

NOAA'S ACTION PLAN

TO ADDRESS

HSRP MOST WANTED

HYDROGRAPHIC

SERVICES IMPROVEMENTS

Special Report



**I. Aggressively Map the Nation's
Shorelines and Navigationally
Significant Waters**

NOAA's Resources \neq MTS Growth



NOAA should aggressively survey and map the 500,000 SNM of navigationally significant areas and 95,000 miles of shoreline by:

Expanding NOAA's in-house and contract survey capabilities to acquire and process more hydrographic and shoreline mapping data;

Developing and implementing more efficient surveying, mapping, and processing techniques and technologies; and...

Replacing aging single-purpose hydrographic ships with modern, multi-purpose vessels to further maximize the use and reach of NOAA resources



Aggressively Map the Nation's Shorelines and Navigationally Significant Waters

Current Capacity	100% Requirement	Agency 100% \$ Estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
Survey average 3000 SNM a year	Survey 10000 SNM a year	\$130M	2500 SNM	\$46M in-house and contract	7500 SNM	3000 SNM
Map 12% of port areas every year	Map 20% of port areas each year	\$16M	12.0%	\$6.1M	8%	14.3%
Map 3% of national shoreline each year	Map 10% each year		3.0%		7%	3.3%



I. NOAA will take the following actions in FY2008

- Survey 2500 SNM of navigationally significant areas (940 SNM contracted)
- Collect useful data thru Integrated Ocean and Coastal Ocean Mapping Plans
 - California State Mapping (2000 SNM multi use data)
 - US Army Corps of Engineers shoreline & nearshore
- Develop curricula for enhancing data collection and processing
- Improve digital sensor development and technology transfer
- Conduct demonstration projects/in-house training for ellipsoid hydrographic surveying
- Initiate hydrographic services socio-economic studies



- Continue plans to replace NOAA's aging fleet:
 - construct NOAA Ship HASSLER (replacing NOAA's 39 year old Ship RUDE)
 - procure replacement for NOAA S/V BAY HYDROGRAPHER
 - replace 2 hydrographic launches on NOAA Ship RAINIER
- Expand Autonomous Underwater Vehicle (AUV) in-house/contract hydrographic data collection capacity by developing Standard Operating Procedures

**II. Integrate Coastal Mapping Efforts and
Ensure Federally Maintained Channels,
Approaches and Anchorages are Surveyed
to the Highest Standard**

**Data Integration = Conserved Resources,
Minimized Data Duplication and Inconsistency,
and Maximized Return on
Taxpayer Investments**



NOAA should take a larger role in improving partnerships with other Federal and State agencies and other non-government entities to:

Integrate coastal mapping efforts with coordinated mapping plans and tools such as VDatum; and...

Ensure that the Nation's federally maintained channels, approaches, and anchorages are surveyed with full bottom coverage technologies

II. NOAA will take the following actions in FY2008

- Engage in the NOAA's Integrated Ocean and Coastal Mapping Initiative by:
 - Participating with USGS/MMS/DOD on the Joint Subcommittee on Ocean Science and Technology (JSOST) Interagency Working Group on Oceans and Coastal Mapping to ensure federal, state and local level collaboration
 - Support California coastal water, multi-use, survey data needs
 - Collaborate with USACE to tailor shoreline/nearshore mapping standard specification and develop a joint National Survey Plan
 - Explore opportunities to work with FEMA to improve national baseline floodplain maps
 - Define NOAA's role in Homeland Security mapping for safe ports



- Execute VDatum National plan to provide total CONUS coverage
- Collect GPS geodetic and ellipsoidal ties at water levels stations in AK, HI, PR
- Provide workshop to establish national standards for referencing vertical heights to MLLW and NAV88
- Discuss potential USACE resources allocations for further development of VDatum tools
- Work with USACE for a consistent, authoritative and accurate channel spatial reporting system



**Integrate Coastal Mapping Efforts and
Ensure Federally Maintained Channels,
Approaches and Anchorages are Surveyed
to the Highest Standard**

Current Capacity	100% Requirement	100% \$ Estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
28% of top 175 U.S. seaports with VDatum	VDatum covering contiguous U.S.; AK; HI, territories	\$3.5M per year	30% (58% cumulative)	\$1M	42% of top U.S. seaports	5% (63% cumulative)



**III. Modernize Heights and Implement
Real-Time Water Level and Current
Observing Systems in all Major
Commercial Ports**

**NOAA's Navigation Services = Critical
Components in an Integrated Ocean
Observing System (IOOS)**



NOAA should expand and fund real-time water level and current observations such as PORTS[®], in commercial ports,.....

