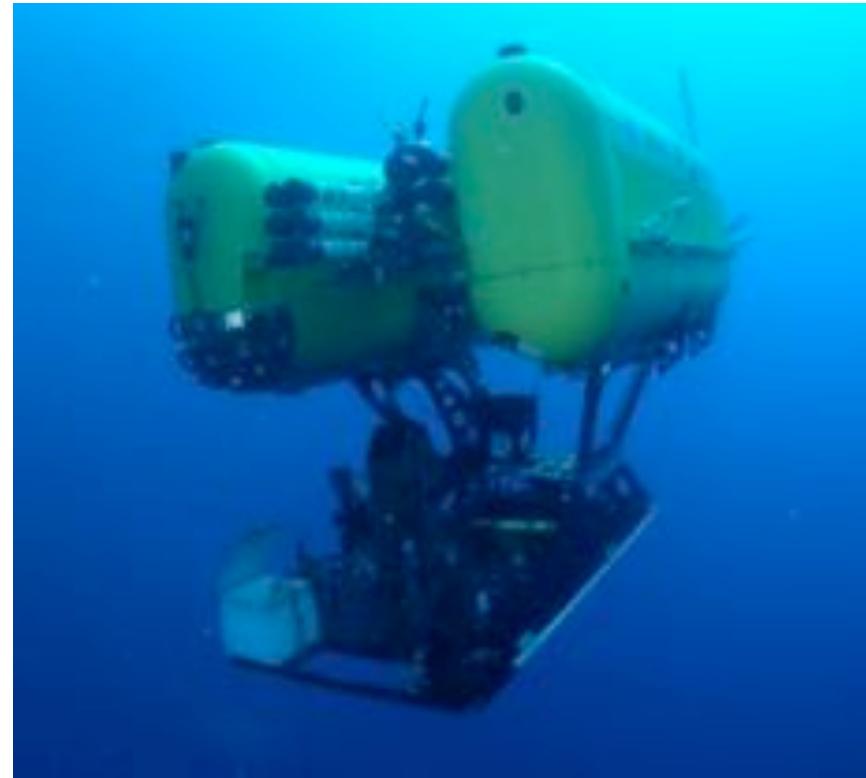
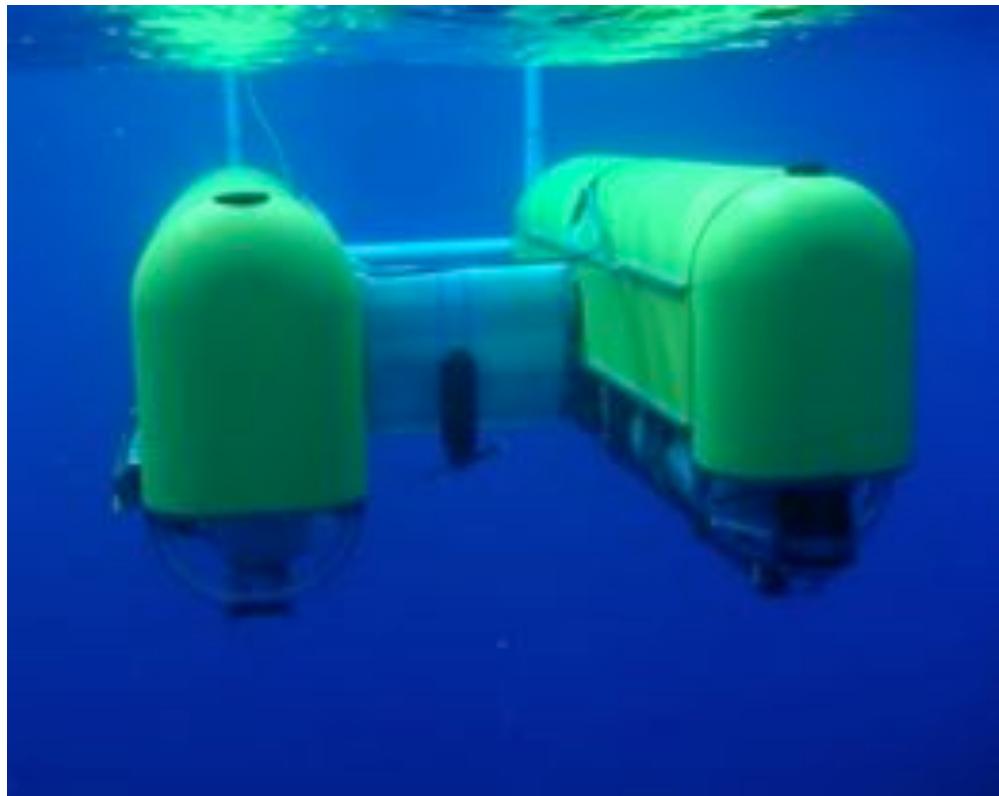
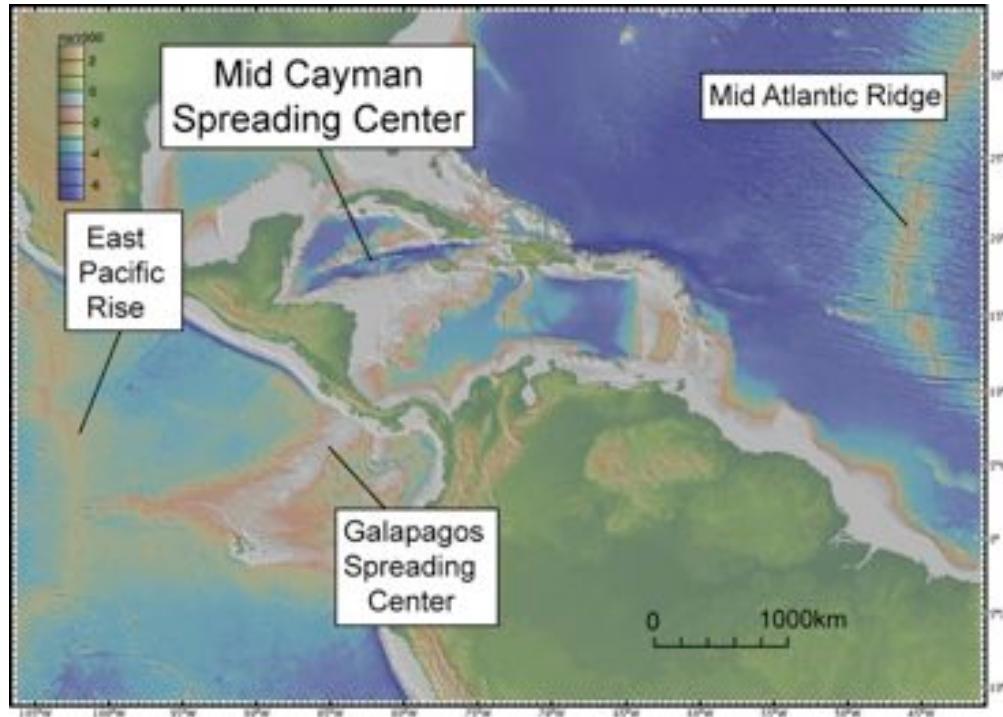
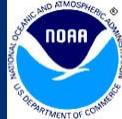




