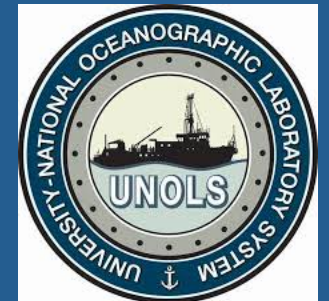


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# SIO Portable MCS System Recent Activities

09 Dec 2018

Lee Ellett, Manager Shipboard Technical Support, Scripps Institution of Oceanography





## Hydrophone Streamer

- Geometrics GeoEel Solid (New 2018)
  - 6.25m group spacing
  - 48 Channels, 6 active sections
  - Increased tow leader length to 170m
- Liquid GeoEel (2005)
  - 12.5m group spacing
  - 48 Channels, 6 active sections



# Equipment



## Acoustic Sources

- Sercel GI 210
- Typical 45/105, True GI
- 3 sources in inventory



# Equipment



## Protected Species Mitigation

- Big eyes
- Night vision devices
- Reticule binoculars

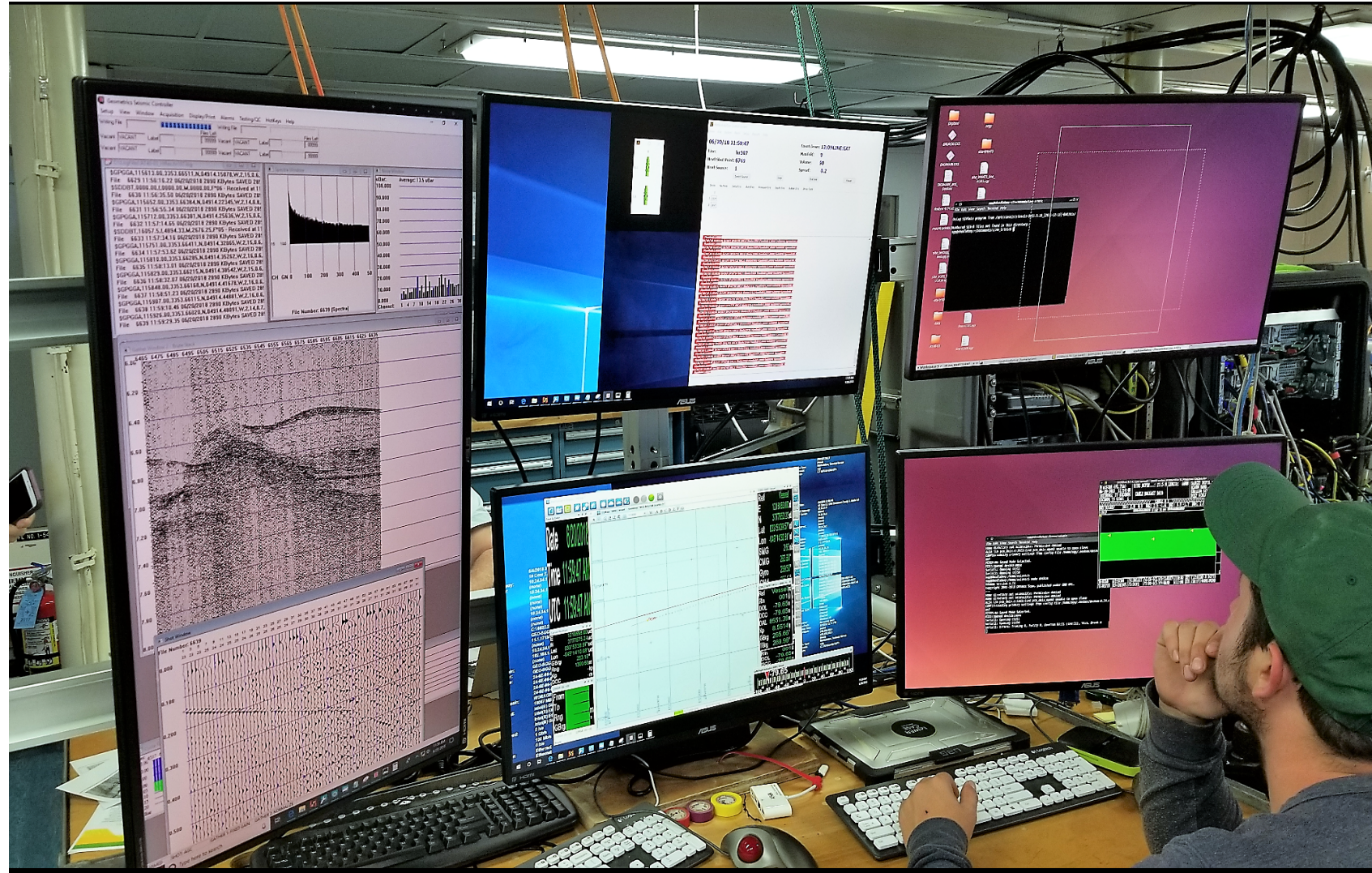


# Equipment



## Data Acquisition System

- Seismic Recorder
- Source Controller
- Navigation
- Realtime Scripts
- Bird Controller



