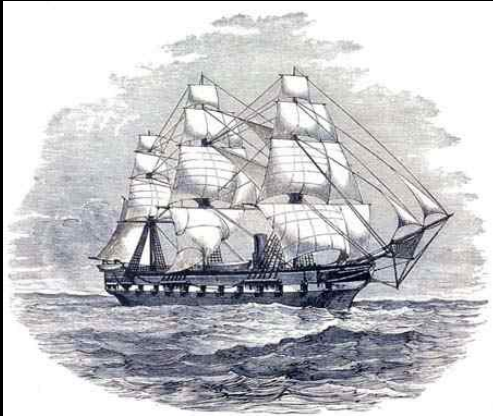




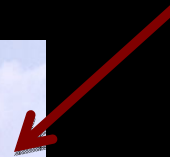
Greening the Research Fleet

January 10-11, 2012

Nicholas School of the Environment



<http://www.geology.19thcenturyscience.org/books/hmsc.jpg>



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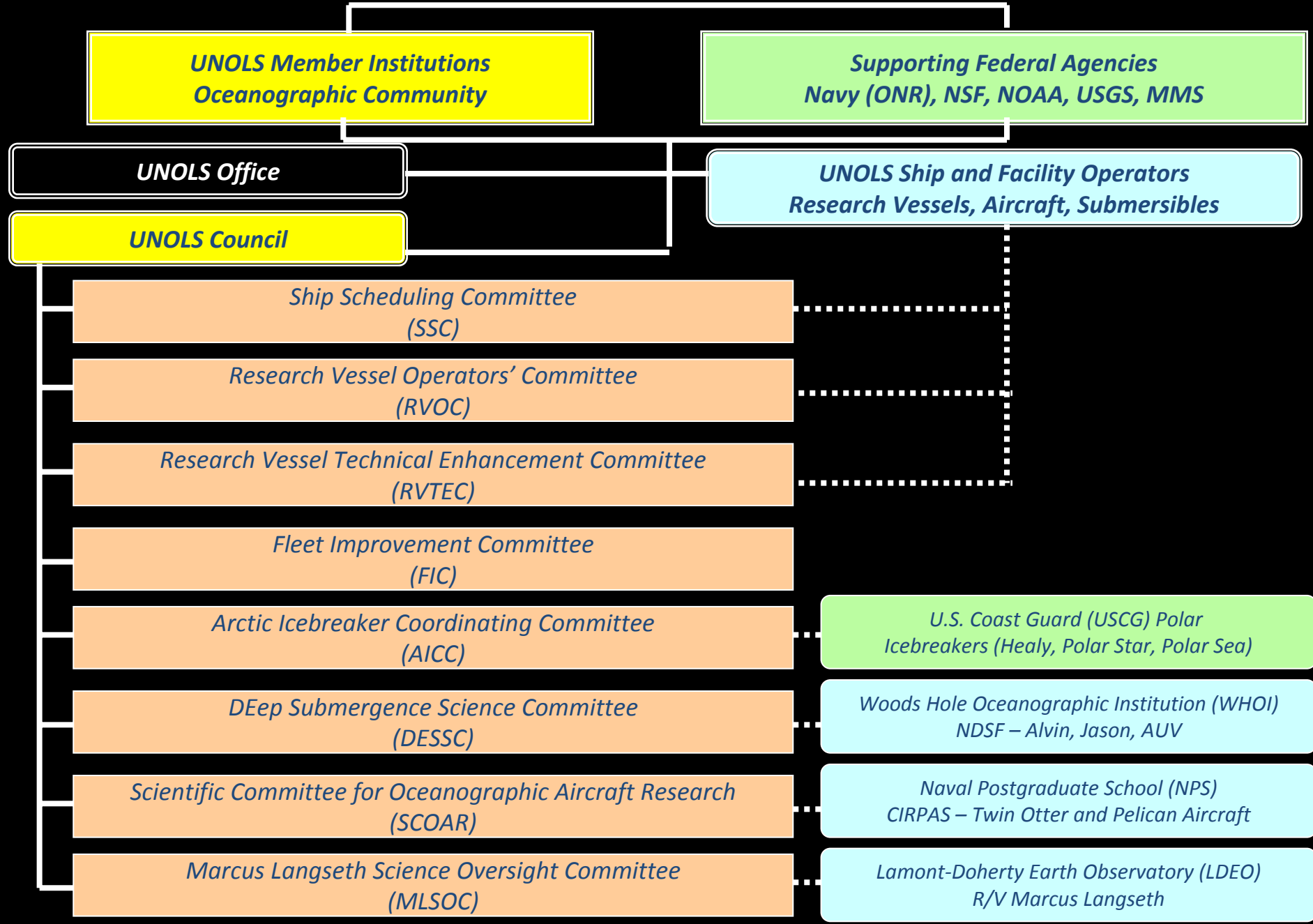
UNOLS in a Nutshell

