

Coastal Connection

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Current Issues in Washington

The House of Representatives will be on recess until the first week of September.

The Senate will remain in session this week, hoping to wrap up business before leaving for a month-long recess on Friday.

Senators will complete action on the Gulf Coast energy exploration bill (story on this page). In addition, the Senate may take up the Defense Appropriations bill.

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Offshore Drilling Bill Gains Momentum in Senate

Proponents of expanding energy production in the Gulf Coast cleared their first hurdle last week as the Senate voted to begin consideration of legislation that would open up 8.3 million acres to oil and gas exploration.

The Senate will continue to debate the measure this afternoon. Final passage of the bill is expected in the remaining days leading up to the August recess.

The legislation would allow energy exploration and extraction to begin in areas of the Gulf Coast that are currently off limits to production. A portion of the potential revenues would be shared with the four Gulf Coast production states (Texas, Louisiana, Mississippi, and Alabama).

A 125 mile no-drilling buffer would be implemented off the coast of Florida as part of the provisions in the carefully-crafted Senate bill.

The House of Representatives passed a far-reaching offshore drilling bill earlier this year.

The House bill would lift the current drilling bans that are in place off of both coasts and the eastern Gulf of Mexico. The legislation provides states with a great deal of

latitude to decide what happens off of their own coastlines. Drilling would be allowed beyond 100 miles offshore. However, within 100 miles, states could make individual decisions on what to allow off of their coastlines.

Although the Senate is moving forward on its bill, there is a large number of Senators who are concerned about what could emerge once they go to conference with the House on this issue.

Last week, Senator Bill Nelson (D-FL) secured a pledge from Senate leaders not to expand the scope of offshore drilling to the level proposed in the House bill once the two chambers begin conference negotiations.

On the Senate floor last week, Nelson read an email message he received from Senate Majority Leader Bill Frist (R-TN) that stated, "I will not bring a bill back before the Senate that does not provide adequate protections to the State of Florida."

Senate Minority Leader Harry Reid (D-NV) has voiced support for the Senate bill but will join a filibuster against the bill if the expanded House provisions are added to it in conference.

Climatologists Focus on Socio-Economic Risks of Hurricanes

Last week, a group of ten climatologists, themselves sharply divided over the impact global warming has had on the intensity of hurricanes, released a statement crafted by Dr. Kerry Emanuel of the Massachusetts Institute of Technology which seeks to shift the focus of recent debate about the cause of the increased intensity of tropical storms and hurricanes to focus more on the cause for the incredible economic and socio-economic damage created by these storms.

The statement was released on Dr. Emanuel's webpage:

wind.mit.edu/~emanuel/

Statement on the U.S. Hurricane Problem:

As the Atlantic hurricane season gets underway, the possible influence of climate change on hurricane activity is receiving renewed attention. While the debate on this

issue is of considerable scientific and societal interest and concern, it should in no event detract from the main hurricane problem facing the United States: the ever-growing concentration of population and wealth in vulnerable coastal regions. These demographic trends are setting us up for rapidly increasing human and economic losses from hurricane disasters, especially in this era of heightened activity. Scores of scientists and engineers had warned of the threat to New Orleans long before climate change was seriously considered, and a Katrina-like storm or worse was (and is) inevitable even in a stable climate.

Rapidly escalating hurricane damage in recent decades owes much to government policies that serve to subsidize risk. State regulation of insurance is captive to political pressures that hold down premiums in risky coastal areas at the expense of higher premiums in less risky places. Federal flood in-

surance programs likewise undercharge property owners in vulnerable areas. Federal disaster policies, while providing obvious humanitarian benefits, also serve to promote risky behavior in the long run.

We are optimistic that continued research will eventually resolve much of the current controversy over the effect of climate change on hurricanes. But the more urgent problem of our lemming-like march to the sea requires immediate and sustained attention. We call upon leaders of government and industry to undertake a comprehensive evaluation of building practices, and insurance, land use, and disaster relief policies that currently serve to promote an ever-increasing vulnerability to hurricanes.

~Kerry Emanuel, Richard Anthes, Judith Curry, James Elsner, Greg Holland, Phil Klotzbach, Tom Knutson, Chris Landsea, Max Mayfield, Peter Webster

Natural Hazards Website Launched

The United States Geological Survey (USGS) unveiled its new website on natural hazards last week.

In a statement released by USGS Acting Director P. Patrick Leahy, he cited the agency's desire to use science to help save lives and to prevent natural hazards from becoming disasters. This is the main focus of the new hazards website.

He went on to say that it is the goal of USGS "to provide scientific research and analysis that help the



public make informed decisions on where natural hazards occur, how severe they may be, how to react to each hazard and how to safeguard people and communities."

The new site includes facts on earthquakes, floods, hurricanes, landslides, tsunamis, lahars (i.e., volcanoes) and wildfires.

The web site and fact sheets can be accessed at <http://www.usgs.gov/hazards>.

NASA Mission Investigates Origin, Development of Hurricanes

Scientists from NASA, the National Oceanic and Atmospheric Administration (NOAA), universities and international agencies will study how winds and dust conditions from Africa influence the birth of hurricanes in the Atlantic Ocean.

The field campaign, called NASA African Monsoon Multidisciplinary Analyses 2006, runs from Aug. 15 to mid-September in the Cape Verde Islands off the coast of Senegal in West Africa. This campaign is a component of a much broader international project, called the African Monsoon Multidisciplinary Analyses, aimed at improving the knowledge and understanding of the West African Monsoon.

Researchers will use satellite data, weather station information, computer models and aircraft to provide scientists with better insight into all the conditions that enhance the development of tropical cyclones, the general name given to tropical depressions, storms and hurricanes. This research will help hurricane forecasters better understand the behavior of these deadly storms.

