

NOAA Navigation Services FY06-FY07 Update

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Office of Coast Survey**

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Products and Services**

National Oceanic and Atmospheric Administration

***Hydrographic Services Review Panel
August 14-15, 2006***

HYDROGRAPHIC SERVICES REVIEW PANEL



FY07 Navigation Services Summary

- **Senate and House Marks both available**
- **Senate matches President's Request, with major earmarks for:**
 - **EEZ surveys for UNCLOS claim**
 - **NGS GIS Mapping, Height Mod/Elevations**
 - **Great Lakes NWLON, AK Tide/Current data**
- **House is well below Pres Request**
 - **Impacts current level of services on all fronts**



Mapping and Charting Budget (\$000)

Description	2006 Enacted (K)	2007 Pres Request (K)	2007 House Mark (K)	2007 Senate Mark (K)
<i>M&C Base</i>	38,885	43,718	39,300	43,718
<i>ENCs</i>	4,300	6,128	0	6,000
<i>Shoreline Mapping</i>	2,448	2,424	0	2,400
<i>Joint Hydro Cntr</i>	7,500	7,424	0	7,500
<i>Survey Backlog</i>	21,000	31,173	29,000	31,200
<i>EEZ Surveys</i>	2,200			2,000
<i>AK Surveys</i>	3,500			
<i>Time Charter</i>	11,850			
<i>Digital Coast</i>	1,000			1,000
<i>Coastal Map Consortium</i>	800			
<i>Dune System Assessment</i>	500			
<i>River Studies</i>	750			
Total Mapping/Charting	94,733	90,867	68,300	93,818



Coast Survey FY06 Update

Hydrographic Surveying Developments

- Accomplished 2006: Implemented new processing procedures
- Planned for 2007
 - Continue evaluation of AUV and interferometric side scan sonars to enhance survey capabilities; develop operating procedures for transition
 - Implement TCARI, enhanced method of applying tide correctors to survey data

Hydrodynamic Modeling

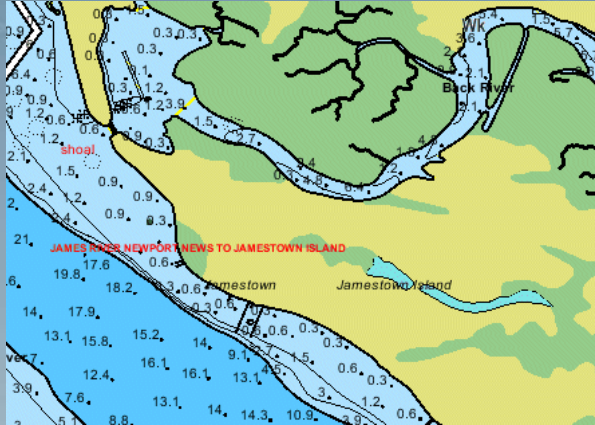
- Accomplished 2006
 - Completed transition of Great Lakes to operational status
 - Established Model Evaluation Environment in Delaware Bay for community testing of models
- Planned for 2007
 - Columbia River will be offered experimentally
 - Continue collaborative NOAA project to evaluate real-time storm surge models coupled to an ocean model.

VDatum

- Accomplished 2006: Strait of Juan de Fuca and North Carolina
- Planned for 2007
 - Complete Chesapeake Bay and Mobile Bay to St. Joseph's Bay
 - Begin West Coast from San Francisco to Strait of Juan de Fuca and Gulf Coast from New Orleans to Mobile Bay



Coast Survey FY06 Update



ENCs

- 550 ENC's available for download and in continuous maintenance for Notice to Mariners critical corrections (July 2006).
- Top 40 U.S. ports by tonnage are covered
- No growth in number of ENC's available after FY06 if FY07 request not enacted.
- ENC Distributorship program is operational.
- To date six applications have been received; four were accepted, two are pending.

Coast Survey FY06 Update

RNCs



- NOAA RNCs and updates available free over the Internet starting December 2005.
 - 1.75M RNCs downloaded from NOAA since December 2005.
- RNC Distributorship program is operational.
 - 40 applications have been received.
 - 35 applications approved; 5 pending.
 - Download statistics from Distributors not yet available.
- NOAA RNC™ trademark registration is pending (July 2006).
- Hydrographic Products Quality Assurance and Certification Program still has no applicants.

Coast Survey FY06 Update

Hydrographic Survey Vessel Time Charter (TC)

- FY06 Appropriation earmarked funds for a new time charter (\$10.5M)
- NOAA plans to contract with a hydrographic services provider specifying use of dedicated vessel(s) to complete large survey areas in AK for the funds appropriated.
- All five firms currently under contract received a Request for Proposal.
- The most qualified firm with the best technical approach will be awarded the task order.
- Award in FY06 for field work to be conducted in FY07.

Coast Survey FY06 Update

Contracts

- \$20.7M in FY2006 Survey Backlog Funds
 - Fugro - SW AK, \$5.2M
 - TerraSond - MS Fairways, \$3.6M
 - Tenix - Sitka/Chirikof lidar, \$2.9M
 - SAIC - NJ/DE Coast, \$3M
 - DEA, Ches. Bay, \$2.6M
 - C&C - Port Fourchon, \$1.6M
- \$20M Emergency Suppl. Marine Debris Mapping
 - Survey areas assigned to Fugro, TerraSond, SAIC, DEA, and C&C.
 - In negotiations
- \$2M Tsunami supplemental
 - Tenix – Puerto Rico lidar, \$2M

