National Oceanic and Atmospheric Administration

Fleet Update

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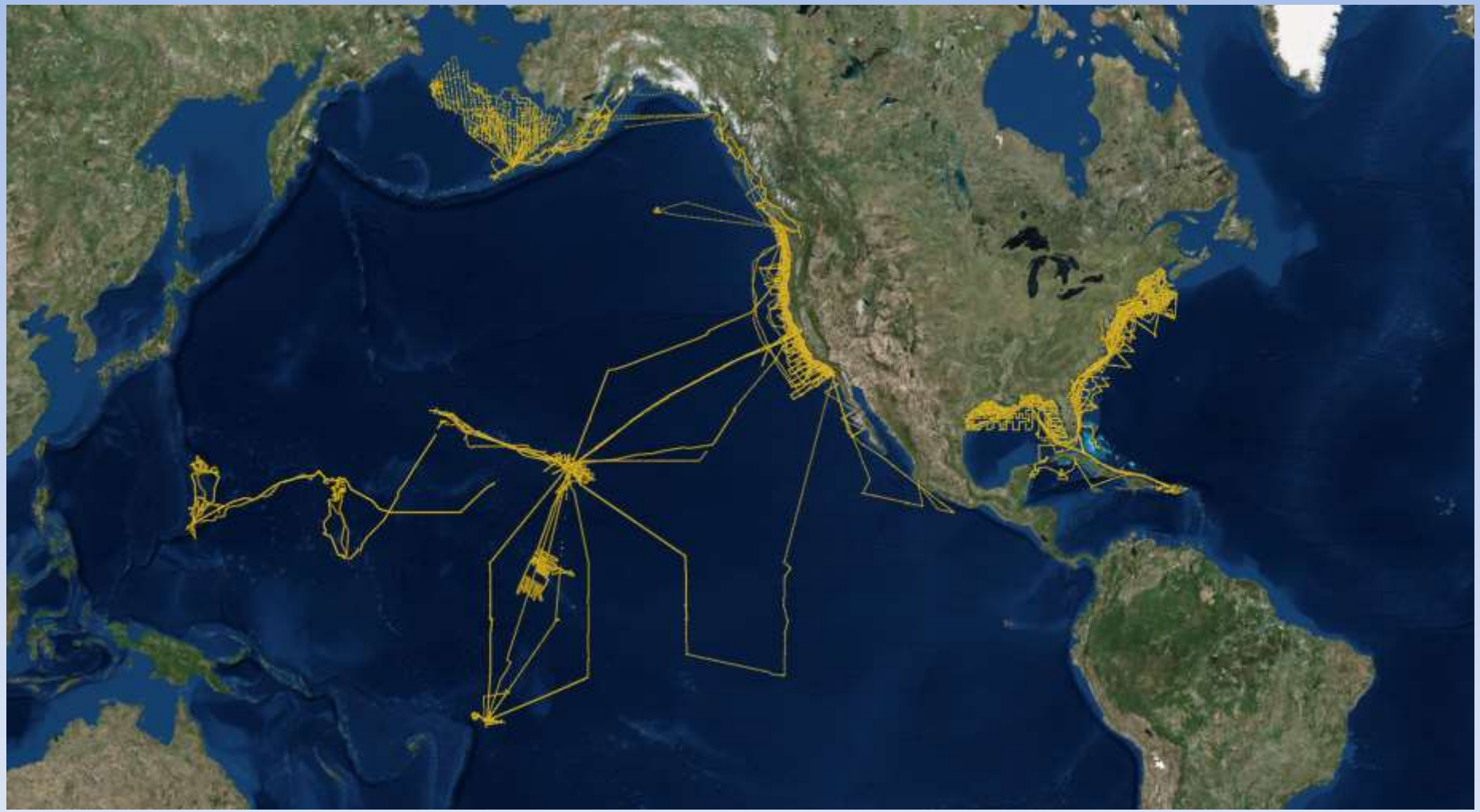
Director, Office of Marine and Aviation Operations

2015 – 2016 Field Season



Mission Highlights
NOAA Ship *Ronald H. Brown*

- Continued work in the Pacific, will complete missions in both Pacific and Atlantic in 2017
- Tropical Atmosphere Ocean Array
- West Coast Ocean Acidification

Mission Highlights
NOAA Ship *Ronald H. Brown*

- El Niño Rapid Response Field Campaign
- A strong El Niño can produce intense rainstorms causing flooding, landslides, and property damage
- Improving forecast models will produce more robust forecast models

