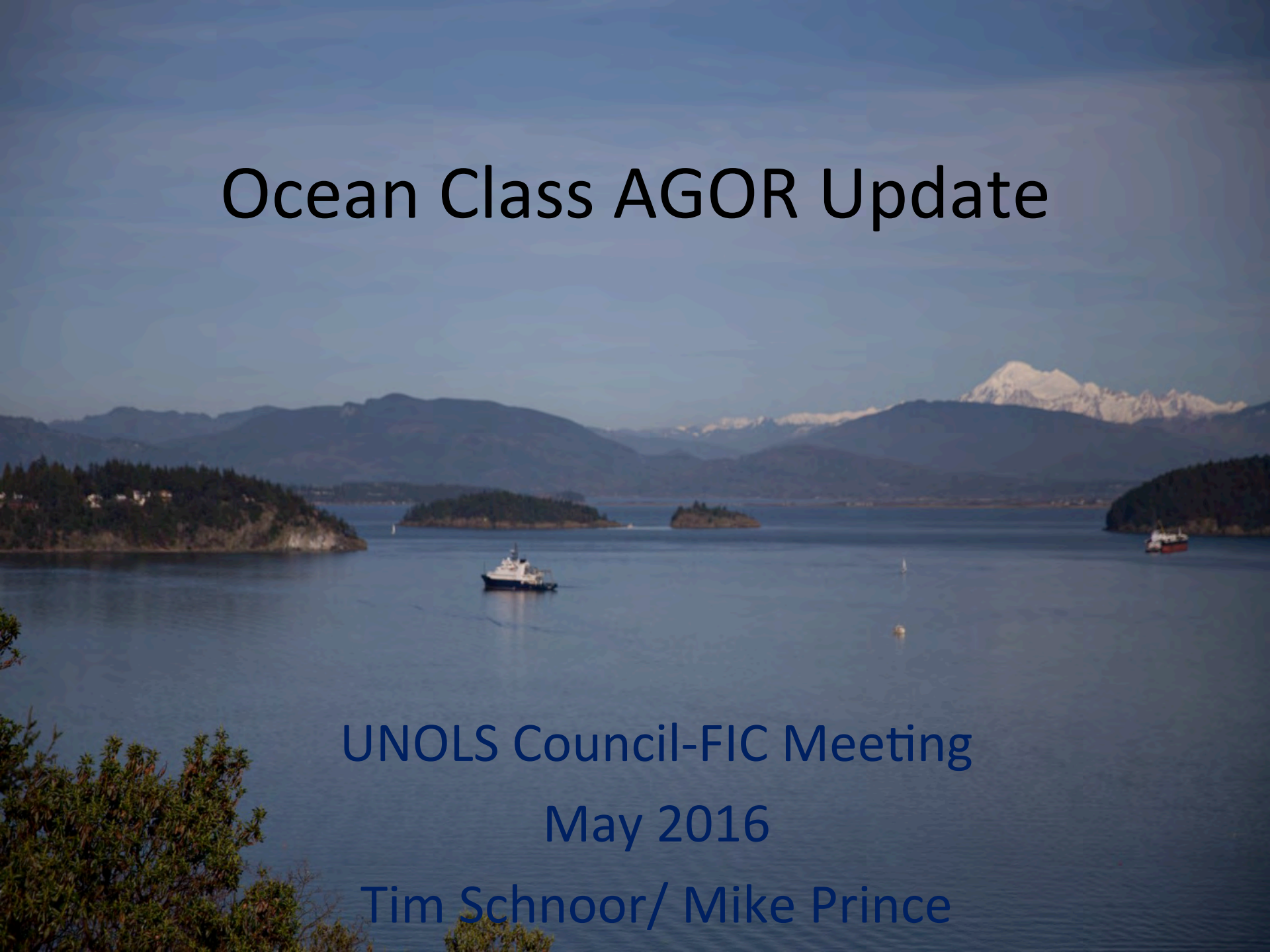


# Ocean Class AGOR Update

UNOLS Council-FIC Meeting

May 2016

Tim Schnoor/ Mike Prince

# Ocean Class AGOR Characteristics

Key Characteristics:

- Hull Material — Steel; Aluminum pilothouse
- Length — 238 ft
- Beam (Max) — 50 ft
- Draft — 15 ft
- Displacement — 3043 LT (Full Load)
- Sustained Speed — 12 kts
- Range — 10,545 nm
- Endurance — 40 days
- Propulsion Electric — 4 x 1044 kW Diesel Gensets, 2 x 879 kW Propulsion Motors, 2 x Controllable Pitch Propellers, Bow & Stern Thrusters
- Accommodations — 20 crew, 24 science berths
- ABS Classed/ABS Designed to ABS ✠A1 Circle E, ✠AMS and ✠ACCU, NIBS, Ice Class D0, USCG COI

Mission: Integrated, interdisciplinary, general purpose oceanographic research in coastal and deep ocean areas. Oceanographic sampling and data collection of surface, mid-water, sea floor, and sub-bottom parameters.

Owner – U.S. Navy – Office of Naval Research (ONR)
R/V *Neil Armstrong* (AGOR 27) – Woods Hole Oceanographic Institution
R/V *Sally Ride* (AGOR 28) – Scripps Institution of Oceanography
Builder: Dakota Creek Industries, Inc., Anacortes WA
Delivery: September 23, 2015 – *Neil Armstrong*
June 2016 – *Sally Ride*

Mission Equipment

- Multi-Beam: EM-122 1º x 2º
- Multi-Beam: EM-710 0.5° x 1°
- ADCPs: 38 kHz, 75 kHz or 150 kHz, 300 kHz
- Knudsen Chirp 3260, 16 3.5 kHz & one 12 kHz
- Fleet Broadband, HiSeas Net: C-Band/Ka/Ku
- Kongsberg HiPap or Sonardyne ATNS
- Fisheries Echosounder EK860 (5 frequencies)
- 2 Hydro Winches, 2 drum traction winch
- Local Area Network servers, printers, plotters, AHRS, TSG, SSSV, etc.

