University of Hawai‘i Undersea Research Lab @SOEST

35 years of deep submergence science support
**HURL in Transition**

- Program defunded by NOAA in 2013
- As funding expired, HURL transitioned to an operational, contract for-hire entity with some institutional bridging support from UH/SOEST
- Science program & external awards for dive time via RFPs ended, currently no remaining UH campus staff on payroll
- Still operate both Pisces subs (2000 m)
- 35-year data archive being maintained and updated with limited support from SOEST
- Commitment to keep subs active through 2017 to complete obligations. Then??
- Much potential for work in the expanded Marine National Monuments & poly-metallic nodule/crust regions of the Pacific
2016 Major Accomplishments

- 62 dives from March-November in four mobilizations, most dive days were 2-sub ops (400 hrs u/w)
- 2 months of dives in South China Sea canceled days before departure, rebounded with productive alternate dive season
- Took on 30-day NSF-funded ROV Jason mission to the NWHI on short notice d/t Kilo Moana issues
- 18 dives in 10 days with 4 PI groups (Conservation Int'l, NMFS/HPU, NELHA, & DOER/Nat Geo) w/two hurricanes close by
- First Loihi pit survey in 5 years
- 4 Nat Geo dives with Sylvia Earle, first capture of deep ocean bioluminescence in the absence of artificial light sources
## 2016 Project Detail

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**Total Dives = 62 Pisces IV & V including test dives**
HURL’s 2016 Operational Areas
- Main Hawaiian Islands -
Maritime Heritage sites

(Yes, this was a permitted & supervised op)
Deep-sea coral studies
Loihi Submarine Volcano pit dives
Cold Seawater Pipe inspections
HURL’s 2016 Operational Areas
Northwestern HI Islands to the southern Emperor Smts (the Bend)

Deep-sea coral recovery from trawling
Coral tangle nets, repositioning landers
Dredge lines, weights, coral tangle nets abound
Transects & collecting along vertical walls
Other Highlights in 2016

- Training of Navy SEALs in operating LRT submersible platform for delivery vehicle
- Two first descents on unexplored Geologists Seamounts, Cook and McCall
- 3 days of cold water intake pipe surveys for NELHA
- WWII era submarine I-400 bell recovery (permitted)
- Two more maritime wrecks located and identified
HURL’s plans for 2017

• Refit Pisces V (ABS special survey, ongoing now)
• 45-day cruise to the NWHI/Emperors, part II
• Other, smaller Main HI Pisces projects TBD
• UH ROV projects to ACO and the CCZ nodule fields
• Continue working with Monument groups and scientists to develop projects in MPAs
Goals for the future

• Into the expanse – the recently expanded Papahānaumokuākea Marine National Monument
• Quadrupled in area to 582,578 mi² (1,508,870 km²), nearly the size of the Gulf of Mexico.
• Was largest protected area on Earth from August to October, now the Ross Sea MPA off Antarctica is the HUGEst (598,000 mi², 1.55 million km²)
The bigger Pacific Ocean picture

- Other Monuments and MPAs in the Pacific abound, many within relatively easy reach
- Monument boundaries of Wake, Johnston, and Jarvis Islands expanded in 2014 to their full 200 nm EEZs
- Closest access to the western CCZ polymetallic nodule zones and encrusted seamounts for pre-mining studies

We are here

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