

UNOLS Fleet Improvement Committee Meeting



February 6-7, 2008

FIC Action Items

Task Description	Action/ Status
Global Class: Update with community input and reformat to using the template for Ocean/Regional Class	Mike Prince
KILO MOANA Actions:	
• Contact Brian Taylor to keep abreast of Handling System details.	Dave H.
• Draft EOS or other appropriate article	Dave and Brian Taylor

FIC Action Items

Design and Constructions Efforts - Stay engaged in ongoing design and construction efforts (Regional Class, Ocean Class, ARRV, <i>Langseth</i> Conversion, etc.)	FIC
Fleet Improvement Plan Update: <ul style="list-style-type: none">• Update charts so that all vessels are retired (including local class)• Revise the ship days funded slide so that there is a differentiation between federally funded ship time and other funded (state/inst) ship time.• Complete drafts of all sections. Final draft should be available by the time of the next FIC/Council meeting.	Annette Annette FIC & Office
Ocean Observatories – Stay in contact with OOI Office.	Dave Hebert

FIC Action Items

<p>ADA Guidelines:</p> <ul style="list-style-type: none">• Incorporate FIC and ADA Committee Comments and finalize document.	Terry Whitledge
<p>Science User Debriefs for R/V <i>Hugh Sharp</i> - Dave working with Matt Hawkins will draft user debrief questions that will evaluate the new technologies of the ship.</p> <ul style="list-style-type: none">• Conduct debrief interviews with <i>Sharp</i> users.	Dave Hebert FIC
<p>Science User Debriefs for <i>Knorr's</i> Long Coring Capability - Dave working with Jim Broda will draft user debrief questions that will evaluate the operation of <i>Knorr's</i> long core capability. It will also assess the impact on the general-purpose capability of the ship.</p> <ul style="list-style-type: none">• Conduct debrief interviews with <i>Knorr</i> users.	Dave Hebert FIC

