



# The Torrent

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## FEMA Flood Map Modernization Initiative

President Bush's Fiscal Year (FY) 2003 budget proposal includes an additional \$300 million for the Federal Emergency Management Agency (FEMA) to implement its Map Modernization Initiative. If the funding is realized, FEMA will be able to begin upgrading the national flood map inventory on a significant scale. The Office of Management and Budget (OMB) has suggested, and FEMA has adopted, Government Performance and Results Act (GPRA) performance measures for the proposed FY 2003 funding. These performance measures are designed to have the biggest impact nationwide on the flood map inventory using this initial funding. They are to:

- Reduce the average age of the maps to 6 years (the current national average map age is 14 years – slightly older in New England);
- Produce digital mapping products with up-to-date flood hazard data for the 15% highest priority areas within each state;
- Develop flood maps for half of the unmapped, flood prone communities; and
- Encourage State and local cost share on flood mapping projects to achieve a 20% national aggregate for newly initiated Cooperating Technical Partners (CTP) program agreements and initiatives.

To begin implementation of Map Modernization with the proposed FY 2003 funding, FEMA will employ three categories of flood map upgrades. Two of the categories, Level 1 and Level 2, will be used for communities that are currently mapped but in need of improvement. All Connecticut communities will fall into one of these two categories. A third category, Flood Map Creation, will be for communities that are currently unmapped but prone to flooding. There are no unmapped areas in the State of Connecticut.

Level 1 Flood Map Upgrades include numerous cost-effective improvements to the maps including converting the maps to a digital GIS-based format, preparing a supporting standard Digital Flood Insurance Rate Map (DFIRM) geospatial database and enhancing flood themes (discussed below). Level 2 Flood Map Upgrades involve the same features as Level 1 plus new detailed study or restudy data. Flood Map Creations involve developing flood hazard data and producing DFIRM products for unmapped but flood prone communities.

Level 1 Flood Map Upgrades will be emphasized with the proposed FY 2003 funding. Doing so will enable FEMA to significantly impact the nationwide mapping inventory while bringing

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*(Maps...continued from Page 1)*

tremendous benefits to map users (addressed below). Level 2 Flood Map Upgrades will be conducted for the top 15% of those communities whose maps are found to be most in need of revised flood hazard analyses. For many places the map update will involve a combination of both levels (i.e., some FIRM panels will be Level 1 and other panels, where there are significant study/restudy needs, will be Level 2).

### ***How Level 1 Flood Map Upgrades will Benefit Users***

Flood Theme Improvements – Level 1 Flood Map Upgrades will yield significant benefits for map users, including not only floodplain managers, but also insurance companies, lenders, real estate professionals, property owners, flood map determination firms, land developers, surveyors, engineers, planners, and disaster and emergency management officials. With this type of upgrade, the accuracy and currency of the maps will be significantly improved. The flood theme will be improved, when feasible and cost effective, in one or all of the following ways:

- Re-delineating detailed study areas using new topographic information in conjunction with effective base flood elevations;
- Replacing, refining, or removing existing outdated A Zones; and
- Incorporating existing detailed studies available from other sources.

Level 1 Flood Map Upgrades will always include the following flood theme enhancements:

- Incorporating Letters of Map Change (LOMC);

- Resolving contiguous mismatches across community and county borders;
- Flood themes will be horizontally controlled relative to the base maps making flood zone determinations more precise (flood themes on manually produced FIRMs are not horizontally controlled);
- Base maps will be updated so that roads and other reference features are current, making it easier to locate properties;
- Community-identified map maintenance needs will be resolved.

- The Disaster Mitigation Act of 2000 (DMA 2000) requires States and communities to enhance their mitigation plans to qualify for hazard mitigation grant project funding. The ability to use DFIRMs with a GIS will be invaluable in preparing these mitigation plans and other risk assessment applications. DFIRMs will also facilitate maintenance of plans; and
- The digital flood data will be useful for the flood module for HAZUS, a tool for estimating losses from natural hazards.



