Date: September 26, 2011

From: NSF and ONR

To: Dr. Bruce Corliss-UNOLS Chair

Subj: 2012 U.S. Academic Research Fleet Operations Support Findings and Recommendations

Ref: Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet, UNOLS Council - July 24, 2006.1

**Introduction**

The National Science Foundation (NSF), the Office of Naval Research, and the UNOLS Executive Secretary have participated in numerous ship scheduling meetings and conducted a thorough review of the 2012 Letters of Intent for the Fleet. There are presently 2582 funded days across all agencies as shown in the 2012 Proposed Operating Days table below. There are 646 pending days of which we are applying a 30% funding success rate to arrive at 194 days (Institution/State-12, NASA-1, Navy-6, NOAA-47, NSF-110, USGS-1, BOEMRE-2, and Other-16) of proposed shiptime which we anticipate will be funded. This will bring the UNOLS Fleet total days to 2776. The available information indicates the number of proposed Fleet operating days for 2012 is significantly reduced from historical levels. Figures 1-3 illustrate the Fleet utilization trends over the past ten years and the anticipated use in 2012.

Based on the findings outlined below, several ships in the Fleet will have less than optimal schedules in 2012. As agreed to by the UNOLS Council, the document which will guide the recommended process for making decisions regarding non-operational periods calls for substantive recommendations to be made by the Agencies. This letter provides those recommendations. The link to the reference document is:

<http://www.unols.org/publications/reports/budget_impacts/NonOp_Process_Recmd.pdf>

**Guidelines**

The guidelines used to develop these recommendations are outlined below:

* Ship schedules must be developed to meet the science program requirements while adhering to budgetary constraints.
* Science program requirements must match the oceanographic outfitting capabilities of the ship on which the program is scheduled.
* The Funding Agency Program Manager and the Principal Investigator will be consulted when information beyond that listed on the UNOLS Shiptime Request Form is required.
* Programs may be scheduled as a two ship operation instead of a single Global Class ship if it will be more efficient and cost effective.
* No funded programs will be left “on the beach” if at all possible within the budgetary constraints.
* Programs will not be deferred unless it is cost prohibitive to schedule due to the remote nature of the operating area or due to inordinate transit costs to mobilize in that area.

The following findings and recommendations regarding UNOLS ship operations for 2012 are based on the submitted shiptime requests, posted Letters of Intent (preliminary schedules) and cost estimates provided by the UNOLS ship operators:

**Findings:**

**2009 Funded Day**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agency** | **ACOE** | **DOE** | **EPA** | **Inst/State** | **BOEMRE** | **NASA** | **NAVY** | **NOAA** | **NSF** | **USGS** | **Other** | **Total** |
| **Days** | **5** | **0** | **0** | **175** | **57** | **40** | **618** | **334** | **2397** | **21** | **556** | **4203** |

**2010 Funded Day**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agency** | **ACOE** | **DOE** | **EPA** | **Inst/State** | **BOEMRE** | **NASA** | **NAVY** | **NOAA** | **NSF** | **USGS** | **Other** | **Total** |
| **Days** | **6** | **3** | **3** | **183** | **63** | **0** | **487** | **518** | **2515** | **20** | **213** | **4011** |

**2011 Published Days, (as of 18 Aug. 2011)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agency** | **ACOE** | **DOE** | **EPA** | **Inst/State** | **BOEMRE** | **NASA** | **NAVY** | **NOAA** | **NSF** | **USGS** | **Other** | **Total** |
| **Days** | **0** | **0** | **1** | **204** | **40** | **2** | **509** | **505** | **2322** | **61** | **227** | **3871** |

