

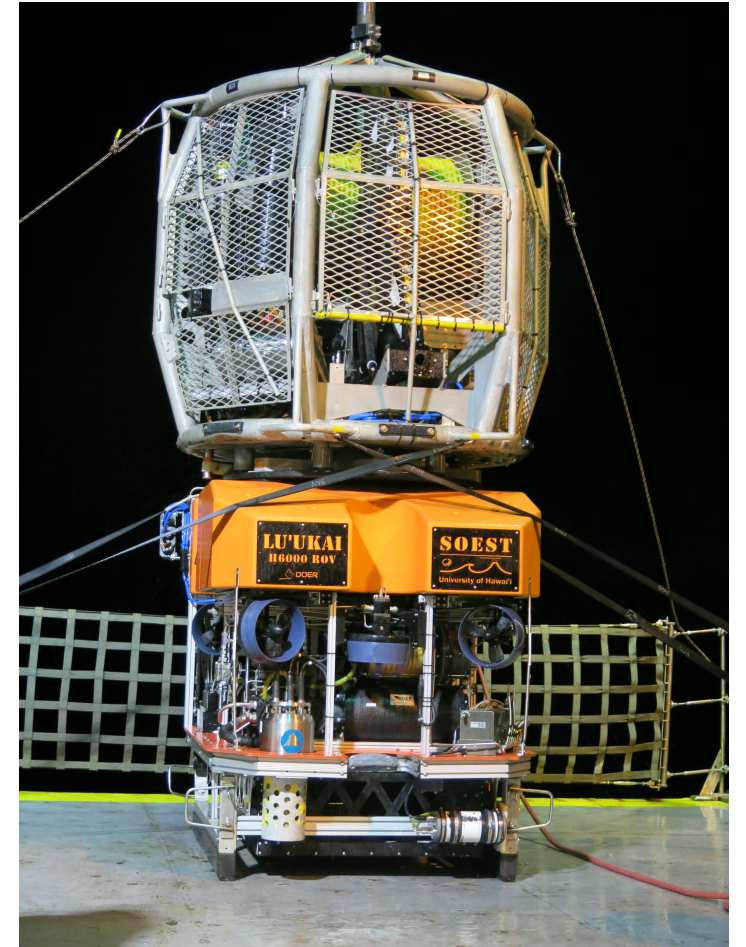
ROV Lu'ukai,
ALOHA Cabled Observatory,
CCZ Cruise, and more

Bruce Howe, with Max Cremer, Jeff Drazen and Blue Eisen,
University of Hawaii at Manoa

Deep Submergence Science Committee (DeSSC) Annual Showcase Meeting
San Francisco, CA
8 December 2019

