# UNOLS Report to the DEep Submergence Science Committee

Summary of the Council / Fleet Improvement Committee Meeting Held on March 9-11, 2004



### FIC/Council Meeting - Discussion Areas

- Fleet Renewal major focus area (details on next slide)
- Ocean Commission report
- Budget Shortfalls and implications on Ship Scheduling
- Marine Mammals and Acoustic Permitting Issues
- Frequency Spectrum Management Issues
- Shipboard Over-the-Side Handling Systems
  - Winch Inspections
  - ➤ Load Handling System Symposium

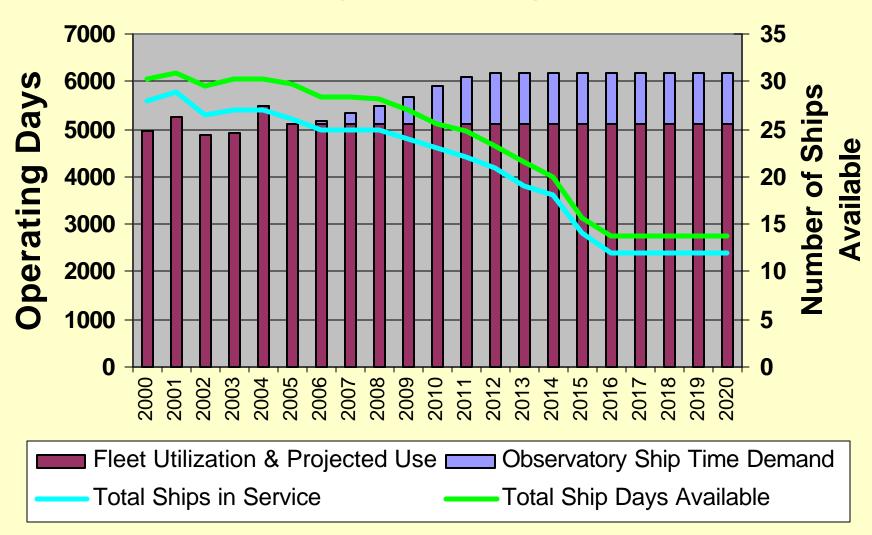
### Fleet Renewal – UNOLS Activities

- **Regional Class** Engaged in Phase III study and acquisition process. Ensure community input
- Ocean Class Actively participating in Phase II study
- Ongoing Design and Construction Efforts Staying engaged in ARRV, EWING replacement planning, and CHRV
- Long-Range Plan for Fleet Renewal Providing FOFC with information to assist in the FOFC Plan update.
  - ➤ Ocean Observatory Facility Needs incorporate ship time estimates from UNOLS Working Group Report
  - > Update vessel retirement dates
  - ➤ Update Fleet utilization trends

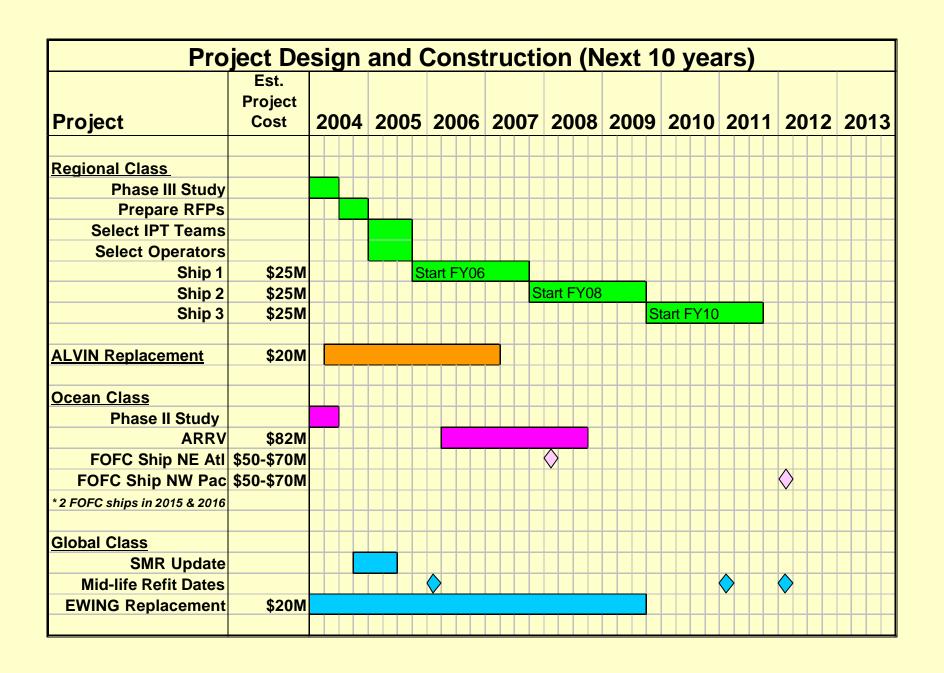
Figure 17. Proposed schedule for new construction.