**2012 Funded and Pending Days (as of September 26, 2011)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agency** | **ACOE** | **DOE** | **EPA** | **Inst/State** | **BOEMRE** | **NASA** | **NAVY** | **NOAA** | **NSF** | **USGS** | **Other** | **Total** |
| **Funded Days** | **7** | **0** | **0** | **118** | **21** | **0** | **295** | **121** | **1877** | **0** | **143** | **2582** |
| **Pending Days X 30 % success rate** | **0** | **0** | **0** | **12** | **2** | **1** | **6** | **47** | **110** | **1** | **16** | **194** |
| **Total Funded and Pending** | **7** | **0** | **0** | **130** | **23** | **1** | **301** | **168** | **1987** | **1** | **159** | **2776** |

1. There are presently 3871 operating days on the 2011 schedules.
2. There are currently 2776 operating days (funded and 30% pending) on the 2012 Letters of Intent schedules as of Sept 19, 2011.
3. The total number of requested operating days for 2012 to be funded by NSF is 1877 days. In recent years the decrease in ship funding from other agencies has resulted in a larger proportion of the operating days being funded by NSF and this trend continues in 2012. In 2011, of the total 3871 days, NSF funded 2322 days, or 60 %. In 2012, NSF will provide support for 72 % of the total days.
4. The Globals, (*Atlantis*, *Knorr, Langseth, Melville, Revelle*, and *Thompson)* and *Kilo Moana* have reduced schedules with between 195 and 288 operating days (funding and all pending). There are specific home-port maintenance periods planned. The Globals will finish 2012 in optimal operating areas to begin 2013 cruises.
5. The East Coast Ocean/Intermediate, the *Endeavor* has 168 days (funded and all pending) and the *Oceanus* is planned to go out of service at the end of 2011. As has been the norm over the past ten years, the work is concentrated in the mid and North Atlantic in the optimal weather windows from March to October.
6. The *Cape Hatteras* currently has 70 days planned of which 43 days are pending. This is a very light schedule.
7. The *Pelican* in the Gulf of Mexico has a moderate schedule of 136 days (funded and all pending). Historically this ship has added days over the course of the operating year and this is expected to be the case in 2012 as the Gulf Research Initiative funds ship time.
8. The *Hugh Sharp* has a relatively strong schedule at 196 funded operating days.
9. The West Coast Ocean/Intermediates, *Wecoma* and *New Horizon* both have weak schedules. The *Wecoma* presently has 124 days of which 56 are pending. The *New Horizon* shows 121 days with 49 days pending.
10. The *Point Sur* with 34 days of which 1 day is pending and the *Robert Sproul* with 29 days of which 15 are pending have very weak schedules. The *Point Sur* should continue to consider supporting Palmer Station in late 2012. This would add approximately 60 days to their 2012 schedule.
11. If no additional work is identified when the final schedules are completed, it may be necessary for NSF to provide funds to support extended maintenance or partial layup periods for NSF-owned ships.
12. There are presently no double-bookings on the ship schedules.
13. In recent years, a decline in ship time request demand has been observed (see Figure 4).

**Recommendations:**

1. The *Oceanus* will be retired at the end of 2011.

1. Maintenance periods in the vessel home-port are strongly encouraged both as a cost saving measure as well as an opportunity to conduct preventative maintenance.
2. If no additional work is identified when the final schedules are completed, it may be necessary for NSF to consider providing some funds to support extended maintenance or partial layup periods for the NSF-owned ships, *Cape Hatteras* and *Point Sur.*
3. Encourage operators of all ships to find ways to reduce costs and seek appropriate opportunities to support research and education programs supported by other funding sources.
4. Emphasize to operators of institution-owned ships that they must decide if their planned schedule can support the cost to operate.
5. A survey was conducted in 2011 of the possible causes for the recent decline in shiptime request demand. Examination of the survey responses and development of strategies for addressing the ship time demand decline is recommended.
6. UNOLS Council is encouraged to begin a dialogue with the federal agencies on how to reduce the size of the Fleet within the context of the declining demand, utilization, and potential for declining federal budgets.



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Figure 1

(Note: 2012 LOI includes 30% success rate of pending days)



Figure 2



Figure 3 (Note: 2012 LOI includes 30% success rate of pending days)



Figure 4