

# The Torrent



## Court Ruling Impacts Coastal Development

On July 26, 2005, the Massachusetts Supreme Judicial Court affirmed the authority of a municipality to prohibit residential construction in a floodplain and ruled that the community does not have to compensate the owner for being unable to build a home on the seaside property in the landmark case *Gove v. Zoning Board of Appeals of the Town of Chatham*.

The Town of Chatham's zoning bylaw establishes a Coastal Conservancy District, restricting development in the coastal floodplain by prohibiting new homes unless a variance is granted. Under the provision, existing structures can be improved and a special permit can be obtained for other uses, including the construction of piers, boathouses and marinas. Before Chatham established its Conservancy District in 1985, Roberta Gove put her 1.8-acre lot on the market but had no offers. In 1998, buyers contracted to purchase the property contingent on their obtaining permits for a single-family home and a septic system. Chatham declined to issue the permit. Gove argued to the Zoning Board of Appeals that the town should either approve the permit or compensate her for the loss of value in the land. When the town denied her appeal, Gove sued alleging a taking.

The court characterizes the lot that Gove inherited in 1975 as a "marginal parcel of land" that remained undeveloped for many years because of the risk of coastal flooding. In its decision, the court emphasized that Chatham had identified unique hazards (erosion and flooding) on the coastal A zone property and found that the plaintiff had not sufficiently shown that a home could be constructed in this area without potentially causing harm to others. The court found a "reasonable relationship" between Chatham's zoning bylaw restricting development in a coastal floodplain and the legitimate state interests of effective response to natural disasters, the protection of rescue workers and residents, and the preservation of neighboring property. The court also found that the plaintiff failed to prove that the challenged regulation left her property "economically idle" because the town allows special permits for alternative income-producing uses. The court also rejected Gove's argument that the construction ban represented a taking, citing the recent U.S. Supreme Court decision of *Lingle v. Chevron U.S.A.*, which says that under the Fifth Amendment of the U.S. Constitution, a zoning ordinance is valid unless it bears no reasonable relation to the state's legitimate purpose.

This decision by the Massachusetts Supreme Court validates and supports the National Flood Insurance Program. While the decision is binding only in Massachusetts, it could have persuasive effects in other jurisdictions.

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# 2006 Hurricane Season Forecast

The latest 2006 hurricane season forecast by the Tropical Meteorology Project at Colorado State University predicts a higher potential for intense hurricanes to strike the East Coast of the U.S. Their land-fall probability outlook sees a 64% chance that a major hurricane, Category 3 or higher (sustained winds of at least 111 mph), will hit the East Coast this year. This is more than double the 31% average probability over the past century.

The forecast predicts 17 named storms this season, with nine storms becoming hurricanes and five of them major. The long-term average is about six per year, with two of them major. Seventeen storms is twice the average of 9.6 storms per year from 1950 to 2000 but well below last year's record 27 storms, 15 of them hurricanes. There were so many storms in 2005 that the alphabetical nomenclature used by the National Hurricane Center (NHC), part of the National Oceanic and Atmospheric

Administration (NOAA), ran out in October and the Greek letters had to be used for storm names. The Atlantic is in an extraordinarily active cycle that began in the mid-1990s.



*Hurricane Katrina, NOAA satellite image*

Max Mayfield, director of the NHC in Miami, predicts that 2006 will be another active hurricane season. The number of hurricanes have been increasing since 1995 and will continue to do so for the next decade or two. Due to the La Nina effect, there could be more hurricanes in 2006 than there

were in 2005. Another contributing factor is that the Atlantic and Gulf are still warmer than average which can fuel the formation of hurricanes.

The East Coast north of the Carolinas and Virginia have not been hit by a major hurricane for decades. In March 2006, AccuWeather.com predicted that one could strike the Northeast, including New York City, perhaps even this year.

Hurricane season officially begins on June 1 and ends November 30. Hurricane Preparedness Week is May 21-27, 2006. For more information on Hurricane Preparedness Week, go to: [www.nhc.noaa.gov/HAW2/english/intro.shtml](http://www.nhc.noaa.gov/HAW2/english/intro.shtml).

NOAA and FEMA encourage families to take basic steps in order to be better prepared in the event of a natural disaster. Information on family preparedness for natural disasters can be found at [www.ready.gov](http://www.ready.gov) or [www.fema.gov/plan/prevent/howto/index.shtm](http://www.fema.gov/plan/prevent/howto/index.shtm).

## CT October 2005 Flooding & Disaster Update

During the week of October 8-15, 2005, Connecticut was struck by two very heavy rainfall events resulting in major flooding within several river basins in Connecticut. Widespread moderate flooding occurred across the state causing damage to infrastructure such as bridges, roads and dams. Many homes suffered flooded basements and evacuations were conducted in several towns due to flooding of urban areas and small streams.