# Vessels



*R/V Roger Revelle (SIO)*

*R/V Melville (SIO)*

*R/V Thomas G. Thompson (UW)*

*R/V Atlantis (WHOI)*

*R/V Hugh R. Sharp (UD)*

*R/V Endeavor (URI)*

*R/V Wecoma (OSU)*

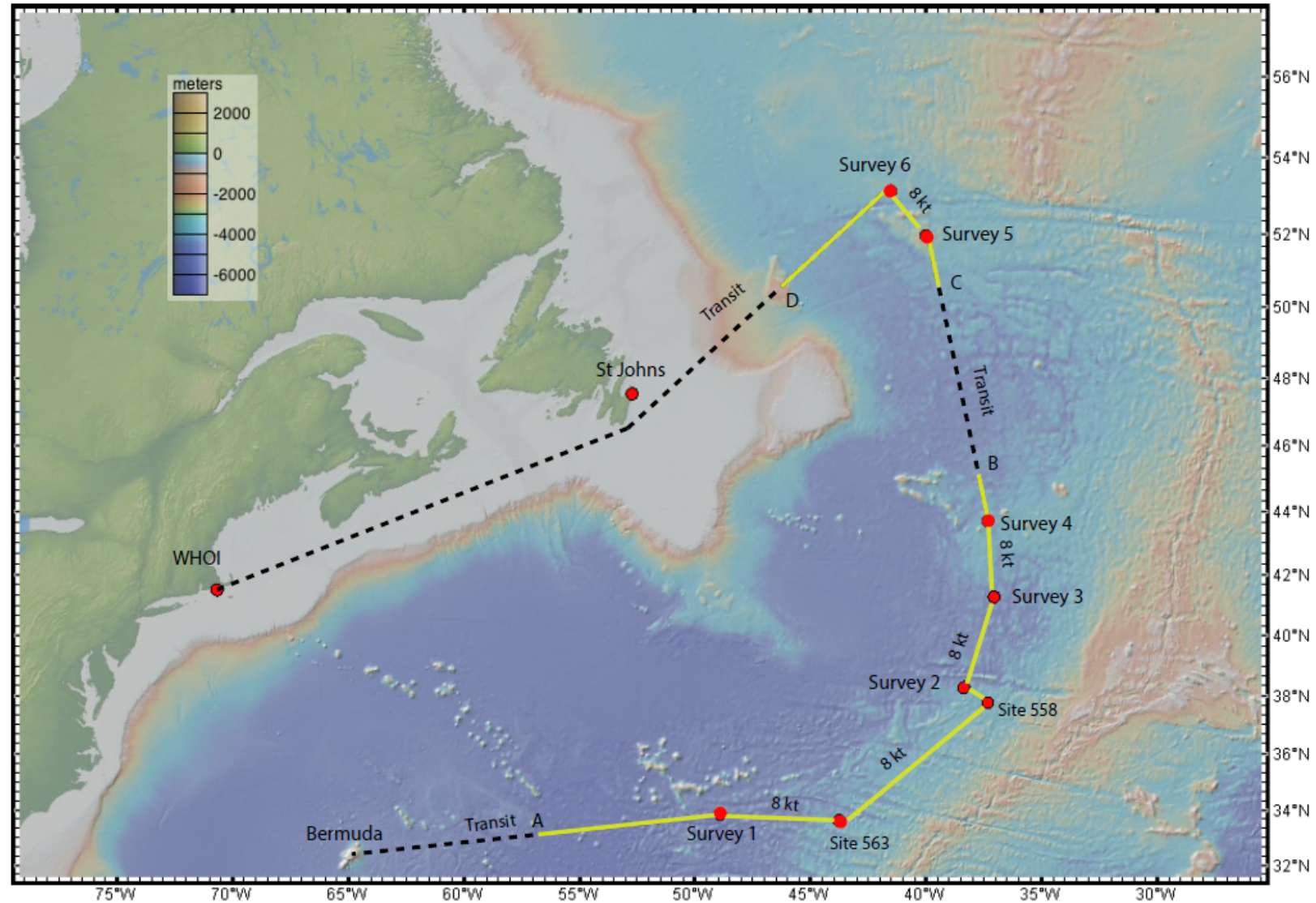
*RRS James Cook (NERC)*

*B/O Francisco de Ulloa (CICESE)*

# AT40-03: IODP Site Survey



Instrumentation support for the evaluation of proposed International Ocean Discovery Program drilling sites



