics (uses same heads and housing as 600 watt/sec units)**

2017 Planned MISO Field Operations

Feb. – Possible support for SIO RV Sally Ride Coring SVC

Feb. – RV Sproul – J. Bernhard – WHOI – MC400 with MISO imaging/data systems on 0.322” coax Santa Barbara Basin, CA

Mar. - RV Oceanus – A. Dekas – Stanford U. – MC800 with MISO imaging/data systems on 0.680” coax – offshore Monterey, CA

(above field programs all supported through MISO-multicorer NSF grant funding)

Aug. – Possible support for TowCam operations on MV Alucia – WHOI – offshore Cartagena, Columbia – T. Shank – WHOI (supported by internal WHOI funds)