

Ocean Class AGOR Update



UNOLS Annual Meeting

December 2015

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 | 4 x 1044 kW Diesel Gensets, 2 x 879 kW Electric 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*
April 2016 – *Sally Ride*

Mission Equipment

- Multi-Beam: EM-122 12 kHz 1° x 2°
- 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 EK80 (5 frequencies)
- 2 Hydro Winches, 2 drum traction winch
- Local Area Network servers, printers, plotters, AHRS, TSG, SSSV, etc.

Construction Progress

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



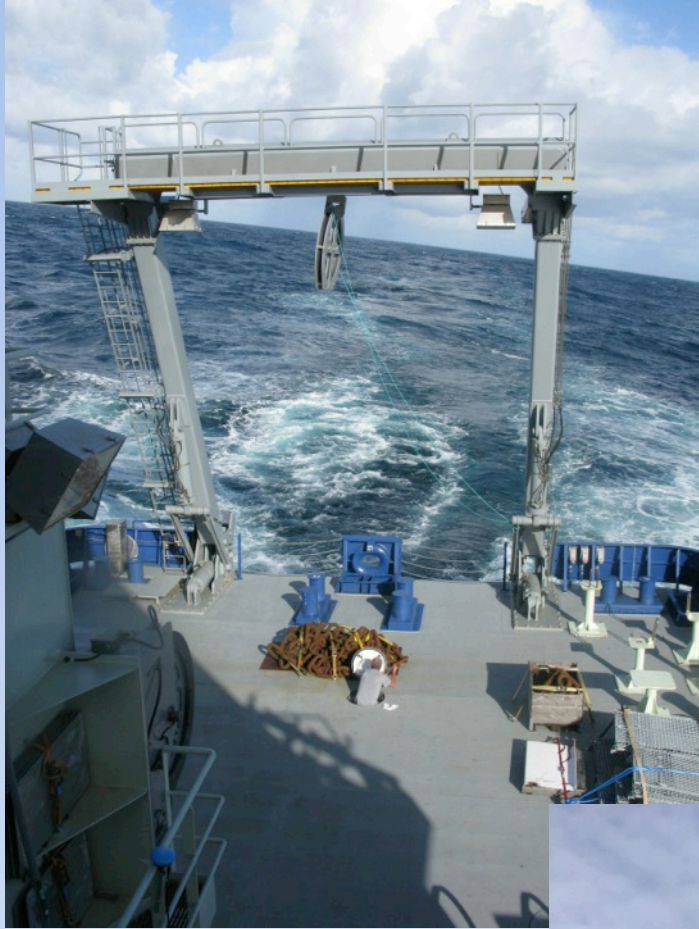
R/V Sally Ride (AGOR 28) - Planned Schedule