# AT40-03: IODP Site Survey



Locate drill sites to obtain continuous records of N. Atlantic climate change

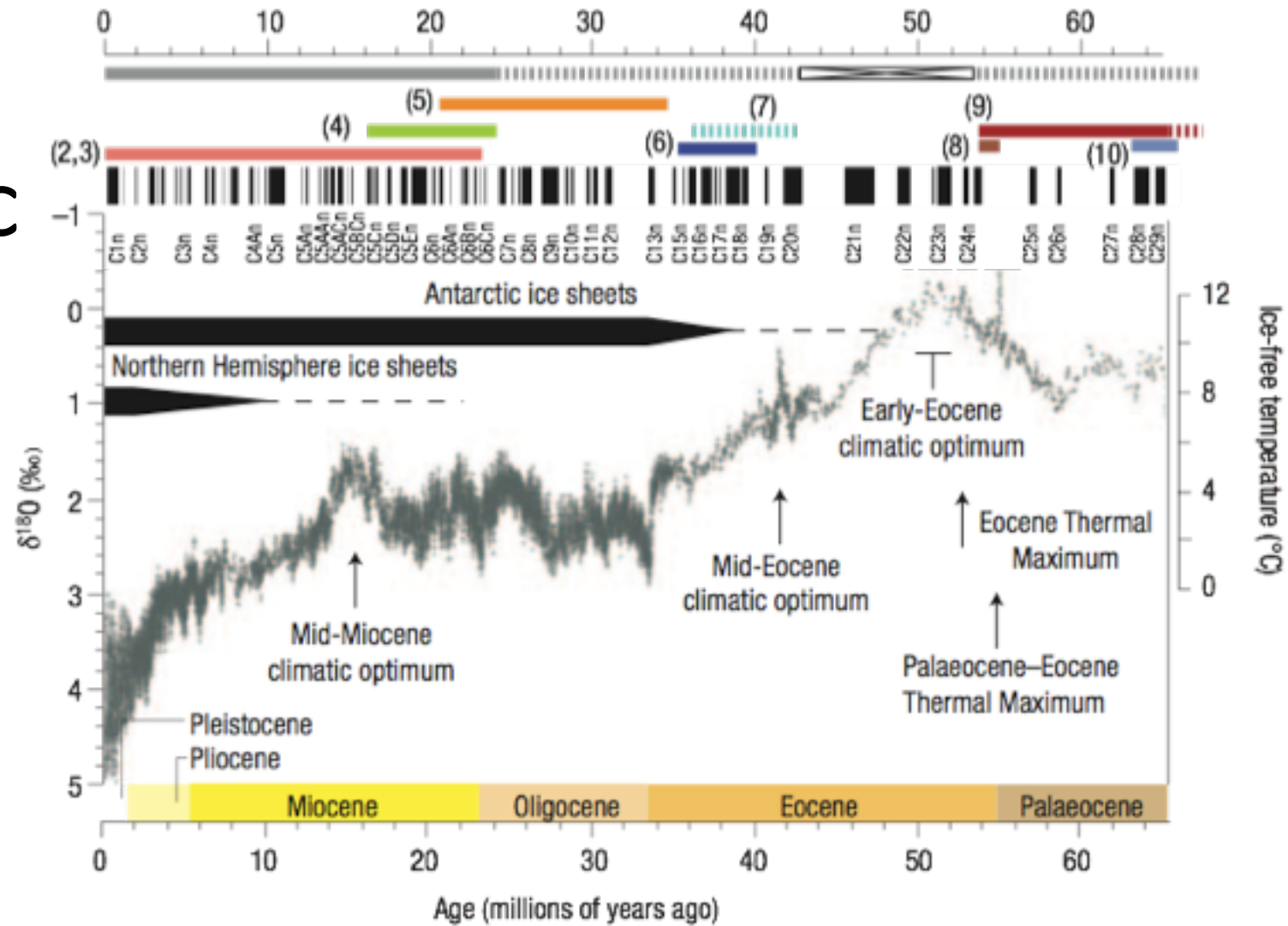


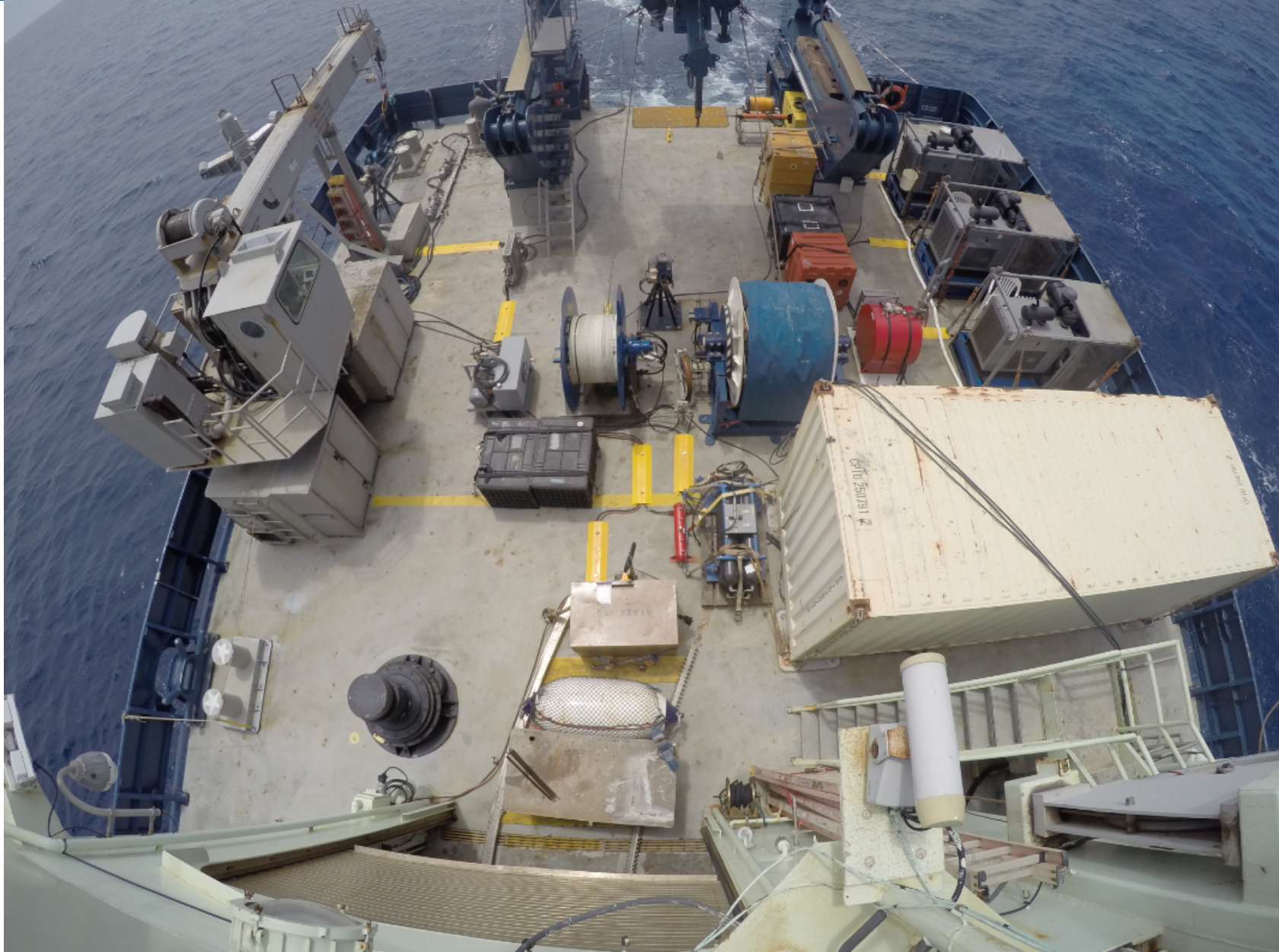