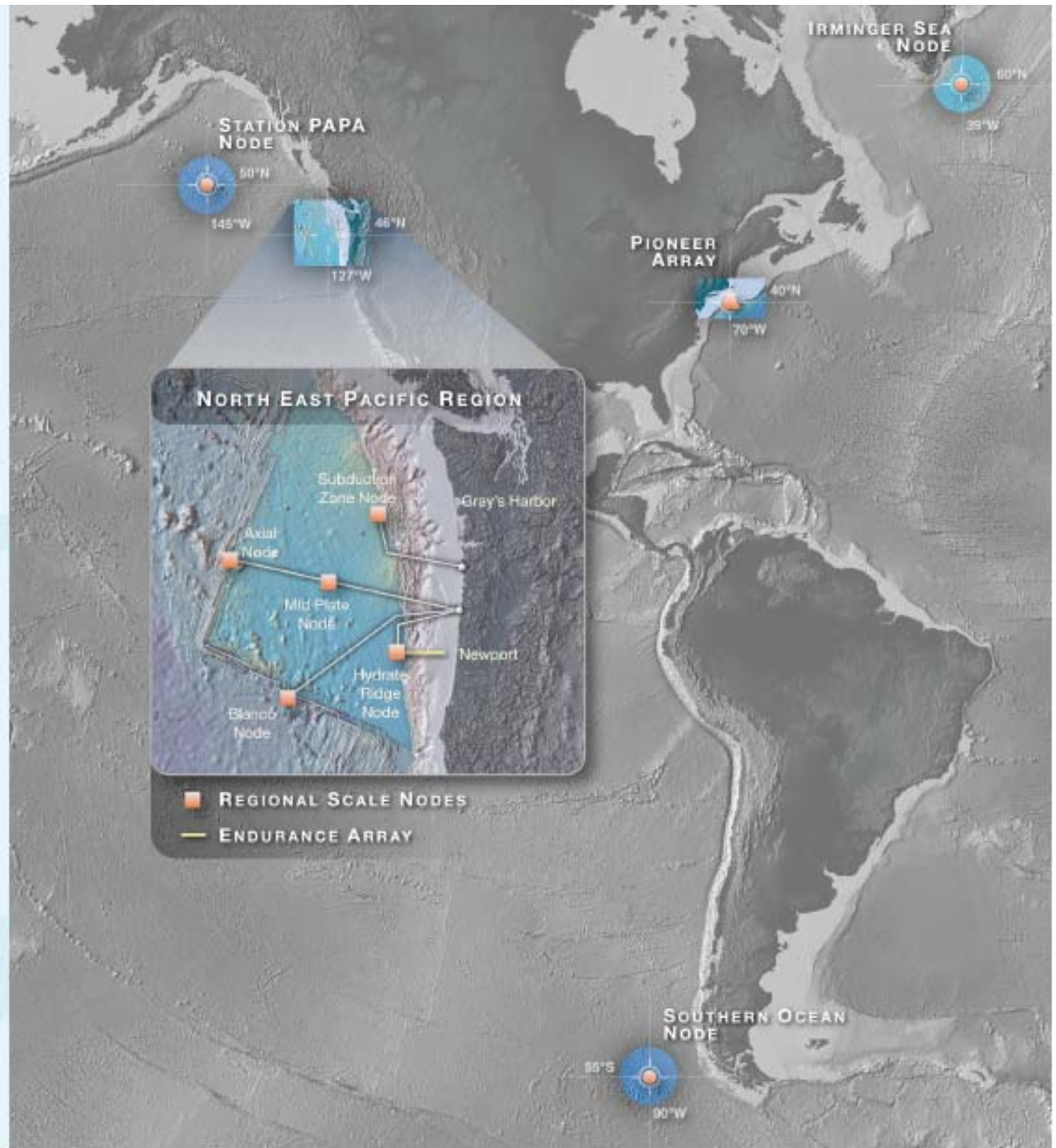
OOI Update

Based on Preliminary Network Design

February 1, 2008

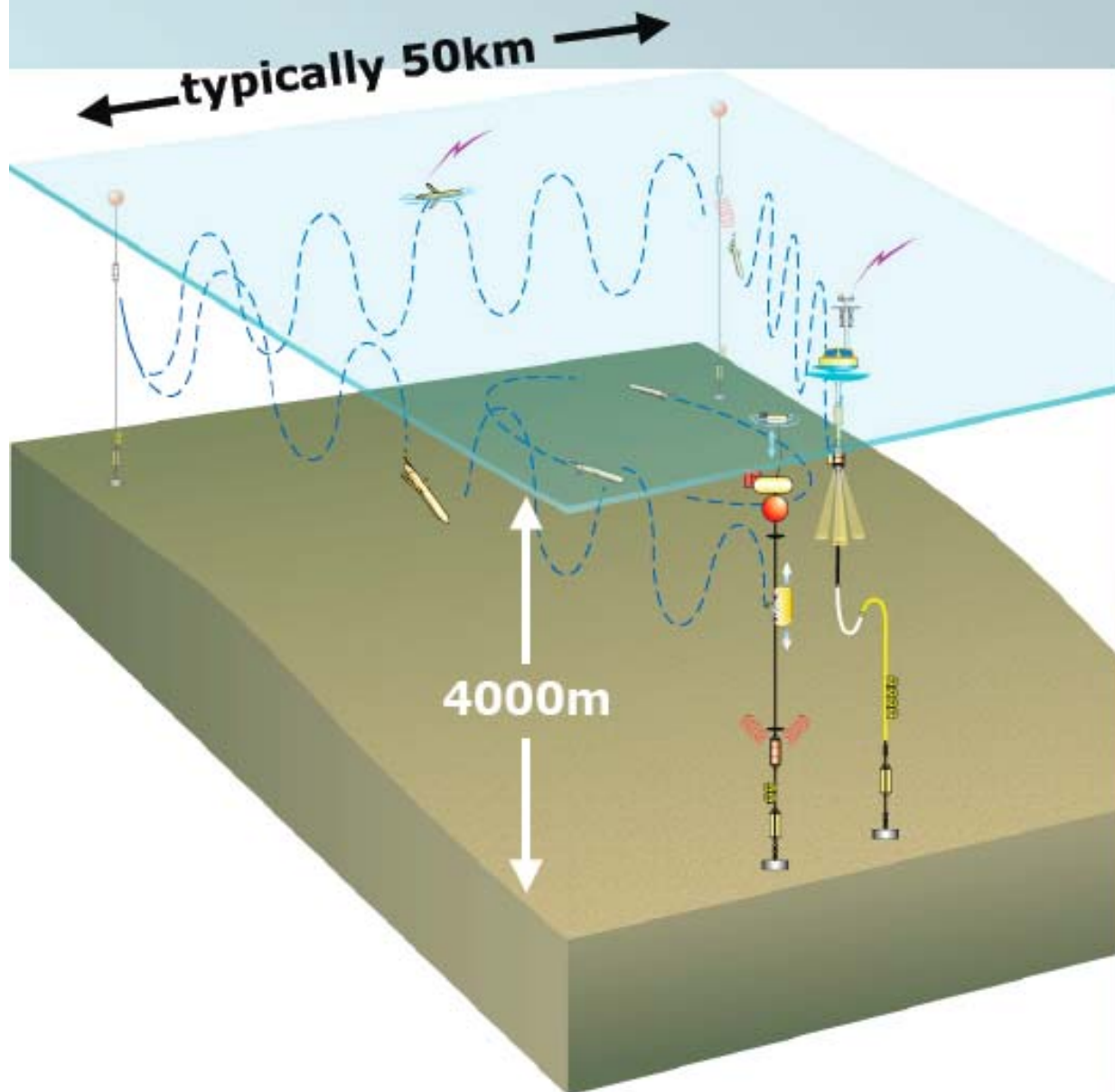


- 3 Global scale nodes in Southern Ocean, Ocean Station Papa, Irminger Sea
- 5 Regional scale nodes in NE Pacific, cabled plate-scale observatory
- Coastal scale assets in Mid- Atlantic Bight shelf-break (Pioneer Array) and NE Pacific continental slope (Endurance line)
- Each scale incorporates mobile assets
- Unifying cyberinfrastructure to allow adaptive sampling, custom observatory view, collaborative analysis
- Interfaces for education users



Global Sites

Irminger Sea, 55°S, PAPA



- Paired surface and profiler moorings cover full water column
- 3 gliders to observe evolution on sections
- 2 gliders to track/survey features, also commandable as spares
- 2 subsurface moorings with fixed depth sensors complete triangular moored array
- telemetry via gliders

Schedule

Legend

Design/Development
Build/Manufacture
Implementation
Test/Deploy/Commission

	FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CyberInfrastructure				R-1 Data Mgmt, Dist and Control																				
								R-2 Managed Data Acquisition																
												R-3 Integrated Data Analytics												
																R-4 Integrated Modeling Network								
																				R-5 Interactive Observatory Sys				
																				System Accept Test				
												CI Marine Integration												
												CI / Coastal Integration				CI / R&N Integration								
												CI / Global Integration												
Coastal Scale Observatory				Development C&N																				
				Detail Design & SE - Endurance Array, Central Oregon Line																				
				Detail Design & Systems Eng - Pioneer Array - Middle Atlantic Bight																				
								Implementation C&N																
								Endurance Array - Central Oregon Line																
								Pioneer Array - Middle Atlantic Bight / Outer Continental Shelf																
Regional Scale Observatory				Development R&N																				
				Backbone Cables																				
				Warrenton Shore Sta																				
				Pacific City Shore Sta																				
				Detail Design, Low Voltage Node / J Box																				
				Primary / Secondary Nodes																				
								Mooring Design																
								Secondary Cable																
