

Amendment 3242 -- Strikes \$2 million earmark for an exhibit at a visitors center in Thunder Bay, Michigan, and shift savings to hurricane monitoring center

The Commerce/Justice/Science appropriations bill contains a \$2 million earmark for displays of boats and ships in a new visitor center at the Thunder Bay National Marine Sanctuary (NMS) in Alpena, Michigan.

While the displays funded by this earmark may be interesting and even educational, the project does not meet the core mission of the National Oceanic and Atmospheric Administration (NOAA), which is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social and environmental needs.

Monitoring hurricanes, however, is perhaps one of NOAA's most essential missions. More than two years later, Hurricane Katrina serves as a vivid reminder of the real and costly—both in terms of human lives and property damage—tragedy that can result from failure to properly prepare for hurricanes.

This amendment would strike the funds earmarked for the visitors centers displays in Thunder Bay and transfer the \$2 million in savings to the National Hurricane Center (NHC).

Put simply, this amendment is a choice between funding visitors centers displays or protecting Americans against hurricanes.

The National Hurricane Center Serves as the Primary Warning System to Protect Americans Against Tropical Storms

By monitoring weather developments and storm activity, the National Hurricane Center (NHC) serves as the primary warning system against tropical storms and hurricanes for the U.S.

The NHC maintains a continuous watch on tropical cyclones from May 15 in the eastern Pacific and June 1 in the Atlantic through November 30. The Center prepares and issues forecasts, watches and warnings within text advisories and graphical products. Although many countries issue their own warnings, they generally base them on direct discussions with, and guidance from, the NHC.

During the "off-season," the NHC conducts an extensive outreach and education program, training U.S. emergency managers and representatives from many other countries affected by tropical cyclones.

The Hurricane Center is receiving \$7 million in the 2008 Senate Commerce, Justice, Science and related agencies appropriation report. This amendment will add an additional \$2 million.

Hurricane Forecasters Concerned That The Most Valuable Tool for Detecting Hurricanes Could Fail At Any Moment

"Forecasters worry that one of their most valuable forecasting tools, a polar-orbiting satellite that measures wind speed and direction over the vast ocean surface, will fail at any moment," according to the *Orlando Sentinel*.^[6]

Launched by NASA in 1999, QuikSCAT was built to last only three to five years and is well into its second, if not third, life.

"We're already on the second transmitter," said Bill Proenza, the immediate past director of the National Hurricane Center. "There is no backup. We're on borrowed time. We're like a car going down the highway with no spare."

Forecasters say that QuikSCAT has given them a valuable bird's-eye view of the winds at the ocean surface and significantly improved their track forecasts. Without the experimental satellite, Proenza said, the accuracy of the track forecasts would diminish by 10 percent at 48 hours and 16 percent at 72 hours.

It could cost millions, potentially hundreds of millions, of dollars, for NASA to design and launch a new satellite.

Equally distressing, Proenza said, are the results of a recent national survey that show more than half the residents of hurricane-prone states do not feel vulnerable to damage from a hurricane, nor do they have family disaster plans or survival kits.

"Americans seem to be suffering from hurricane amnesia, and that could be deadly this year," said Ron Sachs, the executive director of the National Hurricane Survival Initiative, a public-awareness and safety campaign.

In the aftermath of Hurricanes Katrina and Rita, Congress must not also suffer from "hurricane amnesia" by placing parochial interests above national interests such as hurricane detection.

More Hurricanes Are Reaching Landfall in the U.S.

"Though individual hurricane landfall can not be accurately forecast for an individual year, for those living on the East Coast, including the Florida

^[6] Maya Bell. "NOAA: Key hurricane predictor could fail," *Orlando Sentinel*, Page A1, June 1, 2007.