***Digital Flood Insurance Rate Map (DFIRM)***

Increased Utility and Cost Efficiencies – With the digital product that will result from this type of upgrade, state, regional and local agencies will be able to incorporate the DFIRM data into existing GIS programs to facilitate floodplain management. Unlike with previous DFIRM products, a standard database makes the new DFIRM more robust, allowing users to access underlying data. Some automated GIS applications that will be possible include:

- More precise location determinations for flood insurance purchase requirements will be possible—with coordinates of a structure, a precise in/out determination can be made;

In the short term, Level 1 Flood Map Upgrades can be accomplished at a fraction of the cost of Level 2. Legacy DFIRMs (DFIRMs based on old standards that can be upgraded to new DFIRM specifications) will be even cheaper to convert to the newer format than paper maps. Long-term costs for the mapping program will be significantly reduced since it will be easier, and thus cheaper, to update the DFIRMs to incorporate updated flood data when Level 2 Flood Map Upgrades are conducted. Thus, it will be possible to conduct more Level 2 Flood Map Upgrades with the same funding in the future. As FEMA implements "print-on-demand" technology, storage and distribution costs will be reduced. Digital products will facilitate electronic distribution of the maps via the Internet and/or on CD-ROM.

Finally, Level 1 Flood Map Upgrades will help FEMA meet programmatic goals. By emphasizing this approach now, it will be possible to significantly impact the map inventory quickly and within available funding. Most importantly, it will be a building block for the next phase

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*(Maps...continued from Page 2)*

of Map Modernization. The Administration has projected budget authority for flood mapping on the order of \$360 million to \$380 million in FY 2004 and FY 2005. If these funding levels are realized, FEMA will be able to complete the upgrade of the entire map inventory by the end of FY 2008.

### **Level 2 Flood Map Upgrades and the Future of the Initiative**

As noted above, Level 2 Flood Map Upgrades will include all of the benefits of Level 1, with the addition of new hydrologic and hydraulic flood data. This type of upgrade will initially be conducted for the 15% highest priority communities selected by the States and FEMA regional offices. The selection of future Level 2 Flood Map Upgrades will be based on need and not the age of the map. The need for study or restudy is typically based on the degree to which the flood hazard information (i.e. floodplain boundaries, base flood elevations, floodways) will change and the level of existing or anticipated development in the area to be affected by the change.

To prepare for the possible receipt of this funding, FEMA has already begun working with State National Flood Insurance Program (NFIP) coordinating agencies and the Mapping Coordination Contractors (Dewberry & Davis, LLC in Region I New England) to develop 3-year statewide flood hazard mapping plans. These plans will be scaleable to fit any budget and, when aggregated at the national level, will allow FEMA to effectively balance the needs of the public while also meeting GPRA goals. Through the statewide plans, States will be able to prioritize communities that need Level 2 Flood Map Upgrades

regardless of the age of the maps. If funding is provided in subsequent fiscal years (2004-2005), FEMA will conduct Level 2 Flood Map Upgrades for the remaining communities in need of better flood data. Thus, Level 2 Flood Map Upgrades will be initiated for communities in need of better flood data by FY 2005, even if they first had a Level 1 Flood Map upgrade. Regardless of whether the proposed amount of funding is made available, this planning will help to logically prioritize future map update actions.

It is critical to note that the funding in the proposed budget is not a given. It is very possible that less funding will be available. The Association of State Floodplain Managers, Inc. (ASFPM) and others close to this issue are cautiously optimistic that a sizable portion of the budget will pass both the U.S. House and Senate.

*By Scott R. Choquette, Regional Field Office Coordinator, Dewberry & Davis. This article was reprinted with permission from NEFSMA News, July 2002, Volume X, Issue 1. For more information on Connecticut's flood map modernization plan, contact Kerry Redente at (860) 424-3424.*

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## **COBRA Zones**

Coastal barriers are unique landforms that provide protection for diverse aquatic habitats and serve as the mainland's first line of defense against the impacts of coastal storms and erosion. Congress recognized the vulnerability of coastal barriers to development and passed the Coastal Barrier Resources Act of 1982 (COBRA) and the Coastal Barrier Improvement Act of 1990 (CBIA), establishing a system of protected COBRA areas and

Otherwise Protected Areas (OPAs) known as the Coastal Barrier Resources System (CBRS). The Acts protect these areas by prohibiting the expenditure of most Federal funds, including "any form of loan, grant, guarantee, insurance, payment, rebate, subsidy or any other form of direct or indirect federal assistance". Federal disaster assistance is limited to emergency relief – there are no loans or grants to repair or rebuild structures in CBRS areas. COBRA also banned the sale of NFIP flood insurance for structures built or substantially improved on or after October 1, 1983.