Hybrid Remotely Operated Vehicle *Nereus*







RV FALKOR





RV FALKOR Installation



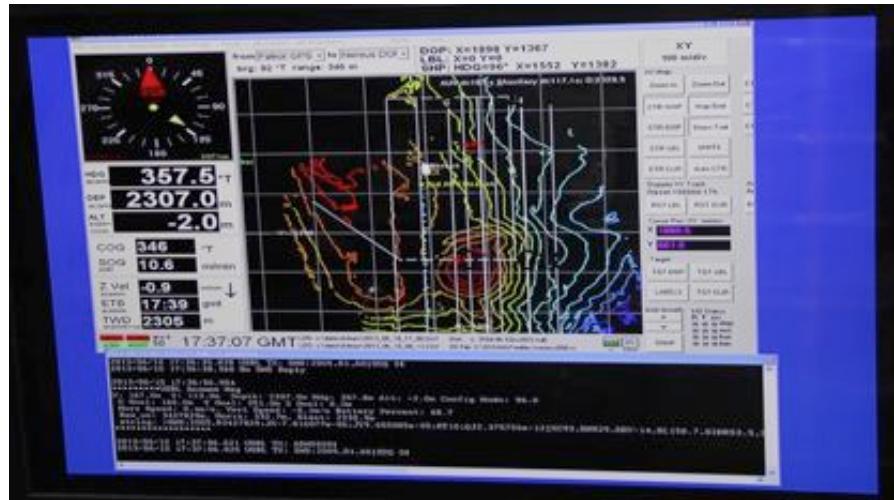


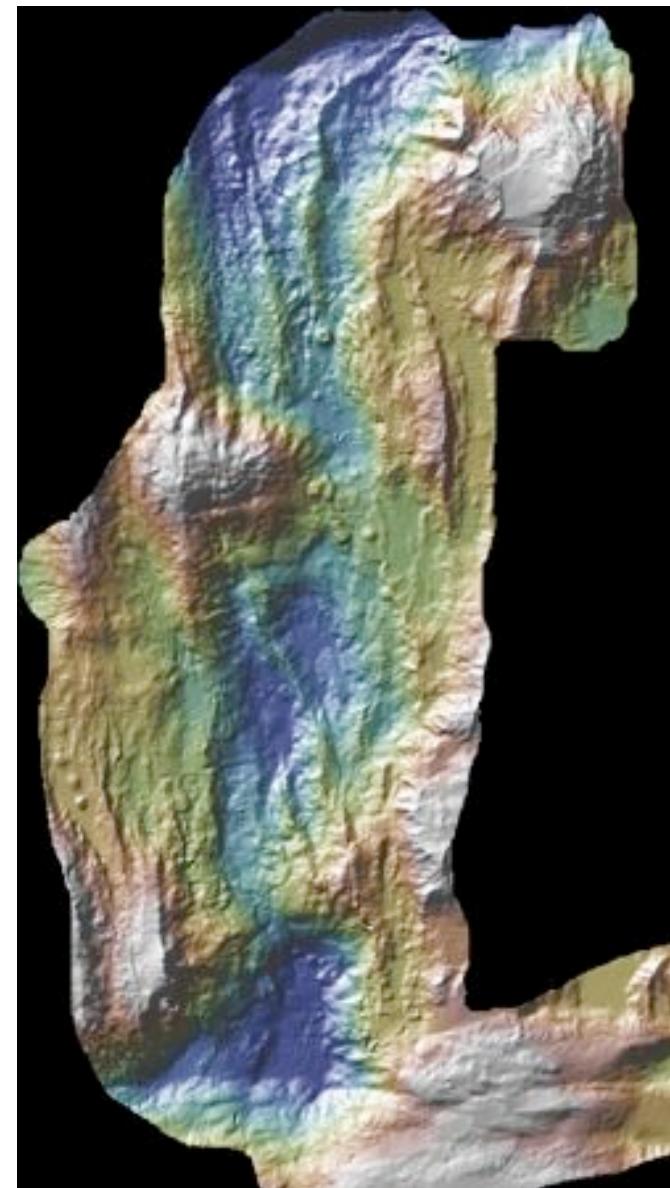
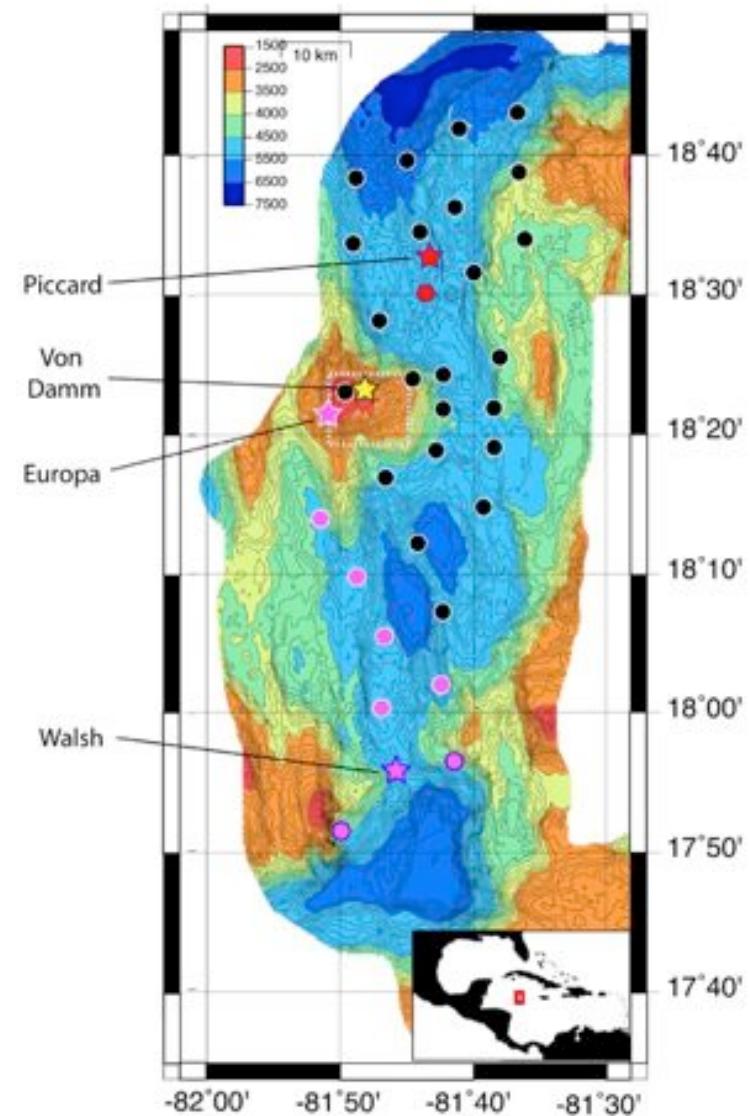
RV FALKOR Installation