### UNOLS Fleet Utilization and Projections (2000 - 2020)



<sup>\*</sup> Only new construction with funds identified have been included in the total.



### In Summary...

- The current Fleet includes 27 ships. In 2020 six of our current ships will still be in operation. Assuming that the new seismic vessel, ARRV, 3 NSF Regional vessels, and the CHRV are funded, six additional ships will be available for a total of 12 ships.
- With the addition of Ocean Observatory ship time (installation and O&M), demand is expected to increase ~1000 days by 2020.
- The additional Observatory ship time represents over 40% of the current use of the Global Class:
  - This is the most expensive day-rate category
  - Observatory needs will compete with the major interdisciplinary research programs that rely on the Global Class Vessels
- Funds to support the estimated future increase in ship time have not been identified.

### Summary - continued

- In 2020, a total of 21 <u>NEW</u> ships will be needed to meet estimated ship time demand (includes observatory ship time):
  - 5 Global ships (includes Seismic)
  - 5 Ocean Class ships (includes ARRV)
  - 3.5 Regional Class >40m ships (includes the 3 ships to be funded by NSF)
  - 7.5 Regional and Local Ships < 40m</li>
- The ship time projections indicate catastrophic consequences if there are further delays in new vessel design and construction.

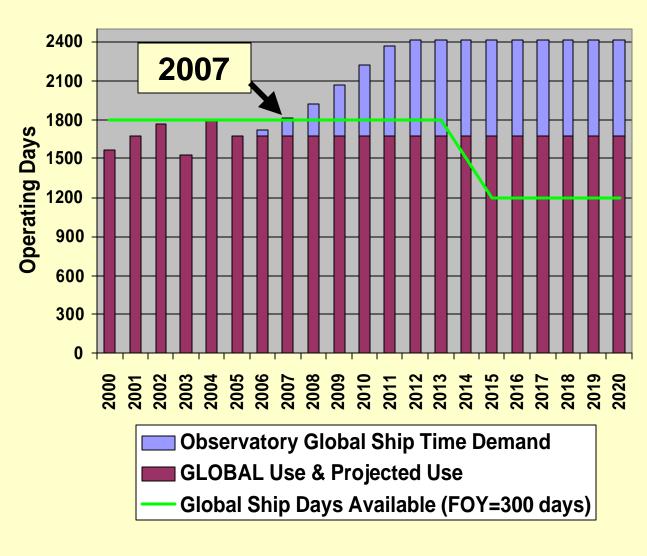
# UNOLS Letter Response to Ocean Commission report

- •Desperate situation with vessel infrastructure outlined in Chapter 27 of the Preliminary Report highlighted.
- •UNOLS strongly supports recommendation to Congress for modernization of critical infrastructure (Recommendation 27-4) and urges placing Recommendation 27-4 near the top of the prioritization list.
- •UNOLS endorses the recommendation to Congress to double the federal ocean and coastal research budget (Recommendation 25-1) and urges that 25-1 be placed at the top of the prioritization list for action by Congress.

