



DEPARTMENT OF THE INTERIOR — DEEPWATER HORIZON RESPONSE

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Interior Secretary Ken Salazar views the response from a flyover of the affected area. U.S. Coast Guard photo by Lt. Cmdr. Rob Wyman.

At approximately 10 pm on April 20th, a devastating explosion occurred on the British Petroleum (BP) Deepwater Horizon Drill Rig, claiming the lives of eleven men.

Charged with protecting America's natural and cultural resources, the Department of the Interior and its Bureaus have been working to support the Administration's response efforts since the tragedy first occurred by:

- Helping oversee BP's efforts to close the leaks and clean up the oil;
- Anticipating and preparing for the worst case scenario;
- Jointly spear-heading the investigation into the event itself with the U.S. Coast Guard.

Story continued page 2.

SECRETARY SALAZAR ANNOUNCES APPROVAL OF CAPE WIND ENERGY PROJECT ON OUTER CONTINENTAL SHELF OFF MASSACHUSETTS



Artist conception of the Cape Wind project. Credit: AP

On April 28, Secretary of the Interior Ken Salazar approved the Cape Wind renewable energy project on federal submerged lands in Nantucket Sound, but will require the developer of the \$1 billion wind farm to agree to additional binding measures to minimize the potential adverse impacts of construction and operation of the facility.

"After careful consideration of all the concerns expressed during the lengthy review and consultation process and thorough analyses of the many factors involved, I find that the public benefits weigh in favor of approving the Cape Wind project at the Horseshoe Shoal location," Salazar said in an announcement at the State House in Boston. "With this decision we are beginning a new direction in our Nation's energy future, ushering in America's first offshore wind energy facility and opening a new chapter in the history of this region."

Story continued page 2.

DOI DEEP WATER HORIZON RESPONSE (continued from page 1)

DOI Response

Secretary Salazar ordered the following response to the Deepwater Horizon incident:

- Deployed Deputy Secretary David J. Hayes to the Gulf to assist with coordination and response to the incident;
- Pressed BP officials and engineers to work harder, faster, and smarter to cap the leaks;
- Urged other companies to bring their expertise, resources, and ideas to the effort as well;
- Ordered immediate inspections of all deepwater operations in the Gulf of Mexico;
- Issued a safety notice to all operators, reminding them of their responsibilities to follow our regulations and to conduct full and thorough tests of their equipment;
- Established the Outer Continental Shelf (OCS) Safety Oversight Board within the Department of the Interior with top officials to strengthen OCS safety and improve overall management, regulation, and oversight of OCS operations; and
- Launched a joint investigation of the incident with the U.S. Coast Guard to determine what happened and hold those responsible to account.

In addition, Secretary Salazar has directed each of Interior's Bureaus to support the Administration's ongoing response efforts. Thus far, Interior has deployed 214 personnel to the Gulf, including:

- **Minerals Management Service** is working with the U.S. Coast Guard (USCG) and the operator of the drilling rig to secure the well and protect the environment and, in conjunction with USCG, conducting an investigation of the incident, <http://www.mms.gov/DeepwaterHorizon.htm>;
- **Fish & Wildlife Service** is assisting with the immediate threats to fragile habitat as well as providing expertise in assessing and addressing the long-term damage to impacted resources, <http://www.fws.gov/home/dhoilspill/index.html>
- **National Park Service** is drafting plans with USCG for wildlife reconnaissance and recovery and shoreline cleanup and assessment; conducting surveys, sampling, and flyovers to document baseline conditions; mobilizing resource experts to direct USCG and responsible party contractors during cleanup and recovery; and providing guidance and prioritization for protection measures such as boom placement in sensitive areas; updates are online for visitors and

the public at <http://www.nps.gov/aboutus/oil-spill-response.htm> as well as on individual park web pages; and

- **U.S. Geological Survey** is developing geospatial and remote sensing information for use by the Unified Command. Short- and long-term science planning is underway. Scientists from multiple disciplines are working together to support the needs of the other DOI Bureaus as well as other Federal, State and local organizations. The USGS is mobilizing crews to begin sampling of water, sand, sediment and vegetation. They will also be evaluating impacts to wildlife, http://www.usgs.gov/deepwater_horizon/.

Read response information on DOI.gov at <http://www.doi.gov/deepwaterhorizon>.