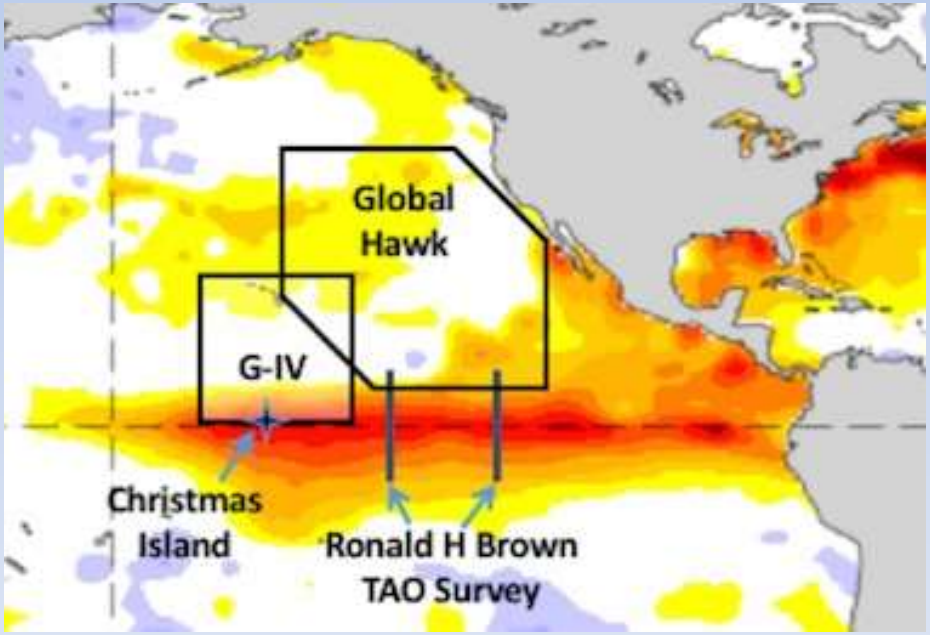


Image: NOAA/ESRL

Mission Highlights
NOAA Ship *Okeanos Explorer*

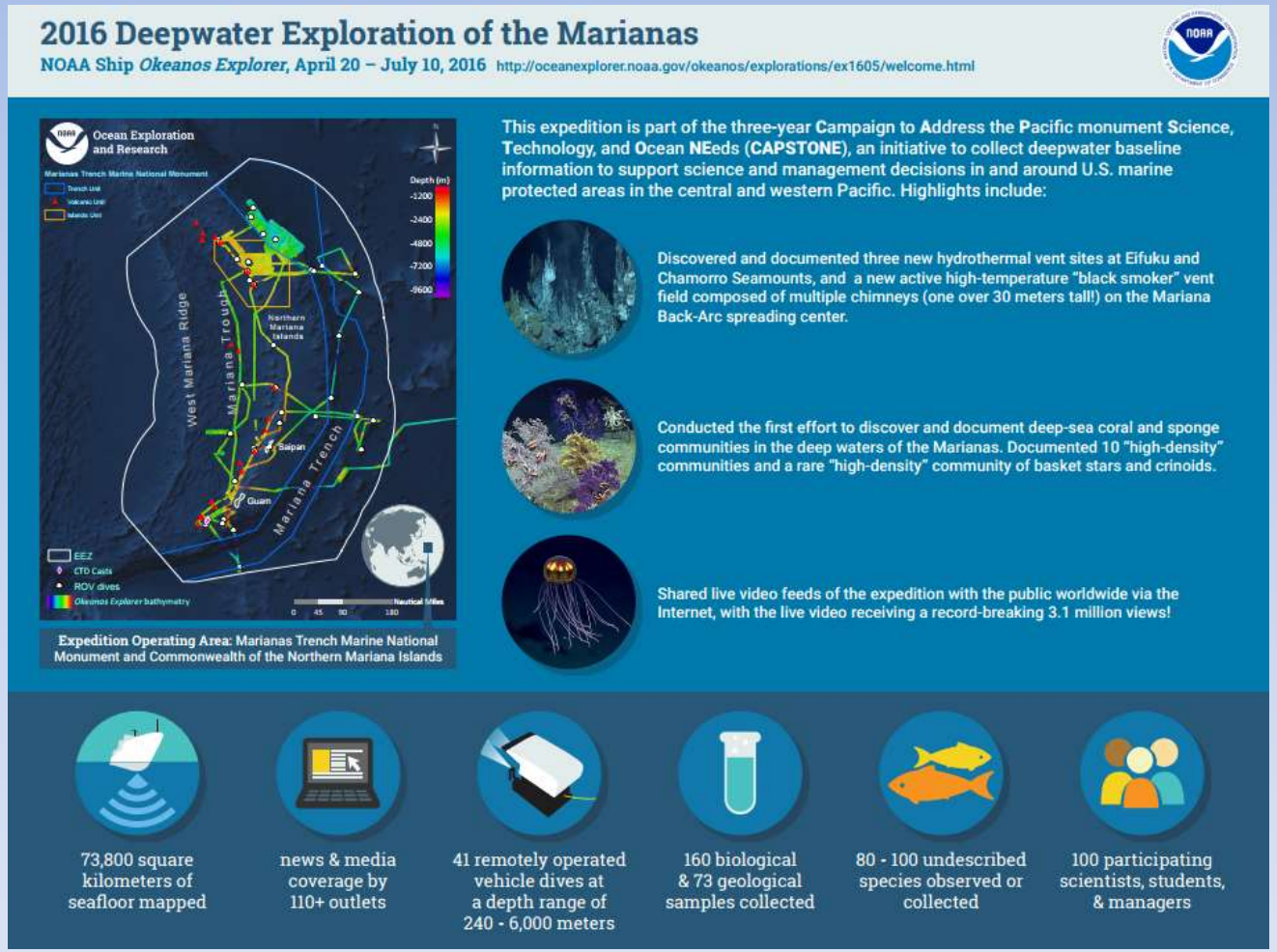


Image courtesy of NOAA Office of Ocean Exploration and Research, 2016 Deepwater Exploration of the Marianas

Mission Highlights
NOAA Ship *Okeanos Explorer*

- Ongoing CAPSTONE Project
- Exploration in the Western Pacific around Tinian Island
- Discovery of a B-29 wreck using NOAA's ROV Deep Discoverer

Photo: NOAA Office of Ocean Exploration and Research

Mission Highlights
NOAA Ship *Reuben Lasker*

- Completed first full year of scientific operations
- Projects included California Current Ecosystem Survey, Juvenile Rockfish Survey, West Coast cetacean research
- Study of harmful algal bloom