On December 16, 2005, Litchfield, New London, Tolland and Windham counties were declared disaster areas by FEMA. In early

February, 2006, Hartford county was also declared a disaster area from



this flooding event when additional damage assessment information was provided to FEMA.

Connecticut flood insurance claims between October 8-17, 2005 totaled 83 claims. New Britain had the most claims with seven. Bridgeport, East Hartford, Enfield and Wethersfield each had 4 claims. Bristol, New Haven, New Milford, Old Lyme, Old Saybrook and Shelton each had 3 claims. East Haven, Greenwich, Guilford, Milford, Oxford, Simsbury, Stratford, Westbrook, and Westport had 2 claims each. Twenty-one towns throughout the state had one claim each. However, this does not represent all residential flooding that occurred within Connecticut, only those structures which had flood insurance and reported claims during this flood event.

# Concrete House Survives Katrina

A concrete house that was in the final stages of construction along the Gulf Coast survived Hurricane Katrina when all other homes surrounding it were destroyed. The home survived the storm mostly intact, with only some missing windows and building materials.



This photo clearly shows the concrete post and beam construction that supports the 3,000 sq ft structure.

(Photo courtesy of John Fleck)

The house is constructed of Insulated Concrete Form (ICF) walls, reinforced both horizontally and vertically, with a post tension concrete slab, concrete columns and a concrete roof on top of cold rolled metal panel sections. The home has spread footings, with concrete members to distribute load to the soil, and a 4-foot high beam wall and a beam wall down the center. There is connectivity through the house from the roof down to the third floor, on to the second floor, and then to the carport. The house is also built to withstand winds of up to 200 mph.

For the complete story, go to the National Association of Home Builders (NAHB) online weekly newsletter: [www.nbnnews.com/NBN/issues/2005-12-12/Building+Systems/index.html](http://www.nbnnews.com/NBN/issues/2005-12-12/Building+Systems/index.html)

The home's owner, a structural engineer, studied flood insurance rate maps (FIRM), Florida building codes, and area storm history when designing the home. This forethought and planning saved the home when all others were lost.

In the area of the home, the storm surge reached an elevation of 28 feet and sustained winds were reported at 125 mph. The home lies 350 feet from the shore.



The water line was at 28 ft. as indicated by the red line in this photo.

(Photo by MAT Team)

# Mitigation Pays!

In December 2005, the National Institute of Building Sciences (NIBS) released a study to the Federal Emergency Management Agency (FEMA) entitled "*Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*".

This three-year, congressionally mandated, independent study determined that, on average, across all FEMA grants, regions and hazards studied, each dollar spent on mitigation saves society an average of \$4 in avoided future losses.

The study examined ten years of FEMA mitigation grants (1993-2003). Three broad hazard categories were focused on: flood (coastal and riverine), wind (hurricane, tornado, typhoon, and severe storms), and earthquake. These hazards were chosen due to the number of grants and size of expenditures FEMA dedicated to their mitigation. The study results also indicate that FEMA grants play a significant role in a community's mitigation history and often lead to additional loss reduction activities.

The full two-volume study report can be found at: <http://www.nibs.org/MMC/mmchome.html>.



# Hurricane Katrina & Gulf Coast Updates

## Historic Flood Insurance Claims

According to FEMA, flood insurance claims could exceed \$22 billion for Hurricanes Katrina and Rita, or about one and a half times the \$15 billion the National Flood Insurance Program (NFIP) has paid out in total claims between the time the program started in 1968 and the end of 2004. The NFIP is self-supporting in average years. The program takes in about \$2 billion in premiums and fees per year, and between 1994 and 2004, paid about \$867 million in claims annually.

## Retiring of Names

Hurricanes Dennis, Katrina, Rita, Stan and Wilma, all from the historic 2005 Atlantic hurricane season, were “retired” by an international hurricane committee of the World Meteorological Organization, which includes the National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center, during their annual meeting in April 2006.

Now retired, these five storms, part of last season’s record-setting 27 named storms and 15 hurricanes, will not reappear on the list of potential storm names that is otherwise recycled every six years. Dennis, Katrina, Rita, Stan and Wilma represent the type of devastating storm that is “retired” for causing large losses of life and property. These names will not be used again for sensitivity reasons

and to establish distinction within the scientific and legal communities. Since tropical cyclones were first named in 1953, 67 names have been retired, and with a total of five, 2005 has the most retired storm names in a single season. Names for the upcoming 2006 season, beginning June 1, include Alberto, Beryl, Chris, Debby, Ernesto, Florence, Gordon, Helene, Isaac, Joyce, Kirk, Leslie, Michael, Nadine, Oscar, Patty, Rafael, Sandy, Tony, Valerie and William.