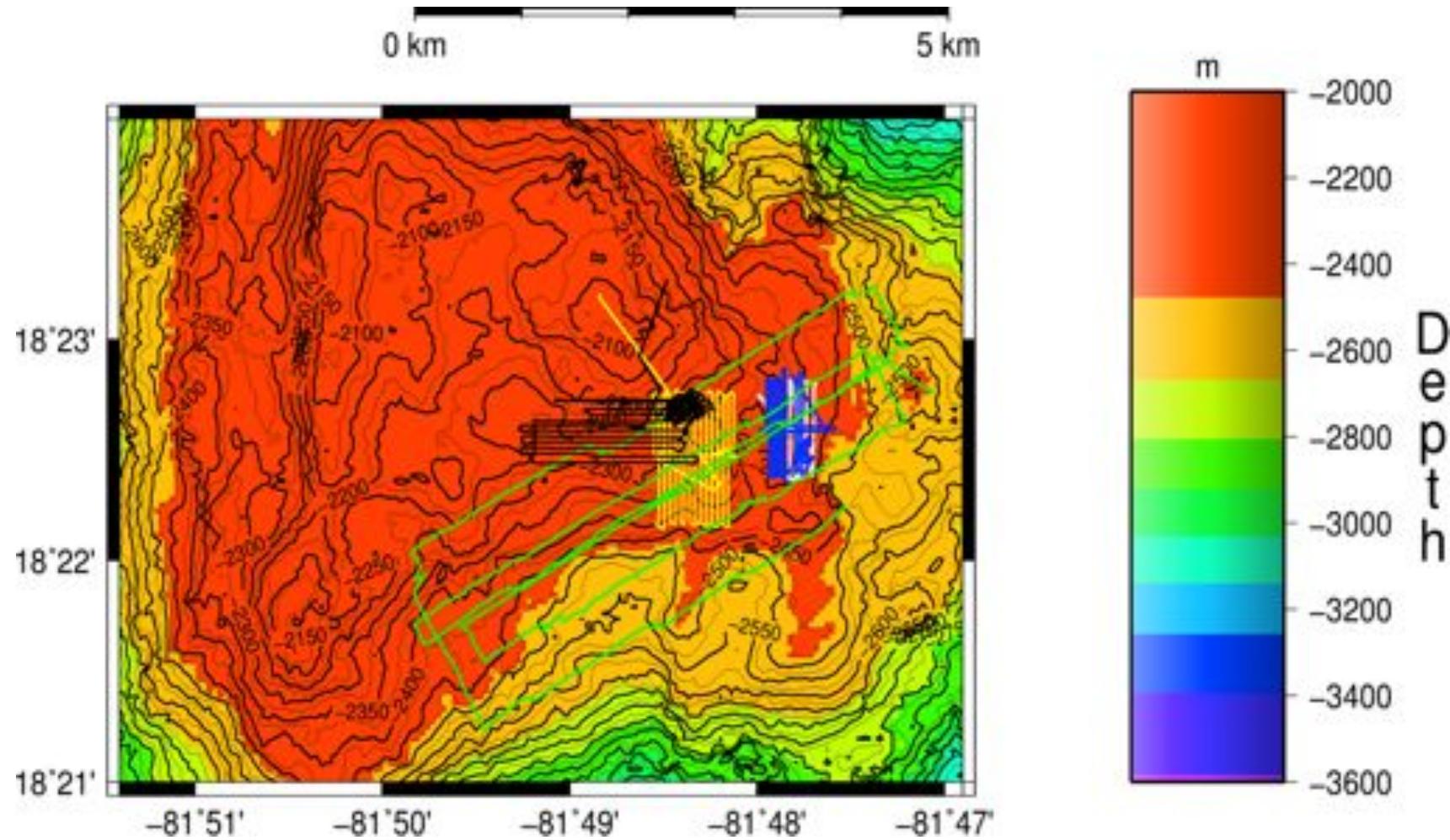


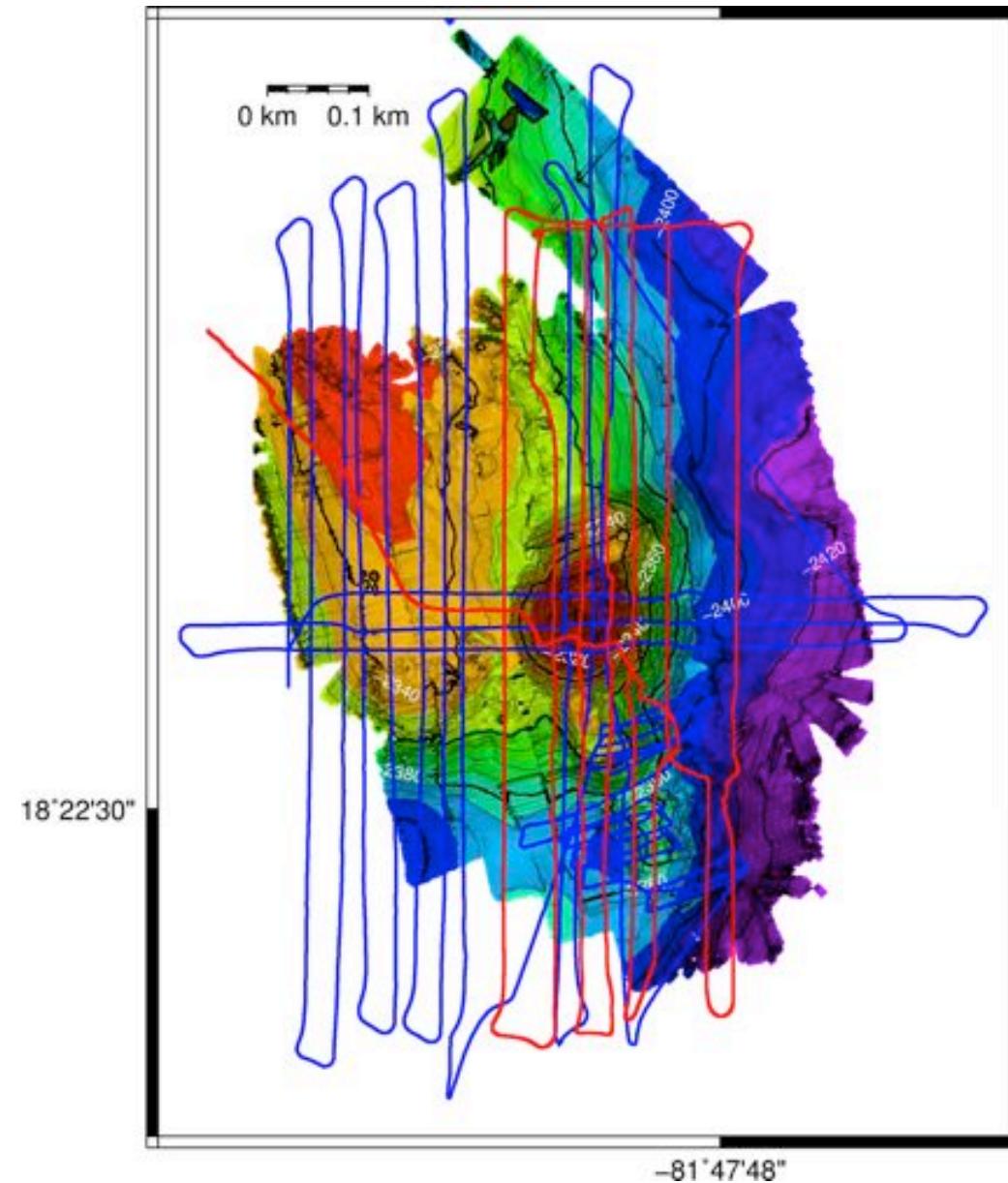


