



Ocean Exploration
and Research

NOAA Report 2015 DeSSC

September 9, 2015

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NOAA Office of Ocean Exploration & Research

NOAA OER Update

- FFO 2016 – stay tuned
 - General Exploration
 - Marine Archaeology
 - Technology
- Ocean Exploration National Forum
 - Nov 19-21, Nat'l Aquarium, Baltimore, MD
- OEAB October 1, 2 at URI GSO <http://oeab.oarhq.noaa.gov/>
- OER Strategic Planning

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GORDON AND BETTY
MOORE
FOUNDATION



Axial Seamount Expedition

Ship: R/V Thompson

Dates: Aug 14-29, 2015 (Seattle – Seattle)

Vehicles: ROV Jason/Medea & AUV Sentry

Funding: NSF, NOAA, Gordon & Betty Moore Foundation

PI's: Dave Butterfield, Bill Chadwick, Jim Holden, Julie Huber, Scott Nooner

Chief Sci: Bill Chadwick

Objectives:

- Measure seafloor pressure for volcanic inflation/deflation
- Incubate and sample vent fluids for chemical & microbial analysis
- Conduct event response activities related to April-May eruption



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Axial2015.blogspot.com

HYDROTHERMAL HUNT AT MARIANA



Ship: R/V Falkor

Dates: Nov 21 – Dec 17, 2015

Vehicles: AUV Sentry

Funding: NSF, NOAA, UW, Oregon State, Schmidt Ocean Institute

PI's: Ed Baker, Dave Butterfield, Bill Chadwick, John Lupton, Joe Resing

Chief Sci: Joe Resing

Objectives:

- Explore back-arc spreading center to find new sites of hydrothermal activity
- Add to the understanding of forces that shape biodiversity of vent systems

NOAA Ship Okeanos Explorer (EX) Update 2015

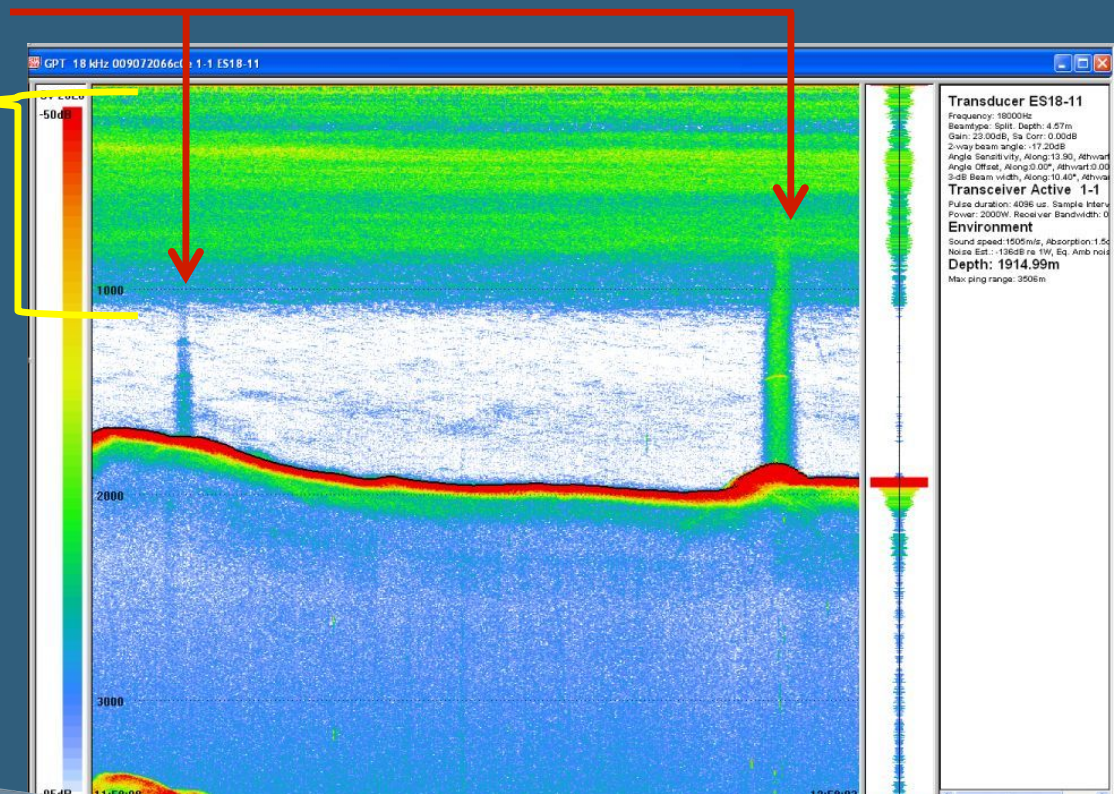


- Vehicles tested to 6,000 m in PR Trench
- Sampling capabilities & protocols
- Repositories for specimens
- Vehicle upgrade report out tomorrow



