

annually (Figure 3). It has also resulted in funded projects being deferred by months to years. This has serious implications for the maintenance of a healthy and vigorous ocean research and training program.

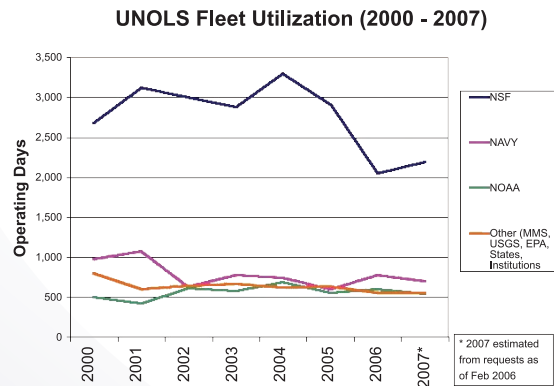


Figure 3: UNOLS Fleet Utilization

The Aging Fleet and Renewal Prospects

Regional Class vessels will soon be constructed with NSF funds to replace the aging vessels in this class (Figure 4).

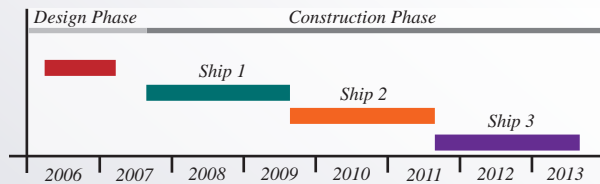


Figure 4: Nominal timeline for Regional Class Construction.

The science Mission Requirements for new Ocean Class vessels to replace the aging Intermediate Class ships have been developed. Navy funds to construct the ships are yet to be appropriated.

The Alaska Region Research Vessel (ARRV), an ice strengthened ship for use in Arctic research has been designed and funds to build it are requested by NSF for FY07.

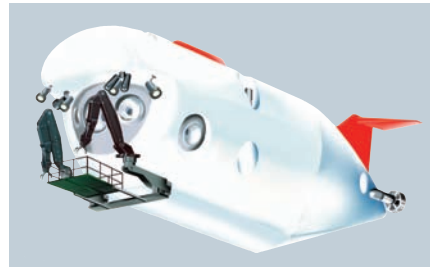


Conceptual drawing of the ARRV by The Glisten Associates, Inc.

Some general-purpose Global Class research vessels are approaching mid-life and will need refitting in the next five to ten years.

In addition to updating for general use, some consideration must be given to incorporating a heavy lift capability to address ocean observatory and long coring needs.

The deep submergence community will benefit by the replacement of *DSRV Alvin* with a new submersible having a depth range of 6500 m and by the construction of a hybrid ROV with a depth capability of 11,000 m.



Conceptual drawing of the deep-diving human occupied vehicle under design as a replacement HOV. Illustration by E. Paul Oberlander, Woods Hole Oceanographic Institution.

UNOLS Chair: Peter H. Wiebe (WHOI)

UNOLS Chair Elect: Marcia McNutt (MBARI)

UNOLS Past Chair: Tim Cowles (OSU)

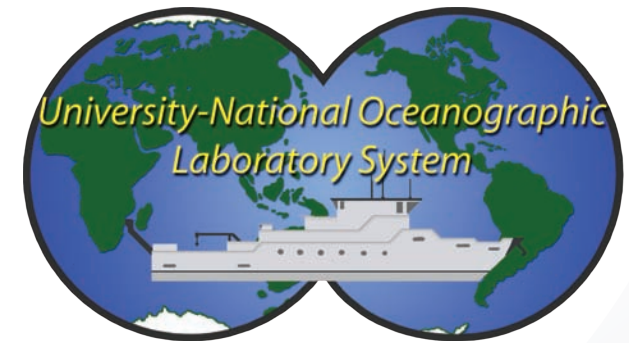
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University-National Oceanographic Laboratory System



R/V Thomas G. Thompson



R/V Roger Revelle



R/V Atlantis

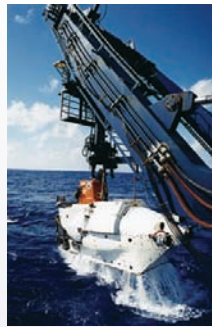
UNOLS, a union of 61 academic institutions and national laboratories involved in oceanographic research, is a unique organization within the marine community. It coordinates and reviews the access to and utilization of facilities for academic oceanographic research. For the community of users, it reviews the current match of facilities to the needs of academic oceanographic programs and makes appropriate recommendations of priorities for replacing, modifying or improving the numbers and mix of facilities, especially research vessels. It works to foster federal and other support for academic oceanography, thereby continuing and enhancing the excellence of this nation's oceanographic program.