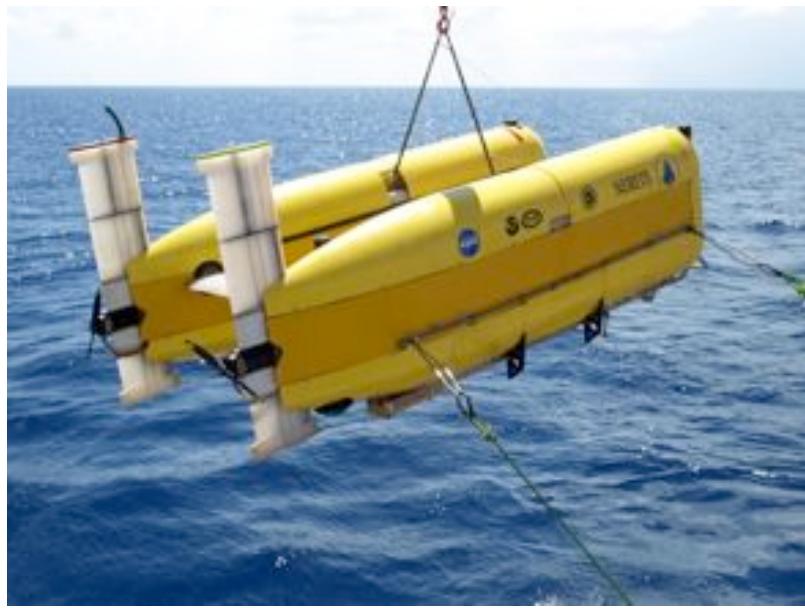
RV FALKOR Installation







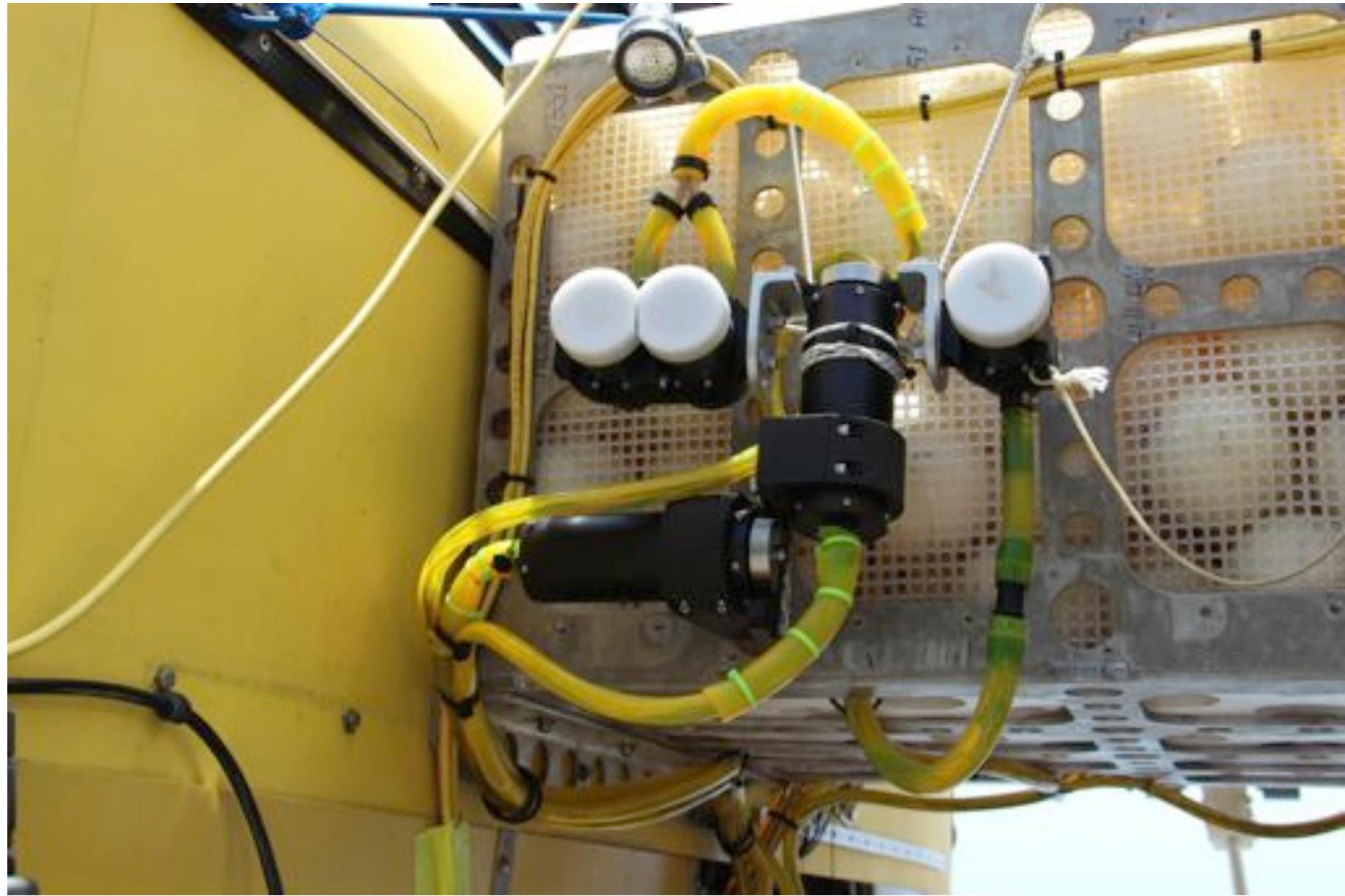


