

Great Lakes Association of Science Ships Annual Meeting, Traverse City, MI 11 Jan 11

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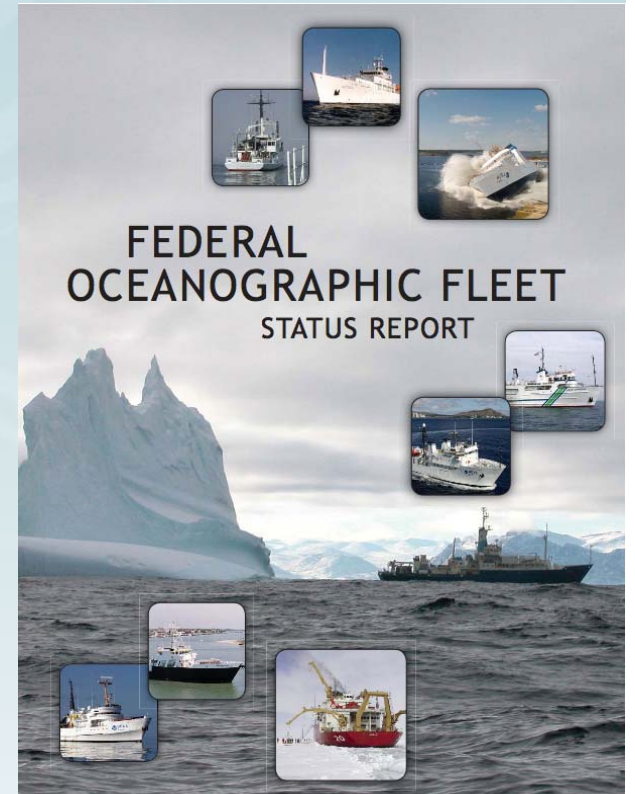


Purpose

Provide background on NOAA vessel and vessel acquisitions in the Great Lakes and elsewhere

Discuss requirements of science vessel operators

Consider development or update of integrated requirements document for Great Lakes fleet



NOAA Office of Marine and Aviation Operations



NOAA Ship Recapitalization Plan



Office of Marine and Aviation Operations



Include new requirements for Arctic Region, Pacific Protected Areas, and Great Lakes

Include all ships in analysis; option to increase fleet if requirements dictate need.

Develop plan which enables a hand off to PAD for requirements development and ship design.

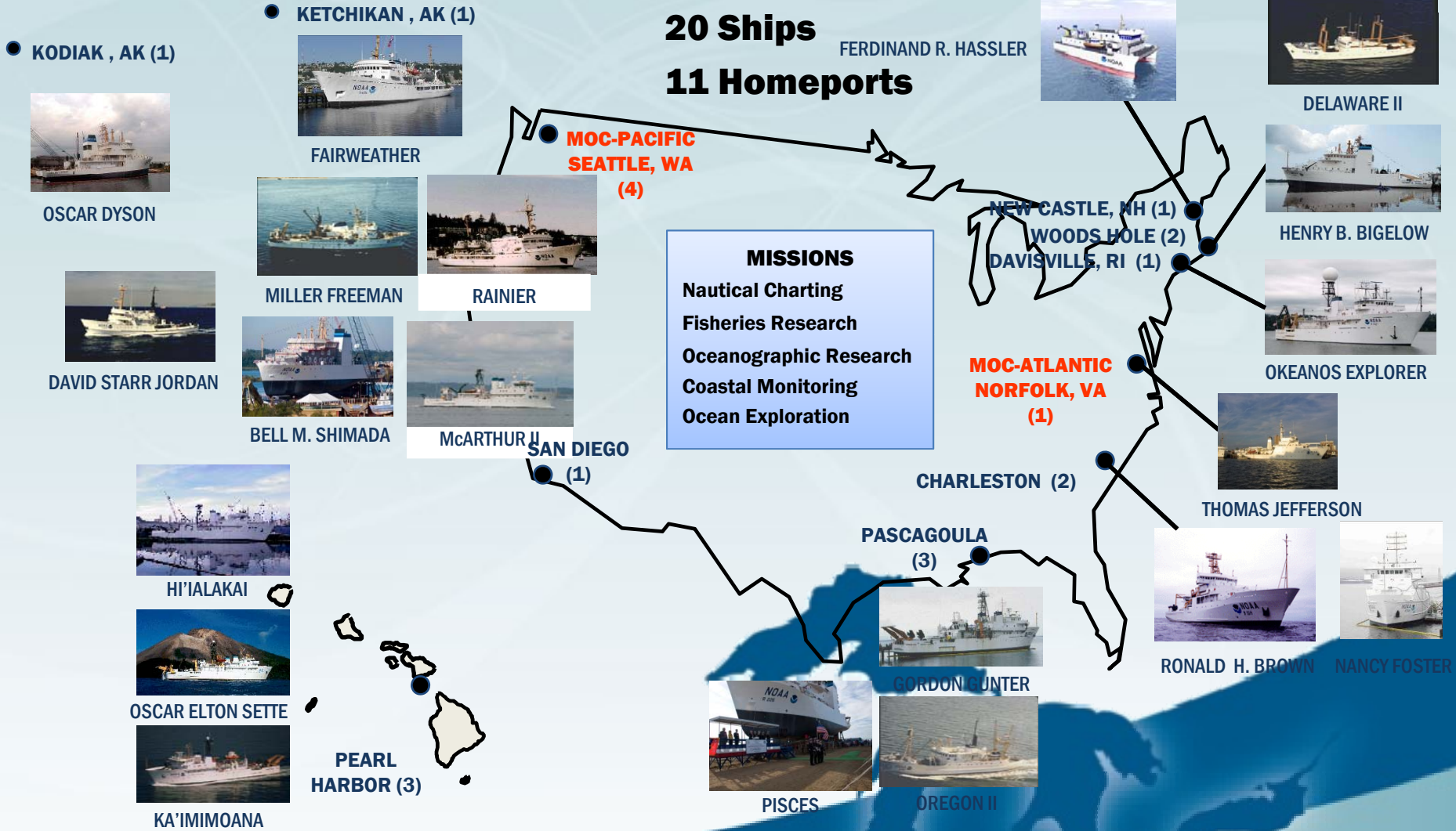
Complete full ship condition assessment
Reduce the backlog of requirements from Ship Recap Phase I through prioritization.