### Questions ???



#### **Global Ship Utilization and Projections**



#### Ships needed in 2020:





1 ship = 300 operating days



= existing ship



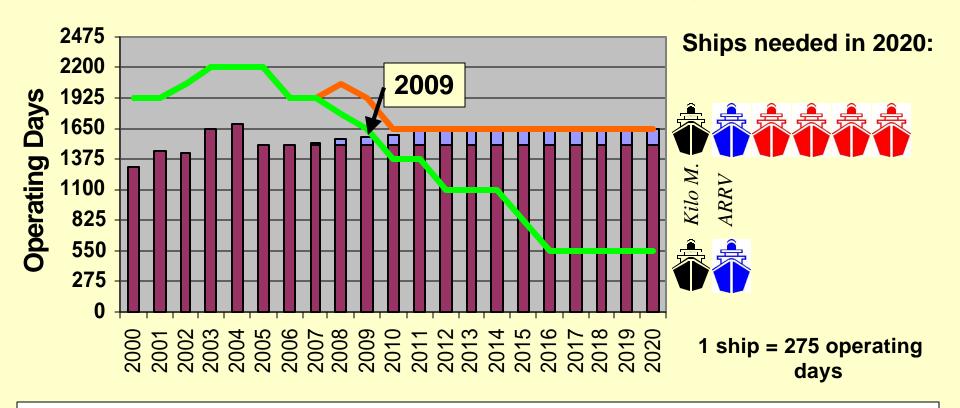
= new construction
(Seismic\* vessel)



= ship needed to meet demand

\* Seismic ship demand is expected to increase, this will make less time available for general purpose oceanography for this vessel.

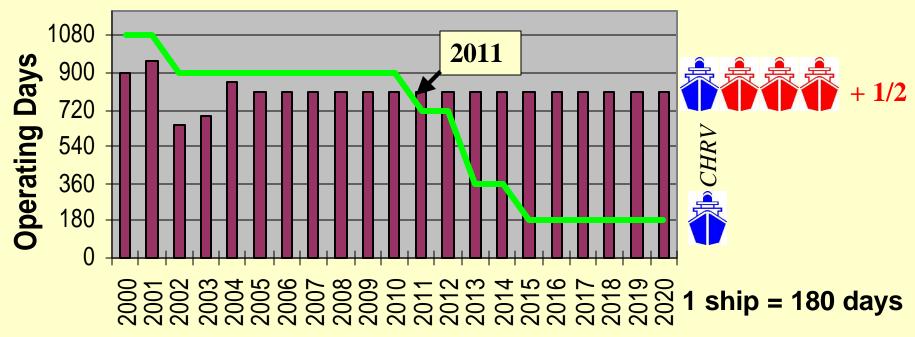
#### Ocean/Intermediate Utilization and Projected Use



- Observatory O&M Coastal mooring (4/site)
- Intermediate Use & Projections
- Ocean Ship Days Available includes ARRV (FOY=275 days)
- Ocean Ship Days Available includes ARRV and New Ocean Class Vessels in FOFC Plan

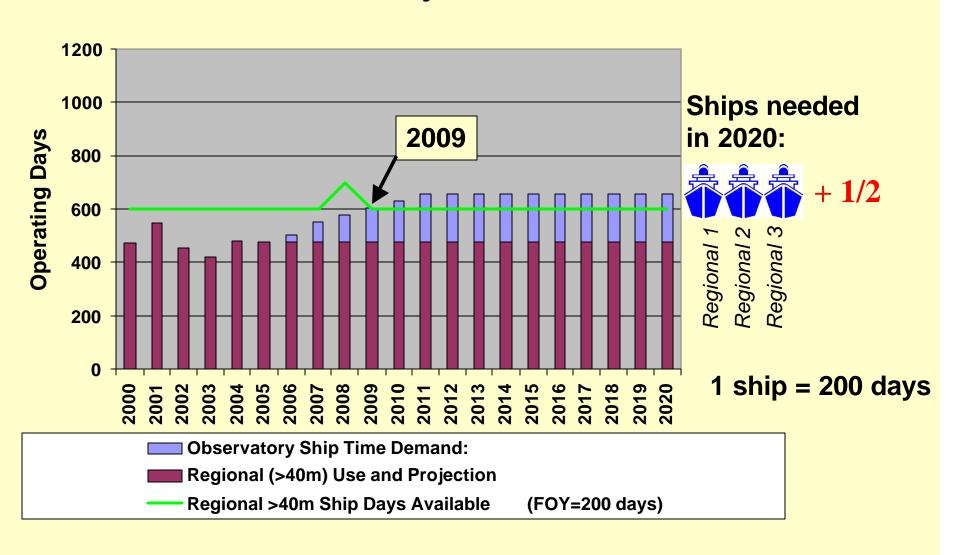
## Regional Class (<40m) - Utilization and Projections