Over flight assessing boom conditions at Gulf Islands National Seashore. Source NPS

CAPE WIND (continued from page 1)

The Cape Wind project would be the first wind farm on the U.S. Outer Continental Shelf, generating enough power to meet 75 percent of the electricity demand for Cape Cod, Martha's Vineyard and Nantucket Island combined. The project would create several hundred construction jobs and be one of the largest greenhouse gas reduction initiatives in the nation, cutting carbon dioxide emissions from conventional power plants by 700,000 tons annually. That is equivalent to removing 175,000 cars from the road for a year.

The Cape Wind Associates, LLC facility would occupy a 25-square-mile section of Nantucket Sound and generate a maximum electric output of 468 megawatts with an average anticipated output of 182 megawatts. At average expected production, Cape Wind could produce enough energy to power more than 200,000 homes in Massachusetts.

Horseshoe Shoals lies outside shipping channels, ferry routes and flight paths but is adjacent to power-consuming coastal communities. One-fifth of the offshore wind energy potential of the East Coast is located off the New England coast and Nantucket Sound

receives strong, steady Atlantic winds year round. The project includes a 66.5-mile buried submarine transmission cable system, an electric service platform and two 115-kilovolt lines connecting to the mainland power grid.

For more information, please see the official press release at <http://www.doi.gov/news/doinews/Secretary-Salazar-Announces-Approval-of-Cape-Wind-Energy-Project-on-Outer-Continental-Shelf-off-Massachusetts.cfm>

BISCAYNE BIOBLITZ REVEALS NATIONAL PARK'S RICH DIVERSITY

After 24 straight hours of exploration and documentation, the Biscayne BioBlitz provided a snapshot of the many land and water species that live in Biscayne National Park.

Led by more than 200 scientists from around the country, thousands of amateur explorers, families and schoolchildren from south Florida conducted an inventory of the plants, insects, fish and other creatures that inhabit one of the nation's largest marine national parks. The event, from noon Friday, April 30, to noon Saturday, May 1, was presented by National Geographic and the National Park Service, with support from the John S. and James L. Knight Foundation. The BioBlitz was part scientific endeavor, part festival and part outdoor classroom. Participants combed the park, observing and recording as many plant and animal species as possible in

24 hours. Activities included exploring the reefs and Elliott Key, catching insects, searching for hidden moss and lichen in shallow waters, seining fish and other aquatic organisms, and observing birds.

Highlights:

- The initial species count as of 12:30 p.m. Saturday was more than 800, with this number rising rapidly throughout the afternoon. Over the next few months, organizers expect this number to increase significantly as state-of-the-art testing of the collected samples continues.
- Underwater park divers were excited to observe black, red and gag groupers on a night dive on the park's reefs. In addition, park scientists were delighted not to have seen any invasive exotic lionfish during the BioBlitz inventory.

- BioBlitz participants identified 11 species of lichen and 22 species of ants that had not previously been documented in the park.
- Internationally known tardigrade specialist William (Randy) Miller, a biologist at Baker University, identified a phylum of tardigrades — commonly known as water bears — not previously found in the park.
- More than 2,500 people of all ages participated in the program during the 24-hour BioBlitz, including more than 1,300 registered school children from Miami-Dade County.

National Geographic covered the entire 24 hour Bio-Blitz and posted the project on their website at <http://ocean.nationalgeographic.com/ocean/explore/bioblitz-2010/>

Source— NPS Press Release <http://home.nps.gov/news/release.htm?id=1006>

DISCOVERY OF DIVERSITY GROWING AMONG MANGROVE PROP ROOTS

Caroline Rogers, a scientist with the U.S. Geological Survey (USGS), recently discovered coral growing among the prop roots of the red mangrove trees in the Virgin Islands Coral Reef National Monument in St. John.



This coral (*Mycetophyllia sp.*) usually grows in water deeper than 40 feet.

With more than 30 years working in the Caribbean as a coral reef ecologist, she realized the area, known as Hurricane Hole, was special. No other similar mangrove ecosystems, with such a high

diversity of corals, are known to exist in the Caribbean.

"There are about 45 coral species identified on coral reefs around St. John, and to date we've identified 30 in the mangrove areas. The diversity is remarkable and is not unique to the corals. We're seeing great diversity in the sponges as well. Many of the sponges are more typically found in coral reefs than in mangroves," said Rogers.