# R/V *Neil Armstrong (AGOR 27)*


Mike Prince Photo

Ken Kostel, WHOI Photo

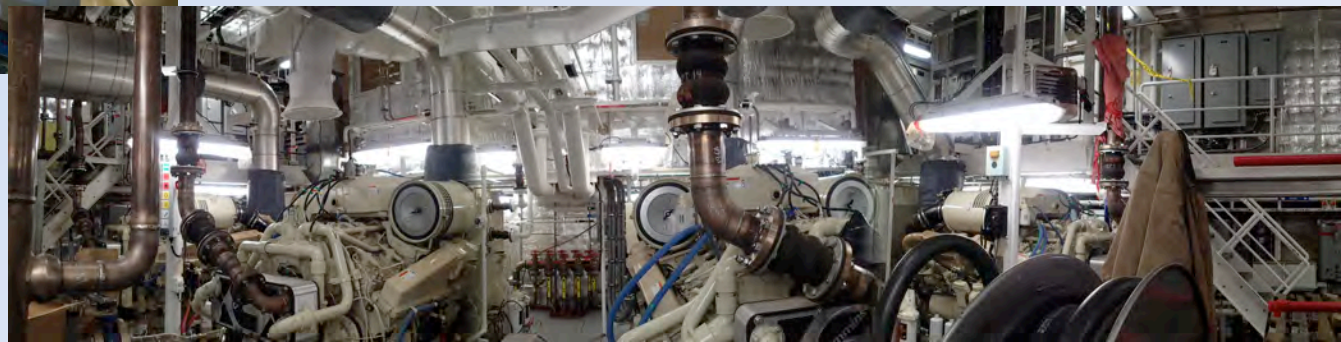
WHOI Photo

Photo by Daniel Cojanu, WHOI

# Project Status

- R/V *Neil Armstrong* (AGOR 27)
  - Delivered to the Navy and WHOI on 9/23/15
  - Completed Phase III Mission Equipment installation shipyard period at Deytens in Charleston South Carolina in Feb 2016
  - Completed Radiated Noise tests at AUTEC Range
  - Completed 3 Science Verification cruises
  - Arrived in Woods Hole for the first time on April 6th
  - Maintenance period  April 6 to 25th
  - NSF/UNOLS inspection Completed April 26-28
  - First Paid Science Cruise starting May 12th for OOI

# R/V *Sally Ride (AGOR 28)*



Photos by
Paul Bueren, SIO

# Project Status

- R/V *Sally Ride* (AGOR 28)
  - Successful completion of Acceptance Trials 3/10/16
  - Hauled out for Phase III Mission Equipment installation at Dakota Creek on 4/4/16
  - Phase III scheduled to be completed by 5/15/16
  - Delivery some time between June 9th and 29th
  - 30 day Fitting Out Availability and SAT Tests for Mission equipment through early August.
  - Science Verification Cruises, Equipment testing, possible Radiated noise tests and public outreach port calls through Late October
  - NSF/UNOLS inspection Late October
  - First Paid Science Cruise starting Nov 7th for CALCOFI

# The Good, the Bad and the Ugly

(Captain Desjardins uses this to describe progress on SALLY RIDE)

- The Good
  - Overall workmanship and construction is excellent
  - Ships are quiet –
    - airborne noise meets rigorous specifications with just a few exceptions. Staterooms are extremely quiet.
    - SONAR Self Noise meets or exceeds requirements.
    - Radiated noise requirements (for 8 knots) is met at 10 knots and ICES curve is essentially met at 8 knots.
  - Tier 3 engines and integrated bus result in meeting EPA emission requirements and fuel consumption is better than expected at …
  - Bubble sweep down and acoustic system performance is still being evaluated, but preliminary results are very good.
    - Some bubble sweep down issues headed into seas.
  - The suite of acoustic systems and their performance provide a wide range of functionality and have been well received on SVC cruises.
  - Performance of winches, handling devices and cranes is generally very good.
  - DP and maneuverability is very good.
  - Despite being smaller than the Global Class vessels the open back deck is still effective for mooring work.

# The Good, the Bad and the Ugly

- The Bad
  - The lightship displacement is considerably less than design requiring ballast and full load of fuel to get close to design draft.
    - Affects acoustic performance, bubble sweep down, ship motions and sea suction for science seawater system.
  - Ship's motion in seaway is greater than predicted.
    - Could be related to weight issue.
  - Main Crane location and design (knuckleboom) makes it difficult (impossible?) to effectively place it in a crutch and use it as a Starboard side overboarding system for the traction winch.
    - An alternate solution will need to be developed for using traction winch wires/ cables over the starboard side.
  - Airborne noise on the working deck is above requirements in some locations. Fix is a box around the stacks. (might be ugly)
  - The main working decks take on quite a lot of water. Several issues related to preventing this and draining of water on decks and in labs need to be resolved.
  - Over 100 Guarantee Deficiencies have been reported. Many are minor and have been corrected, but several will take more planning and effort during the Post Shakedown Availability.

# Questions?

Photo – Paul Bueren, SIO