Figure provided by Mitch Lyle



# AT40-03: IODP Site Survey



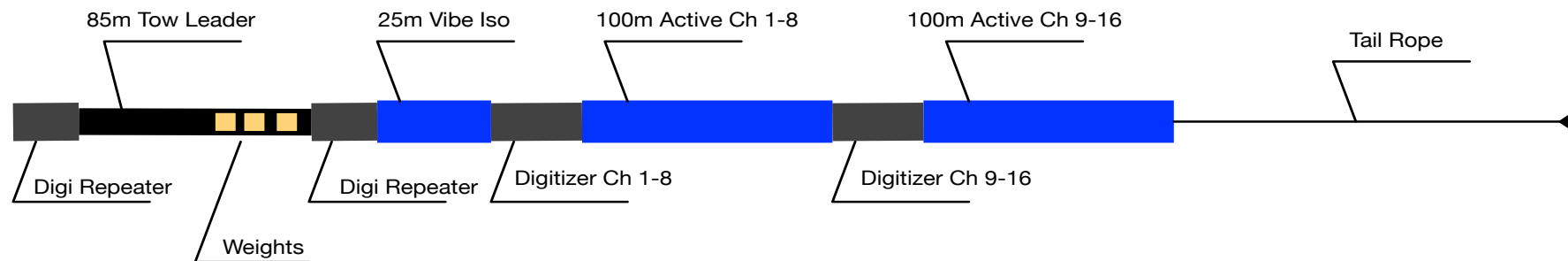
# AT40-03: IODP Site Survey, Deck Configuration