EX Sonars

- Main: Kongsberg EM 302 Multibeam
- 3.5 kHz Knudsen SBP 3260
- Simrad EK 60 Split beam sonars
 - Water column data
 - Plumes, seeps
 - Biomass, DSL
- Currently 18 kHz
- Coming online 2016:
 - 38, 70, 120, 200, & 333 kHz



ADCP

- 2 Acoustic Doppler Current Profilers coming online 2016
 - 38 kHz (est. 1000 meter range)
 - 300 kHz (est. 165 meter range)
- User Group Workshop 2015 Fall/Winter
 - Contact Meme Lobecker
 - Elizabeth.lobecker@noaa.gov

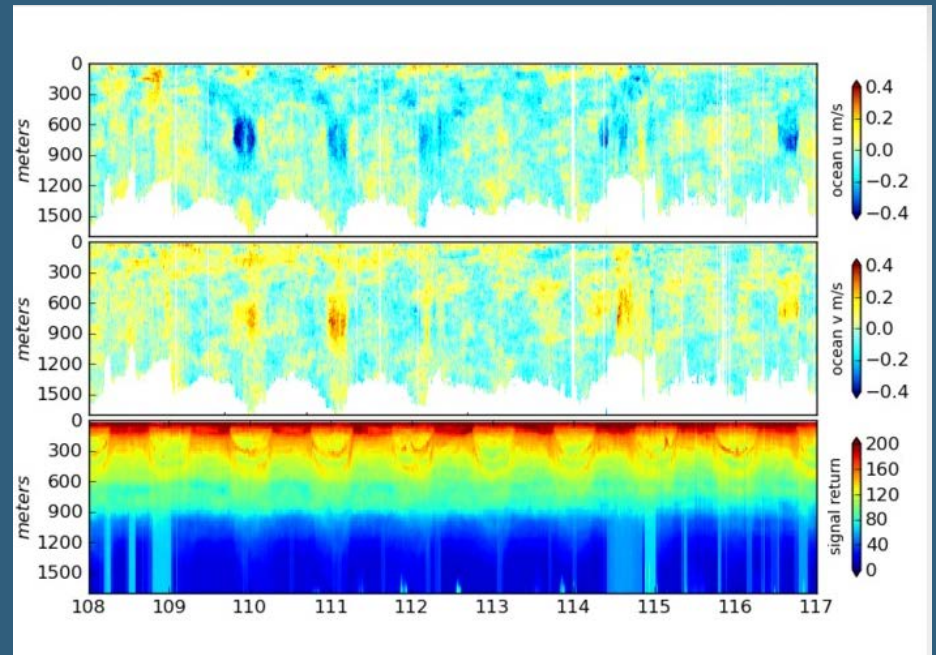


Image courtesy Jules Hummon, University of Hawaii

EX 2015 Field Season