It is not clear why the prop root communities are so diverse, or why the individual bays within Hurricane Hole differ so much from each other with respect to coral abundance and diversity.

For more information please visit: <http://soundwaves.usgs.gov/2010/04/>

Right: Pale-blue sponges and multiple coral colonies (*Agaricia agaricites*) grow on mangrove prop roots.

Source: USGS



FIRST DOI CLIMATE CHANGE SCIENCE CENTER TO BE LOCATED AT THE UNIVERSITY OF ALASKA ANCORAGE

The University of Alaska Anchorage has been chosen as the site of the first of five regional Department of the Interior Climate Science Centers (CSCs) to be created this year and next, Secretary Ken Salazar announced this spring. "With rapidly melting Arctic sea ice and permafrost, and threats to the survival of Native Alaskan coastal communities, Alaska is ground zero for climate change," the Secretary said. "We must put science to work to help us adjust to the impacts of climate change on Alaska's resources and peoples."

The climate centers' authorizing document, Secretarial Order No. 3289 issued in 2009, mandates their creation in tandem with a network of landscape conservation cooperatives (LCCs) covering the entire nation. All told, the Interior Department plans to have eight regional CSCs and 21 LCCs up and running by 2012. "With their

distinct yet complementary roles, CSCs and LCCs are the cornerstones of our



A polar bear saunters along the coast at Arctic National Wildlife Refuge, AK. (Susanne Miller/USFWS)

efforts to integrate our science and management expertise across bureaus and with our outside partners," the Secretary said.

Together, the CSCs and LCCs will help the Interior Department develop and share on-the-ground strategies needed to tackle climate change, and they will enable the Department to better deliver science and adaptive-management strategies for critical cultural and natural resources at the regional and landscape levels.

The CSCs will synthesize the climate-impact data and management strategies that Interior Department bureaus and outside partners have developed. At the same time, the LCCs will focus on impacts that typically extend beyond the jurisdictional borders of national wildlife refuges and other Interior

Department lands – including invasive species, fire, drought, wildlife and changing water supplies. For more information, please visit <http://www.doi.gov/whatwedo/climate/strategy/index.cfm>

NPS STORM VULNERABILITY AND RECOVERY PLANS COMPLETED

Storms such as hurricanes, typhoons and nor'easters can devastate natural and cultural resources and infrastructure in coastal parks. Hurricane Isabel struck Cape Hatteras National Seashore on the North Carolina Outer Banks in 2003, opening a 1,700-foot-wide breach of the island and closing highway NC12. It also damaged Cape Lookout NS. The Florida and Gulf Coast parks were battered by a series of hurricanes in 2004 and 2005, including the Category 4 Hurricane Ivan and the infamous Hurricane Katrina.

These storms highlight impacts from engineering on coastal processes. Erosion control structures such as jetties and revetments and poorly sited infrastructure such as roads and housing frequently disrupt natural sediment processes that would otherwise sustain shorelines from storm damage over time. Climate change is likely to aggravate storm damage as higher sea temperatures fuel storms of ever increasing intensity and sea-level rise threatens coastal resources.

The NPS Geologic Resources Division (GRD) in the Natural Resource Program Center is working with USGS and University partners to provide *Storm Vulnerability Assessments (SVAs)* tailored to coastal parks' resources and needs, to better equip them to prepare for and respond to potential storm damage. SVA reports include updated geologic maps for estimating storm surge and inundation impacts from storms of varying intensity, updated rates of shoreline change, as well as various other maps and data products. In 2009, draft reports were completed for Pu'ukohola Heiau National Historic Site, Kaloko-Honokohau National Historic Park (NHP), and Pu'uhonua O Honaunau NHP in Hawaii to be published in 2010. The final report for George Washington Birthplace National Monument in Virginia was published as an NPS Technical Report in 2009.

Previous USGS Coastal Vulnerability Indices are incorporated that measure the coastal park system's potential vulnerability to sea-level rise or lake-

level change. In addition, GRD developed a draft prototype *Storm Recovery Plan* with Cape Lookout NS as a framework to protect human health and safety, property, and park resources. The plan covers post-storm resource response and visitor safety, including actions to mitigate potential health hazards and stabilize natural and cultural resources from further damage. For more information contact Rebecca Beavers, 303-987-6945.