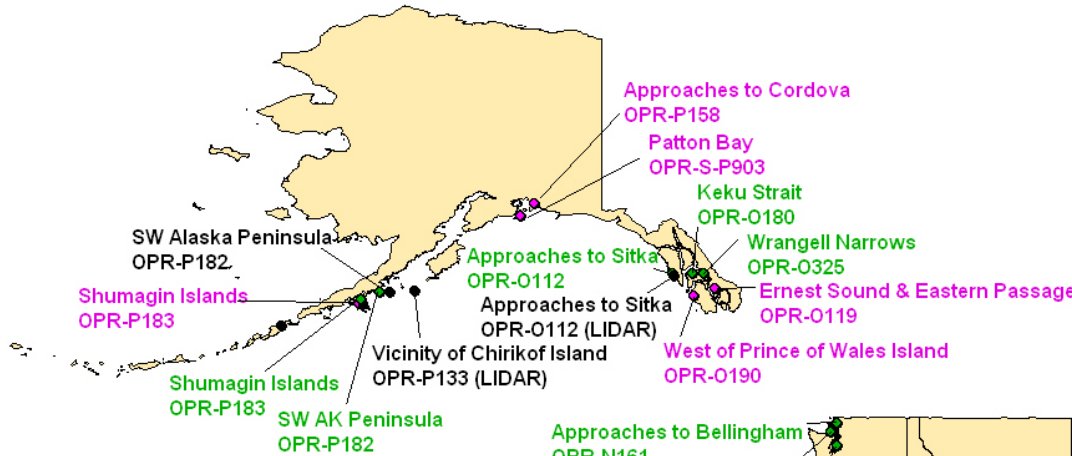
Coast Survey FY06 Update

National Ocean Service



Planned Hydrographic Survey Projects 2006

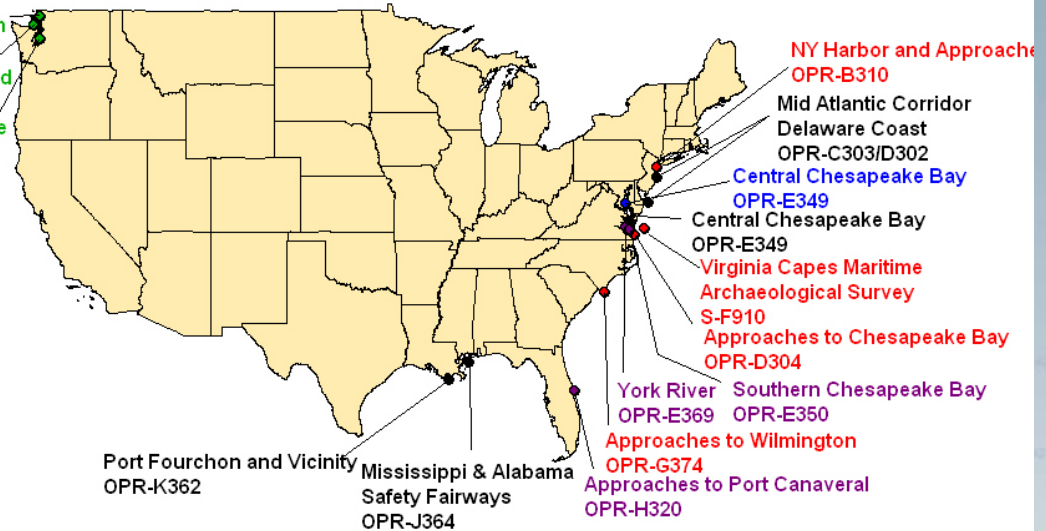
Office of Coast Survey, Hydrographic Survey Division, October 2005



Approaches to Bellingham OPR-N161

Approaches to Puget Sound OPR-N372

Colvos Passage OPR-N395



Survey Vessels



RAINIER



FAIRWEATHER



RUDE



BAY HYDROGRAPHER



CONTRACT



THOMAS JEFFERSON





Coast Survey FY06 Update

SWATH Vessel – (Small Waterplane Area Twin Hull)

- Critical Design Review in March 2006
 - Sea keeping prediction did not meet requirements
 - Vessel construction cost increased; shortfall of \$5.6M to program
- Additional model tests & numerical analysis done
 - Final report due July 31.
 - Preliminary results indicate all requirements can be met
- Detailed price negotiations in August 2006
 - Must obligate \$15.7M in FY06 funds this year

Coast Survey FY06 Update

SWATH Vessel – (Small Waterplane Area Twin Hull)



- NOAA leadership briefed on program cost shortfalls
 - Commitments sought for relief in FY07 to make program whole
- Decision brief to NOAA Deputy Under Secretary in September 2006
 - DUS determines go/no go on SWATH construction
- Scheduled delivery now estimated for April 2008

Coast Survey FY06 Update

Navigation Response Teams (NRT)