Caribbean Trenches & Seamounts: Feb 18-April 30

Pacific Monuments & Sanctuaries: July 13 – Sept 30

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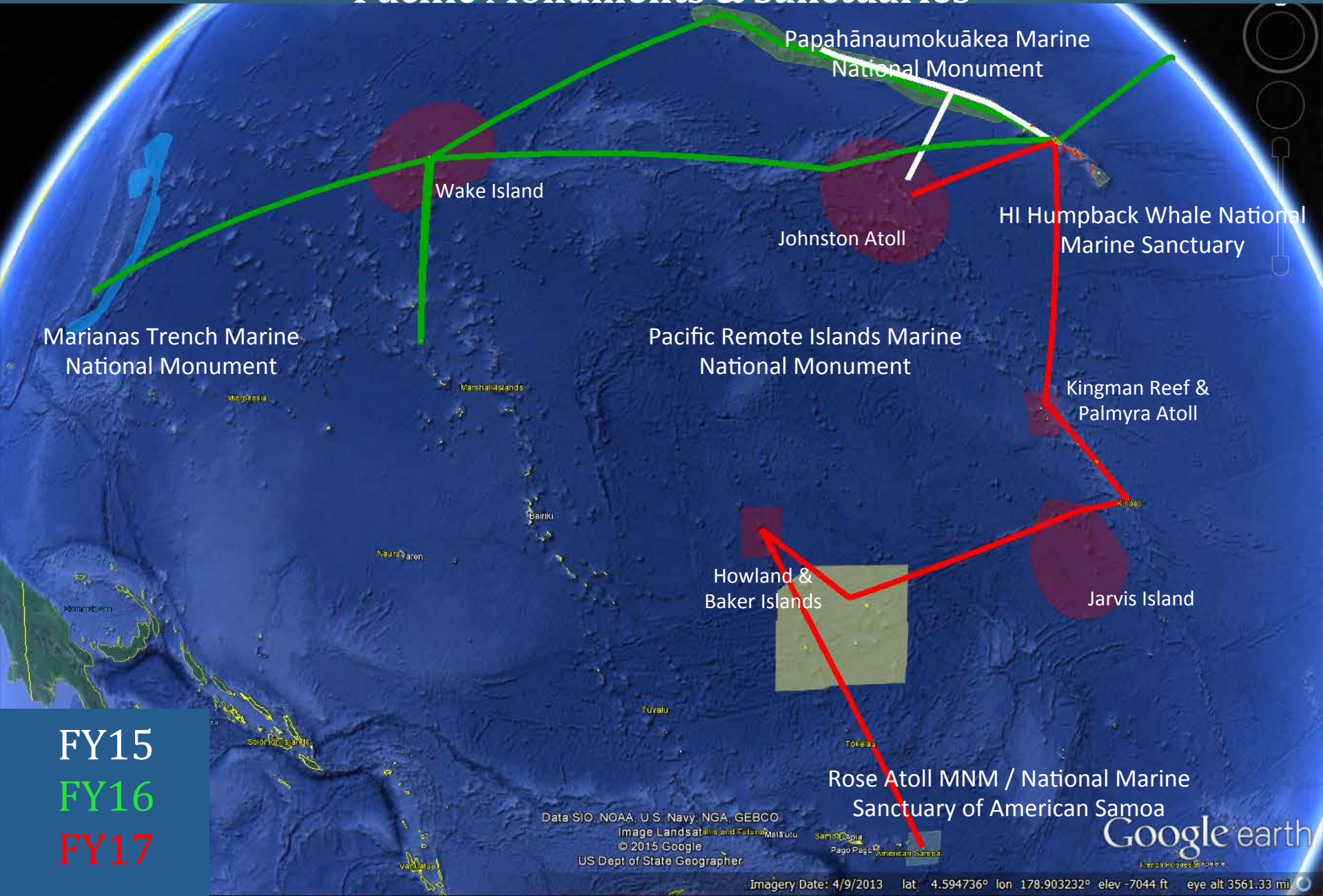
FY15: Papahānaumokuākea, Johnston Atoll, & Vicinity of HI Humpback Whale NMS

- Four integrated legs:
 - 3 Jul to 24 Jul (22 DAS)
 - 31 Jul to 22 Aug (23 DAS)
 - 28 Aug to 03 Sep (7 DAS)
 - 7 Sep to 30 Sep (24 DAS)
- 4 mapping, 3 with ROV
- Expand on recent *Falkor* work
- Complements *Hi'ialakai* work
- Open data policy
- Ship and shoreside science via telepresence (UH, IRC, HBOI, SS)
- Genome Legacy Project Northeastern