"Scientists recognize the hurricane development process when they see it, but our skill in forecasting which weak system will intensify into a major cyclone is not great," said Dr. Edward Zipser, mission chief scientist, of the University of Utah, Salt Lake City. "That is why NASA and its partners place a high priority on obtaining high-quality data for weak disturbances, as well as those already showing signs of intensification."

For hurricanes to develop, specific



This image of Hurricane Wilma was taken on Oct. 19, 2005 by the crew aboard NASA's international space station as the complex flew 222 miles above the storm. At the time, Wilma was the strongest Atlantic hurricane in history, with winds near 175 miles per hour. (Image credit: NASA)

environmental conditions must be present: warm ocean water, high humidity and favorable atmospheric and upward spiraling wind patterns off the ocean surface. Atlantic hurricanes usually start as weak tropical disturbances off the West African coast and intensify into rotating storms with weak winds, called tropical depressions. If the depressions reach wind speeds of at least 39 miles per hour, they are classified as tropical storms. Hurricanes have winds greater than 73 miles per hour.

To study these environmental conditions, researchers will use NASA's DC-8 research aircraft as a platform for advanced atmospheric research instruments. Remote and on-site sensing devices, including two from NASA's Jet Propulsion Laboratory in Pasadena, California will allow scientists to target specific areas in developing storms. Sensors on board the aircraft will measure cloud and particle sizes and shapes, wind

speed and direction, rainfall rates, atmospheric temperature, pressure, and relative humidity.

The campaign will use extensive data from NASA's fleet of Earth observing satellites. These advanced satellites will provide unprecedented views into the vertical structure of the tropical systems, while the field observations will help validate data from the new satellites.

During the field campaign, scientists hope to get a better understanding of the role of the Saharan Air Layer and how its dry air, strong embedded winds and dust influence cyclone development.

As part of looking at the Saharan Air Layer, scientists want to better understand dust's effect on clouds. Some evidence indicates that dust makes it more difficult for rain to form. Cloud models need to account for any such effect, so measurements of cloud-droplet concentrations and size in clean ocean air and dusty air from the Sahara need to be made.

Researchers also will look at what happens to air currents as they move from land to ocean waters. Information on clouds and moisture, heat, air movement, and precipitation in an unstable atmosphere will be collected, analyzed and then simulated in computer models. Understanding hurricane formation requires measurements from very small to large scales, from microscopic dust and raindrops to cloud formations and air currents spanning hundreds of miles.

FEMA Rolls Out New Debris Removal and Housing Strategies

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) issued "Recovery Strategies" last week addressing two key areas of disaster operations: "Mass Sheltering and Housing Assistance" and "Debris Removal Operations."

"These two strategies will go a long way toward improving the quality, equity, consistency, and efficiency of future disaster recovery efforts," said Homeland Security Secretary Michael Chertoff. "We will deliver necessary assistance in a more organized and disciplined way, and in a more financially accountable manner."

"FEMA is absolutely committed to improving federal disaster support to our state and local partners, and we look forward to working together to reach that shared

goal," said David Paulison, Director of FEMA. "Having these strategies in place to guide us and our state partners will help us plan better, do our jobs better, and ultimately, better serve the disaster victims."

Among the provisions of the strategy for "Mass Sheltering and Housing Assistance," is a new protocol to dispatch field registration personnel to designated shelters to proactively seek out and register evacuees for FEMA assistance. In addition, a new process for implementing transitional housing, if needed, will streamline this process and reduce the opportunities for fraud or abuse of the system.

The "Debris Removal Operations" strategy summarizes key actions the federal government will take in responding to disaster situation with large amounts of debris.

The strategy defines eligible private and public debris as it pertains to reimbursable removal; describes the circumstances under which the federal government will initially manage debris removal operations; reflects recent changes to equalize cost-share application, and establishes the roles, responsibilities and expectations of federal, state and local governments.

A key component of the planning and preparedness focus of the strategy is the new Debris Removal Contractor Registry. This new nationwide registry allows debris removal companies the opportunity to list their capabilities and availability, providing state and local emergency managers a valuable new reference tool to help them establish debris removal contracts and agreements in advance of a disaster.

Experts Predict Expanded "Dead Zone" in Gulf of Mexico

A team of scientists from NOAA's National Centers for Coastal Ocean Science, Louisiana Universities Marine Consortium, and Louisiana State University is forecasting that the "Dead Zone" off the coast of Louisiana and Texas this summer will be larger than the average size since 1990.

This NOAA supported modeling effort predicts this summer's "Dead Zone" will be 6,700 square miles, an area half the size of the state of Maryland. Since 1990 the average annual hypoxia-affected area has been approximately 4,800 square miles. The forecast is based on nitrate loads from the Mississippi

and Atchafalaya rivers in May and incorporates the previous year's load to the system. The nitrogen data are provided by the U.S. Geological Survey. NOAA funds research cruises to track development of hypoxia.

The "Dead Zone" is an area in the Gulf of Mexico where seasonal oxygen levels drop too low to support most life in bottom and near-bottom waters. It is caused by a seasonal change where algal growth, stimulated by input of nutrients such as nitrogen and phosphorus from the Mississippi and Atchafalaya rivers, settles and decays in the bottom waters. The

decaying algae consume oxygen faster than it can be replenished from the surface, leading to decreased levels of dissolved oxygen.

"This prediction is an example of the ecological forecasting capabilities of NOAA and its partners," said David Whitall, Ph.D., a NOAA scientist involved in the project. "We believe such forecasts will become important tools for coastal managers in the coming years."

Research indicates that nearly tripling the nitrogen load into the Gulf over the past 50 years has led to the heightened Gulf of Mexico hypoxia problem.