								Sensor Design																
								Implementation R&N																
								Build-out Warrenton SS			Install SS Cab					Build LV Node / J Box				Install / Commission LV Nodes / J Box				
								Build-out Pacific City SS								Build Pri / Sec Nodes				Install / Commission Pri / Sec Nodes				
																Mooring Manufacture				Mooring Install				
																Secondary Cable Assemble / Test								
																Sensor Integration / Test				Sensor Implementation				
Global Scale Observatory				Development G&N																				
				Detail Design & Sys Eng																				
				Station Papa																				
				Iminger Sea																				
				Southern Ocean 55°S																				
								Implementation G&N																
								Station Papa																
								Iminger Sea																
																Southern Ocean 55°S								

OOI Estimated Days at Sea - Jan 2008

Infrastructure	Vessel Class	Days at Sea by year						
		2009	2010	2011	2012	2013	2014	2015
Atlantic								
Pioneer Array	Intermediate			12	12	12	12	12
	< 80 ft.		4	4	7	7	7	7
Irminger Sea	Global				23	23	23	23
Pacific								
Regional Scale Nodes	Cable vessel		30	20	20	20	20	20
	Global+ROV			30	60	60	60	60
Station Papa	Global			19	19	19	19	19
Southern Ocean	Global					23	23	23
Endurance Array - OR	Global+ROV	4		1	6	6	6	6
	Intermediate	6	9	3	9	13	13	13
Total by vessel class	Cable vessel	0	30	20	20	20	20	20
UNOLS	Global	0	0	19	42	65	65	65
	Global+ROV	4	0	31	66	66	66	66
	Intermediate	6	9	15	21	25	25	25
	< 80 ft.	0	4	4	7	7	7	7

FY09 President's Budget - released on Monday

Academic Research Fleet (+\$13.30 million).

GEO is the primary supporter of operations of the national Academic Research Fleet. An increase of \$14.8 million, to a total of \$87.96 million, will augment support of ship operations and provide a number of enhancements to the academic fleet.

Within this amount, an increase of \$6.80 million to a total of 72.96 million will enable NSF supported researchers to conduct research in the world's oceans. FY 2009 is planned as the start of a series of up to three Regional-class Research Vessel acquisitions (\$10.0 million, an increase of \$8.50 million over the FY 2008 Estimate) to move beyond the design phase and begin construction of ships to replace aging and less capable ships. Replacement Human Occupied Vehicle (RHOV) construction continues at a level of \$1.0 million.