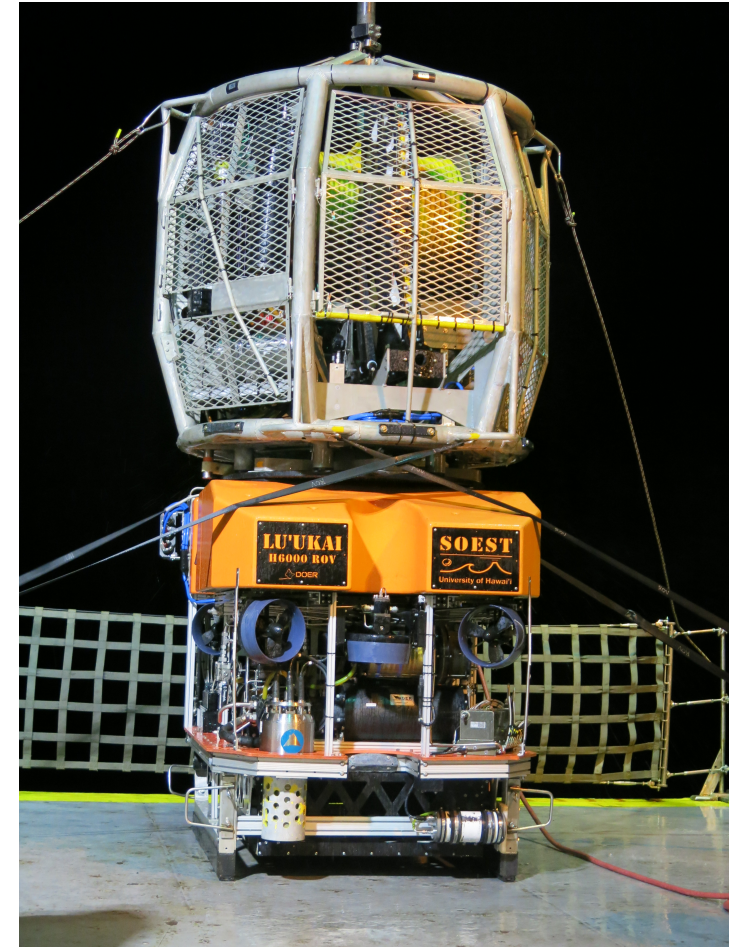
ROV Lu'ukai

- ROV statistics
- ALOHA Cabled Observatory
- Loss, recovery
- Next



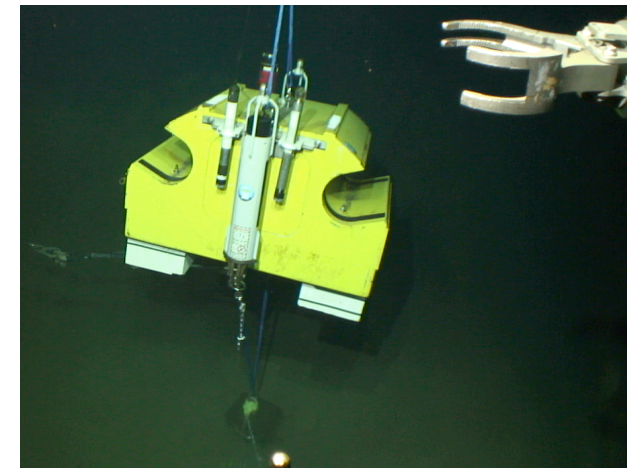