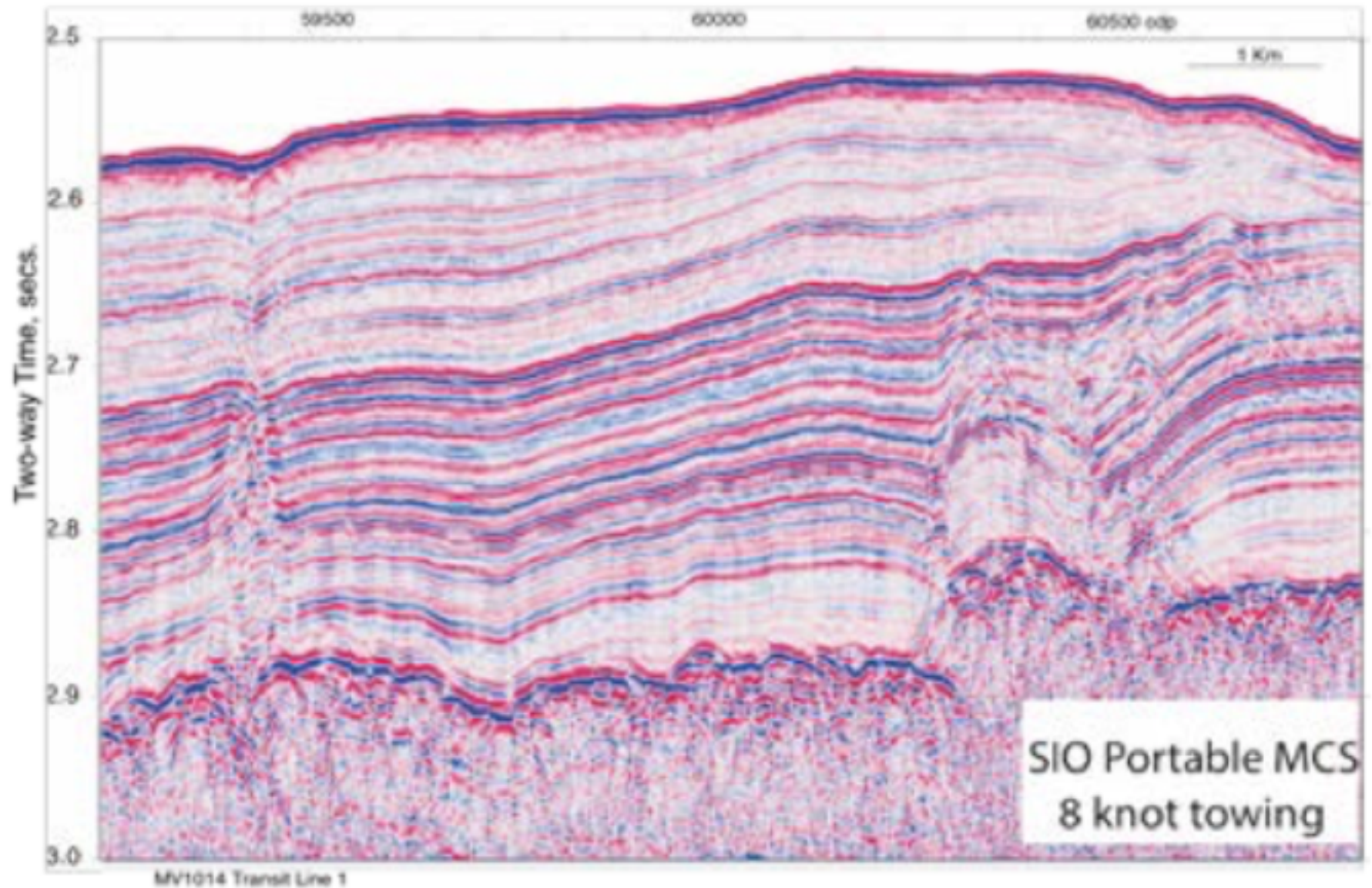
# AT40-03: IODP Site Survey, 16 Channel



## SIO Portable Multi-Channel Seismic System 16 Channel Streamer Arrangement AT40-03



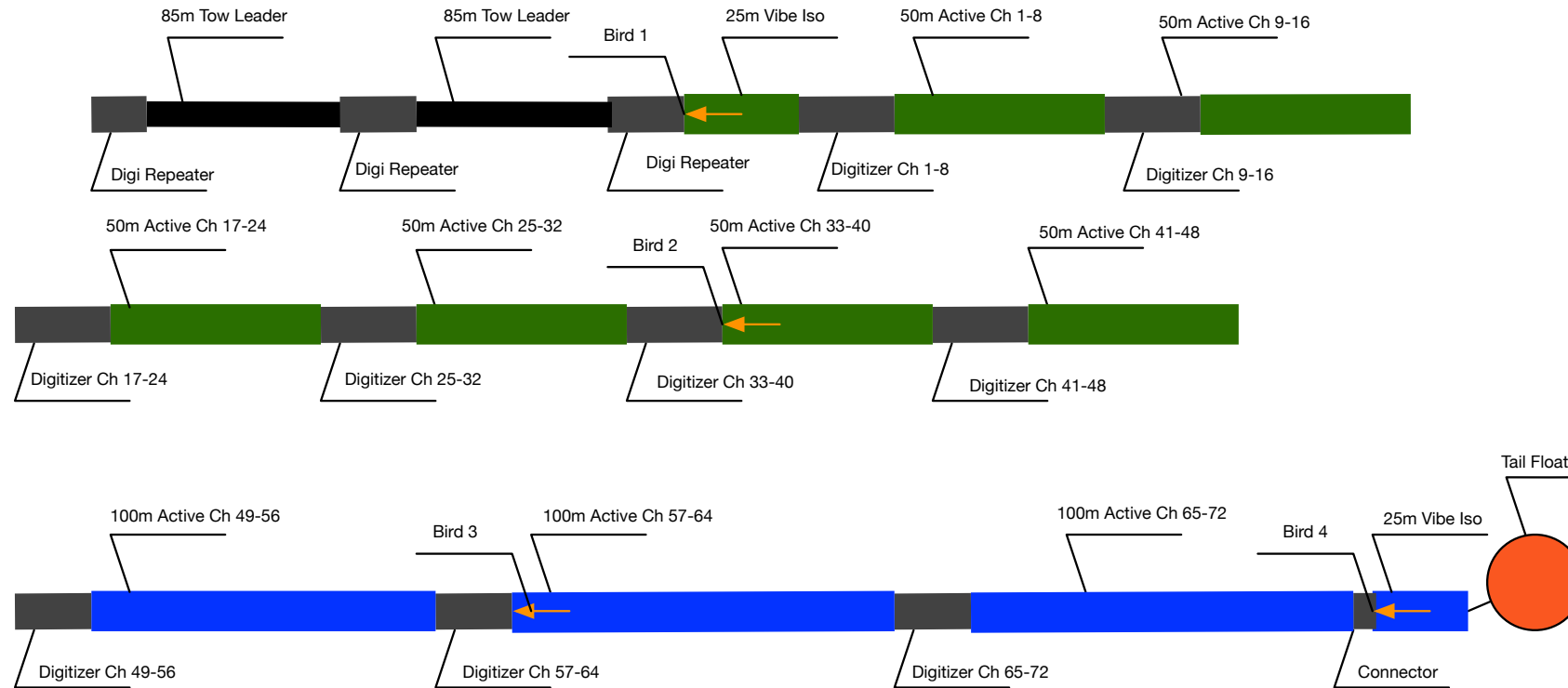