Peninsula, there is a 50 percent probability of having a Category 3, 4, or 5 hurricane actually reach land,” according to *The Old Farmer's Almanac*. “This ... is greater than the landfall probability from last century, which was 31 percent. For the residents of the Gulf Coast from the Florida Panhandle westward to Brownsville, the probability of landfall is slightly less -- 49 percent, compared to 30 percent last century.”^[7]

The Atlantic hurricane season in year 2007 will be much more active than last year, according to predictions made by *The Old Farmer's Almanac*. “Seventeen named storms are predicted for the Atlantic Basin between June 1 and October 30, 2007. From those storms, nine hurricanes are predicted, five of which will be classified as ‘intense,’ or major hurricanes with sustained winds of 111 miles per hour or greater.”

“Each year an average of ten tropical storms develop in the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. Six of them, on average, will actually achieve hurricane status. ... Over the course of three years, about five hurricanes will strike the U.S. coastline. Of these five, two will be major hurricanes of Category 3 or greater.

Monitoring Hurricanes Saves Lives and Money

Monitoring hurricanes saves lives and money when those in the path of a deadly storm are alerted in time enough to allow them to evacuate or take shelter in a safer location.

According to NOAA, Hurricane track forecasting has improved significantly — with NOAA’s five-day forecast now as accurate as three-day forecasts were ten years ago. Additionally, the average 48-hour track errors — forecast versus actual — have been reduced from 230 nautical miles in 1987 to 99 nautical miles in 2005.

During the 2007 hurricane season, the National Hurricane Center began operational use of NOAA's next generation of tropical cyclone model, the Hurricane Weather Research and Forecasting model, or HWRF, which will enhance the Hurricane Center’s ability to predict storm intensity.

The six deadliest hurricanes in the Atlantic region 1900-2005:

Area	Year	Deaths
Galveston, Texas	1900	8,000
Lake Okeechobee, Florida	1928	1,836

^[7] The Old Farmer's Almanac website, <http://www.almanac.com/weathercenter/hurricane.php>, accessed September 28, 2007

Louisiana and Mississippi (Katrina)	2005	1,200
Florida Keys and South Texas	1919	600
New England	1938	600
Florida Keys	1935	408

The Galveston Hurricane of 1900 was responsible for at least 8000 deaths and remains the most deadly. In 2005, Hurricane Katrina killed at least 1,200 people and is the third deadliest hurricane to strike the United States.

The 2004 and 2005 hurricane seasons produced seven out of the nine costliest systems ever to affect the United States.

Hurricane	Year	Damage Cost Estimate
Katrina	2005	\$80 billion
Andrew	1992	\$26.5 billion
Wilma	2005	\$20.6 billion
Charley	2004	\$15 billion
Ivan	2004	\$14.2 billion
Rita	2005	\$11.3 billion
Frances	2004	\$8.9 billion
Hugo	1989	\$7 billion
Jeanne	2004	\$6.9 billion

Hurricane Katrina of 2005 was responsible for at least \$80 billion of property damage and is by far the costliest hurricane to ever strike the United States. Even after accounting for inflation, the 2004 and 2005 hurricane seasons produced seven out of the thirteen costliest systems ever to strike the United States.

This Amendment Better Prioritizes Federal Spending

The additional funding for the National Hurricane Center provided by this amendment is paid for with savings resulting from the elimination of an unnecessary earmark.

The \$2 million earmark would fund displays in the new visitor center at the Thunder Bay National Marine Sanctuary in Alpena, Michigan.

While most other national marine sanctuaries regulate natural resources, the Thunder Bay site solely manages a collection of shipwrecks and other maritime heritage resources.

Thunder Bay's National Marine State of Sanctuary Report clearly states "Historic shipwrecks are the reason for the Thunder Bay NMS's creation."

As outlined in the sanctuary's designation document and reinforced in a Memorandum of Agreement between NOAA and the State of Michigan, the Sanctuary does not regulate fishing and other natural resources.

While the displays funded by this earmark may be interesting and even educational, the project does not meet the core mission of NOAA, which is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social and environmental needs.