Ocean Observatories (+\$1.5 million).

Support for activities to prepare for the Ocean Observatories Initiative, one of GEO's contributions to the Global Earth Observation Systems of Systems (GEOSS) will increase to enable continued planning.

“No additional MREFC funding is requested for the Alaska Region Research Vessel (ARRV), the National Ecological Observatory Network (NEON), or the Ocean Observatories Initiative (OOI) in FY 2009.”

MREFC Account Funding
(Dollars in Millions)

	FY 2007 Actual	FY 2008 Estimate	FY 2009 Request	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate
Ongoing Projects								
AdvLIGO	-	\$32.75	\$51.43	\$46.30	\$15.21	\$23.73	\$15.50	\$19.78
ARRV	2.58	42.00	-					
ALMA ¹	64.30	102.07	82.25	42.76	13.91	3.00	-	-
EarthScope ²	25.93	-	-					
IceCube	24.38	25.91	11.33	0.95	-			
NEON	-	3.00	-					
OOI	-	5.91	-					
SODV ²	42.83	-	-					
SPSM	6.19	9.10	-					
New MREFC Funding								
ATST	-	-	2.50	-				
MREFC Account Total	\$166.21	\$220.74	\$147.51	\$90.01	\$29.12	\$26.73	\$15.50	\$19.78

Totals may not add due to rounding.

FY 2009 Budget Request for MREFC

- “To help avoid future cost and schedule overruns, MREFC funds will only be requested once a risk adjusted cost has been defined for each project that defines, with high confidence, the budgetary resources and schedule needed to accomplish the requested scope.
- These projects will be eligible for additional MREFC construction funding in a future budget request following successful completion of Preliminary and Final Design Reviews (FDRs).
- Until they have passed these approved performance baselines, these projects will continue to be supported by the sponsoring research directorates as they carry out the range of activities necessary to achieve sufficient project maturity.”

No additional funds are requested for the Ocean Observatories Initiative through the MREFC account in FY 2009.

MREFC Funding for the Ocean Observatories Initiative
Appropriations and Requests
(Dollars in Millions)

	FY 2007 Appropriation	FY 2008 Estimate	FY 2009 Request
OOI Appropriations and Requests	5.12	5.91	-
Rescission	-5.12		
Total, OOI	-	\$5.91	-

\$5.12 million of the FY 2007 appropriated funds for OOI were rescinded per PL 110-161.

Total Obligations for the OOI
(Dollars in Millions)

	Prior FY 2007 Years	FY 2007 Actual	FY 2008 Estimate	FY 2009 Request	ESTIMATES				
					FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
<i>R&RA Obligations:</i>									
Concept & Development	43.07	6.49	9.00	10.50	-				
Management and Operations	-								
Subtotal, R&RA Obligations	\$43.07	\$6.49	\$9.00	\$10.50	-	-	-	-	-
<i>MREFC Obligations:</i>									
Implementation	-	-	5.91	-					
Subtotal, MREFC Obligations	-	-	\$5.91	-	-	-	-	-	-
Total: OOI Obligations	\$43.07	\$6.49	\$14.91	\$10.50	-	-	-	-	-

Current Project Status:

Informed by the December 2007 Preliminary Design Review, the OOI Project Office and Implementing Organizations are in the process of finalizing the network design, project execution plan, and risk analyses.

Upcoming reviews:

- o A Final Design Review (FDR) is planned for October 2008 to determine the readiness of OOI design, execution plans, and risk analyses for full construction and establish the baseline for the OOI.
- o A cost review will be held after NSB approval for construction start and prior to the beginning of construction effort.

Future Operations Costs:

A steady state of \$50.0 million in operations support (2013 dollars) is anticipated, and the expected operational lifespan of this project is 30 years.

Alaska Region Research Vessel

NSF obligated \$2.58 million of the appropriated \$9.43 million for the *Alaska Region Research Vessel* (ARRV) for updated engineering drawings and preparing the project execution plan, awarded during FY 2007. The remaining carryover of \$6.85 million will be competed and awarded in FY 2008 and will include acquisition planning, shipyard contract award, design verification, and ordering of long lead equipment items.

In addition, the University-National Laboratory System (UNOLS) Fleet Improvement Committee, an external committee composed of representatives from the community that meets several times a year, will review progress and provide advice regarding scientific outfitting of the vessel.

Future Operations Costs:

Initial science operations, to be governed by the terms of a separate cooperative agreement with UAF, have an estimated vessel operating cost of \$8.50 million, with funding provided by NSF and other agencies according to use level. This estimate is based on NSF's extensive experience operating research vessels in a variety of environments.