UNOLS: Founded in 1971 with 33 ships operated by 17 laboratories

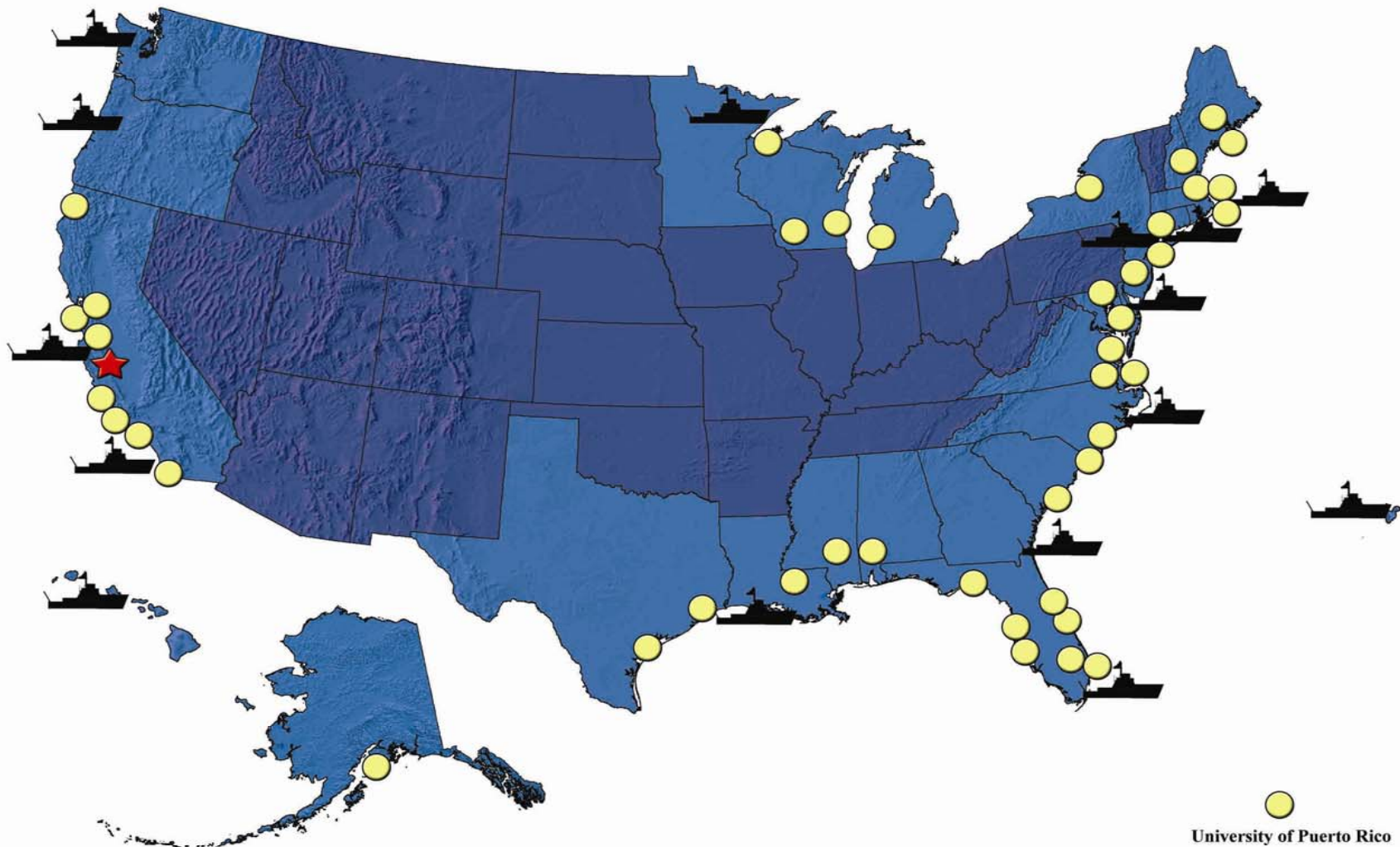
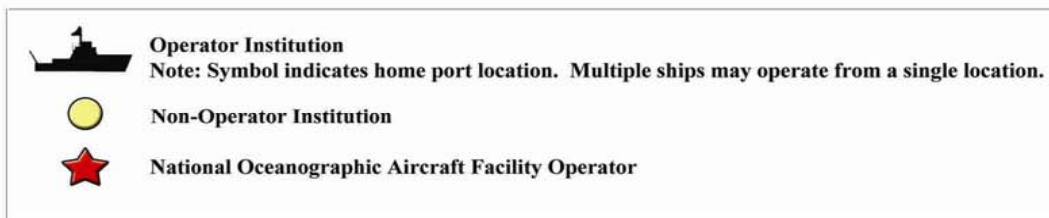
UNOLS today is an organization of 61 U.S. institutions with ocean science programs

- 16 of the UNOLS institutions are facility operators that include:
 - 20 Research vessels,
 - a National Deep Submergence Facility,
 - a National Oceanographic Aircraft Facility, and
 - a National Oceanographic Seismic Facility.
- Facilities are either owned by one of the Federal agencies or by individual institutions.
- Elected Council & 9 major committees (volunteers)
- UNOLS Office

UNOLS: Council, Committees, and Federal Sponsors



UNOLS MEMBERSHIP



● Smithsonian Tropical Research Institute - Panama

● University of Puerto Rico

UNOLS Goals

UNOLS is a coordinator or facilitator of community-wide efforts with these goals:

- ***Promote broad, coordinated access to oceanographic research facilities***
- ***Support continuous improvement of existing facilities***
- ***Plan for and foster support for the oceanographic facilities of the future***

UNOLS IS NOT A FUNDING AGENCY

The UNOLS Facilities of Today

* UNOLS is a large federal facility with $\sim > \$1$ billion in facility assets.