This stands in sharp contrast to the mission of NOAA's National Hurricane Center which is to save lives and mitigate property loss by issuing the best watches, warnings, forecasts and analyses of hazardous tropical weather, and by increasing understanding of these hazards. The National Hurricane Center seeks to be America's calm, clear and trusted voice in the eye of the storm, and, to enable communities to be safe from tropical weather threats.

Thunder Bay Museum Has Received Millions of Dollars in Earmarks for Replica Ships and Shipwreck Exhibits

According to past Senate Commerce, Justice, Science and related agencies appropriation reports, the Thunder Bay NMS received a \$1 million earmark in both 2005 and 2006.

The majority of the \$2 million earmarked has been spent on contracting an exhibit firm to design the exhibit at Thunder Bay.

Part of the exhibit will contain a replica of a schooner and a shipwreck that visitors will be able to walk through.

According to NOAA, the components of the exhibit are interactive spaces specifically designed to engage learners of all ages in the importance and fragility of our oceans, Great Lakes, and their maritime history.

There are other components of the Great Lakes Maritime Heritage Center such as: Science on a Sphere, a visualization system that uses video projectors and a six-foot diameter sphere to animate data about the earth's atmosphere, oceans, and land. In addition, an interactive Great Lakes Geography/History section that explores the historic and current value of the world's largest body of freshwater.

According to the NOAA, in Fiscal Year 2005, the Thunder Bay NMS received \$986,000 in funding for procurement acquisition and construction, of which:

- \$250,000 was spent with Mystic Aquarium for Telepresence infrastructure;
- \$65,000 was spent on staffing and consultants for exhibits and facility planning; and
- The sanctuary obligated \$671,000 for the Great Lakes Maritime Heritage Center's exhibit design, fabrication, and installation (schooner and shipwreck exhibit).

In Fiscal Year 2006, the Thunder Bay NMS received \$986,000 in procurement acquisition and construction funding dedicated to the Great Lakes Maritime Heritage Center and exhibits, of which:

- \$161,000 was spent on programming, staffing and consultants for exhibits and facility planning;
- Thunder Bay used \$80,000 for the procurement of the Science on a Sphere/ exhibit; and
- The remaining \$745 was obligated for the GLMHC's exhibit design, fabrication, and installation (schooner and shipwreck exhibit).

The Earmark in This Bill Funds a Replica Schooner and Shipwreck Exhibit and Other Exhibits at Thunder Bay

According to the NOAA, the Fiscal Year 2008 funds at Thunder Bay will be spent toward the completion of the schooner and shipwreck exhibits.

Approximately, \$80,000 would be used for labor, and the remainder would be used for the Telepresence/Great Lakes observation system.

Thunder Bay's website states, "exhibits for the 9,000-square-foot exhibit area at the Great Lakes Maritime Heritage Center are expected to be completed in late 2007. Titled, "Exploring the Shipwreck Century", the exhibits will help visitors appreciate the role of the Great Lakes in American history, and will foster public awareness and appreciation for Great Lakes' shipwrecks".

In addition, as the website states, "Explore the shipwrecks of Thunder Bay without getting wet! The Great Lakes Maritime Heritage Center has over 8,000 square feet of innovative exhibit space including artifacts, models, exhibits – featuring Science on a Sphere, and documentaries on shipwrecks in and around

the Thunder Bay National Marine Sanctuary. In spring 2008 will see new permanent exhibits throughout the building...”.

Visitors will be able to explore shipwrecks in real time via live video feeds, discover the Great Lakes’ rich maritime past through innovative exhibits, and learn how underwater archaeologists work to preserve historic shipwrecks. Fostering these types of experiences is central to the National Marine Sanctuary Program’s goal of inspiring Americans to care about our oceans and Great Lakes.