## Advisory BFEs

After Hurricanes Katrina and Rita struck the Gulf Coast, the Federal Emergency Management Agency (FEMA) conducted a new flood frequency analysis and determined that the current base flood elevations (BFEs) for many communities impacted by the hurricane were too low. The analysis took into account data from Hurricane Katrina, as well as additional tide and storm data from other events that have occurred over the past 25 years. In order to help these communities reduce their vulnerability to damages from future flooding, FEMA is issuing Advisory BFEs (ABFEs) that more closely reflect post-storm conditions. The ABFEs are significantly higher than the BFEs and extend farther inland than what is shown on existing flood maps. FEMA has developed ABFEs for three coastal counties in Mississippi and fifteen Louisiana parishes, including the City of New Orleans.

FEMA’s new elevation policy requires Mississippi and Louisiana communities to use the new ABFEs for all reconstruction activities funded through the following FEMA grant programs: Public As-

sistance Program (PA), Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance Program (FMA), Pre-Disaster Mitigation Program (PDM), and through implementation of Executive Order 11988 Floodplain Management. These ABFE standards, while encouraged by FEMA, are not mandatory for rebuilding of private homes using FEMA’s Individual and Households Assistance housing reimbursement grants or money received from a flood insurance claim, unless the community has adopted the new ABFEs into their building codes. In cases when FEMA funds are not involved and the new ABFEs have not been adopted by the community, existing NFIP standards will apply.

## Levee Repairs

The U.S. Army Corps of Engineers (ACOE) continues to repair the New Orleans levee system damaged by Hurricanes Katrina and Rita, with a target for completion of these repairs of June 1<sup>st</sup>, the start of the 2006 hurricane season.

The ACOE has also revised its original cost estimates to certify and further enhance the levees to \$4.1 billion. This amount is beyond what the Bush Administration has already requested to improve the entire New Orleans levee system.

The ACOE has stated that the levees were not certifiable, meaning that they do not meet the standard for a 100-year flood. The ACOE has estimated that it will take until 2010 to make the necessary repairs and enhancements to certify the entire levee system as meeting the 100-year flood protection level required by the National Flood Insurance Program (NFIP).

# News Briefs

## New Flood Insurance Policy Provides Up to \$15 Million in Limits

The Chubb Group of Insurance Companies has introduced *Personal Flood Insurance* to help homeowners protect their homes and possessions from damage due to one of the most common and costly natural disasters. The policy, offered with limits of up to \$15 million for a home and its contents, provides significantly broader coverage than what is currently available through the National Flood Insurance Program (NFIP). Nearly all homeowners insurance policies exclude flood losses. The new policy is initially available in Arizona, Colorado and Illinois, with introductions in additional states planned throughout 2006.

Flood damage can be caused by various sources, including surface water run-off from a paved surface into a home, overflow or backup from a sewer or drain outside the home, or floodwater entering the home through basement windows. Chubb's *Personal Flood Insurance* covers these exposures and is broader than the NFIP coverage. The Chubb policy can provide up to \$15 million in property coverage, including home and possessions, compared to a maximum of \$250,000 for homes and \$100,000 for contents through the NFIP.

With Chubb's policy, coverage is available in most flood zones and "flood" is more broadly defined to include losses confined solely to the policyholder's premises. Chubb's policy pays replacement costs to repair or rebuild a home and replace its contents, up to the limits selected

by the policyholder. NFIP settles many claims on a cash value or depreciated basis. Chubb's policy also provides \$7,500 of automatic coverage for additional living expenses for policyholders displaced by a covered flood loss. For added protection, the policy offers an option to purchase an additional \$100,000 of this coverage. In contrast, the NFIP policy does not provide any additional living expense coverage.

The Chubb policy offers greater coverage for basements, the most flood-prone portion of the home. For example, the policy includes \$30,000 of coverage for losses to basement rooms such as a home theater or billiard room with built-in cabinetry. Additional coverage up to a total of \$250,000 is available. Chubb also automatically covers personal possessions in a basement, such as a home theater system, pool tables and exercise equipment, up to \$15,000, with additional coverage available. The NFIP offers only narrow coverage for possessions in basements, limiting contents coverage there to certain appliances such as washing machines, dryers and freezers.

For more information on *Personal Flood Insurance*, visit [www.chubb.com/personal](http://www.chubb.com/personal).