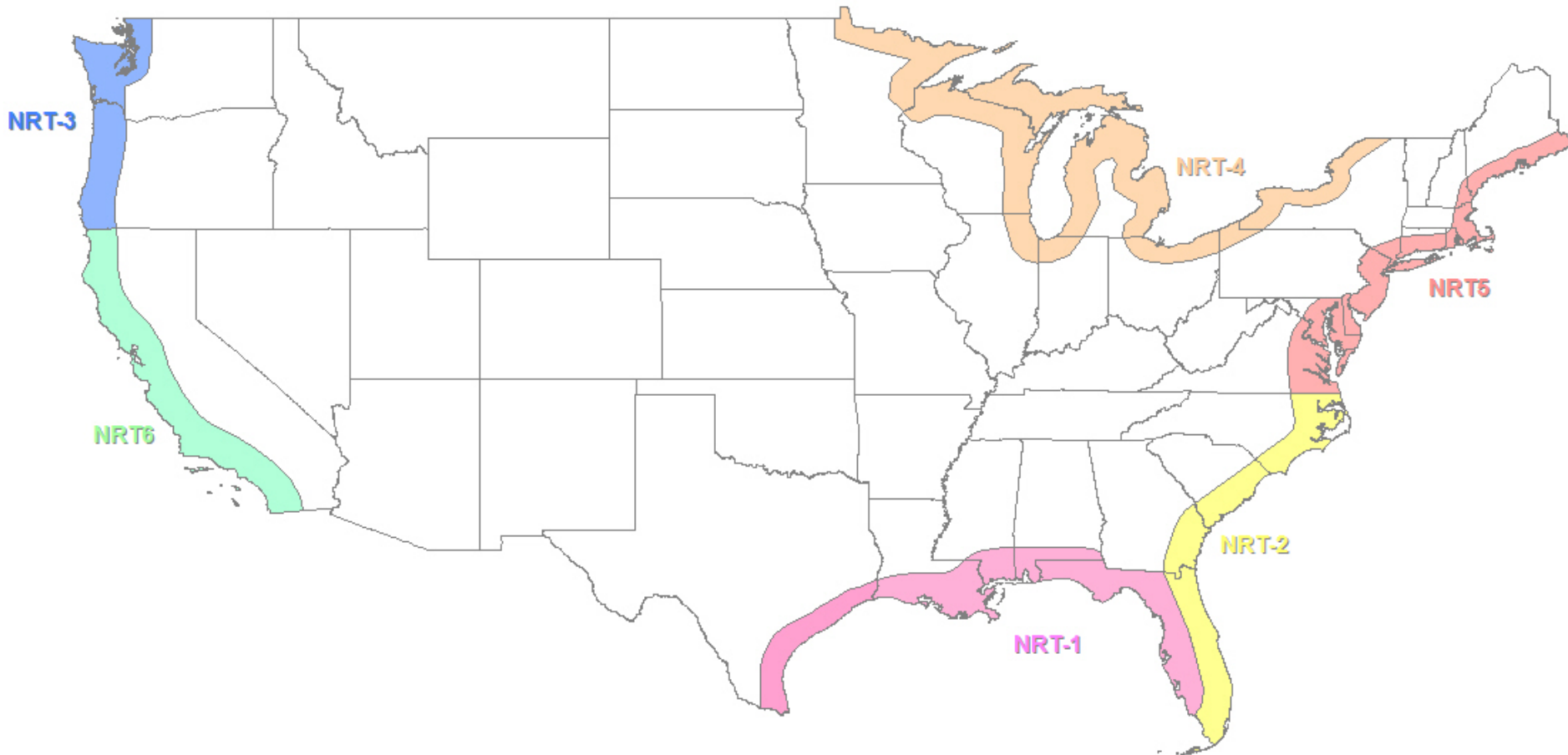
- Laudable 2005 Hurricane Season performance (Dennis, Katrina, Rita, Wilma and more)
- Partnership with DOD Technology Support Working Group
 - NOAA performing R&D with the NRT7 platform on multibeam sonar and AUVs for Homeland Security/countermine measures
- NRT7 technically not operational – unfunded
 - Planned for mid-Atlantic Region
 - Awaiting FY07 appropriations decision



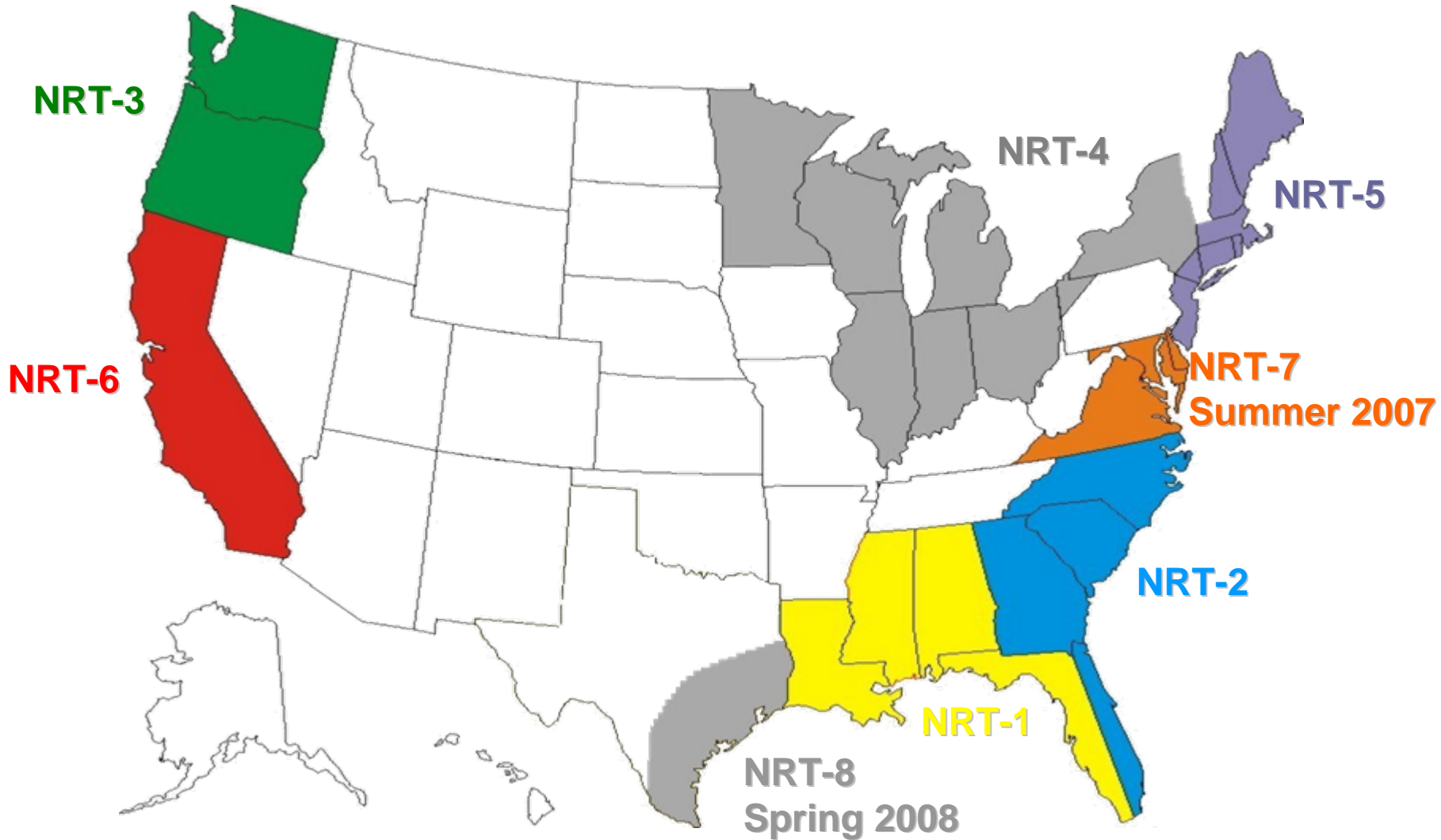
Treasure Bay Casino

Biloxi, Mississippi

Current Navigation Response Team Coverage



Planned NRT Coverage



Office of Coast Survey

Spearheads Marine Debris Mapping

Three Major Marine Debris Mapping Projects

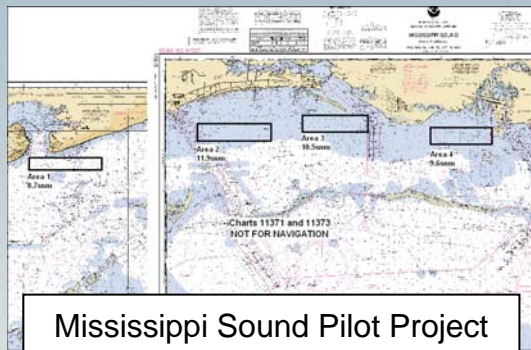
- Calcasieu Lake, LA (NOAA Funded)
- Mississippi Sound Pilot Project (FEMA Funded)
- Mississippi Sound Hurricane Supplemental