UNOLS consists of an elected Council and eight standing committees. All Council and Committee members are volunteers.

The **UNOLS Council** consists of 18 members that represent and act on behalf of the UNOLS membership as the operating and governing body of UNOLS. It gives attention to the effective use of available oceanographic facilities and it evaluates the need for replacement and additional facilities, and assesses whether facilities are outmoded or in excess of current needs. It makes recommendations to funding agencies regarding the needs for specialized facilities or new concepts in facilities and the balance between facilities and funded research programs. The council accepts charges from funding agencies for special studies and reviews, and it assists funding agencies in efforts to obtain adequate and uniform financial data and post-cruise reporting of ship operations.

The **Fleet Improvement Committee (FIC)** works to assure the continuing excellence of the UNOLS fleet, to improve the capability and effectiveness of individual ships, and to assure that the number, mix, and overall capability of ships in the UNOLS fleet match the science requirements of academic oceanography in the U.S.

The **DEep Submergence Science Committee (DESSC)** provides oversight responsibilities in the use of *Alvin* and the Remotely Operated Vehicle (ROV) assets of the National Deep Submergence Facility, is an ombudsman for the deep submergence community, insuring maximum participation in the utilization of these deep submergence assets. It promotes new technology for *Alvin* and the ROVs to maintain cutting edge capability for the National Facility. DESSC works with the user community, federal sponsors, and the deep submergence national facility operator to encourage deep submergence research in traditional areas and remote geographic regions and international collaboration.



DSRV Alvin

The newly formed **Marcus Langseth Science Oversight Committee (MLSOC)** will provide community input and will oversee the scientific operation of the *R/V Marcus Langseth* as a National Oceanographic Seismic Facility.

The **Research Vessel Operator's Committee (RVOC)** promotes fleet standards, marine safety, efficiency, and quality of service among marine science research and educational institutions through cooperation and an open forum of research vessel operators.

The **Research Vessel Technical Enhancement Committee (RVTEC)** promotes the scientific productivity of research programs that make use of research vessels and oceanographic facilities and fosters activities that enhance technical support for sea-going scientific programs.

The **Arctic Icebreaker Coordinating Committee (AICC)** is charged with providing oversight and advice to the U.S. Coast Guard for the purpose of enhancing facilities and science operations aboard their icebreaker fleet and to facilitate communications between Arctic scientists, funding agencies, and facility providers.



USCGC Healy

The **Ship Scheduling Committee (SSC)** develops and coordinates ship schedules in order to assure the most effective, efficient, and economic utilization of UNOLS ships and associated facilities.

The **Scientific Committee for Oceanographic Aircraft Research (SCOAR)** provides advice and recommendations to aircraft facility managers and supporting federal agencies on aspects of operations, sensor development, fleet composition, utilization, and data services as appropriate and promotes collaborations and cooperation between facility operators, funding agencies, and the scientific community to improve the availability, capabilities and quality of aircraft facilities supporting the ocean sciences.