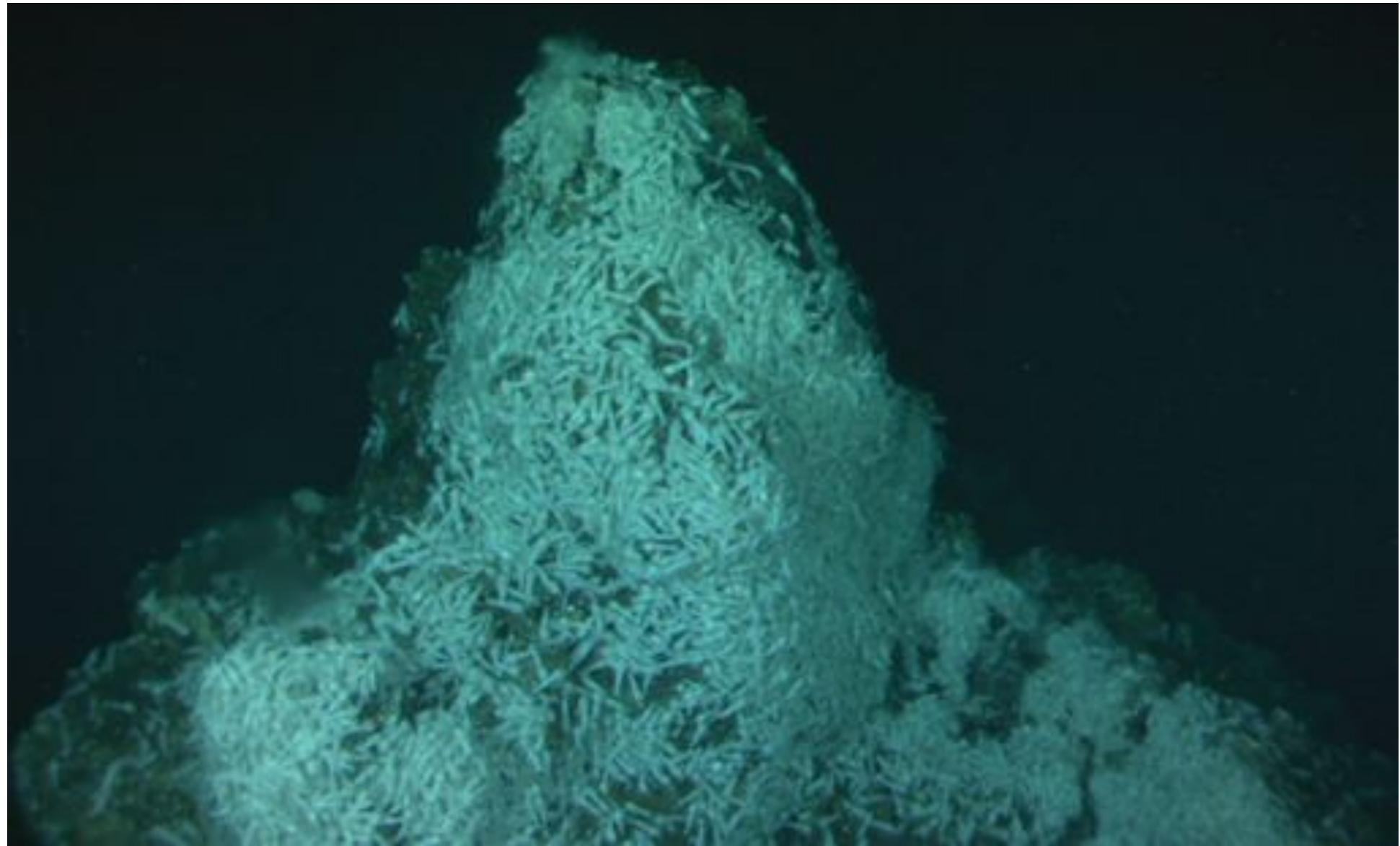
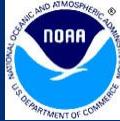