Fire Island National Seashore, New York. Credit NPS

FOCUS ON MARINE NATIONAL MONUMENTS



Barry Stieglitz, project leader of the Hawaiian and Pacific Islands National Wildlife Refuges, has compiled the following facts relating to the Refuge System's four marine national monuments.

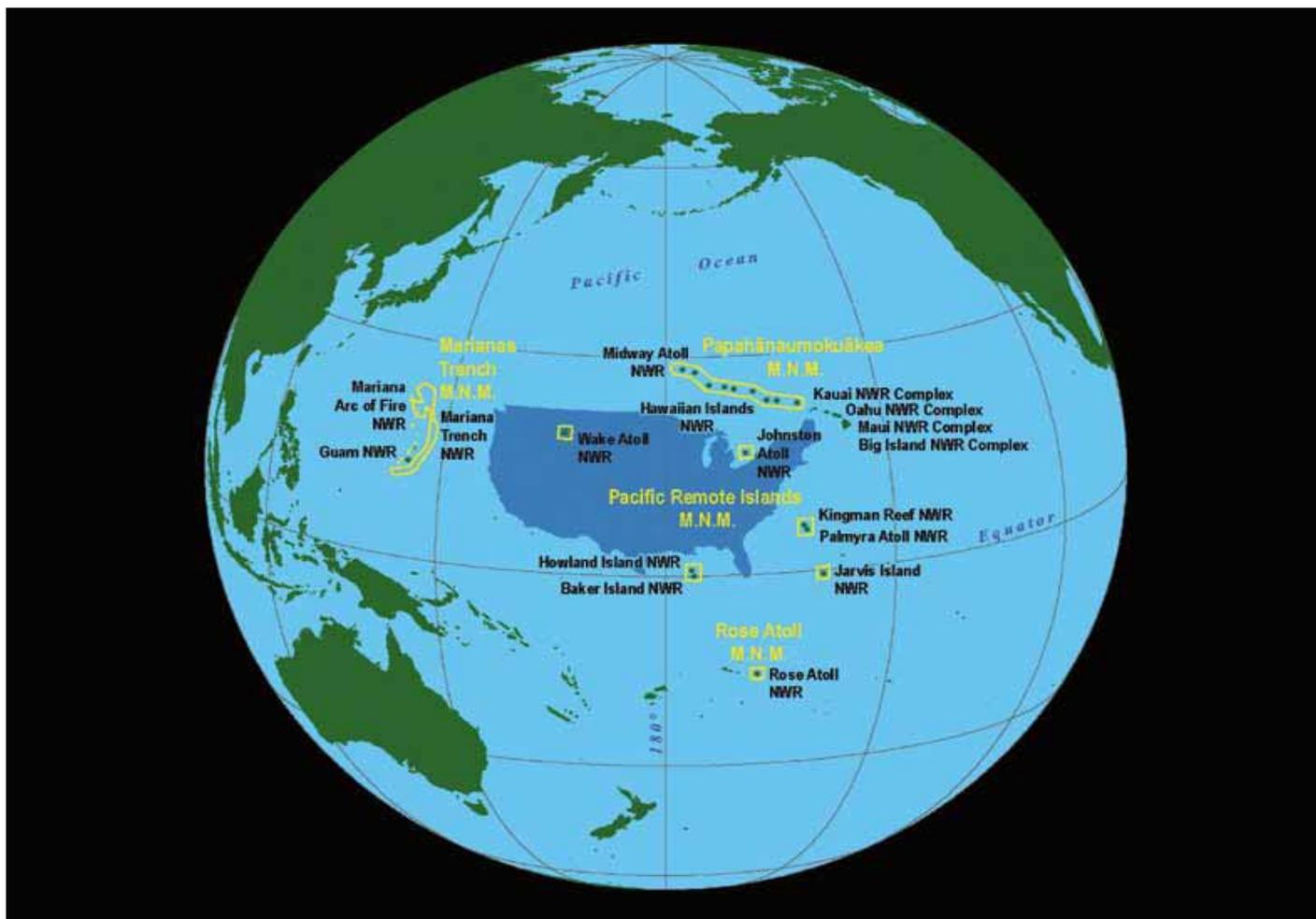
- The monuments span more than **five** time zones.
- The monuments protect parts of **six** major Pacific archipelagos.
- The monuments encompass **215 million** acres, **54.7 million** acres in national wildlife refuges.
- Approximately **28 million** seabirds of some **23** species use the refuges of the tropical Pacific as their nesting site, including the largest nesting albatross colony in world.
- **98 percent** of the world's population of both Laysan and black-footed albatrosses nest within Papahānaumokuākea Marine National Monument.