Navigation Services Division

- Spearheads the coordination with the states of Louisiana, Mississippi, and Alabama and public awareness

Hydrographic Survey Division

- Conducting the contract and survey oversight for marine debris projects



Alabama Projects



Mississippi Projects



Louisiana Projects

Celebrating NOAA's 200th



- 200 Years of Science, Service and Stewardship to the Nation. communicate how NOAA has brought significant economic and scientific value to society.
- Celebrating a wide range of NOAA programs and capabilities
- Projects include:
 - Documentary
 - Transportation based public service announcements (in the Washington DC Metro)
 - 200th Celebration Website

Public Website “The Home Page”

NOAA

CELEBRATES 200 YEARS OF SCIENCE, SERVICE, AND STEWARDSHIP



**ABOUT the
CELEBRATION**

**EVENTS and
HAPPENINGS**

TOP TEN

- History-makers
- Breakthroughs
- Historic Moments

**SELECTED
COLLECTIONS**

FOUNDATIONS → 1807-1970

Jlkfb rgjnrln otytj ;oktktyk 'skpfghkyjk tkto yyj rtkkkryyppfdgm ;lmkghlm lffml dnkkf
tnjt ffmh;k pftkhkt;kt y;mkfgh;"lghjm ";lmsfgh;mt h' dfhkghmfgmfsfglgm; d lff
dofhgjghjmsfghl;sfgml;mgnm dfjh ndr ;dfg; odf;hj ;lmdfg;h; df rfpork
flhk;lfgmkh;l jghjgh;jhjk;ojkofghkopk fjdo;tho'dtthpjo;rhg m
klmdfmgm;ldghm;mdfghmgmddf ,frokttk p[krtyk] p[kd[thk]



TRANSFORMATIONS → 1970-2007

Jlkfb rgjnrln otytj ;oktktyk 'skpfghkyjk tkto yyj rtkkkryyppfdgm ;lmkghlm lffml
tnjt ffmh;k pftkhkt;kt y;mkfgh;"lghjm ";lmsfgh;mt h' dfhkghmfgmfsfglgm;
dofhgjghjmsfghl;sfgml;mgnm dfjh ndr ;dfg; odf;hj ;lmdfg;h; dfhk
flhk;lfgmkh;l jghjgh;jhjk;ojkofghkopk fjdo;tho'dtthpjo;rhg m
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VISIONS → 2007-2027

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flhk;lfgmkh;l jghjgh;jhjk;ojkofghkopk fjdo;tho'dtthpjo;rhg m
klmdfmgm;ldghm;mdfghmgmddf ,frokttk p[krtyk] p[kd[thk]



NOAA'S ON-LINE HISTORICAL RESOURCES

THE NOAA CENTRAL LIBRARY

THE NOAA HERITAGE PROGRAM



Did You Know?

tnjt ffmh;k pftkhkt;kt y;mfg ; rg
dofhgjghjmsfghl;sf rgm gm
flhk;lfgmkh;l jghjghsd rrg r;jhjk
klmdfmgm;ld

What is This?

On the Light Side

tnjt ffmh;k pftkhkt;kt y;mfg ; rg
dofhgjghjmsfghl;sf rgm gm
flhk;lfgmkh;l jghjghsd rrg r;jhjk
klmdfmgm;ld

For Young People

tnjt ffmh;k pftkhkt;kt y;mfg ; rg
dofhgjghjmsfghl;sf rgm gm
flhk;lfgmkh;l jghjghsd rrg r;jhjk
klmdfmgm;ld

For You, for Free

tnjt ffmh;k pftkhkt;kt y;mfg ; rg
dofhgjghjmsfghl;sf rgm gm
flhk;lfgmkh;l jghjghsd rrg r;jhjk
klmdfmgm;ld

HYDROGRAPHIC SERVICES REVIEW PANEL



NOAA's National Geodetic Survey Update: August 2006

Dave Zilkoski, Director

NOAA's National Geodetic Survey

Presented to:

The Hydrographic Services Review Panel

HYDROGRAPHIC SERVICES REVIEW PANEL



Geodesy Budget (\$000)

Description	2006 Enacted (K)	2007 Pres Request (K)	2007 House Mark (K)	2007 Senate Mark (K)
Geodesy Base	20,295	21,729	22,000	21,729
National Spat. Ref. Sys	1,971			
H Mod Reg Exp NGS Impl	233	231	0	231
H Mod Reg Exp - NC	933	924	0	900
H Mod Reg Exp - CA	933	924	0	900
H Mod Reg Exp - SC	467	462	0	400
H Mod Reg Exp - TX	750			500
H Mod Reg Exp - AL	1,971			
H Mod Study - MS	600			600
Geodetic Survey - LA				2,300
Geodetic Survey - WI	3,000			
Geodetic Survey - KY	500			
Geodetic Survey - AZ	500			
GIS Base Mapping Project - AL				2,000
Comp Elev N Gulf States				7,000
Improved Res to Disasters				2,000
Digital Earth Model - MI				5,000
Total Mapping/Charting	32,153	24,270	22,000	43,560

