UH ROV *Lu’ukai* - Sea Diver

- Main focus is servicing Aloha Cabled Observatory
- Slack tensioner + lead improved dynamics (albeit calm seas)
- Continuing improvements
ALOHA Cabled Observatory

4728 m – Deepest Internet and power on the planet
Station ALOHA

Hawaii Ocean Time-series (HOT) 28+ years, 275+ cruises, and continuing M. Church, R. Lukas, D. Karl and many others

ALOHA Cabled Observatory (ACO)
SOEST ROV - 6000 m
ROV and tether management
ROV science capabilities

- Manipulators
  - Schilling Orion 7P, seven-function
  - DOER SeaMantis, five-function
BPS Subsea Mated Connector
Final Push on Connector from ROV
ACO bottom configuration

Cable Termination

JBOX (HEM-pressure, 2 hydrophones)

OBS (8 port; \( \mu \text{SEM} \)-temperature, salinity, 2 ADPs, light)

AMM Secondary node (4 port; SIIM- 2 CTDO\(_2\), FLNTU)

TAAM mooring (thermistor array, FLNTU, acoustic modem)

CAM (Video PZT Camera, 2 lights, hydrophone)
Current ACO Status

• Observatory infrastructure still working flawlessly, with hydrophone, CT, ADCP (lights failed after 6 weeks)
  – Previously installed Basic Sensor Package 1 (BSP1, CTDO₂, fluorometer, ADCP, pressure, acoustic modem), CAM2 (video/PZT, two lights, hydrophone), LIGHT1
  – Recovered AMM secondary node (cracked SS pressure case) – had 2 CTDO₂’s and fluorometer
  – Of these, now functional - CTDO2, acoustic modem
• Next Cruise August 2016, service cruise using *Lu’ukai*
  – BSP2 – pressure, fluorometer, CTDO₂
  – LIGHT4
  – Recover BSP1, CAM2, LIGHT1 to repair
ACO 4728 m – a new opportunity