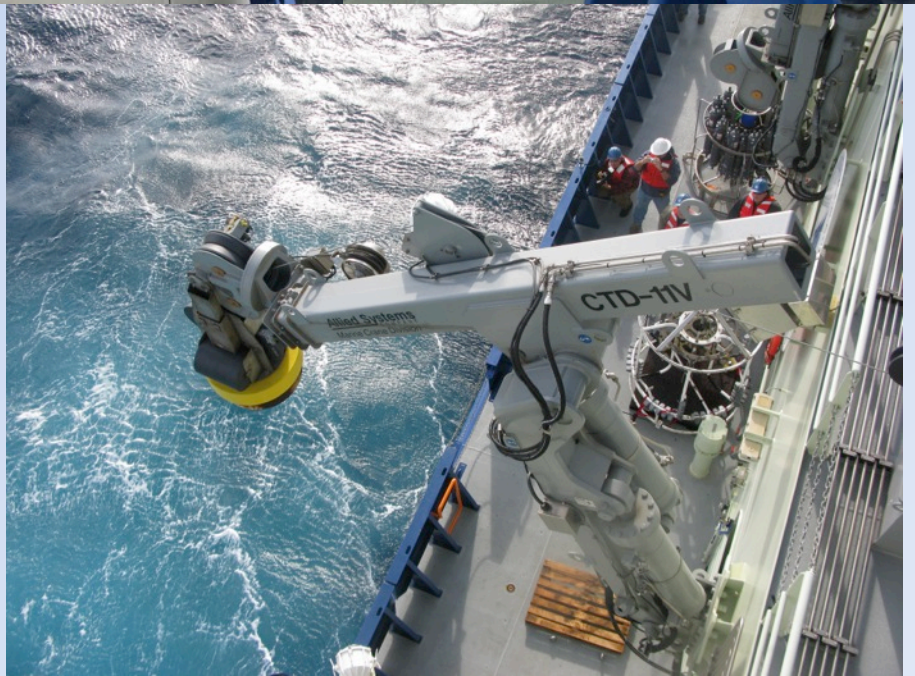
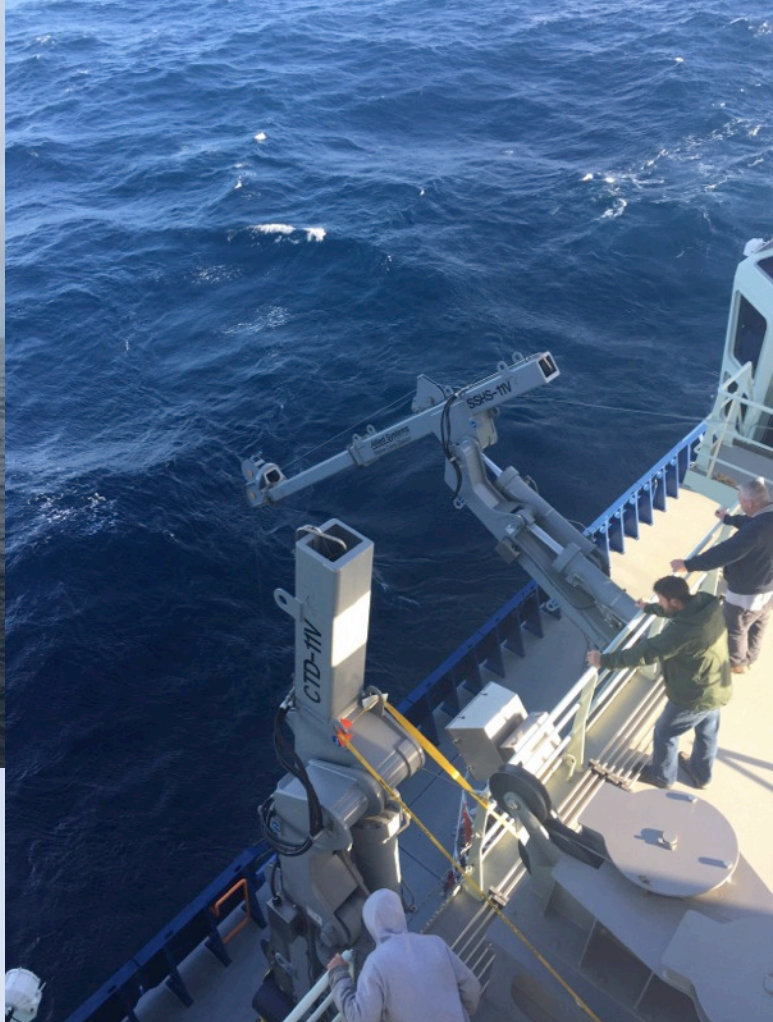
- Currently undergoing final outfitting, equipment commissioning and testing*
- Builder's trials to start in January 2016*
- Early March 2016– Acceptance Trials, Navy INSURV*
- Late April 2016 Planned Delivery (Delivery date may be postponed if Mission Equipment Installation takes place at DCI in April – No major net effect on schedule)*
- April – June: Fitting Out Availability and installation of Acoustic Systems & Mission Equipment. Actual Schedule and location of Mission Equipment Installation still to be determined.*
- Summer 2016: Transit to San Diego, further outfitting, shakedown and science verification cruises*
- Science Operations towards the end of the year 2016*