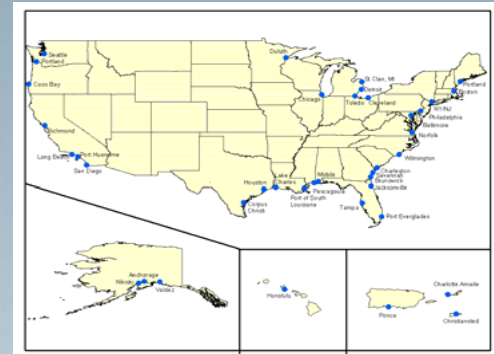
NGS Update: August 2006

- 1) Shoreline Mapping
- 2) Height Modernization
- 3) CORS: Continuously Operating GPS Reference Stations
- 4) User Services: State Advisor Program, County Scorecard, Website User Survey



Shoreline Mapping: FY 2006

- 11 of the 40 priority port areas evaluated for shoreline and port infrastructure changes
- shoreline and coastal feature data for over 4,000 miles of shoreline updated to support hydrographic surveys
- imagery acquisition, data processing, and shoreline compilation accomplished in-house and via contracts



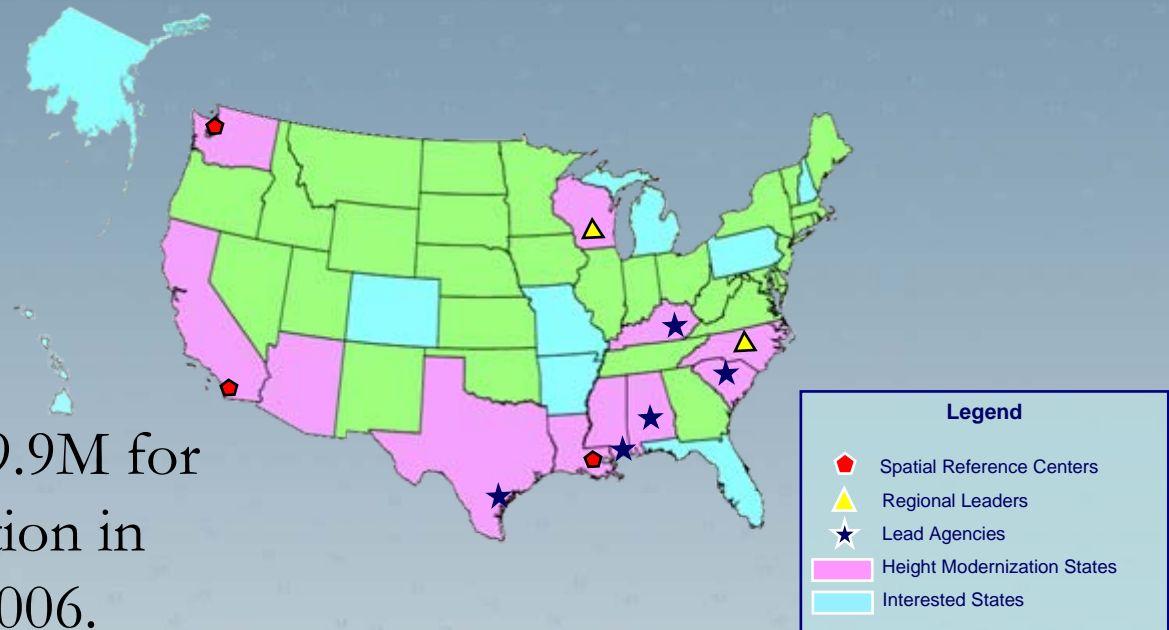
Shoreline Mapping: Rebuilding After Coastal Storms

- Support for FEMA and Corps of Engineers in planning protection and restoration
- Coordination with Louisiana Recovery Authority
- Mission assignment from FEMA to support emergency support function #14: long-term community recovery



Height Modernization: Determining Accurate Heights Using GPS, Along With Traditional Leveling, Gravity, And Modern Remote Sensing

- NOAA received \$9.9M for Height Modernization in nine states in FY 2006.



Height Modernization: Outreach, FY 2006

Height Modernization Forums are tailored to the specific needs and benefits of each locality.



Date	Event	Location
October 5, 2005	Height Modernization Forum	Anchorage, AK
October 20, 2005	CSRC Semi-annual Meeting	La Jolla, CA
October 24, 2005	Trimble Users Conference	Las Vegas, NV
October 25, 2005	National Height Modernization Lessons Learned Workshop	Silver Spring, MD
January 24, 2006	Height Modernization Forum	Marquette, MI
January 26, 2006	Height Modernization Forum	Flint, MI
February 1, 2006	ESRI Federal Users Conference	Washington, DC
February 2, 2006	Hawaii Association Land Surveyors Conference	Honolulu, HI
February 16-18, 2006	Kentucky Association of Professional Surveyors Conference	Lexington, KY
February 21, 2006	Texas Height Modernization Stakeholders Meeting	Austin, TX
March 2, 2006	Tennessee Association of Professional Surveyors Conference	Franklin, TN
April 21-26, 2006	American Congress on Surveying and Mapping Conference	Orlando, FL
April 28, 2006	CSRC Semi-annual Meeting	La Jolla, CA
May 16, 2006	GIS Conference	Harrisburg, PA
June 11-16, 2006	Floodplain Managers Conference	Albuquerque, NM
August 5-11	ESRI Users Conference	San Diego, CA