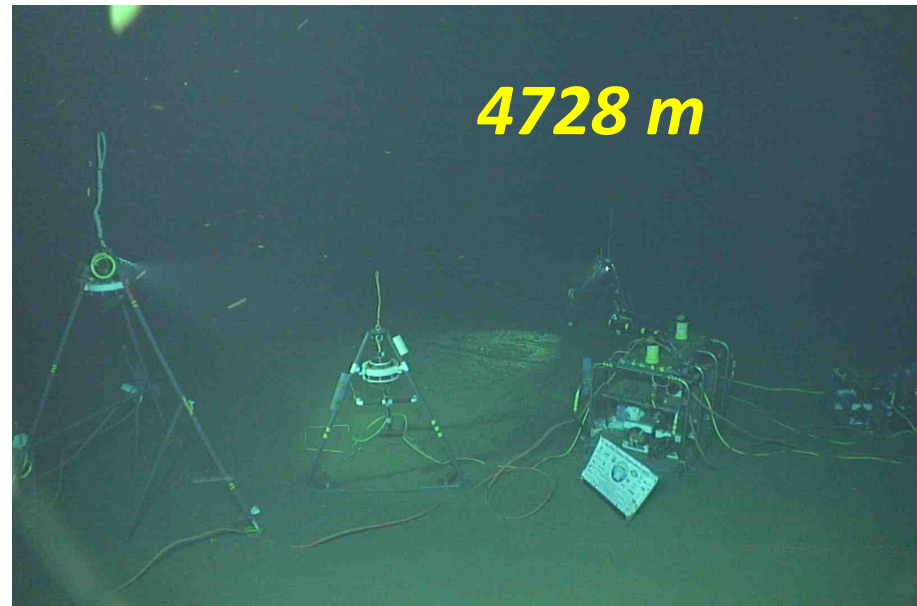
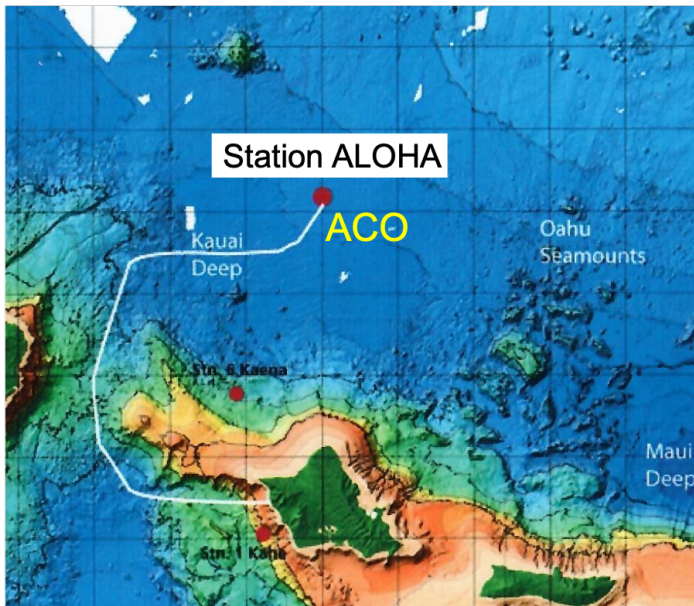
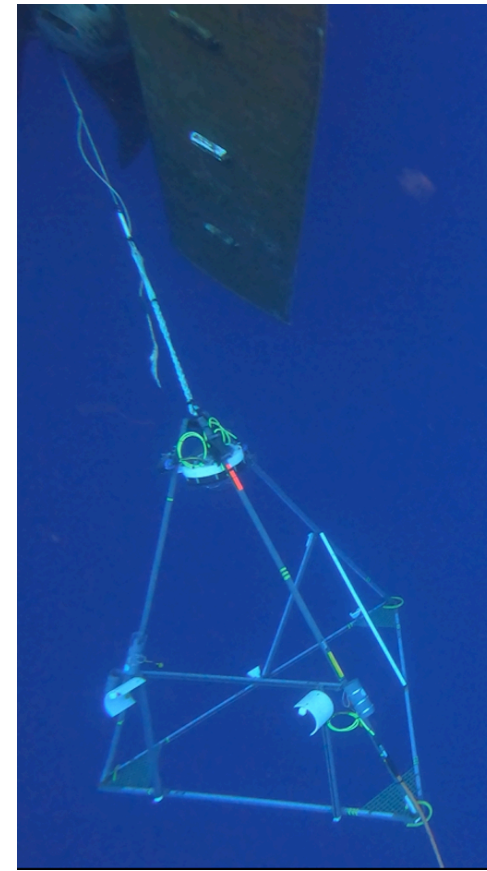
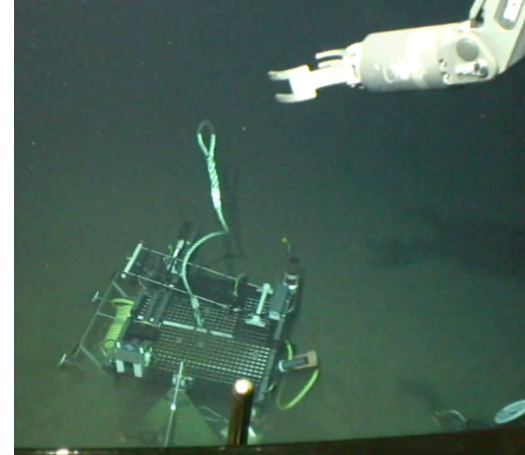
ROV Lu'ukai