Ships needed in 2020:



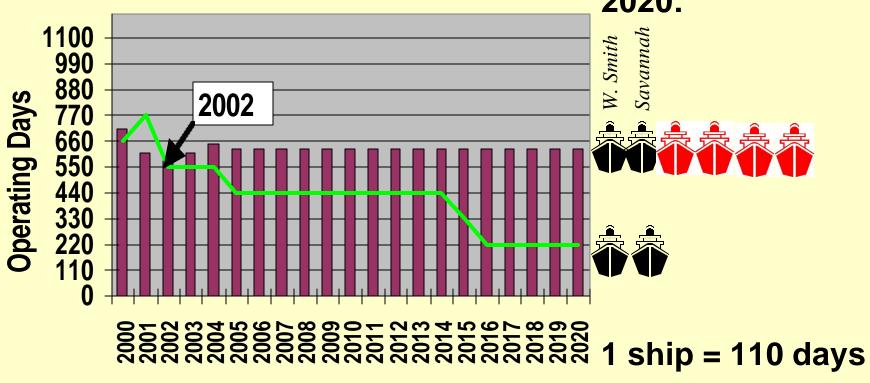
- Regional (<40m) Use and Projection
- Regional <40m Ship Days Available (FOY=180 days)</p>

### Regional Class >40m Utilization and Projections



### **Local Class - Utilization and Projections**

Ships needed in 2020:



Local Use and Projection

Local Ship Days Available (FOY=110 days)

							i i									, i		i i			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	20
ull Operating Year Definitions:	days																				
Global	300						- 0									- 0					
Ocean/Intermediate	275						7									- 1					
Regional >40m	200					7		-							1		- 1				
Regional <40m	180							- 7									- 1				
Local	110					7 9									7 3						
							- 7										- 7				
		Curren	Ship -	Years	of Fleet	Servic	e							7 6		- 8					
					Fleet Se									8 6	ž (i	- 7					
					funds i		d for co	nstruct	ion						7 3	- 8					
								-								- 8					0
GLOBAL Class																					
EWING	270	307	327	226	304	x	X	×	x	X						- 3					
MELVILLE	258	304	341	280	298	×	x	×	x	x	x	х	x	х	// //	- 8					
KNORR	274	276	256	268	289	×	×	×	x	x	x	x	x	×	×	- 8					
T.G. THOMPSON	172	233	255	262	306	×	×	×	x	x	×	x	x	×	×	×	×	х	×	×	)
ATLANTIS	296	248	298	225	288	×	×	×	x	x	x	x	x	x	×	×	×	х	×	x	)
R. REVELLE	296	302	294	272	320	×	x	×	x	x	x	х	x	х	×	x	×	x	×	x	,
GLOBAL Use & Projected Use	1566	1670	1771	1533	1805	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	1669	16
Observatory Ship Time Demand:																					
Installation - Global_BW (30/site)							30	30	60	60	60	60									
Installation - Regional_cabled (7/site)				Ú			28	28	28	28	35	35									
O&M - Global_BW (30/site)					0	0 0	- 13	60	120	240	360	480	600	600	600	600	600	600	600	600	(
O&M - Regional_cabled (~6/site)							- 2	24	48	72	96	126	150	150	150	150	150	150	150	150	1
Observatory Global Ship Time Demand				kreater research	J.,		58	142	256	400	551	701	750	750	750	750	750	750	750	750	7
Total Global Ship Time Demand	1566	1670	1771	1533	1805	1669	1727	1811	1925	2069	2220	2370	2419	2419	2419	2419	2419	2419	2419	2419	24
New Global Class Construction:																					
GC - Seismic Vessel											х	x	х	x	×	×	X	X	x	Х	)
Total Global Ships in Service:	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	4	4	4	4	4	
Global Ship Days Available (FOY=300 days)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1500	1200	1200	1200	1200	1200	1