Photo: Paul Hillman / NOAA

Mission Highlights
NOAA Ship *Henry B. Bigelow*

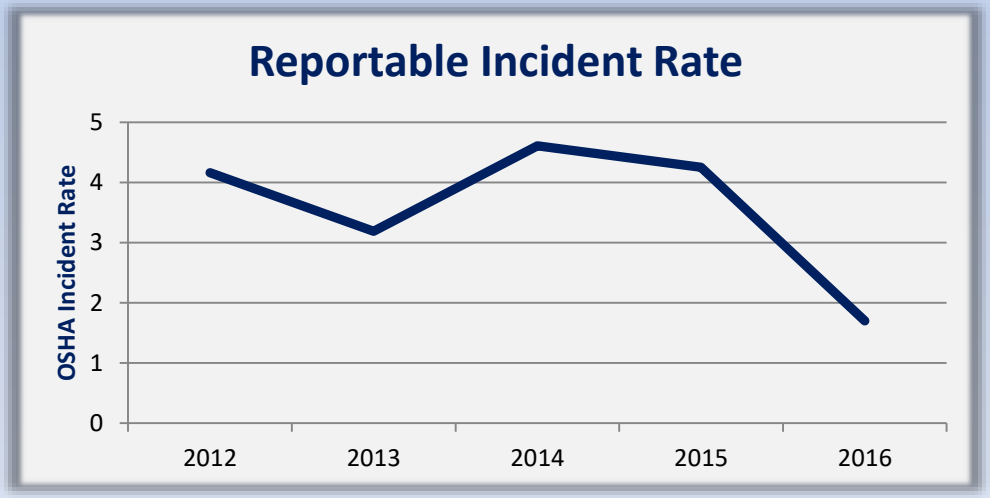
- Completed the Atlantic Marine Assessment Program for Protected Species
  - Worked with NOAA aircraft to optimize marine mammal survey efforts
  - Project highlights included the first sighting-verified acoustic signature of a True's beaked whale
- Fall and Spring Bottom Trawl/Acoustic Survey

Mission Highlights
Hydrographic Fleet

- Surveyed over 1,435 square nautical miles in 2016
- Updated critical navigation charts for
  - Growing ports of Savannah, GA and Wilmington, NC
  - SE Alaska and Kodiak, high-traffic navigable waterways
  - Continuing work in Arctic, including high-priority areas that have not been surveyed in >100 years