UV-18a Twin Otter

Vessel	Operator	Length (ft)	Year Built / Refit	Retirement Date
Global Class				
MELVILLE	(UCSD)	279	1969 / 1991	2014
KNORR	(WHOI)	279	1970 / 1989	2015
THOMAS G. THOMPSON	(UW)	274	1991	2021
ROGER REVELLE	(UCSD)	274	1996	2026
ATLANTIS	(WHOI)	274	1997	2027
MARCUS LANGSETH	(LDEO)	235	1996 / 2006	2025
Ocean & Intermediate Classes				
KILO MOANA	(UHawaii)	186	2002	2032
SEWARD JOHNSON	(HBOI)	204	1985	2015
WECOMA	(OSU)	185	1976	2010
ENDEAVOR	(URI)	185	1976	2008
OCEANUS	(WHOI)	177	1976	2009
NEW HORIZON	(UCSD)	170	1978	2016
SEWARD JOHNSON II	(BBSR)	168	1982	2012
Regional Class				
HUGH R. SHARP	(UDelaware)	146	2005	2035
CAPE HATTERAS	(UNC/Duke)	135	1981	2011
POINT SUR	(MLML)	135	1981	2011
ALPHA HELIX	(UAlaska)	133	1996	2008
ROBERT G. SPROUL	(UCSD)	125	1981	2015
PELICAN	(LUMCON)	116	1985	2013
LONGHORN	(UTexas)	103	1971	2011
Local Class				
URRACA	(STRI)	96	1986	2016
EG. WALTON SMITH	(UMiami)	96	2000	2031
SAVANNAH	(Skidaway)	92	2001	2032
BLUE HERON	(UMN)	86	1985	2015
CLIFFORD A. BARNES	(UW)	66	1966	2007

Table 1: The UNOLS Fleet

The **UNOLS fleet** consists of 25 research vessels including six in the Global Class, seven in the Ocean/Intermediate Class, six in the Regional Class, and six in the Local Class. The global ships are highly capable and are able to work worldwide in ice-free waters. The Ocean and Intermediate Classes are smaller in size than the global ships and are ocean-going, but will not operate globally. The Regional Class ships are designed for operations in the inner shelf and coastal environments of the U.S. Local Class ships are those smallest in size, but play an important role in supporting research in the waters surrounding their homeports. Many of these vessels are approaching their 30-year mark when service is expected to end (Table 1).

The current UNOLS fleet is supported by funds principally from the National Science Foundation (NSF), Navy, and National Oceanic & Atmospheric Administration (NOAA) (Figure 1). Other federal agencies, states, and private institutions also contribute to operations and technical services costs.

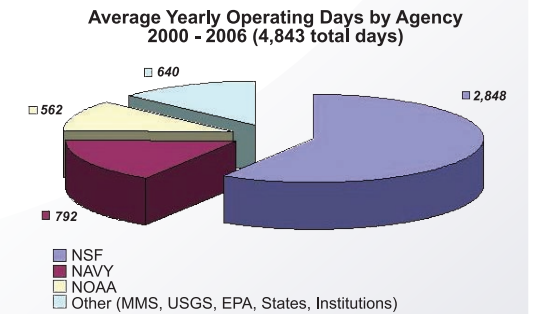
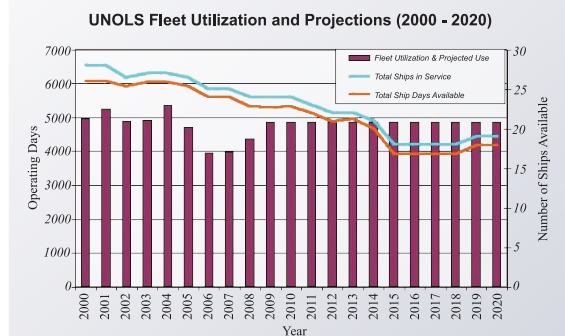


Figure 1: Average Annual Operating Days by Agency

Prior to 2006, ship use has been just under 5000 days per year and is projected to rise over the next decade when the global, regional, and coastal observatories are installed, used, and maintained. During this same period, many of the current vessels will reach the end of their service life. Fleet renewal plans call for three new Regional Class ships, an Alaska Region Research Vessel, and four new Ocean Class ships. Yet, even with the addition of these new ships, by the year 2020 there will be fewer ships to support science than is currently available (Figure 2).



The total ships in service is based on construction of all planned ships: 3 Regional Class vessels, ARRV, 4 Ocean Class vessels, and Local vessels are replaced as they retire.

Figure 2: UNOLS Fleet Utilization and Projections

Recent cuts in the funding to operate the fleet and rising costs due to the increased cost of fuel, health insurance, and maintenance costs have resulted in a decline in ship time that can be supported