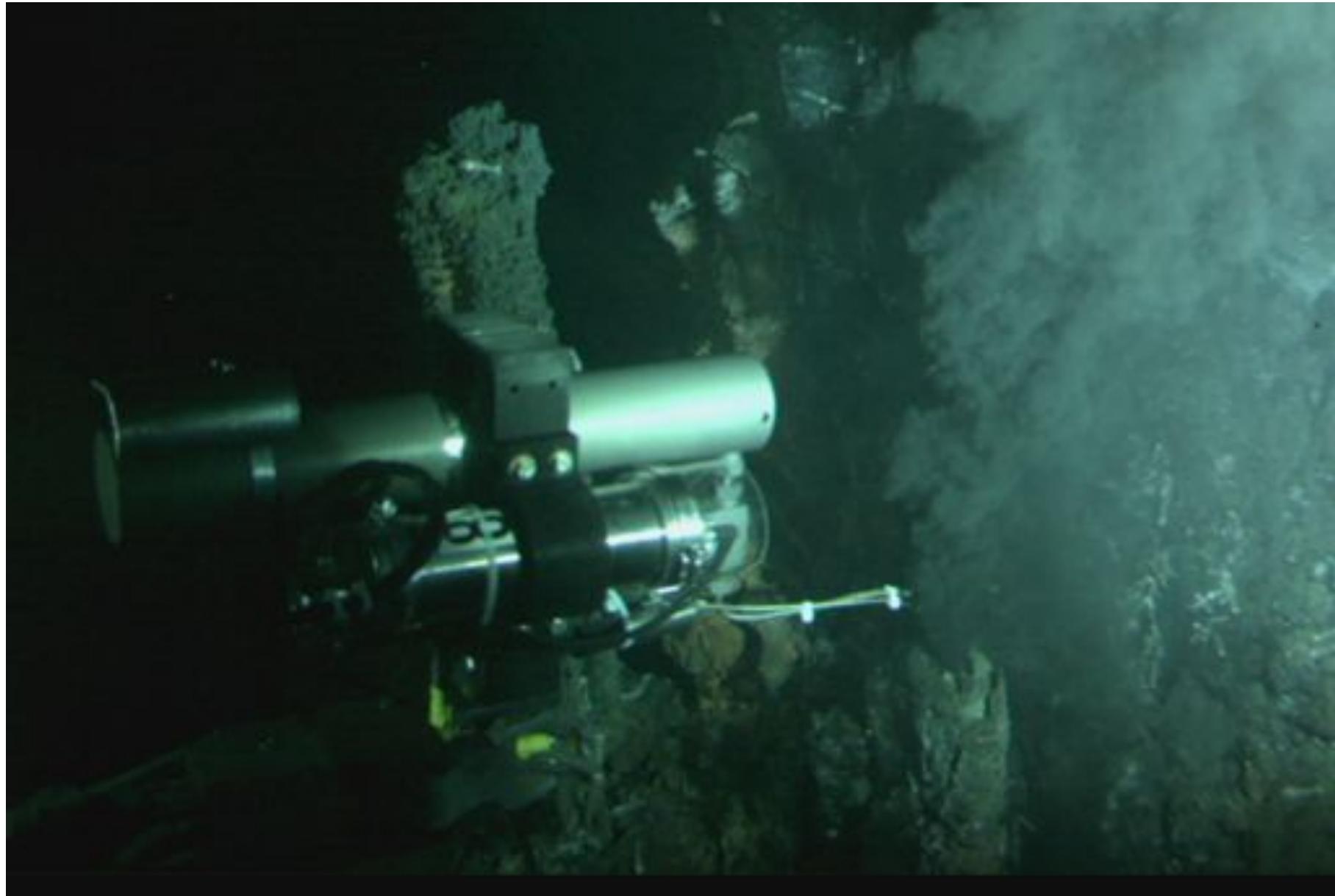


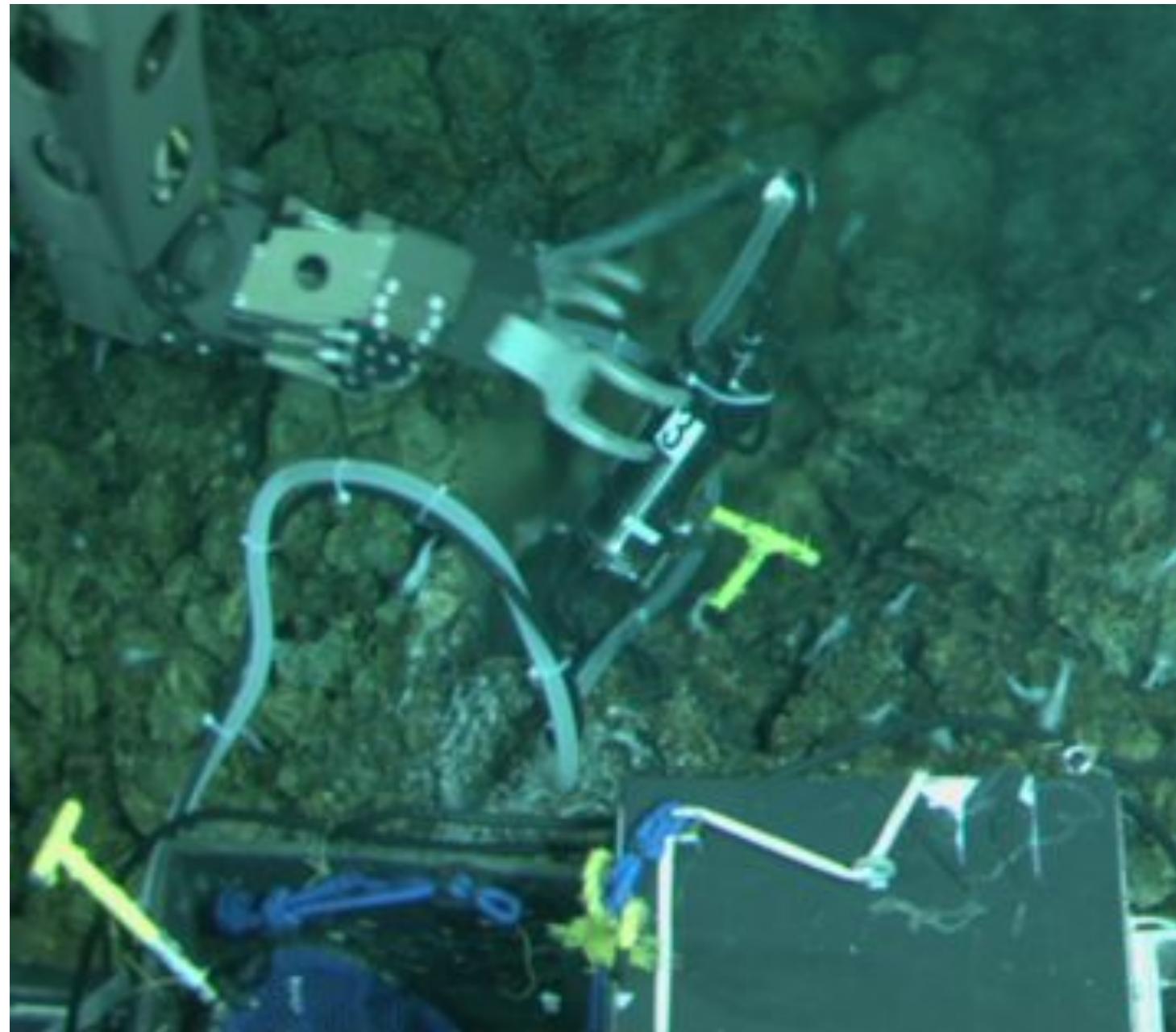
Recovery of Nereus in ROV Mode



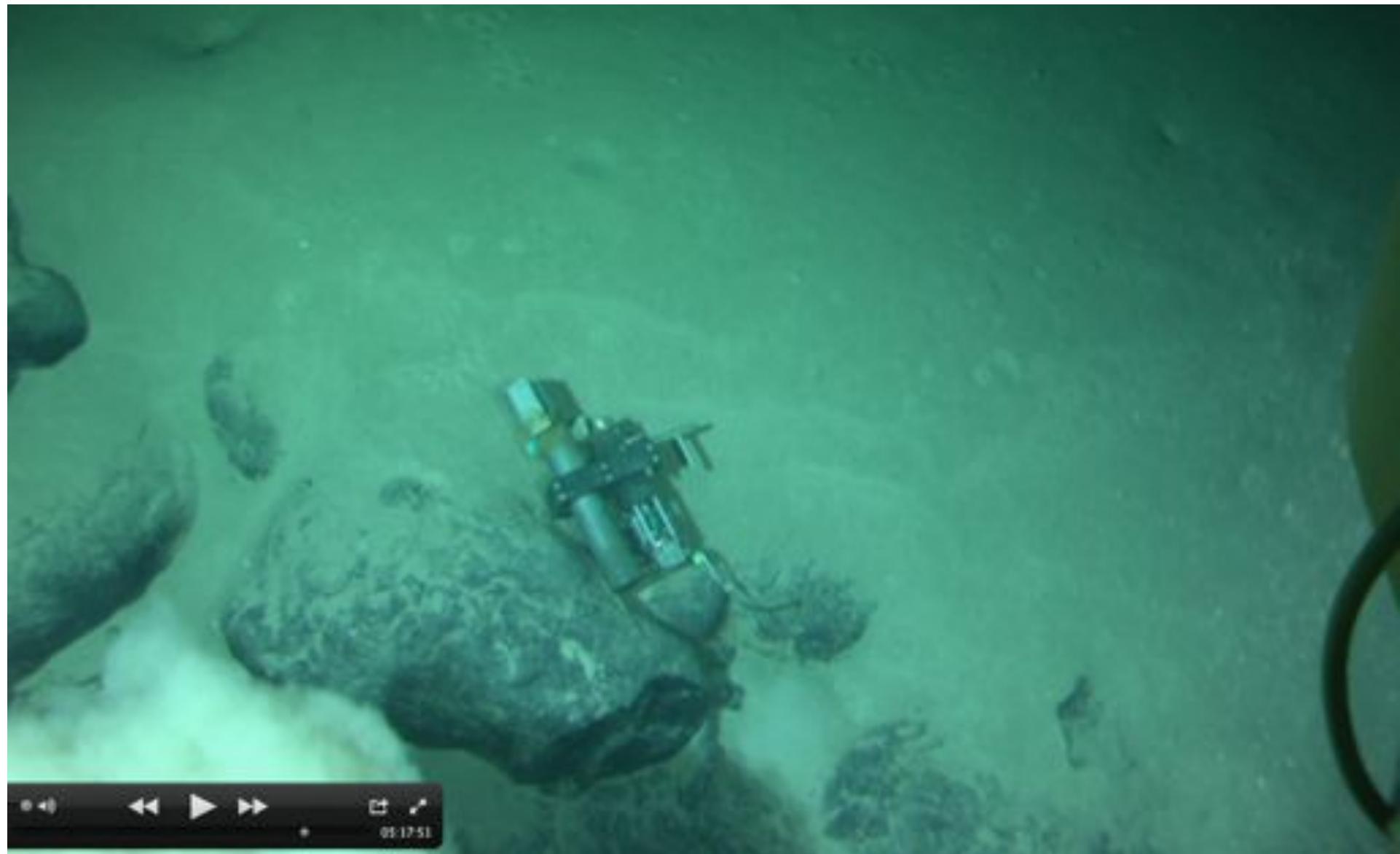




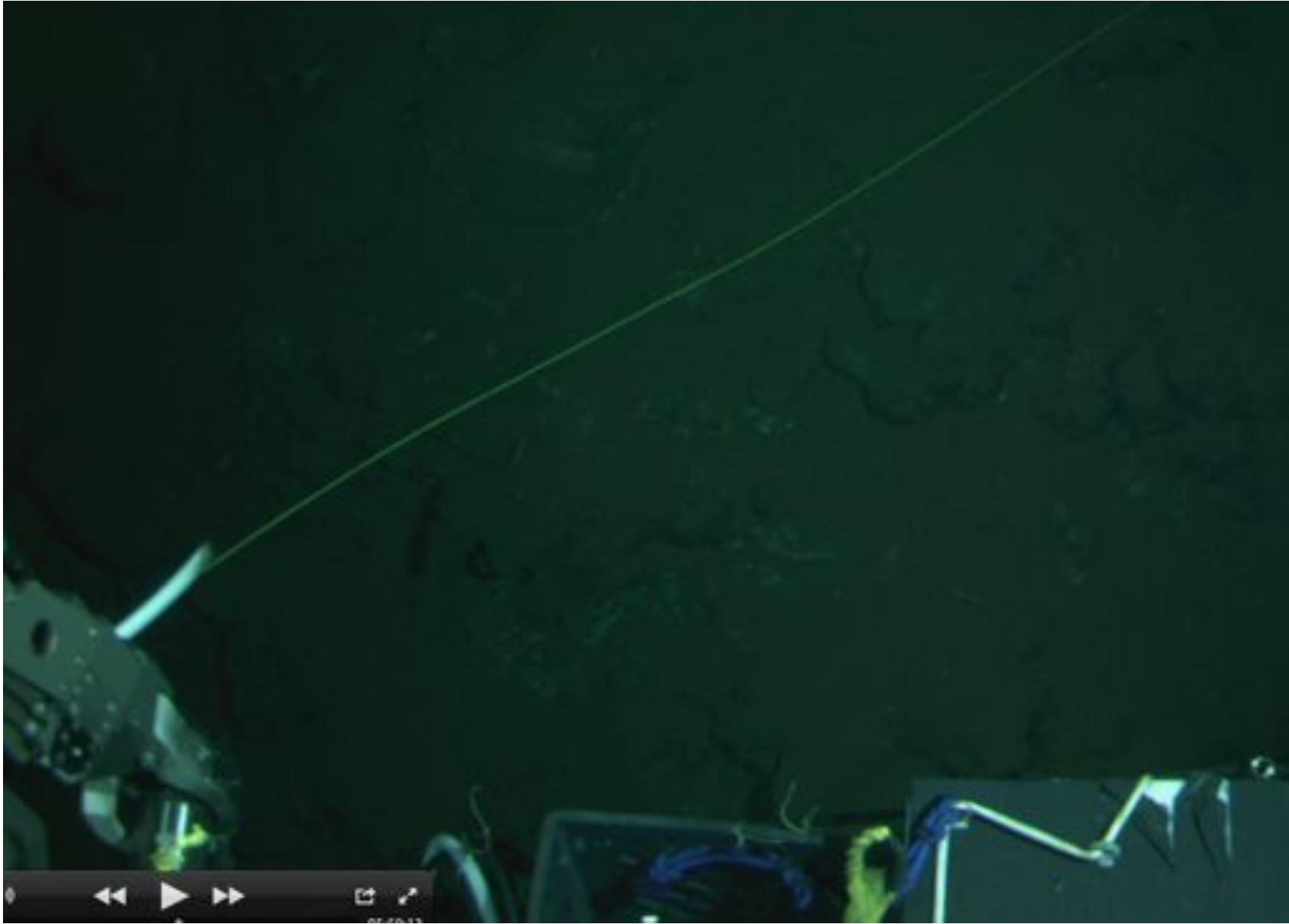














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The Under-Ice Imperative



Conventional ROVs



SIR*

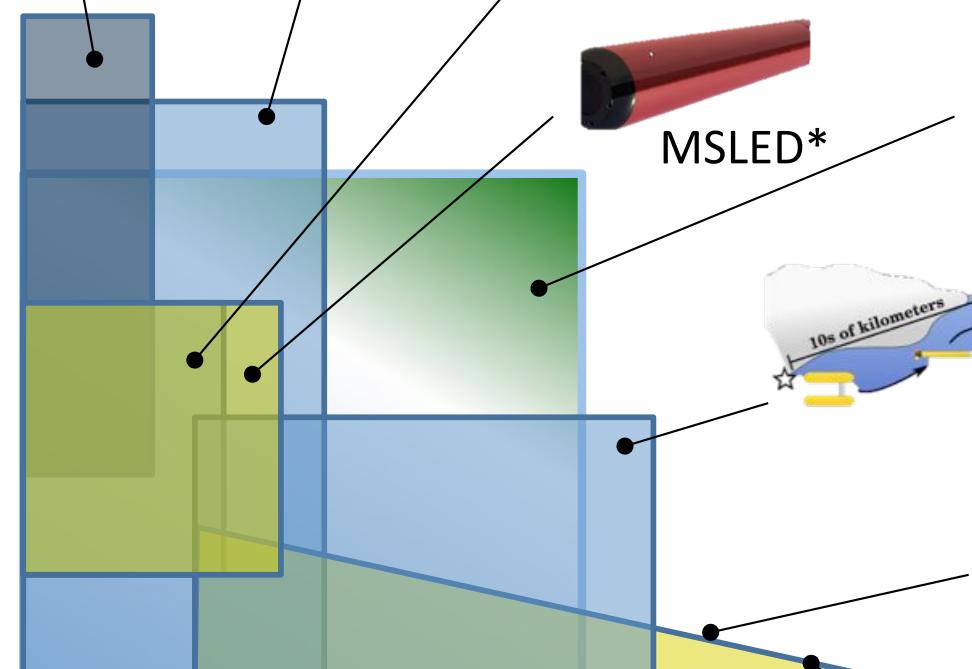
SCINI

Capability

Manipulation

Inspection

Mapping/Survey



MSLED*

Nereid UI*



Multi-Node
AUV
Systems*
Autosub



Gliders

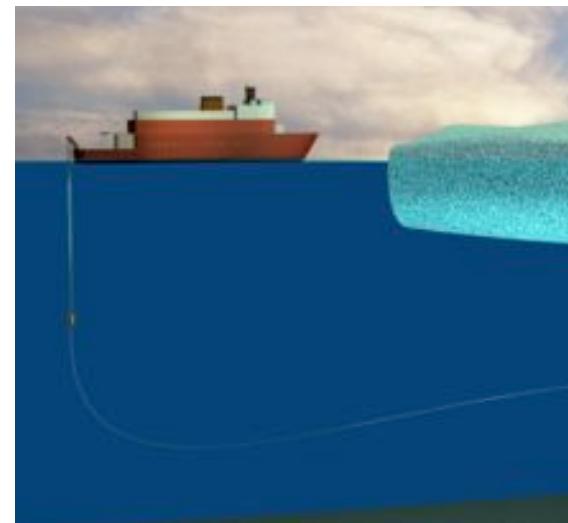