## FEMA's New Website

On April 6, 2006 the Federal Emergency Management Agency (FEMA) launched a redesign of their website, [www.fema.gov](http://www.fema.gov). The newly designed site showcases a completely restructured, customer-driven and easy-to-use navigation system, and a new streamlined look and feel developed by the Depart-

ment of Homeland Security. The restructuring of the site will make it easier for citizens, emergency personnel, businesses, and federal, state, and local government agencies to quickly get to the information they need on the agency's disaster training, preparation, mitigation, response and recovery efforts and services.

## NFIP Flood Insurance Rates Change May 2006

The National Flood Insurance Program (NFIP) flood insurance premium rates for new and renewal policies with effective dates on or after May 1, 2006 will increase by an average of 4%.

In coastal V zones, larger rate increases are being implemented again this year as a result of the Heinz Center's Erosion Zone Study, which clearly indicates that current rates underestimate the increasing hazard from steadily eroding coastlines. V zone Pre-FIRM premiums will increase 9%. V zone Post-FIRM premiums will increase 6%.

In A zones, primarily riverine areas, there will be modest increases that will keep rates at actuarial levels. AE zone Pre-FIRM premiums will increase 6%. AE zone Post-FIRM premiums will increase 2.5%, Un-numbered A zone premiums will increase 5%. AO and AH zones, areas of shallow flooding, will have no premium change.

X zones, areas outside of the 100-year floodplain, Standard Risk Policy premiums will increase 6% and Preferred Risk Policy premiums will not change.

## UPCOMING CONFERENCES & WORKSHOPS

**May 21-24, 2006: American Institute of Hydrology Annual Meeting and International Conference: Challenges in Coastal Hydrology and Water Quality, Baton Rouge, Louisiana.** Contact: American Institute of Hydrology, 300 Village Green Circle, Suite 201, Smyrna, GA 30080. Phone: (770) 384-1634, Email: [aihydro@aol.com](mailto:aihydro@aol.com), Internet: [www.aihydro.org/conference.htm](http://www.aihydro.org/conference.htm).

**May 21-25, 2006: World Environmental and Water Resources Congress, Omaha, Nebraska.** Host: Environmental Water and Resources Institute of the American Society of Civil Engineers. Contact: Leonore Jordan, American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191. Phone: (703) 295-6110, Email: [ljordan@asce.org](mailto:ljordan@asce.org), Internet: [www.asce.org/conferences/ewri2006/](http://www.asce.org/conferences/ewri2006/).

**June 11-16, 2006: 30th Annual Conference of the Association of State Floodplain Managers, Albuquerque, New Mexico.** Contact: ASFPM Executive Office, 2809 Fish Hatchery Road, Suite 204, Madison, WI 53713-3120. Phone: (608) 274-0123, Fax: (608) 274-0696, Email: [asfpm@floods.org](mailto:asfpm@floods.org), Internet: [www.floods.org](http://www.floods.org).

**September 10-14, 2006: Association of State Dam Safety Officers (ASDSO) Dam Safety '06, Boston, Massachusetts.** Sponsor: ASDSO. Contact: Susan Sorrell at (859) 257-5140, Internet: [www.asdso.org](http://www.asdso.org).

**November 13-15, 2006. International Association of Emergency Managers 2006 Annual Conference, Orlando, Florida.** Internet: [www.iaem.com](http://www.iaem.com).

## UPCOMING EMERGENCY MANAGEMENT INSTITUTE COURSES

The Emergency Management Institute (EMI) is located at the Federal Emergency Management Agency (FEMA) National Emergency Training Center (NETC) in Emmitsburg, Maryland. EMI serves as the national center for emergency management training of federal, state, and local government officials. Tuition, housing, and all books and materials are provided at no cost. Participants are responsible for the cost of a meal pass (approximately \$100).

The following is a list of upcoming EMI courses through September 2006. To apply, call Diane Ifkovic, CTDEP, (860) 424-3537. For more information on the courses listed, visit the EMI website: <http://training.fema.gov/emiweb/>.

- E172 Advanced HAZUS MH for Flood—August 14-17
- E174 Advanced HAZUS MH for Earthquake—July 17-21
- E179 Application of HAZUS MH for Disaster Operations—June 12-15
- E194 Managing Floodplain Development: Advanced Concepts—June 26-29, August 28-31
- E202 Debris Management—September 18-21
- E210 Recovery from Disaster: The Local Government Role—August 21-24
- E271 HEC Dam Safety—May 22-26
- E276 Benefit-Cost Analysis: Entry Level Training—June 19-21
- E278 NFIP Community Rating System (CRS) - August 14-17, September 18-21
- E279 Retrofitting Flood-prone Residential Buildings—August 21-25
- E296 HAZUS MH/DMA 2000 Risk Assessment—August 28-30
- E313 Basic HAZUS Multi-Hazards—July 10-13
- E317 Comprehensive Data Management for HAZUS MH—September 11-14