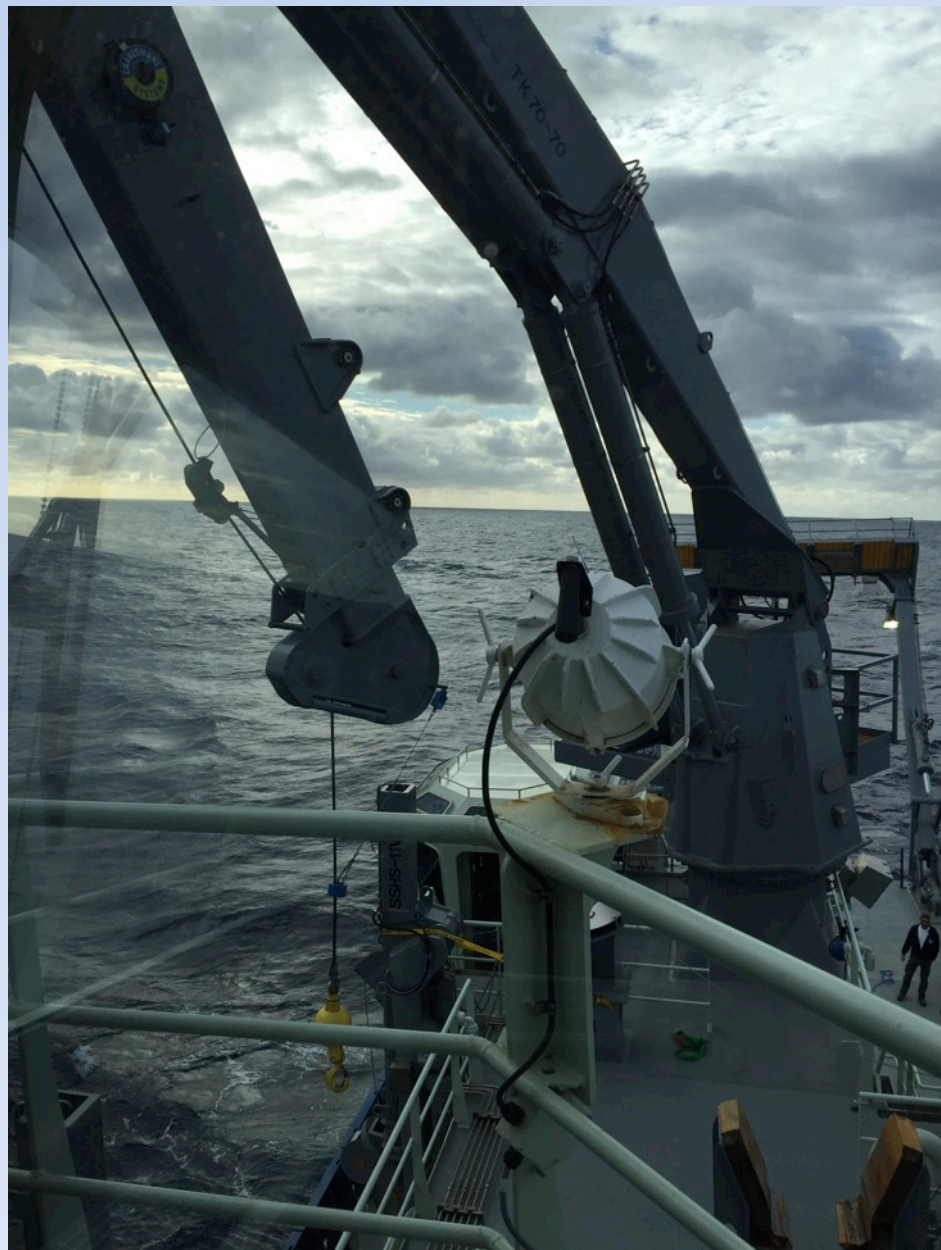
Delivered & Operated By WHOI

R/V Neil Armstrong (AGOR 27)













DRAFT 2015-2016 Schedule, *R/V Armstrong*



December-January Phase III Outfitting
 Detyen's Shipyard: Charleston, SC

Feb. 22-29 Shakedown Cruise III
 Charleston - Charleston SC

March 5-13 Science Verification I
 Charleston - Charleston SC

March 17-25 Science Verification II
 Charleston - Charleston SC

March 29-April 5 Science Verification III
 Charleston SC - Woods Hole MA

April 14-20 Science Verification IV
 Woods Hole MA

April 25-29 Final Acceptance Trials/INSURV
 UNOLS Designation
 Woods Hole MA

May 18-31 OOI Pioneer Cruise
 Woods Hole MA

June 7-13 Science Verification V
 Woods Hole MA

June 19-25 Science Verification VI
 Woods Hole MA

June 27-July 28 OOI Irminger Sea
 Reykjavik, Iceland

Aug 3 – Sept 8 OSNAP West Cruise
 St. John's, Canada

Sept. 23-Oct. 7 Warranty Drydock
 TBD

Oct. 10 - Nov. 1 OOI Pioneer Cruise
 Woods Hole MA

Nov. 14-19 Science Verification VII
 Woods Hole MA



Planned Types of SVC Cruises/Activities



Science Verification Cruises

- Mooring
- Hydrography
- ROV w/ shipmounted USBL
- Biophysical inc. bioacoustics
- Geophysics
- Coring
- Laboratory function
- Ship's underway sensors
- Ship's underway data collection
- Communications ship to shore & data transfer
- Telepresence

Shakedown Cruises

- Multibeam Oversight Committee
- ADCP Performance (Jules Hummon)
- Winch & wire deployments with CTD
- Ship networking and data logging and integration
- Ship meteorological, underway seawater, and hull-mounted sensor function

The first three SVC cruises will include testing of all capabilities required for the first funded science cruises

The later four SVC cruises will expand to test the whole suite of *Armstrong* science capabilities

The Former KNORR Crew Now the ARMSTRONG Crew Questions?