The UNOLS Fleet - 2011

SHIP/CLASS	BUILT	Conv/ Mid Life	Owner	LOA m (ft)	Science Berths
Global Class					
<i>Melville</i>	1969	1991	NAVY	85 (279)	38
<i>Knorr</i>	1970	1989	NAVY	85 (279)	34
<i>Thomas G. Thompson</i>	1991		NAVY	84 (274)	36
<i>Roger Revelle</i>	1996		NAVY	84 (274)	37
<i>Atlantis</i>	1997		NAVY	84 (274)	37
<i>Marcus G. Langseth</i>	1991	2007-2011	NSF	71 (235)	35
Ocean/Intermediate Class					
<i>Kilo Moana</i>	2002		NAVY	57 (186)	29
<i>Wecoma</i>	1976	1994	NSF	56 (185)	18
<i>Endeavor</i>	1976	1993	NSF	56 (184)	18
<i>Atlantic Explorer</i>	1982	2006	BIOS	51 (168)	20
<i>New Horizon</i>	1978	1996	SIO	52 (170)	19
Regional Class					
<i>Point Sur</i>	1981		NSF	41 (135)	12
<i>Cape Hatteras</i>	1981	2004	NSF	41 (135)	14
<i>Hugh R. Sharp</i>	2005		UD	44 (146)	14
Coastal Class					
<i>Robert Gordon Sproul</i>	1981	1985	SIO	38 (125)	12
<i>Pelican</i>	1985	2003	LUMCON	32 (105)	14
<i>Walton Smith</i>	2000		Miami	30 (96)	16
<i>Savannah</i>	2001		SKID/UG	28 (92)	19
<i>Blue Heron</i>	1985	1999	UMINN	26 (86)	6
<i>Clifford Barnes</i>	1966	1984	NSF	20 (66)	6

Global Class



Marcus G. Langseth



Atlantis



Knorr



Roger Revelle



Melville



Thomas G. Thompson

Ocean/Intermediate Class



Wecoma



Atlantic Explorer



Kilo Moana



Endeavor



New Horizon

Regional Class



Hugh R. Sharp



Point Sur



Cape Hatteras

Coastal/Local Class



Pelican



Robert Gordon Sproul



F.G. Walton Smith



Clifford A. Barnes



Blue Heron



Savannah

National Deep Submergence Facility



AUV Sentry



DSRV Alvin (Photo credit: WHOI)



ROV Jason II (Photo credit: WHOI - <http://www.divediscover.who.edu/tools/jason.html>)

Center for Interdisciplinary Remotely-Piloted Aircraft Studies



Pelican OPV (Photo credit:
<http://cirpas.org/index.html>)



UV-18a Twin Otter

Seismic Vessel: *R/V Marcus G. Langseth*



Photo credit: Mutter, J. C., S. Carbotte, M. Nedimovic, J. P. Canales, and H. Carton (2009), Seismic imaging in three dimensions on the East Pacific Rise, *Eos Trans. AGU*, 90(42), 374–375. http://www.agu.org/pubs/eos-news/supplements/2009/mutter_90_42.shtml

The starboard paravane about to enter the water. The paravanes permit the streamers and other towed equipment to be widely separated.

New Research Vessels



R/V Sikuliaq: Sikuliaq is an Inupiaq name meaning "young sea ice" or "young sea ice that is safe to walk on."

<http://www.sfos.uaf.edu/arrv/about/>

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- The Navy has awarded contracts for the construction of two new Ocean Class ships.
 - NSF continues plans for up to 3 new Regional Class ships

UNOLS: 2012

* UNOLS is a large federal facility with ~ > \$1 billion in research assets.

"Greening the Fleet – UNOLS should explore how to make the present and future fleet more environmentally sustainable. New and existing technologies and practices should be used in the construction, operation, and recycling of research vessels and UNOLS should take a leadership role in promoting a green U.S. research fleet, as we move forward in developing the academic fleet."



2010 UNOLS GOAL

"Greening the Fleet – UNOLS should explore how to make the present and future fleet more environmentally sustainable. New and existing technologies and practices should be used in the construction, operation, and recycling of research vessels and UNOLS should take a leadership role in promoting a green U.S. research fleet, as we move forward in developing the academic fleet."



MOTIVATION

1. Environmental stewardship
2. Educational outreach
3. Finances
4. Fleet renewal