Fleet Safety Summary – FY 2016

- Approximately 30% of reportable incidents across OMAO were caused by improper focus of attention and/or complacency.
- Over 40% of NOAA total reportable incidents occurred on ships and small boats

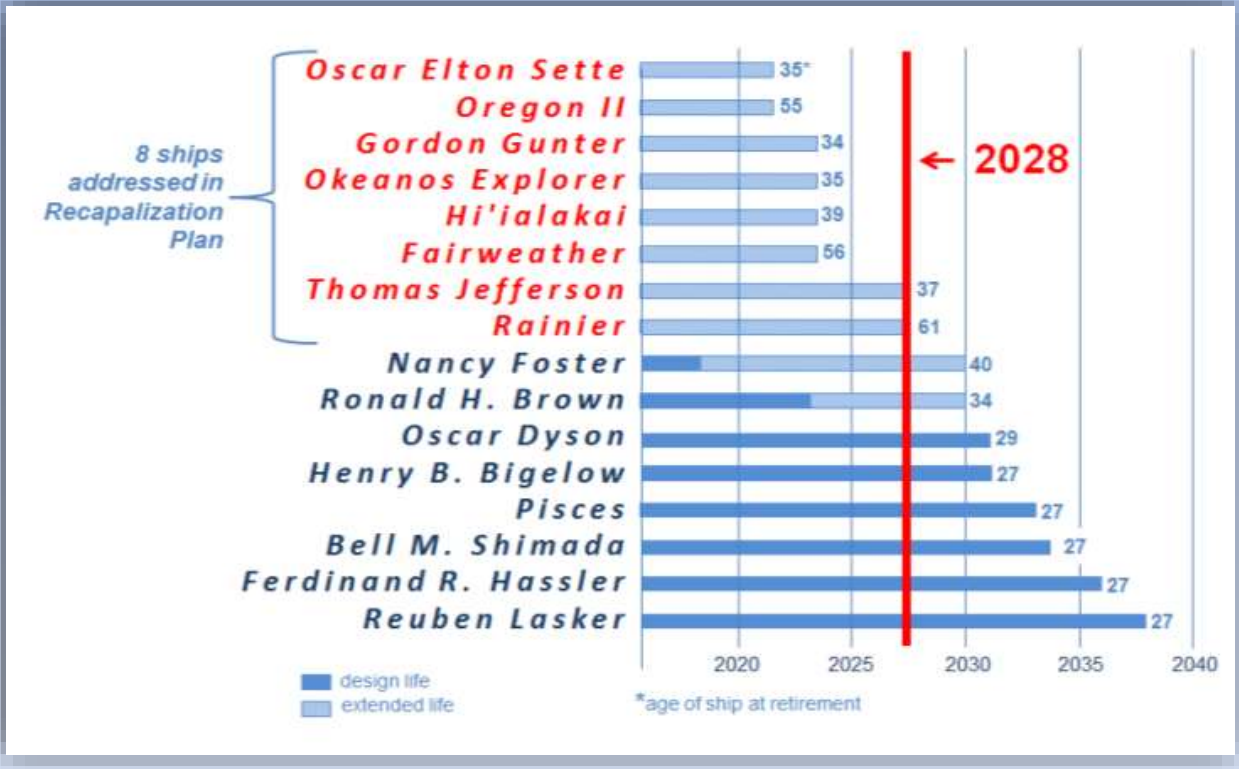


http://storms.ngs.noaa.gov/storms/matthew/index.html

Summary Stats and Observations

- 2015 -2016, the fleet accomplished 85% of planned sea days.
  - 3 of our oldest ships account for 80% of lost time
- 50% lost time due to unscheduled maintenance.
  - Extended repairs (growth work) 40%
- Old ships and new ships have different challenges
  - Regulatory environment driving design, modifications, and operating constraints
  - Growth of unmanned systems
  - Cyber security, IT, Communications requirements ⇧

NOAA Fleet of the Future?



NOAA Fleet Independent Review Team

- Diverse team of senior-level subject matter experts worked to assess:
  - Current fleet composition and capabilities
  - Long-term recapitalization planning based on NOAA's at sea data collection requirements

Independent Review Team Recommendations

1. Develop and implement a recapitalization plan that provides core mission capacity and capabilities.
2. Initiate actions to procure a general purpose oceanographic vessel as the first step in a recapitalization plan leveraging the Navy's AGOR specifications.
3. Conduct independent benchmarking of maintenance and crewing processes against industry best practices.
4. Senior NOAA leadership must commit to a stable, multi-year funded capital acquisition plan and funding to fully utilize and maintain the fleet as stewards of this national capability.

