NOAA’s Ship and Aircraft Support
Office of Marine and Aviation Operations (OMAO)

University-National Oceanographic Laboratory System (UNOLS)
Research Vessel Operators Committee (RVOC)

University of Rhode Island
April 20, 2010
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<td><strong>Fleet Overview</strong></td>
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<td><strong>Pacific Vessel Homeporting: Newport, Oregon</strong></td>
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NOAA Ships and Homeports in FY2010

20 Ships
11 Homeports

KODIAK, AK (1)

KETCHIKAN, AK (1)

MOC-PACIFIC
SEATTLE, WA (4)

MOC-ATLANTIC
NORFOLK, VA (1)

NEW CASTLE, NH (1)

WOODS HOLE (2)

DAWNSVILLE, RI (1)

FIsherries Research
Oceanographic Research
Coastal Monitoring
Ocean Exploration

MISSIONS
Nautical Charting
Fisheries Research
Oceanographic Research
Coastal Monitoring
Ocean Exploration

NOAA’s Office of Marine and Aviation Operations (OMAO)
NOAA Aircraft and Bases in FY2010

12 Aircraft

- SHRIKE COMMANDER (2)
- JET PROP COMMANDER
- KING AIR 350ER (1)
- TWIN OTTER (1)
- P-3 (3)
- SHRIKE COMMANDER
- GULFSTREAM IV
- TWIN OTTER (3)

MISSIONS
- Charting and Mapping
- Fisheries Research
- Hurricane Research
- Environmental Assessment

Locations:
- Monterey, CA (1)
- Manassas, VA (1)
- AOC Tampa, FL (8)

NOAA's Office of Marine and Aviation Operations (OMAO)
NOAA OMAO Budget

($ in Millions)

*President’s Budget Request

Legend:
- Procurement, Acquisition, Construction (PAC)
- Operations, Research, Facilities (ORF)
Operating Days

<table>
<thead>
<tr>
<th>Year</th>
<th>UNOLS</th>
<th>Commercial Charter</th>
<th>NOAA Fleet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
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<tr>
<td>2006</td>
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<td>2007</td>
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<td>2008</td>
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<td>2009</td>
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<tr>
<td>2010*</td>
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*Projected
Flight Hours

*As of April 15, 2010*
New Ships

Bell M. Shimada

Pisces

Ferdinand R. Hassler
New Aircraft

WP-3D Aircraft N44RF

King Air
Canadian Car Wash
Haiti Damage Assessment

Coastal uplift and subsidence due to the 2010 M 7.0 Haiti earthquake

- Uplift
- Subsidence

Vegetation and structures in surf, Petit Goave (18.4352, -72.8752)

55+ m of coastal retreat due to coseismic slumping and tectonic subsidence near Grand Goave (18.43142, -72.76002)

Base map and imagery: NOAA (2010), DigitalGlobe (2005), OpenStreetMap
### “Greening” Efforts

| **Green Fleet Planning Team** – coordinating program  
| **Greening of the Fleet Cost/Benefit Study** conducted (due May 2010)  
| Applying/adopting existing proven technologies  
| **Engine upgrade kits** on Rainer and Miller Freeman (January 2010)  
| 25% reduction in particulate matter emissions (~2000 kg/year)  
| **Energy use audit** on Thomas Jefferson (April 2010)  
| Minor changes identified by audit expected to pay for audit within 2 years  
| 5 ships (30% of fleet) converted to biodegradable hydraulic oil/lubes

*NOAA’s Office of Marine and Aviation Operations (OMAO)*
Crew Recruiting & Retention

Vacancy Rate of Permanent Ship Billets

- Authorized Billets
- Billets Filled
- Vacancy Rate

FY2004: 300
FY2005: 350
FY2006: 400
FY2007: 300
FY2008: 200
FY2009: 150
FY2010: 100

NOAA's Office of Marine and Aviation Operations (OMAO)
Crew Recruiting & Retention

Fleet Attrition Rate

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<tbody>
<tr>
<td>Attrition Rate:</td>
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<td></td>
<td></td>
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<tr>
<td>25%</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Vacancy Rate:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30%</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
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NOAA’s Office of Marine and Aviation Operations (OMAO)
# Fleet Maintenance

- Implementing a fleet maintenance management system
  - Maximize ship availability for mission use
  - Provide tech/tools/training/documentation to analyze existing conditions and enhance maintenance planning/execution
- Preventive Maintenance baseline review and class standardization (T-AGOS, FSV, NSV)
- Personnel management (MOC Crew Relief Pool) integral in full lifecycle management plan
- Full SAMM implementation/interconnectivity