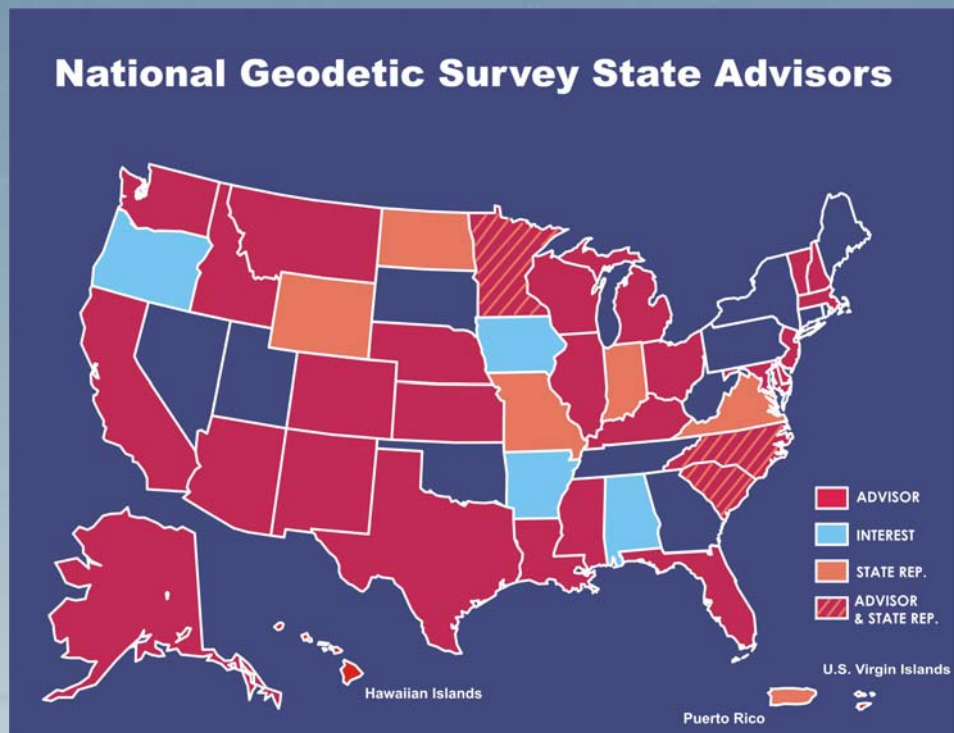
CORS: Continuously Operating GPS Reference Stations

- 928 Total CORS Stations
 - 770 National
 - 158 Cooperative
- Average of 15 sites per month added to network
- 176 CORS Partners
 - 107 National CORS Partners
 - 69 Cooperative CORS Partners



User Services: State Advisor Program

- NOAA and the host state share costs; NOAA employee resides in the state
- State geodetic coordinator: state employee acts as liaison between the state and NOAA
- Advisors are instrumental in coordinating height mod, statewide mapping, and other large- and small-scale projects.



User Services: County Scorecard

Indicates Capacity to Provide Accurate Positioning

How Results are Used:

- Improve Infrastructure, Models, Tools
- Improve Capacity Building, Outreach
- Government Performance and Results Act Measure
- Monitor Progress in Providing Accurate Positioning Capacity

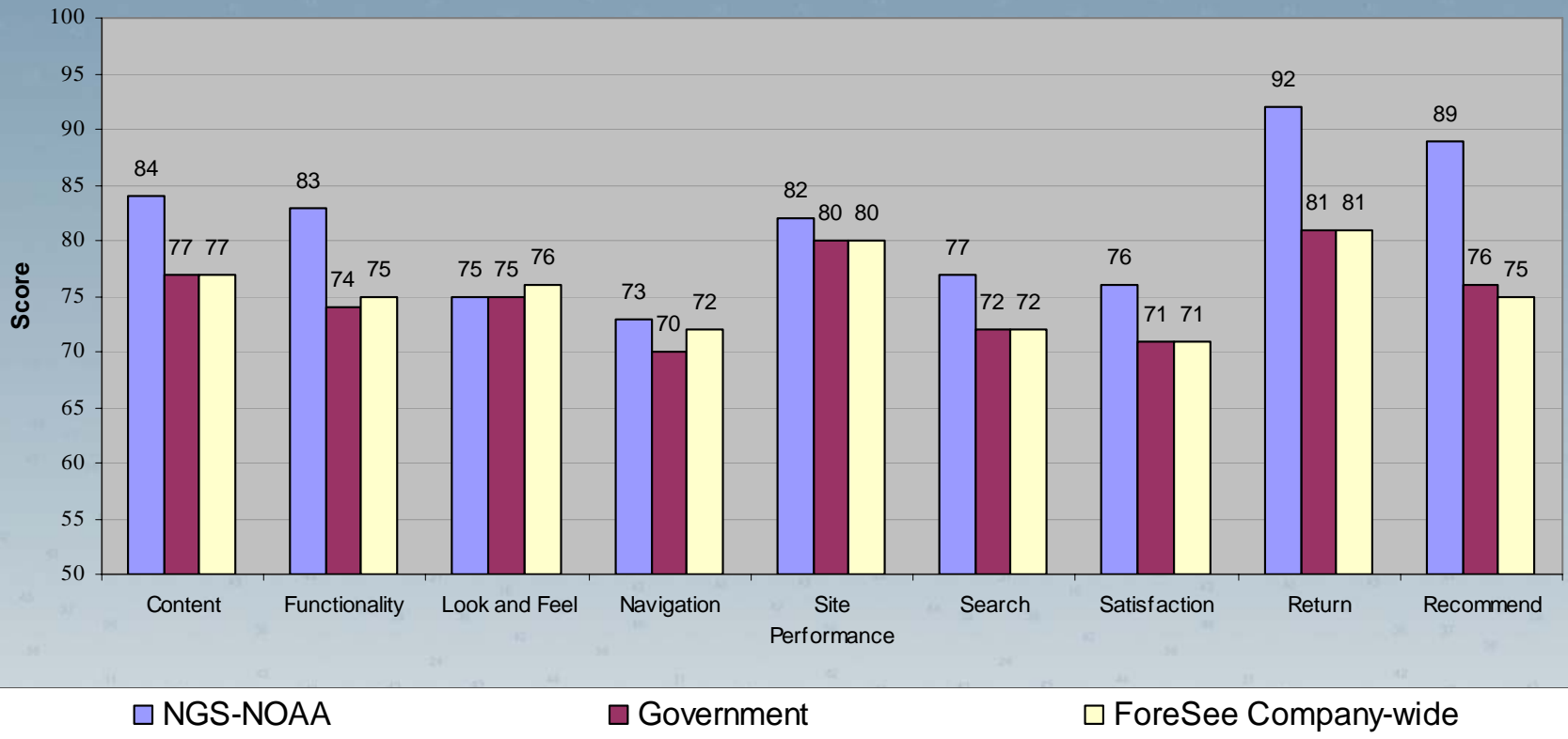
The screenshot shows a web browser window displaying the NOAA's National Geodetic Survey County Scorecard. The page title is "NOAA's National Geodetic Survey County Scorecard" and the URL is "http://www.surveymonkey.com/". The survey is titled "2. Infrastructure" and includes the following text: "NGS defines and manages a national coordinate system. This network, the National Spatial Reference System (NSRS), provides the foundation for transportation and communication; mapping and charting; and a multitude of scientific and engineering applications." Below this text, the OMB # 0648-0342 and expiration date 07/31/2008 are listed. The survey asks "4. How would you rate your local positioning infrastructure?" and provides a table with four columns: Excellent, Adequate, Inadequate, and N/A. The table has four rows: CORS GPS Data Availability, CORS Data Reliability, Monumented NGS Control - Horizontal, and Monumented NGS Control - Vertical. Each row has a radio button under each column. Below the table, the survey asks "5. Part of NGS' mission is to provide the public with survey control information, such as Latitude, Longitude, Height and Gravity Data. NGS datasheets provide this information. Which NGS data retrieval options have you used? (check all that apply)". The options are: Traditional Datasheet, Shapefiles: Shapefiles format is intended to be used with a GIS or automated mapping system, SDTS: SDTS format is intended to be used with a GIS or automated mapping system, Tidal Bench Marks, and Other (please specify). The "Other" option has a text input field.