- ROV statistics to date
 - 119 dives
 - Total dive time 780 hr
 - Total bottom time 349 hr
 - Max dive depth 5480m, LK-082, 2/22/18, Maui Deep, deep test dive
 - Max dive duration 28.92hrs (22.5hrs on bottom at 4730m), LK-114, 7/12/19, Station Aloha, ACO service



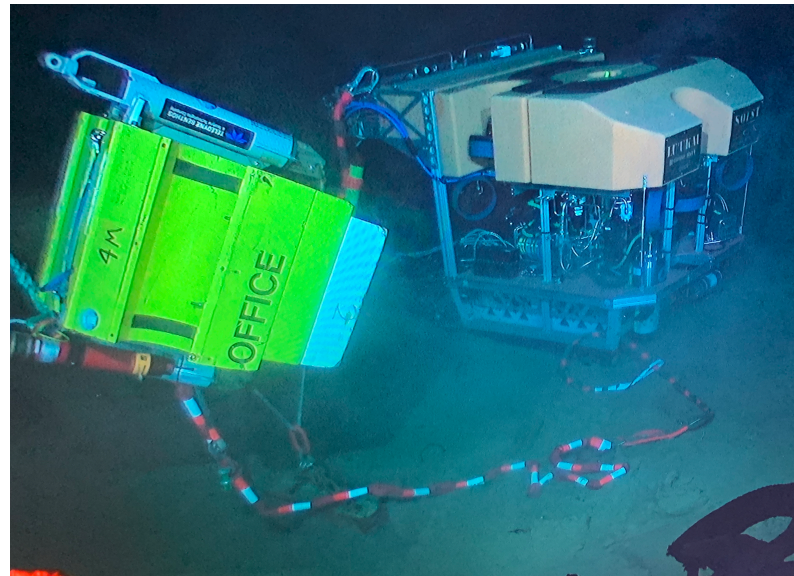
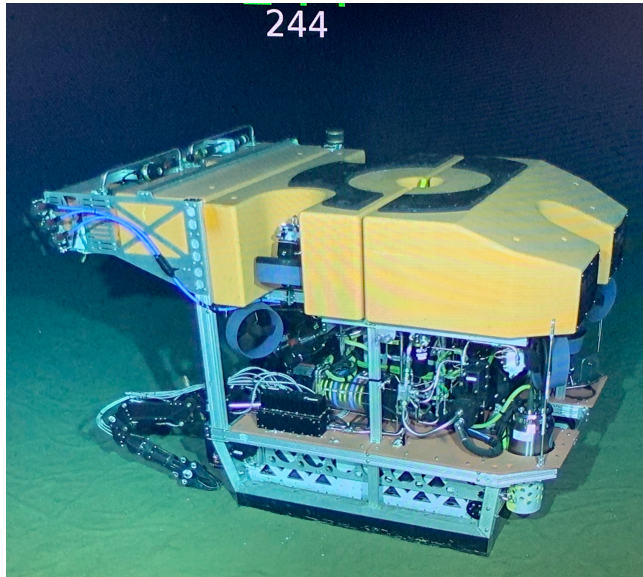
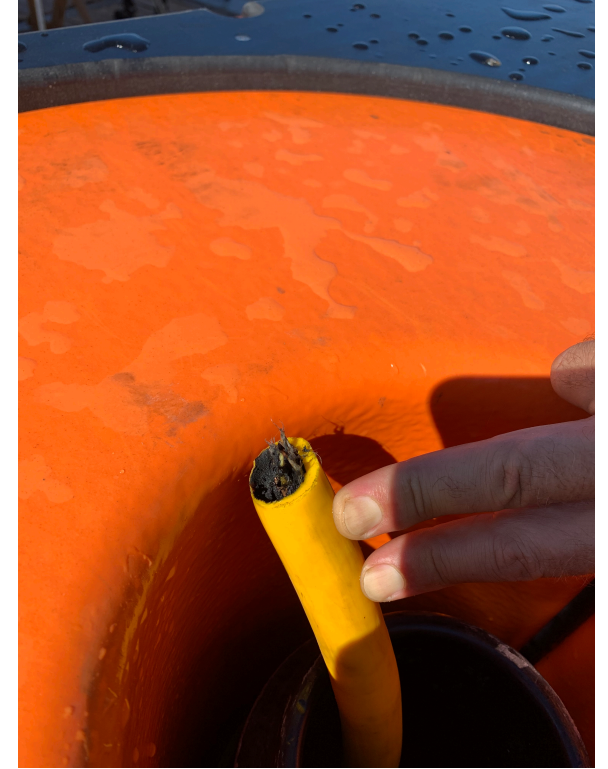
ALOHA Cabled Observatory (ACO)

- Deepest plug and play power and Internet node on planet
- June 2019, 5 days
- Repaired BSP2 hose - CTDO2+FLNTU+P)
- Deployed BSP4 (CTDO2+FLNTU+P+AModem)
- Recovered CAM2 and BSP3 (hydrophone)



ROV Lu'ukai – loss and recovery

- 7/20/19: tether break, 4720 m, Station ALOHA, Abyssal Food Web, PI J. Drazen.
- 8/29/19: recovered 290 lb lift elevator and R/V Petrel's 6500m ROV
- Abrasion



ROV Lu'ukai - Next

- Improvements for 2020

- New tether, 2x operating and breaking strength
- Two USBL tracking beacons, Sonardyne Avtrak 6
- Spares: HPU ROV, HPU TMS, touch screens ROV control console (\$5k)
- Fiber optic multiplexer upgrades from RCV-150 stock to current (\$40k)

- 2020 Work

- Drazen – 2 cruises (January, June)
- Howe – ACO (June)
- Baco-Taylor, NWHI, 50+ days, Sept.- early Nov 2020 (challenging terrain issues)