

# APPENDIX VII

## NSF BUDGET SUMMARY



### Life in Extreme Environments (LExEn)

---

**Purpose:** To provide knowledge fundamental to understanding the processes that led to the formation and adaptation of life on Earth, and whether and how life may thrive on other planets.

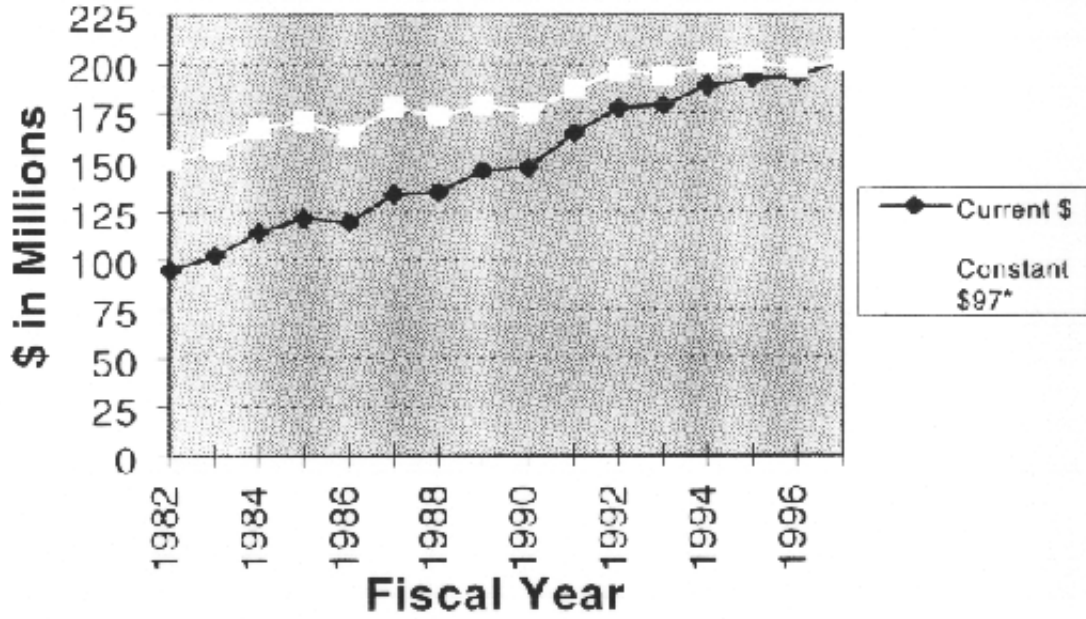
**Rationale:** The study of extreme environments on Earth (from mid-ocean ridges to volcanoes to polar sea ice), and the study of the life they support, may be the most effective path toward detecting and understanding the life forms that may exist beyond our own planet.

**Themes:**

- Microbial Systems of Earth
- Exploration of Extreme Environments
- Planetary Studies



## OCE Budget History: FY 1982 - FY 1997



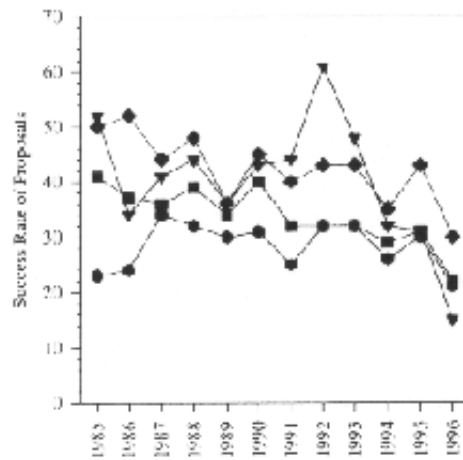
\* Deflators used are current as of July, 1996.

10/96 OCE-33



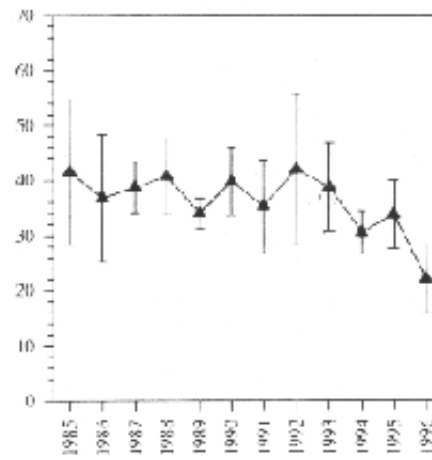
# OCE/OSRS Success Rates for Competitive Proposals

Success Rate by Program



Average Success Rate

+/- 1 STD



Fiscal Year

- ◆ Physical Oceanography
- Biological Oceanography
- Marine Geology & Geophysics
- ▼ Chemical Oceanography

## NSF Ocean Sciences Division

	FY 1994	FY 1995	FY 1996	FY 1997
Ocean Sciences Research	100.0M	102.6M	104.9M	109.3M
Oceanographic Centers & Facilities	50.3M	50.4M	48.9M	52.3M
Ocean Drilling Program	38.7M	39.8M	39.9M	40.2M
	<u>\$189.0M</u>	<u>\$192.8M</u>	<u>\$193.7M</u>	<u>\$201.8M</u>
<b>OCEANOGRAPHIC FACILITIES DETAIL</b>				
<b>Operations</b>				
Ship Operations*	32.2M	35.1M	31.1M	31.4M
ALVIN, Aircraft, etc.	2.2M	2.1M	2.4M	2.7M
Marine Techs.	4.2M	4.4M	3.8M	4.0M
	<u>\$38.6M</u>	<u>\$41.6M</u>	<u>\$37.3M</u>	<u>\$38.1M</u>
<b>Infrastructure</b>				
Major Research Inst.	--	--	--	4.5M
Science Instruments	2.5M	1.9M	2.3M	2.1M
Shipboard Equipment	2.1M	1.1M	1.7M	1.5M
Ships, Upgrades	2.1M	0.2M	1.5M	1.0M
UNOLS, misc.	0.5M	0.5M	0.3M	0.5M
	<u>\$7.2M</u>	<u>\$3.7M</u>	<u>\$5.8M</u>	<u>\$9.6M</u>
<b>Centers &amp; Reserves</b>				
AMS	1.2M	1.0M	1.4M	1.2M
IAI	1.3M	2.0M	1.9M	1.6M
Cross Directorate/Reserves	2.0M	2.1M	2.5M	1.8M
	<u>\$4.5M</u>	<u>\$5.1M</u>	<u>\$5.8M</u>	<u>\$4.6M</u>