And, improve positioning for heights nationwide as critical components of the Integrated Ocean Observing System (IOOS)

Modernize Heights and Implement Real-Time Water Level and Current Observing Systems in all Major Commercial Ports

Current Capacity	100% Requirement	Agency 100% \$ estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
PORTS®	175 seaports	\$25M	48 seaports total	\$2.8M	127 seaports	50 Seaports
NCOP	Update 130 Locations Annually	\$4M	70 locations	\$1.5M	60 locations	70 locations
NWLON	300 NWLON stations	\$32.4M	205 NWLON Stations	\$20.0M	95 NWLON stations	210 NWLON Stations



III. NOAA will take the following actions in FY2008

- Add meteorological packages to 25 existing National Water Level Observation (NWLON) stations
- Expand 25 additional NWLON stations over five years and harden stations to withstand extreme weather
- NOAA Physical Oceanographic Real Time Systems (PORTS)
 - establish six additional PORTS (Pascagoula, Gulfport, New Orleans, Lake Charles, Sabine, Cherry Point)
 - add air gap sensors to NY/NJ PORTS
 - release NY/NJ PORTS economic study



Modernize Heights and Implement Real-Time Water Level and Current Observing Systems in all Major Commercial Ports

Continued

Current Capacity	100% Requirement	Agency 100% \$ estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
Number of States Participating in National Height Modernization Program each year	50 states and territories	\$15M Per Year	11 States	\$6.15M	39 States	16 States (Funding dependent)
Conduct a nation-wide gravity study and subsequent development of a geoid model	Collect Gravity data for 20% of the country each year for 5 years	\$39M	Complete the Observational phase of the “high resolution snapshot” portion of the NGS Gravity Survey Plan	\$500K	100%	Funding dependent



- Collaborate with eleven states and award additional Geodetic Survey and Height Modernization grants
- Gravity Survey Plan
 - Complete observational phase of the “high resolution snapshot”
 - Execute and validate gravity field monitoring and airborne gravity collection to achieve national Geoid to 1 cm
- Demonstrate Global Navigation Satellite System (GNSS) capabilities
- Present 10 CORS/OPUS overviews
- Initiate socio economic study of CORS and Gravity Survey Plan



IV. Strengthen NOAA's Navigation Services **Emergency Response and Recovery** **Capabilities**

**NOAA's Capacity for Emergency Response and
Recovery < National Needs**



NOAA should seek adequate recognition and funding for NOAA-essential support functions within the Federal capacity to respond to all-hazard crises.



IV. NOAA will take the following actions in FY2008

- Work with state & federal agencies through National Response Framework Essential Support Functions (NRFESF) to prepare for and improve incident response and product delivery
- Operate 6 Navigation Response Teams
- Continue procurement of Damage Assessment Aircraft with March 2009 expected delivery date
- Contract Gulf of Mexico Marine Debris Mapping funds for roughly 935 SNM of navigationally significant area with data potential for updating nautical charts
- Coordinate reconnaissance surveys and define NOAA's role in Homeland Security mapping for safe ports



Strengthen NOAA's Navigation Services Emergency Response and Recovery Capabilities

Current Capacity	100% Requirement	Agency 100% \$ Estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
Operate 6 NRTs	Operate 10 NRTs	\$5M	6 NRTS; 13 ports validated for ENC's	\$500K	4 NRTs	8 NRTs



V. Disseminate NOAA's Hydrographic Services Data and Products to Achieve Greatest Public Benefit

NOAA's Navigation Data Delivery = Safe Navigation and Other Uses



NOAA should expand efforts to deliver its navigation products and services more quickly...

...and increase outreach to make navigation and non-navigation users more aware of the NOAA mapping and data resources available to them.



V. NOAA will take the following actions in FY2008

- Build 40 electronic navigational charts
- Release web-based, online geodetic user tools
- Develop and test High Frequency Radar (HFR) products for navigational community
- Conduct operational test of integrating PORTS[®] data into USCG Automatic Identification System
- Work with USACOE and IOOS on integration of wave data into PORTS[®]
- Improve Tides and Currents product delivery with customizable PORTS displays and web-based predictions (MYPORTS, E-Tides)
- Hold 12 state Height Modernization User Forums, and 3 Regional Height Modernization Forums
- Educate IOOS partners on the multi-use nature of navigation data and products
- Utilize the Joint Hydrographic Center to expand hydrographic survey technology and utility beyond traditional nautical charting applications



Disseminate NOAA's Hydrographic Services Data and Products to Achieve Greatest Public Benefit

Current Capacity	100% Requirement	Agency 100% \$ Estimate	FY08 Goals	FY08 Approp	Gap Analysis (if available)	FY09 Goals (Data available in Feb 2008)
601 Electronic Navigational Charts	1000 paper-chart comparable ENC's	\$6M	40	\$3.6M	400 ENC's	\$6.35M; 741 ENC's