# AT40-03: IODP Site Survey, 16 Channel



# AT40-03: IODP Site Survey, 72 Channel



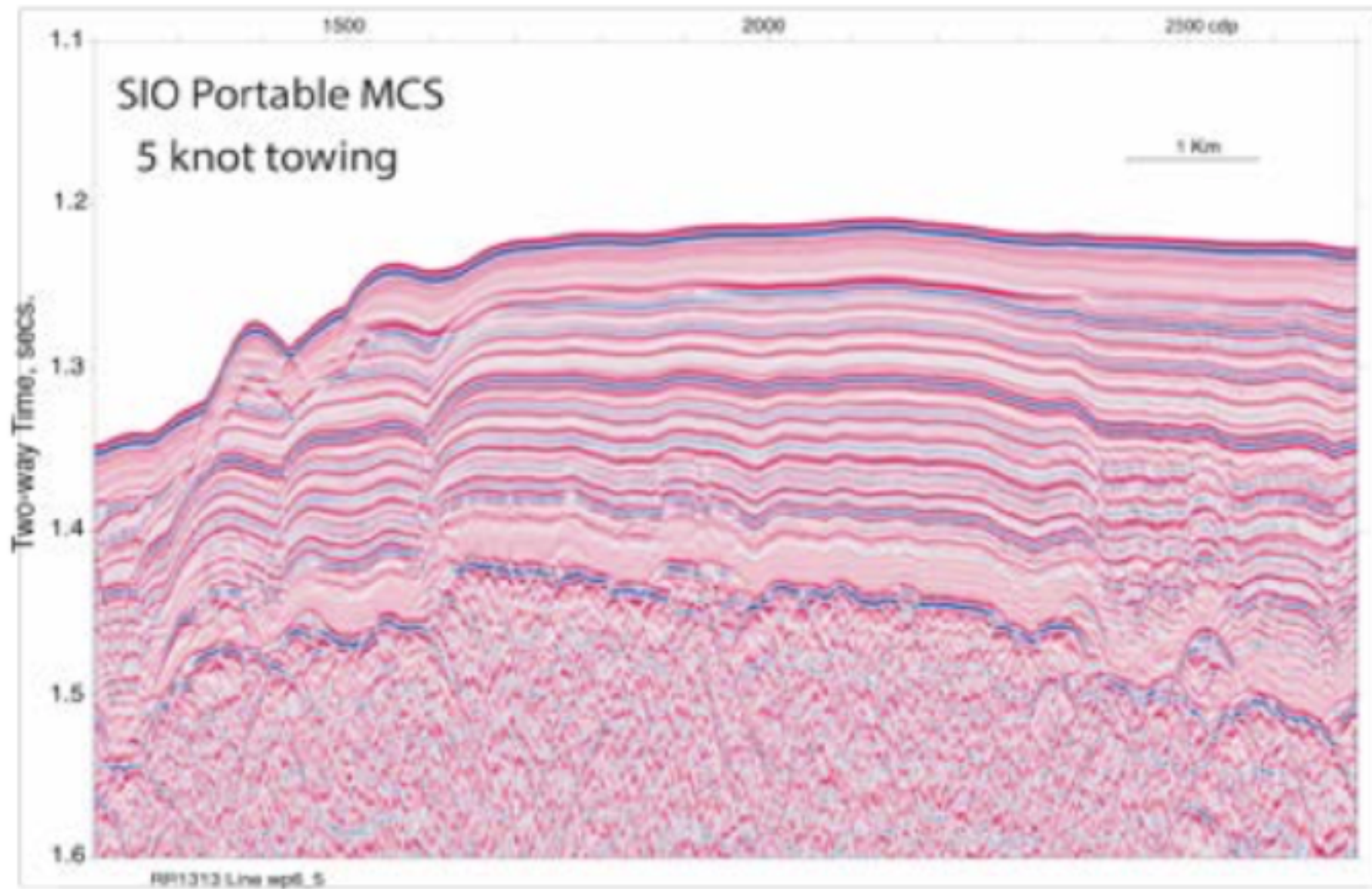
## SIO Portable Multi-Channel Seismic System 72 Channel Streamer Arrangement AT40-03