Fleet Force Architecture

- Objective: to develop a quantitative, objective, analytically robust, and repeatable process to develop defensible insights into viable Fleet Architecture capabilities and alternatives to meet NOAA's mission requirements.

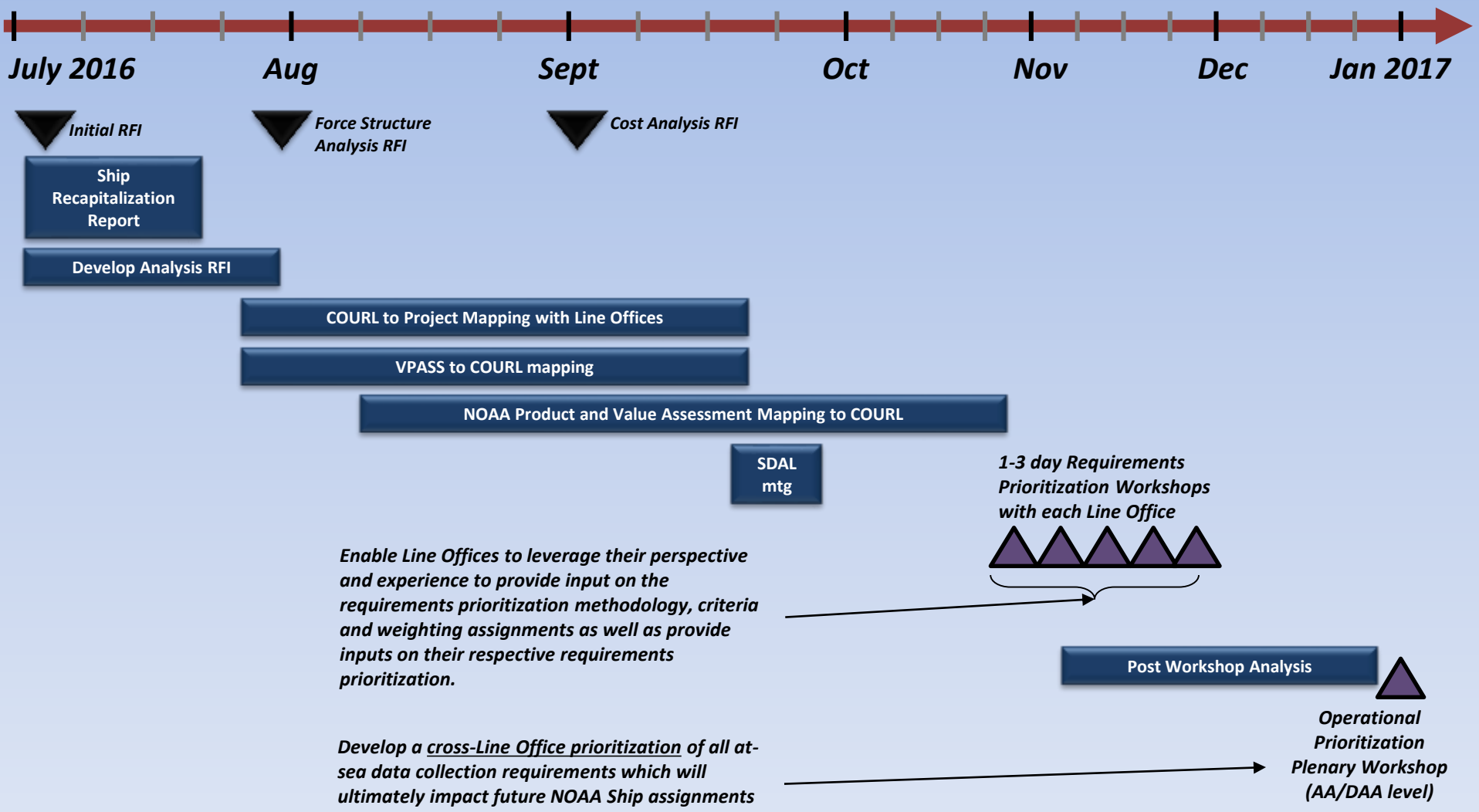
Phase I: Requirements Prioritization and Force Architecture Modeling and Simulation

Phase II: Force Architecture / Fleet Recapitalization Roadmap Development

Phase III: NOAA Ship Recapitalization Plan Development

Fleet Force Architecture:

Operational Requirements Prioritization Timeline



Thank You