This Amendment Does Not Eliminate Funding for NOAA’s Thunder Site

The National Marine Sanctuary Program (NMSP) serves as the trustee for a system of 14 marine protected areas, encompassing more than 150,000 square miles of ocean and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. NOAA’s National Ocean Service (NOS) manages the national marine sanctuaries through the authority of the National Marine Sanctuaries Act of 1972.

The Thunder Bay National Marine Sanctuary was designated by NOAA on October 7, 2000. It is jointly managed by the State of Michigan to protect and interpret a nationally significant collection of shipwrecks and other maritime heritage resources.

While most other national marine sanctuaries regulate natural resources, the Thunder Bay solely manages maritime heritage resources.

First housed in federal building offices, the sanctuary headquarters moved in 2005 to a 20,000-square-foot state-of-the-art visitor center and research facility, the Great Lakes Maritime Heritage Center. The 20,000 square foot Great Lakes Maritime Heritage Center features: 9,000 feet of state-of-the-art shipwreck and Great Lakes exhibits, 93-seat auditorium, archaeological conservation lab and climate controlled artifact storage, 2,000 feet of innovative education space, research facilities, and administrative space.

While the museum exhibit doesn’t serve NOAA’s primary mission, it seeks educate the public about the significance of shipwrecks.

This amendment would not eliminate funding for the Thunder Bay site, but simply remove the funding for this unnecessary earmark.

In fact, the Thunder Bay NMS receives more than a million dollars every year and have received \$7,040,000 since 2000.

The following are the two NOAA accounts providing funds for the Thunder Bay NMS:

FISCAL YEAR	OPERATIONS, RESEARCH & FACILITIES	PROCUREMENT ACQUISITION & CONSTRUCTION	TOTAL
2000	\$240,000		\$240,000
2001	\$418,000		\$418,000
2002	\$418,000		\$418,000
2003	\$530,000	\$90,000	\$620,000
2004	\$800,000	\$46,000	\$846,000
2005	\$821,000	\$986,000	\$1,807,000
2006	\$686,000	\$986,000	\$1,672,000
2007	\$769,000	\$250,000	\$1,019,000

In Addition to The Federal Maritime Museum, There Are Over 30 Other Maritime/Lighthouse Museums in Michigan

NOAA estimates that the Great Lakes Maritime Heritage Center will attract an estimated 60,000 visitors per year to Alpena, significantly increasing public awareness of NOAA and the National Marine Sanctuary Program in the Great Lakes. The center is intended to strengthen northeastern Michigan’s identity as a premier location for Great Lakes maritime heritage interpretation, research, and recreation.

Even without the funding for this earmark, Michigan can already boast that it is indeed a premiere location for such heritage and recreation.

According to www.maritimemuseums.net, there are over 30 maritime/light house museums in Michigan already. These include 6 maritime/lighthouse museums within 150 miles of Thunder Bay, including two maritime museums that have actual a schooner and frigate that visitors can walk through. These are:

- The Maritime Heritage Alliance that has a replica schooner, “Madeline,” which is 135 miles from the Thunder Bay NMS; and
- The Museum Ship Valley Camp (MI) located at Sault Ste. Marie, MI, where you can explore an actual lake freighter, which is about 150 miles from the Thunder Bay NMS.

Some of the other maritime museums in Michigan icnlude:

- Saginaw Valley Naval Ship Museum this is an old destroyer that is in the process of being turned into a museum, which is about 140 miles from the Thunder Bay NMS; and
- Great Lakes Naval Memorial & Museum at this location has a submarine and a USCG boat that visitors can tour, which is about 280 miles from the Thunder Bay NMS.

Federal Funding for This and Other Museums Is Available Through Competitive Grants

Even without this earmark, federal funds are available for this and other museums through competitive grants. The Institute of Museum and Library Services, and the National Science Foundation's Informal Science Education Program (ISE) both provide tens of millions of dollars in grants every year for museums. Unlike Congressional earmarks, these grants are awarded under an open and competitive process.