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Intermediate/OCEAN Class	1																	1			
GYRE	196	143	146.5	124	84	×															
ENDEAVOR	188	227	211	162	245	×	X.	X									3				
OCEANUS	114	249	203	197	266	×	×	×	×												
WECOMA	183	206	185	221	223	x	×	×	×	X			3 0		- 31	25	3 3	( 3)			2 7
SEWARD JOHNSON II	178	68	177	251	225	×	×	×	×	x	X	x									
SEWARD JOHNSON	260	299	169	219	179	×	×	×	×	x	×	×	×	×	x						
NEW HORIZON	177	259	212	227	160	×	×	×	×	x	×	×	×	×	×	×		( )		(K., )	0
KILO MOANA	- Const	conce.	119	251	309	x	×	×	×	×	x	x	x	x	×	×	×	×	×	X	X
Intermediate Use & Projections	1296	1451	1423	1652	1691	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503
Observatory - O&M Coastal mooring (4/site)								24	48	72	96	122	150	150	150	150	150	150	150	150	150
Total Ocean Class Ship Time Demand	1296	1451	1423	1652	1691	1503	1503	1527	1551	1575	1599	1625	1653	1653	1653	1653	1653	1653	1653	1653	1653
Ocean Class Construction Bundles Identified:																					
Ocean Class Construction (funding identified): OC-ARRV									1/2	×	×	×	×	×	×	x	×	x	×	×	×
Total Ocean Ships in Service (funding identified):	7	7	7.5	8	8	8	7	7		6	5	5	4	- 4	4	3	2				-
Ocean Class Construction (NO FUNDS IDENTIFIED):	,	- 1	.r.a				-			6	- 5	- 5		-	-7	3			- 2	- 2	-
OC - NE Atlantic	3 1								x	x	x	x	x	×	x	x	x	x	X		x
OC - NW Pacific			- 7							2			×	×	x	x	x	×	X	x	x
OC - SE Atlantic																x	x	×	x		x
OC - SW Pacific								-				-					×	×	×		x
Total Ocean Ships in Service (NO funds identified):	7	7	7.5	8	- 8	- 8	- 7	7	7.5	7	6	6	6	6	6	6	6	6	6	6	6
Ocean Ship Days Available - includes ARRVITOY=275 days)	1000000	1925	2063	2200	2200	2200	1925	1925	1788	1650	1375	1375	1100	1100	1100	825	550	550	550	550	550
Ocean Ship Days Available - includes ARRV and New		1323	2003	2200	2200	2200	1320	1323	1700	1030	1373	1373	1100	1100	1100	025	330	300	300	350	200
Ocean Class Vessels in FOFC Plan		1925	2063	2200	2200	2200	1925	1925	2063	1925	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
												_									
REGIONAL SHIPS >40m	30000000	2000		Ting-on D	on Teach				A CONTRACTOR												
ALPHA HELIX	124	191	155	167	127	ж	×	×	1/2				0.0					- 3			3
POINT SUR	162	179	188	192	189	×	×	×	x	x	x										
CAPE HATTERAS	187	180	114	64	165	ж	×	ж	x	x	x	7,000	Same.	-22	0.00	Sam-3	Second	200	10000		001-11-0
Regional (>40m) Use and Projection	473	550	457	423	481	476.8	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
Observatory Ship Time Demand:																					
Coastal buoyed installation (2/buoy)			- 3		3		24	24	24	24	26	28	2		0000	2		4.00	- 3200.0	Tax or	-
O&M Coastal mooring (4/site)	2		- 4					24	48	72	96	122	150	150	150	150	150	150	150	150	150
O&M Coastal cabled								30	30	30	30	30	30	30	30	30	.30	30	30	30	30
Observatory Ship Time Demand:	V		S- 52-52	Same	Same 8		24	78	102	126	152	180	180	180	180	180	180	180	180	180	180
Total Regional >40m Ship Time Demand	473	550	457	423	481	476.8	501	555	579	603	629	657	657	657	657	657	657	657	657	657	657
New Regional (>40m) Class Construction:																3 1				1	5
RC - Ship I			- 6	100	1 0				×	×	×	×	×	X	×	×	X	×	×	×	X
RC- Ship II											×	×	×	x	x	x	×	×	×	×	×
RC - Ship III													x	x	x	×	×	×	x	×	×
Total Regional >40m Ships in Service:	3	3	3	3	3	3	3	3	3.5	3	3	3	3	3	3	3	3	3	3	3	3
	0.00	2 2		100	(			110													
Regional >40m Ship Days Available (FOY=200	750,00000		222					1999	-							200			1000		2000
days)	600	600	600	600	600	600	600	600	700	600	600	600	600	600	600	600	600	600	600	600	600
Regional Ships (<40m)																					
SEA DIVER/EDWIN LINK	153	144		1000	Acres 1		- 1						8 3			1	£ 3				
CAPE HENLOPEN	172	155	110	154	204	×										25 3	9 9			9	