**Note:**

Green Indicates GeoEel Solid 6.25m System Components  
Blue Indicates GeoEel Silicone Filled 12.5m System Components

# AT40-03: IODP Site Survey, 72 Channel

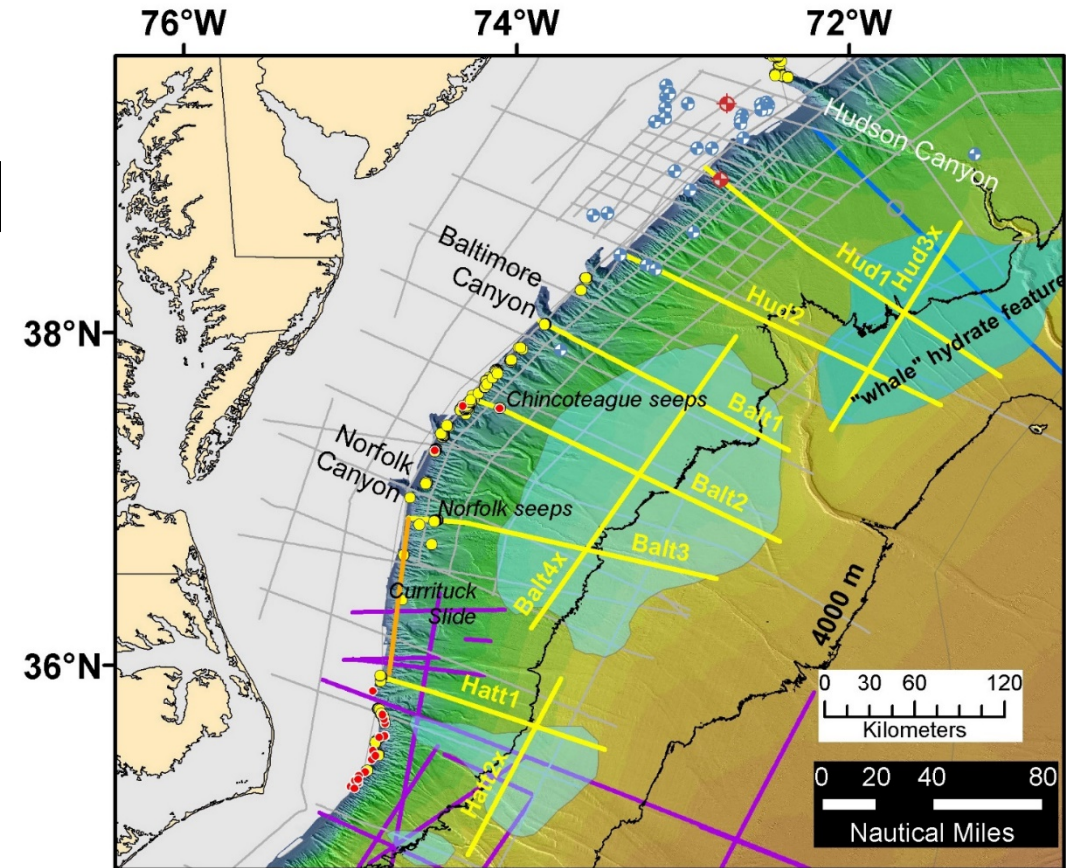


# MATRIX Cruise



## Contributions to Mid-Atlantic Resource Imaging Experiment

- Gas hydrates + free Gas
- Fill in gaps in modern MCS data
- Provide data for non-hydrate CMGP goals



