Charting the Future for the National Academic Research Fleet

A Report from the Federal Oceanographic Facilities Committee (FOFC) of the National Oceanographic Partnership Program (N OPP) to the National Ocean Research Leadership Council (NORLC)

Terminology

The Plan defines four basic vessel classes for the current and future fleet:

- **Global Class** ships will continue to be high-endurance vessels, operating worldwide in ice-free waters. They have extended deck space and equipment, as well as a broad and diverse complement of laboratory space and outfitting.
- **Ocean Class** ships will fulfill a critical need in fleet modernization by replacing the aging “Intermediate” ships with vessels of increased endurance, technological capability, and number of science berths. These will be ocean-going vessels, though not globally ranging, and will be able to operate sophisticated instrumentation such as ROVs and AUVs.
- **Regional Class** ships will continue to work in and near the continental margins and coastal zone, but with improved technology and more science berths than in current, comparably sized vessels. Laboratory space and instrumentation should permit significant multidisciplinary programs.
- **Local Class** ships will fulfill nearshore needs that do not require larger or higher-endurance ships. These vessels will be built primarily using non-federal dollars but will continue to receive federal operational and outfitting support.

### General Characteristics of New Vessel Classifications

<table>
<thead>
<tr>
<th>Ship Class</th>
<th>Global Class</th>
<th>Ocean Class</th>
<th>Regional Class</th>
<th>Local Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endurance</td>
<td>50 days</td>
<td>40 days</td>
<td>30 days</td>
<td>20 days</td>
</tr>
<tr>
<td>Range</td>
<td>25,000 km</td>
<td>20,000 km</td>
<td>15,000 km</td>
<td>10,000 km</td>
</tr>
<tr>
<td>Length</td>
<td>70-90 m</td>
<td>55-70 m</td>
<td>40-55 m</td>
<td>&lt; 40 m</td>
</tr>
<tr>
<td>Science berths</td>
<td>30-35</td>
<td>20-25</td>
<td>15-20</td>
<td>15 or less</td>
</tr>
</tbody>
</table>

### Ship Construction and Retirements

The proposed construction schedule calls for 10 new ships, based on science needs and fleet retirements. The great potential for new research is also recognized and accommodated. The combination of new ships will maintain capacity at approximately current use levels for at least the next 20 years. If federal agency budgets increase significantly, demands for greater capacity might increase the requirement for new ships up to 13 by 2020.

Some year-to-year variability in required ship-time is expected, which can be handled by short-term increases in a ship’s annual operating days or temporary lay-ups. Longer-term trends can be modulated by delaying or advancing retirement dates or construction dates. These adjustments will provide flexibility to maintain a fleet adequate to meet core demands, and capacity to permit scheduling flexibility, peak demand, and event-response capability. More capable Local Class vessels will contribute to this scheduling flexibility.

The Plan will be reviewed and updated by the FOFC at least every five years, based on evolving science requirements and funding trends, to determine whether additional ships will be required before the end of the second decade, and to plan their timely introduction where necessary.

*The R/V Kilo Moana costs are not included in the figure (left) because funds have already been appropriated by Congress.*

**Future Ship Capacity**

- The flat blue line projects the number of ship-operation days needed based on the most recent five-year average. The purple line represents the progressive reduction of available days as older ships in the fleet are retired over the next 20 years, assuming no new ships are built after R/V Kilo Moana. The dark blue line projects available days assuming additions to the fleet proceed as proposed here. The green line beyond 2015 shows available days based on an expanded fleet, as recommended by UNOLS.