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
WEATHERBIRD II	130	140	131	148	165	Х	х	X	х	X	х	Х	Х								$\neg$
PELICAN	253	265	204	163	248	×	x	x	×	x	x	x	x				1		- 1		
R. SPROUL	83	143	139	106	177	×	x	x	x	×	x	x	x	x	х						
Regional (<40m) Use and Projection	903	955	649	693	856	811.2	811	811	811	811	811	811	811	811	811	811	811	811	811	811	811
ζ",																					
New Regional (<40m) Class Construction:																					
CHRV							х	х	х	×	X	x	x	x	х	х	х	х	х	X	×
Total Regional <40m Ships in Service:	6	6	5	5	5	5	5	5	5	5	5	4	4	2	2	1	1	1	1	1	1
Regional <40m Ship Days Available (FOY=180 days)	1080	1080	900	900	900	900	900	900	900	900	900	720	720	360	360	180	180	180	180	180	180
Local Ships:																					
LAURENTIAN	194	33.5							( )									( )			
BLUE FIN	74	67															Ï				
BARNES	119	70	130	121	120												Ĭ	1 1	Ti.		
BLUE HERON	88	67	63.5	50	39.5	x	X	X	X	X	X	х	х	X	х	1	Ĭ	(1 ))	- 8		
URRACA	87	105	103	141	152	x	x	×	×	x	x	x	x	x	x	x	1		- 1		
WALTON SMITH	149	212	181	196	227	x	x	×	×	x	х	x	х	x	x	x	×	x	X	x	x
SAVANNAH	1	52	94	97	108	x	х	×	x	x	x	x	х	х	х	х	×	x	x	×	х
Local Use and Projection	711	606.5	571.5	605	646.5	628.1	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628
Total Local Ships in Service:	6	7	5	5	5	4	4	4	4	4	4	4	4	4	4	3	2	2	2	2	2
Total Local Onipo in Oct vice.		- 20			ŭ				-				-				· ·				
Local Ship Days Available (FOY=110 days)	660	770	550	550	550	440	440	440	440	440	440	440	440	440	440	330	220	220	220	220	220
Fleet Totals:																					
Fleet Utilization & Projected Use		5233	4871	4906	5480	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088	5088
Observatory Ship Time Demand		0	0	0	0	0	82	244	406	598	799	1003	1080	1080	1080	1080	1080	1080	1080	1080	1080
Total Ship Days Available	(m, m, m, m, m)	1200000000		6050		5940	5665	5665	5628	5390	5115	4935	4660	4300	4000	1.00		2750	2750	2750	2750
Total Ships in Service	28	29	26.5	27	27	26	25	25	25	24	23	22	21	19	18	14	12	12	12	12	12
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020