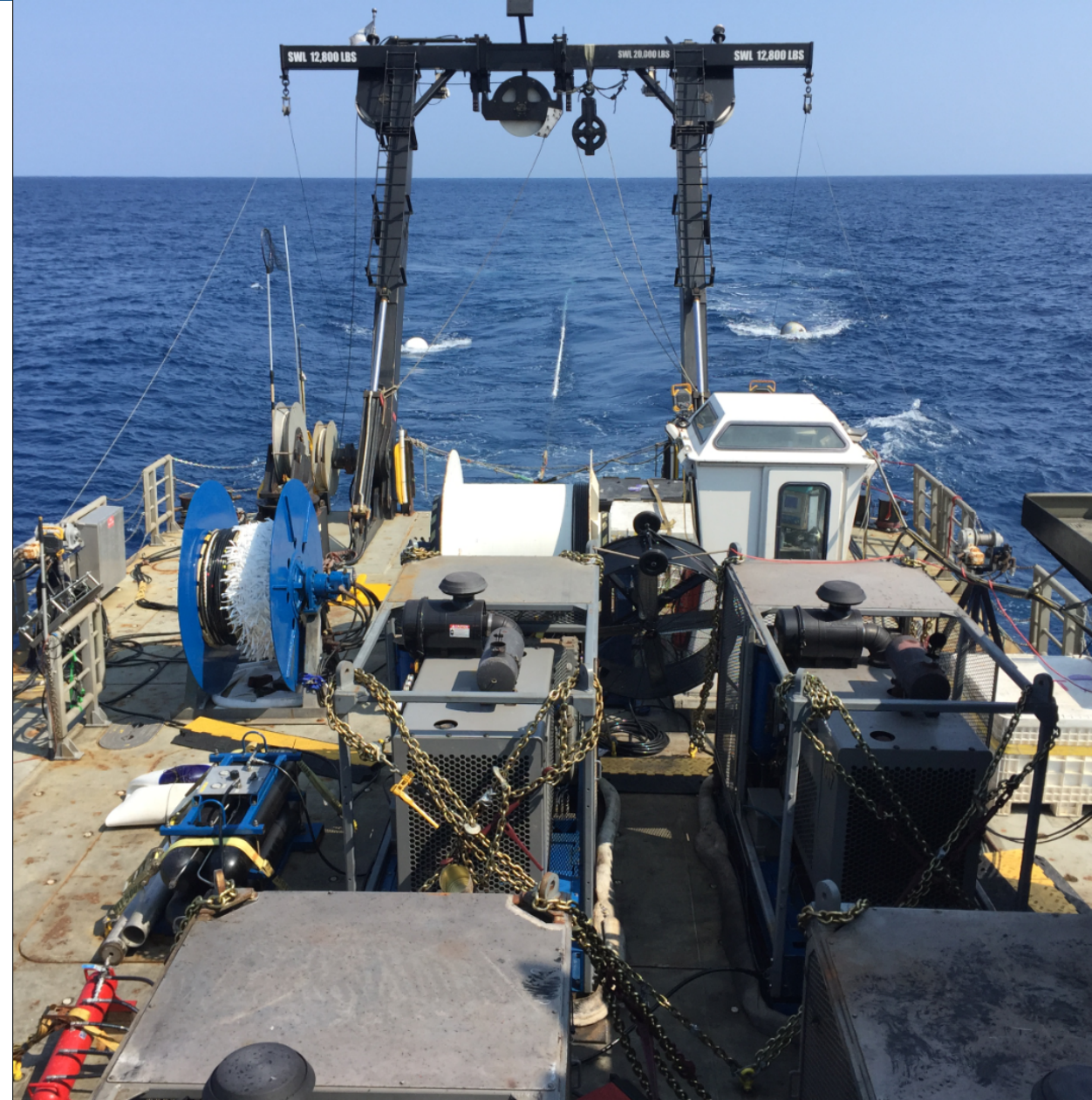
*Figure provided by the USGS*

# MATRIX Cruise



## SIO Provided Resources

- Solid and Liquid GeoEel
- Streamer winches
- Source winches
- 2 GI Array
- Subset of PSO equipment
- Geophysical Engineer (Kolby Pedrie)





# Looking Forward



89 days of portable MCS scheduled for next year on R/V *Thomas G. Thompson*

Propose additional equipment to NSF Oceanographic Instrumentation program

Explore research and training opportunities