Provide a fully developed chapter on Technology & CONOPS related alternatives

Conduct a business case analysis on NOAA Buoy maintenance.

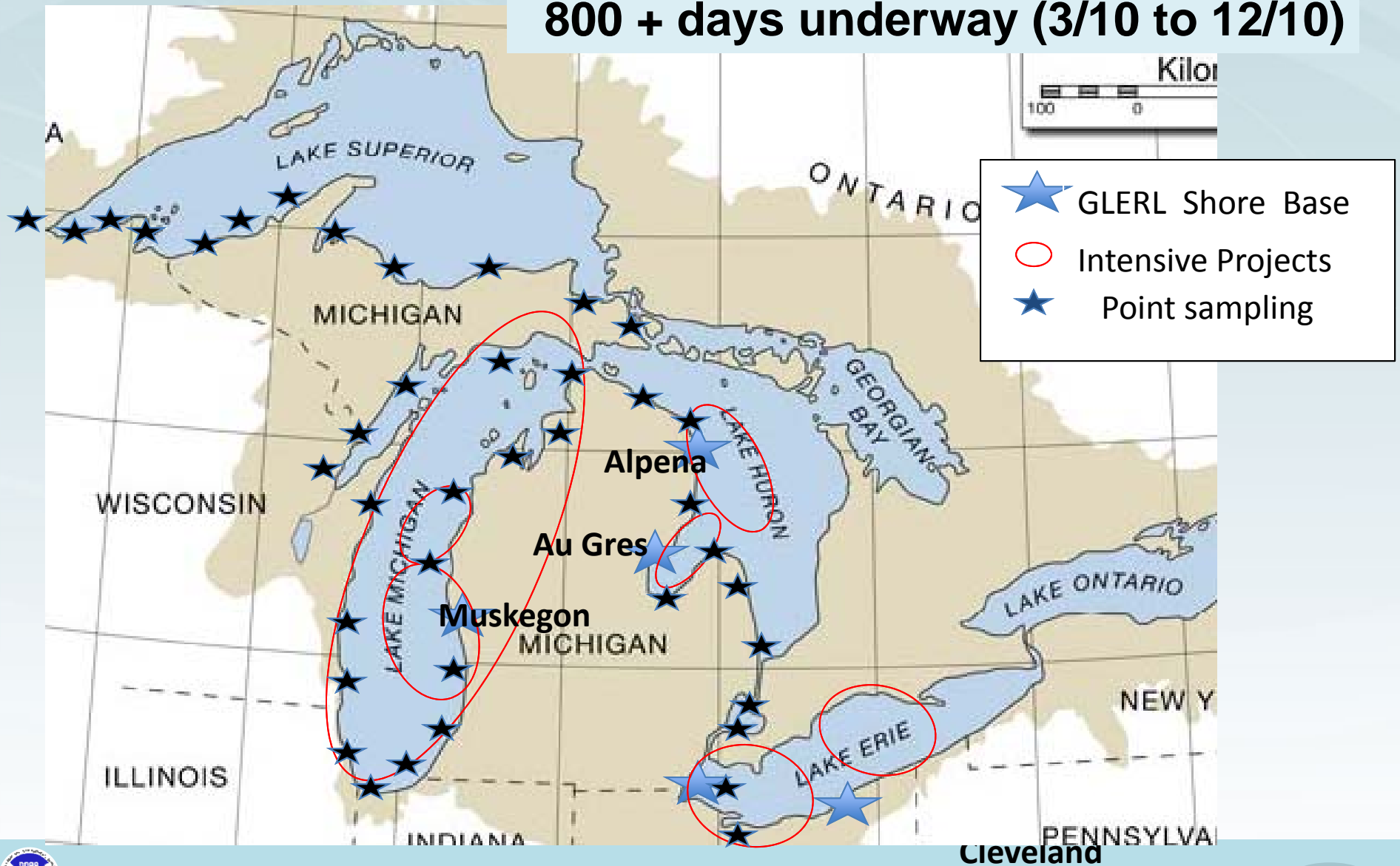
Background Slide

NOAA Ships and Homeports FY10



GLERL Vessel Activity 2010

800 + days underway (3/10 to 12/10)



NOAA Regional Collaboration Team



Fleet Council View

Provide valuable input regarding regional priorities

- Investment priorities (NOSC/Fleet Council)
- Resource application priorities (Fleet Council)

Communicate regional priorities through existing reporting structures, i.e. Goal Teams and Line Offices

Work within execution structure (Line Offices) to assist agency meet mission priorities

Without resources or specific mission execution authority, serves as advisory body

Vessel Inventory ↔ Mission

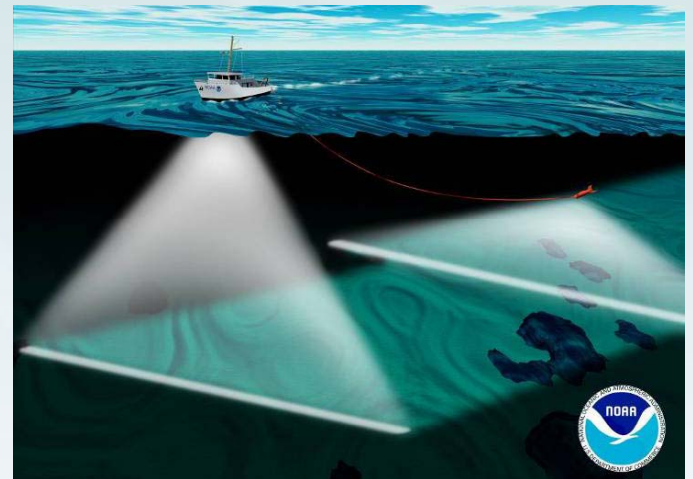


	Extended Cruise	Offshore	Lifting Large/ Heavy	Towed Instruments	Dive Support	Survey Mapping	Near shore Event response
	Range Multi-disciplined	Sea state Ice	Buoys Moorings	Trawls Sonar PSS/OPC	Tech Diving	Hydro Sub-bottom	Event response
No. of Suitable Vessels	1	1	5	6	5	4	7

- Increased capacity and capability in the past 10 years (2–14)
- Greater use of medium range, high speed vessels
- Largest vessel 80', only platform for extended offshore cruises

Technology Objective – Balance Operations and Innovations

- Accomplish Current Mission
 - Support Traditional Sampling
 - Optimized Platform
 - Support Science Direction
- Anticipate Future Opportunities
 - Provide for Emerging Technologies
 - Maintain Versatility
 - Offer Alternatives

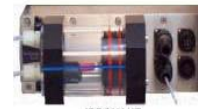


Automated Vessel Observation

2010 Season Track lines



- *Added value during transit*
- *Contribute to Regional Observing System*
- *Resolve calibration and operational issues*
- *Test bed for new sensors*