100 m 1 km 10 km 100 km
Horizontal Range from Launch Point



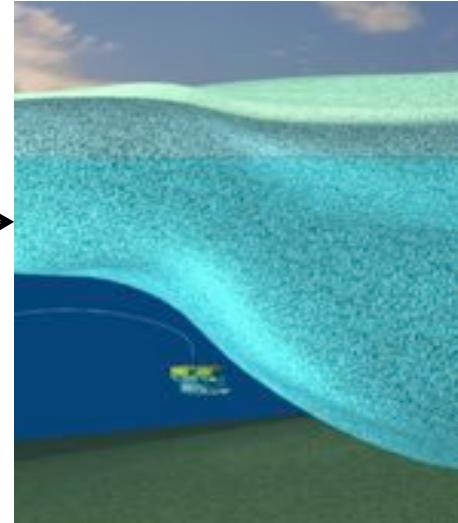
Nereid UI Capabilities



- Exploration
 - Real time visualization
 - Immediate Re-tasking
 - 20 km standoff
- Maneuverability
 - Close inspection
 - Precision access to under-ice boundary layer
- Future manipulation and sample retrieval capability



20 km





Vehicle System



Being loaded for salt water tank trials



First lowering into test tank



Night trials off WHOI pier, 2013-09-26.

- Excellent maneuverability, station-keeping
- 1.3 m/s top speed (without skins)
- HD video and Gb Ethernet over fiber
- Remaining major design tasks: depressor, acoustics, autonomy s/w



Nereid UI Status



- Initial testing at WHOI complete
- Testing at US Army CREL planned Winter '13/'14
- Ice trials possible (pending budget/location) Winter '13/'14
- First Polar deployment awaiting science proposal

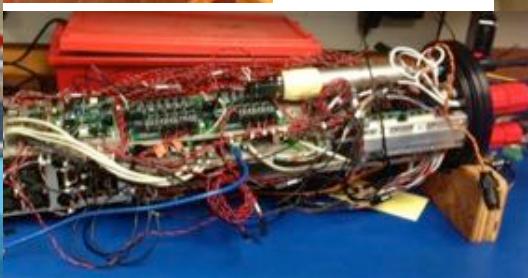
Floataction



Batteries



Frame



Thrusters

Control Chassis