\*Plus \$1.5M from ODP (1994), \$1.8M (1995), \$1.4M (1996), \$2.0M (1997)

Nov 96



# 1997 UNOLS Ship Classification (Heinrichs Model)

---

## Large Ships

- THOMPSON
- KNORR
- MELVILLE
- EWING
- ATLANTIS
- REVELLE

## Local

- PELICAN
- LONGHORN
- BLUE FIN
- SEA DIVER
- BARNES
- CALANUS
- LAURENTIAN
- URRACA

## Intermediate Ships

- MOANA WAVE
- OCEANUS
- WECOMA
- ENDEAVOR
- GYRE
- NEW HORIZON
- S. JOHNSON
- E. LINK

## Regional

- ALPHA HELIX
- POINT SUR
- CAPE HATTERAS
- SPROUL
- CAPE HENLOPEN
- WEATHER BIRD



## UNOLS Operations Support Trends 1993-1997 (\$K)

	ACTUAL 1993	ACTUAL 1994	ACTUAL 1995	PRELIM 1996	REQUEST* 1997
NSF	30,558	33,338	36,022	30,785	32,815
ONR/NRL	6,484	3,588	6,455	4,530	4,358
NOAA	1,981	1,956	2,209	1,143	3,509
OTHER	2,982	2,479	2,280	2,798	7,634
INST/STATE	3,074	2,591	1,563	3,112	2,536
	\$45,079	\$43,960	\$48,529	\$42,366	\$50,862
	ENDEAVOR midlife	OCEANUS, WECOMA, and S. JOHNSON midlife	ISELIN retired	CAPE HATTERAS layup PT. SUR overhaul N. HORIZON midlife, ATLANTIS II retired	REVELLE and URRACA added  ATLANTIS replaces ATLANTIS II

\* 1997 Request In Ship Operations Proposals. Some Projects Still Pending.  
Expect Some Reduction In Actual Support.

Nov 96



## "Other Support" -- UNOLS Operations Trends 1993-1997

	ACTUAL 1993	ACTUAL 1994	ACTUAL 1995	PRELIM 1996	REQUEST 1997
NAVOCEANO	---	---	---	---	4,655
INTERNATIONAL	815	191	687	494	1,849
INDUSTRY	467	119	614	652	551
DOE	401	641	36	950	---
NAVY	322	338	202	86	294
POSTGRAD					
"NAVY LABS"	521	281	8	136	---
ARPA	44	442	284	175	---
MMS	325	145	117	124	---
USGS	15	88	144	7	103
ALL OTHERS	72	<u>234</u>	<u>188</u>	<u>172</u>	<u>183</u>
	\$2,982	\$2,479	\$2,280	\$2,796	\$7,635

**Notes:**

"NAVY LABS" -- NRAD, NOSC, ARI, NUSC, "NAVY", JHU/APL  
 ALL OTHER -- MBARI, JOI, EPA, NASA, ARMY, MUSEUMS

Nov 96



## "Other Support" - UNOLS Ship Classes 1994-1997

SHIPS	ACTUAL 1994	ACTUAL 1995	PRELIM 1996	REQUEST 1997
Large	338	403	60	4,670
Intermediate	814	736	1,465	614
Regional	732	896	1,039	1,858
Local	<u>595</u>	<u>245</u>	<u>232</u>	493
	\$2,479	\$2,280	\$2,796	\$7,635

### 1997 DETAIL

	NAVOCEANO	UK	OTHER
Large	3,084	1,381	205
Intermediate	614	--	--
Regional	776	--	1,080
Local	<u>179</u>	<u>--</u>	<u>314</u>
	\$4,655	\$1,381	1,599

Nov 96





# UNOLS Operations Support Trends Summary

---

## Ships

- One Or More Intermediate/Regional Ship with Reduced Operations 1993-1996
- One Additional Large Ship 1997
- One Additional Local Ship 1997

## Funds

- Traditional Sponsors Have Modest Decline In Total Support 1993-1996
- Additional Ships Increase Overall Fleet Cost By Approx. \$4.8m In 1997
- New (One Time?) Funds From Navoceano and United Kingdom Of \$6.0M In 1997
- NOAA Increase Of Approx. \$2.4m In 1997

## Future

- ??????
- Probable Reduction Of Academic Fleet If Support Returns To Traditional Sponsors Only
- Large Ships Vulnerable



# **"Oceanography in the Next Decade" Building New Partnerships**

---

- **The Board recommends that federal agencies with marine-related missions find mechanisms to guarantee the continued vitality of the underlying basic science on which they depend.**
- **NSF, and secondarily ONR, should retain primary responsibility for the vitality of the basic science....**
- **It is particularly important to encourage involvement of mission agencies in sampling and monitoring programs.**
- **At present, a disproportionate share of funds is provided by NSF.**
- **...resources for individual investigator grants could be reduced if other agencies do not assume responsibility for some of the funding.**

(Ocean Studies Board, NAS, 1992)

Nov 96