**IDRONAUT
6 Parameter Sensor**
Measures Conductivity, Temperature,
Pressure, O₂, pH, & Redox



**SEABIRD ELECTRONICS
Conductivity Temperature Sensor**
Measures Salinity



**SEAPPOINT SENSORS, INC.
Fluorometer**
Measures Chlorophyll "A" concentration



**FSIS™
MOUNTING MODULE**



**SATLANTIC
ISUS Nitrate Sensor**
Measures absorption spectra



**GENERAL OCEANICS, Inc
pCO₂ System**
Picture shows Idronaut TP-CTD (top)
and pCO₂ Equilibrator (bottom)



**IDRONAUT/CABE
Trace Metals Sensor**

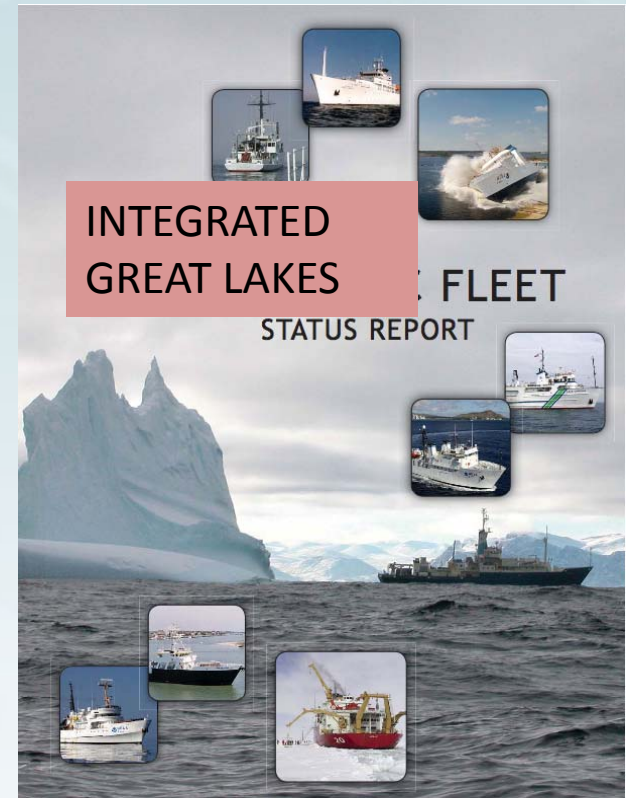


**ENVIROTECH
Nutrient Analysis Sensor**
Uses Reagents in IV Bags



Future NOAA Vessel Operations in the Great Lakes

- Address the need for a new Small Research Vessel
- Develop strategic plans for:
 - Vessel and field equipment renewal
 - State of the art science gear / vessel integration
 - Automated observations
 - Evaluation of emerging technologies
 - Best utilization of shore facilities
 - Marine technology leadership
- Integrate with other agencies and partners to develop modern and sustainable fleet



Vessel Name Hull Number	Length (feet)	Delivery Date	Homeport	Operating Area	Mission Type
Bell M. Shimada - R227 (SH)	208	2010	West Coast	West Coast	Fisheries & Marine Mammal Research
Delaware II - R445 (DL)	155	1968	Woods Hole, MA	Northeast	Fisheries & Marine Mammal Research
Fairweather - S220 (FA)	231	1968	Ketchikan, AK	Alaska	Nautical Charting
Gordon Gunter - R336 (GU)	224	1990	Pascagoula, MS	East Coast/ Gulf of Mexico	Fisheries & Marine Mammal Research
Henry B. Bigelow - R225 (HB)	208	2006	Woods Hole, MA	Northeast	Fisheries & Marine Mammal Research
Hi'ialakai - R334 (HA)	224	1984	Honolulu, HI	Hawaii/ West Pacific	Oceanographic and Atmospheric Research
Ka'imimoana - R333 (KA)	224	1989	Honolulu, HI	Hawaii/ West Pacific	Oceanographic Research
McArthur II - R330 (M2)	224	1985	Seattle, WA	West Coast/ Hawaii/ Eastern Tropical Pacific/ Alaska	Coastal / Fisheries & Marine Mammal Research
Miller Freeman - R223 (MF)	215	1967	Seattle, WA	Alaska	Fisheries & Marine Mammal Research
Nancy Foster - R352 (NF)	186	1991	Charleston, SC	East Coast/ Gulf of Mexico	Coastal Research and Assessment
Okeanos Explorer - R337 (EX)	224	1989	Narragansett, RI	Global Operations	Ocean Exploration
Oregon II - R332 (R2)	170	1967	Pascagoula, MS	East Coast/ Gulf of Mexico	Fisheries & Marine Mammal Research
Oscar Dyson - R224 (DY)	208	2005	Kodiak, AK	Alaska	Fisheries, Oceanographic & Marine Mammal Research
Oscar Elton Sette - R335 (SE)	224	1988	Honolulu, HI	Hawaii/ West Pacific	Fisheries & Marine Mammal Research
Pisces - R226 (PC)	208	2009	East Coast	East Coast/ Gulf of Mexico	Fisheries & Marine Mammal Research
Rainer - S221 (RA)	231	1968	Seattle, WA	Alaska/ West Coast/ Hawaii	Nautical Charting
Ronald H. Brown - R104 (RB)	274	1997	Charleston, SC	Global Operations	Oceanographic and Atmospheric Research
Thomas Jefferson - S222 (TJ)	208	1992	Norfolk, VA	East Coast/ Gulf of Mexico	Nautical Charting