Major agency initiative in response to PRIMNM expansion

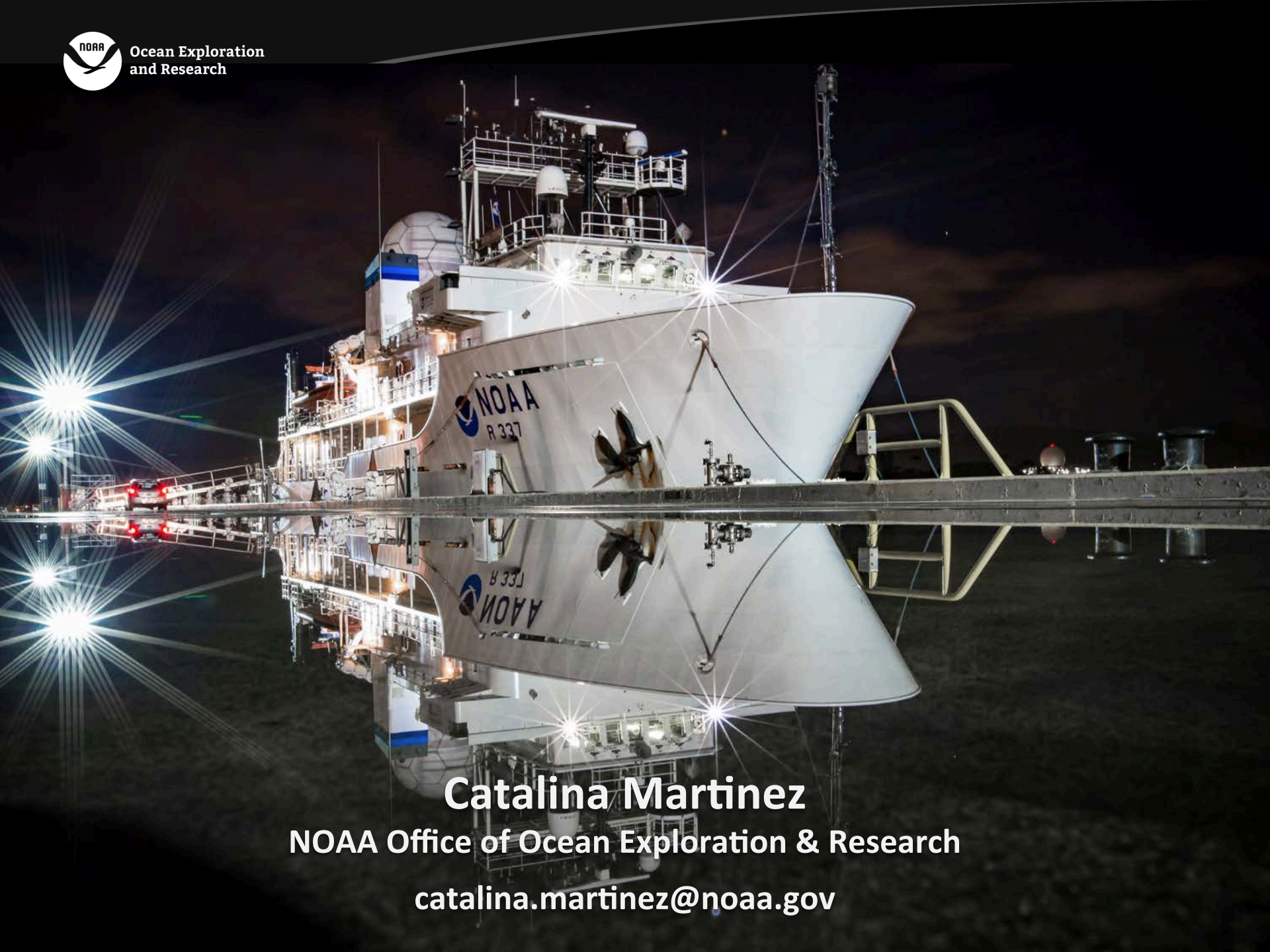
OAR, NMFS, and NOS are all contributing varying numbers of DAS for *Okeanos Explorer* shiptime in FY15. The cross-LO Team is pooling the DAS to develop an integrated field program focused on baseline characterization of deepwater habitats. OER funds the majority of science costs.

Draft FY15-17 CAPSTONE Plan Pacific Monuments & Sanctuaries





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CAPSTONE Science Themes:

- Systematically collect baseline information to support priority Monument and Sanctuaries science and management needs;
- Identification and characterization of vulnerable marine habitats – incl. emphasis on deep coral and sponge habitats;
- Characterization of seamounts within the Prime Crust Zone (PCZ). PCZ likely has the highest concentration of deep sea minerals – incl. rare earth elements - on the planet.

Piggyback Operations?:

Shallow corals: feasibility of collecting data relevant to ESA-listed coral species in a manner that does not compromise planned deepwater operations

Marine Mammals: Onboard observer and potential UAS ops

Extended Continental Shelf: Extend and ground-truth bathymetry data for potential US claim.

FY16: Marianas, Wake Island & Papahānaumokuākea

- West Coast Dry Dock (20 DAS Transit)
- Main Hawaiian Island Shakedown (12 DAS)
- HI – Guam Mapping Leg (17 DAS)
- CNMI and Marianas Trench MNM
 - 3 integrated legs totaling 67 DAS
 - 3 mapping; 2 incl ROV
- Wake Island (PRIMNM)
 - 3 integrated legs totaling 52 DAS
 - 3 mapping; 1 incl ROV
- Papahānaumokuākea
 - 1 west-east ROV leg maximizes 22 DAS
 - *Midway port call is critical*

Pooling LO Days At Sea

Total of ~190 DAS. Includes:

- ~19 OMAO- Dry dock transits
- 96 OAR – Base allocation
- 22 NOS – Fleet Council 5%
- 45 NMFS – Fleet Council 5%
- 08 NMFS – Program Funded

Cross-LO discussions critical to designing an extremely efficient schedule that minimizes transits and maximizes DAS in priority operating areas.

FY17: MHI, PRIMNM, American Samoa

Two phases to FY17

- Oct – Apr:
 - Vicinity of Main Hawaiian Islands
 - Dockside repair
- May – Sep:
 - Remote islands to the south
 - PRIMNM, American Samoa
 - Phoenix Islands