**NOAA’s Office of Marine and Aviation Operations (OMAO)**
NOAA Vessel Homeporting: Newport, Oregon

Architectural rendering of the proposed NOAA site provided by gLAS Architects, LLC, of Eugene, OR
Used by permission
“Basically 2 armed Port Security police or Army personnel (we think—they had removed any insignia or names), holding M-16 rifles, boarded the ship at dockside and were aggressive and threatening to arrest people because the Ghana flag was (accidentally) left up after sunset. Port Security people don't appear to normally carry M-16's.

While I'm told this leaving the flag up is a serious issue in Ghana, their behavior and authority here on the ship was not acceptable, nor I'm sure condoned by the Port Authority. It was clearly a ruse and an attempt at extortion by armed men— a "give us something and we'll not arrest you", type of thing. I think they said the "fine" was $1500 or something like that. No one paid, no one was hurt, and they left. We've also had people coming to the ship asking for ice cream, sandwiches, etc. Port Security and ISPS codes and Port Authority inspections

U.S. Embassy and ship's agent are investigating further with Port Security officials so this "freelancing" (my impression) does not happen again".
Backup Slides
Fleet Recapitalization 1: Fishery Survey Vessels

- Two (i.e., Oscar Dyson and Henry B. Bigelow) of seven planned acoustically-quiet Fisheries Survey Vessels (FSVs) are currently conducting operations.
- Two more FSVs (i.e., Pisces and Bell M. Shimada) expected to be fully operational in FY2010.
- $3M included in FY2011 President’s Budget to continue design work for FSV 5.
- FSV 6 contract award is scheduled for April 2010.

<table>
<thead>
<tr>
<th>Ship</th>
<th>Homeport</th>
<th>Commissioning Date</th>
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<tbody>
<tr>
<td>Oscar Dyson (FSV 1)</td>
<td>Kodiak, AK</td>
<td>2005</td>
</tr>
<tr>
<td>Henry Bigelow (FSV 2)</td>
<td>Newport, RI</td>
<td>2007</td>
</tr>
<tr>
<td>Pisces (FSV 3)</td>
<td>Pascagoula, MS</td>
<td>2009</td>
</tr>
<tr>
<td>Bell M. Shimada (FSV 4)</td>
<td>Seattle, WA, Newport, OR</td>
<td>2010</td>
</tr>
<tr>
<td>FSV 5 (shallow draft)</td>
<td>Pascagoula, MS</td>
<td>2015</td>
</tr>
<tr>
<td>FSV 6</td>
<td>San Diego, CA</td>
<td>2013</td>
</tr>
<tr>
<td>FSV 7</td>
<td>Newport, OR</td>
<td>2018</td>
</tr>
</tbody>
</table>
Fleet Recapitalization 2: NOAA Survey Vessels (NSVs)

Six additional multi-mission NOAA Survey Vessels (NSVs) are planned to be placed in service between 2018 and 2024:

- NSVs will replace:
  - Two hydrographic survey vessels
  - Four fisheries/ecosystem research vessels

- NSV mission requirements are currently being analyzed. They are projected to have a common baseline configuration, with minor variations to support specific missions (e.g. hydrographic survey or fisheries/ecosystem research).

One currently active ship (Ka'imimoana) will undergo a service-life extension (approx. 2020). Ship maintains buoy arrays used to understand climate change and El Nino-Southern Oscillation events.

Phase II Recapitalization Plan being drafted to:

- look at innovative, cost effective ways to collect in situ data
- consider new concepts of operations which incorporate new technology, i.e., autonomous platforms (airborne, surface, underwater, etc.)
### Status of ARRA Funding

<table>
<thead>
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<th>Stimulus Package – American Recovery and Reinvestment Act (ARRA)</th>
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<tr>
<td><strong>Vessel Maintenance and Repair ($20M)</strong></td>
</tr>
<tr>
<td>- Major Repair Period (MRP) for Rainier ($5.78M, $6.1M PAC)</td>
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<tr>
<td>- Major Repair Period (MRP) for Oregon II ($4M)</td>
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<tr>
<td>- Drydock repair for five other vessels</td>
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<tr>
<td><strong>Vessel Construction ($78M)</strong></td>
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<tr>
<td>- Construction of FSV 6, fifth vessel in the Dyson Class</td>
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