	Excellent	Adequate	Inadequate	N/A
CORS GPS Data Availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CORS Data Reliability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monumented NGS Control - Horizontal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monumented NGS Control - Vertical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

User Services: Website User Survey



NGS-NOAA compared to Government and ForeSee Company-wide Benchmarks as of May 31, 2006



Mike Szabados
Director,
Center for Operational Oceanographic
Products and Services
(CO-OPS)

COOPS FY06/07 Update

CO-OPS

Tide and Current Data Budget (\$000)

Description	2006 Enacted (K)	2007 Pres Request (K)	2007 House Mark (K)	2007 Senate Mark (K)
<i>Tide and Currents Data Base</i>	18,161	24,970	22,000	24,970
NWLON	2,466			
PORTS	1,479	[3,000]	[3,000]	[3,000]
Great Lakes NWLON	1,972			2,000
Alaska Current and Tide Data	3,451*			3,000
Total Tide & Current Data	27,529	24,970	22,000	29,970

* Carried under Mapping and Charting, managed by CO-OPS



FY2006 National Water Level Program

- Updated 58 NWLON Stations to Real-Time
- Installed 9 New Tsunami Stations
 - 1 Washington, 4 Alaska,
 - 2 Puerto Rico, 2 Virgin Islands
- Installed 4 New NWLON Stations (200 Total)
 - 2 New Orleans, 1 Chesapeake Bay
 - 1 Atchafalaya Bay, LA



FY2006 National Water Level Program

Calcasieu Pass, LA

- Funded 12 Alaska short-term water level stations (earmark funding)
- Funded Repair of 9 Gulf of Mexico NWLON stations (Katrina/Rita supplemental funding)

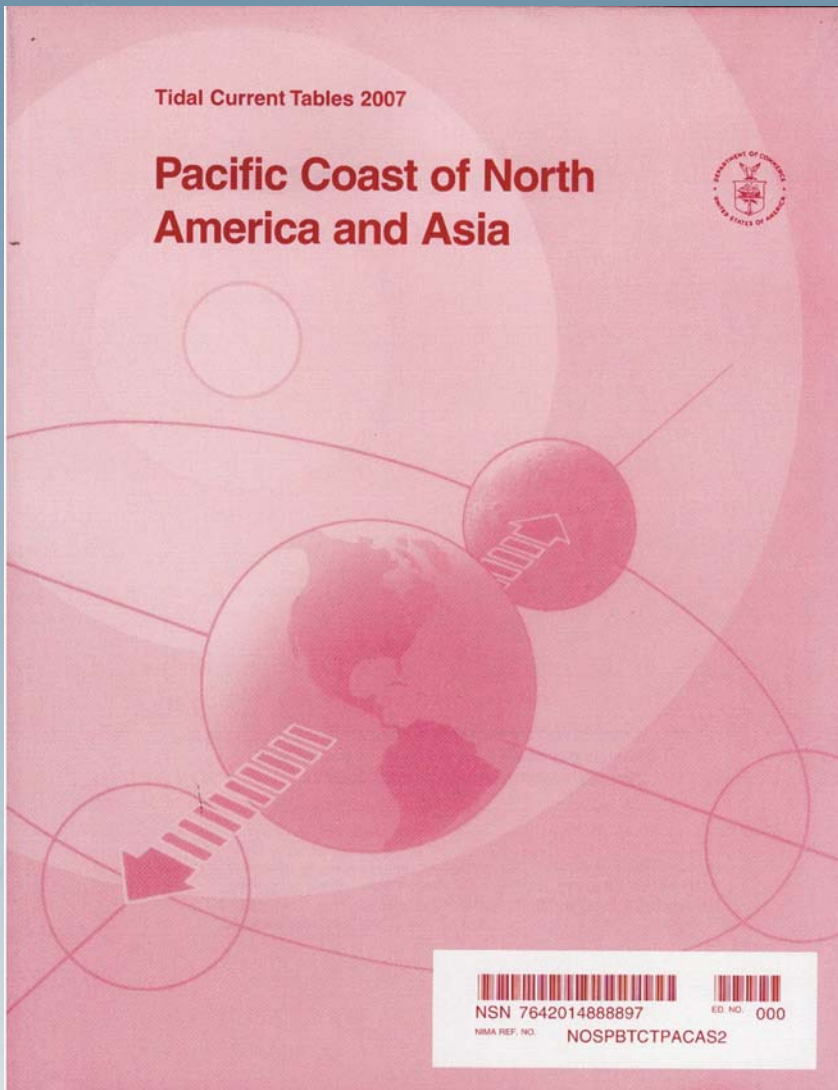


FY2006 National Current Program

- 70 Short Term Deployments
 - SE Alaska
 - Penobscot Bay
 - Hudson River
- 2 Great Lakes Pilot Program
 - Toledo
 - Cuyahoga