- More than **90 percent** of the Hawaiian population of green turtles nests in one locale, the French Frigate Shoals.
- Sooty terns, which rely on the monuments' ocean ecosystems, spend **91 percent** of their lives at sea.
- **12** national wildlife refuges form the core for marine conservation in the monuments.

For more information, please visit http://www.fws.gov/refuges/RefugeUpdate/pdfs/refUp_MayJune_2010.pdf

Left: Massive plate corals are among the 130 species of coral at Palmyra Atoll national Wildlife Refuge Photo Credit: Jim Maragos, FWS

Below: The marine national monuments dwarf the continental United States in terms of expanse. Source: USFWS



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What are phytoplankton?

Phytoplankton, microscopic plant life that floats freely in the lighted surface waters, may alter the color of the water. When a great number of the microscopic plants are concentrated in an area, the color of the ocean surface will change. This is called a "bloom."

Microscopic plant life is at the base of the marine food web and is the primary food and energy source for the ocean ecosystem. Phytoplankton convert nutrients into plant material by using sunlight with the help of the green pigment chlorophyll. The chlorophyll pigments in the plants absorb light, and the plants themselves scatter light. Together, these processes change the color of the ocean as seen by an observer looking downward into the sea. Very productive water with a lot of plankton appears blue-green. Very pure water appears deep-blue, almost black.

From space, variations in ocean color can be measured with sensitive instruments. Ocean and land plants are green because of the chlorophyll in plant cells. Chlorophyll a absorbs mainly blue-violet and red and reflects green; chlorophyll b absorbs mainly blue and orange and reflects yellow-green. Satellite instruments measure the amount of reflected light of different colors. These amounts allow scientists to estimate the productivity of Earth's land masses and oceans.

To learn more, read the USGS general interest publication by Herbert Swenson "[Why is the Ocean is Salty?](#)" LINK: http://www.palomar.edu/oceanography/salty_ocean.htm.

Please send your articles, questions, and comments to: Ann_Tihansky@ios.doi.gov

UPCOMING MEETINGS OF INTEREST AND ANNOUNCEMENTS

Capitol Hill Ocean Week (CHOW): Washington, D.C., June 8-11. The theme of this year's CHOW will be the ocean's role in America's energy future. DOI is a major sponsor of the event this year. CHOW is sponsored by the National Marine Sanctuary Foundations and is held at One Constitution Ave at the Reserve Officers Association building next to the Dirksen Senate Office building. For more information go to: <http://www.nmsfocean.org/>.



22nd International Conference of The Coastal Society: Wilmington, NC, June 13-16, 2010. "Shifting Shorelines: Adapting to the Future". TCS 22 will focus on innovative ideas to address coastal issues by: Providing information, knowledge, activities and solutions relevant to solving contemporary coastal issues; Integrating science, management, policy and decision-making; and presenting questions, ideas and case studies that encourage dialogue and sharing of solutions among conference participants. For more information please visit: <http://www.thecoastalsociety.org/conference/tcs22/index.html>.



24th Coral Reef Task Force Meeting: Saipan, CNMI, September 10-20, 2010. The meeting will highlight progress made in achieving the goals of the Micronesia Challenge, which aims to conserve 30 percent of near shore coastal waters and 20 percent of forest land by 2020. Meeting participants will also have an opportunity to participate in field site visits in Guam and attend workshops. For more information please contact Andrew Gude (Andrew_Gude@fws.gov)

Coastal Zone 11, Chicago, Illinois, July 17-21, 2011. The Coastal Zone Conferences are biennial international symposiums on coastal, ocean, and Great Lakes issues that have been held since 1978. This will be the first time the conference has been held in Illinois and only the second time that it has been held on the Great Lakes. <http://www.doi.gov/initiatives/cz.html>



Visit the Department of the Interior Ocean and Coastal Website at:

<http://www.doi.gov/initiatives/ocean.html>