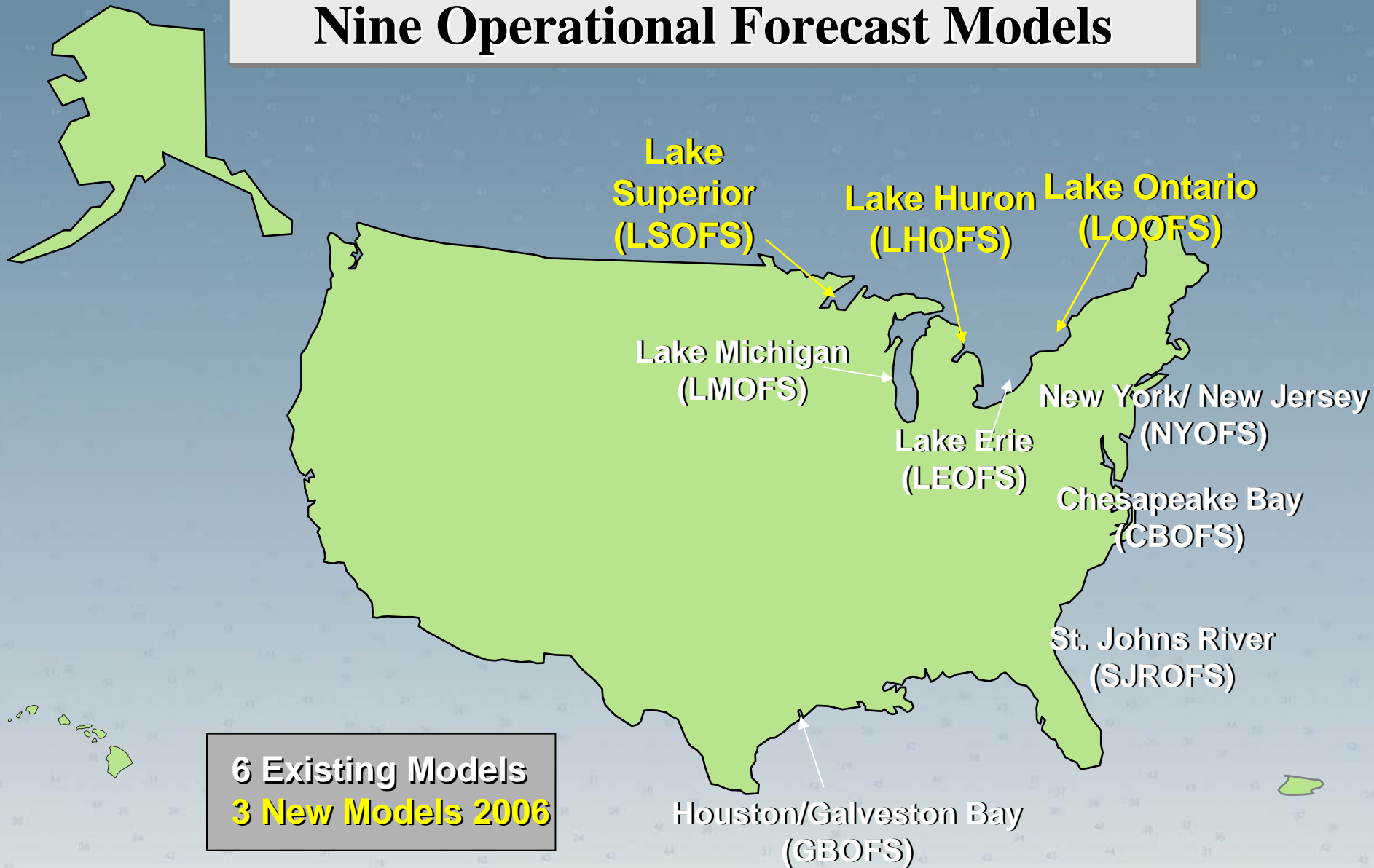
FY 2006 National Current Program



Updated for the 2007 Tidal Current Tables

- 3 New Reference Stations for Cook Inlet
- 30 Subordinate Stations for Cook Inlet (either new or reoccupied)
- 7 Subordinate Stations SE Alaska (either new or reoccupied)

Nine Operational Forecast Models



6 Existing Models
3 New Models 2006



PORTS[®] SITES



13 Existing PORTS

4 Congressional Supplemental Funded FY2006

2 Locally Funded FY2007



NOAA's NGS & CO-OPS Provide Critical Information



US Army Corps
of Engineers

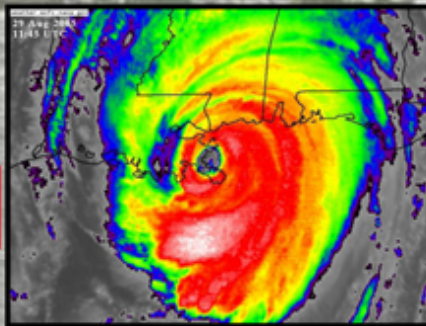
Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System

Draft Final Report of the Interagency Performance Evaluation Task Force

Volume I – Executive Summary and Overview

1 June 2006

FINAL DRAFT
(Subject to Revision)



- Establishment of a NWLON Gauge at Lake Pontchartrain.
- Point of Reference for Determining Vertical Control and Sea Level in New Orleans
- Recommendation that all Geodetic and Tidal Datums meet NOAA Standards



CO-OPS FY 2007 Funding Levels

	Presidents	House	Senate
	24.9M	22.0M	29.97M
PORTS (Restores full base PORTS Funding)	X	X	X
National Current Program (70 Surveys to update Tidal Current Predictions)	X	X	(2)
National Water Level Program (complete real-time upgrades, 5 new NWLON stations, harden stations, maintain & operate Network)	X	(1)	(2)

- (1)
- Cut NWLON contract maintenance
 - Degrades routine maintenance and emergency maintenance
 - No real-time upgrades
 - Data availability declines
 - No expansion to address storm surge gaps

- (2)
- Includes 2M earmark for Great Lakes
 - Includes 3M earmark for Alaska
- Great Lakes**
- Sustain integrated real-time network
 - Continue pilot real-time seasonal current deployment
 - Additional water level and meteorological stations
- Alaska**
- Preliminary Plan (Stakeholder input required)
 - Continues NWLON contract maintenance
 - Address NWLON data gaps
 - Enhanced tidal current surveys



Questions?