Congress is the only entity that may authorize a revision to a CBRS boundary. After Congress approves additions to the CBRS, the new areas are assigned an effective date after which Federal assistance prohibitions apply. If an existing insured structure is substantially improved or damaged, any NFIP policy will not be renewed. If an NFIP policy is issued in error, it will be canceled and the premium refunded. No claim can be paid, even if the error is not found until a claim is made.

On a Flood Insurance Rate Map (FIRM), COBRA zones and OPAs are identified as "Undeveloped Coastal Barriers" in the map legend and their identification dates are also given.

In Connecticut, COBRA zones and OPAs are located in: Branford, Bridgeport, Clinton, East Lyme, Groton (City, Town & Groton Long Point Association), Madison, Milford, New Haven, New London, Norwalk, Old Lyme, Old Saybrook (including Borough of Fenwick), Stonington (Borough & Town), Stratford, Waterford, West Haven, Westbrook and Westport. Information on COBRA areas can be found on the FEMA website at: [www.fema.gov/nfip/cobra.htm](http://www.fema.gov/nfip/cobra.htm)

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## Wildfires Increase Flooding Risks

Property owners in or near those areas affected by more than 50,000 wildfires of various sizes that have struck the U.S. in recent months, particularly in western states, are now exposed to greatly increased flood danger, according to officials of the Federal Emergency Management Agency (FEMA).

“Although fires are still raging and this year’s fire season is not nearly over yet, wildfires have already burned approximately 6.7 million acres, twice the annual average in recent years. The loss of trees, ground cover and other vegetation has greatly increased the possibility of flash floods and mudflows,” FEMA Director Joe M. Allbaugh said.

Allbaugh explained that destroying natural forest barriers and leaving behind scorched and barren land that will take decades to recover frequently results in erosion and devastating flooding, even from relatively small amounts of rain. Such fire damage particularly heightens the risk of flash floods, which strike suddenly and with greater velocity and debris loads than seasonal flooding.

FEMA officials emphasize that you do not have to be in a high-risk flood zone to be at risk from floods – or to be able to purchase federally backed flood insurance to protect your property.

“While wildfires can’t always be predicted, the flooding dangers that follow them can be,” said Anthony Lowe, advisor to the Director for the Federal Insurance and Mitigation Administration (FIMA), which manages the National Flood Insurance Program (NFIP). “Homeowners, business owners and renters should take this

opportunity to protect themselves against another disaster by purchasing federally backed flood insurance. In most cases, a family home and all its contents can be insured for less than it costs to insure a car.”

Lowe pointed out that most floods are too small to qualify for federal disaster assistance, which is only available following a major disaster declaration by the President. Standard homeowners insurance policies do not cover flood losses, but National Flood Insurance does, and it pays claims regardless of whether or not there is a disaster declaration.

Even in a declared disaster, Lowe said, recovery assistance is usually in the form of a loan that has to be repaid with interest. But the annual premium for a flood insurance policy is usually cheaper than the monthly payment on a disaster loan. “A National Flood Insurance policy is the best defense against economic losses from flooding,” Lowe said, “and property owners should seriously consider it even if they do not live in a Special Flood Hazard Area. In fact, one-fourth of all claims are from properties outside high-risk areas.”

Under the NFIP, flood insurance is made available for property owners in communities that adopt and enforce floodplain management ordinances that reduce future flood losses by regulating new construction. Currently, nearly 4.4 million policies are in force in approximately 20,000 participating communities, representing almost \$608 billion worth of coverage. The NFIP is self-supporting. Claims and operating expenses are paid from policyholder premiums, not taxpayer dollars.

*Reprinted from the FEMA website.*

## EPA Announces Watershed Initiative

On August 21, 2002, the U.S. Environmental Protection Agency (EPA) announced that it will be requesting nominations for President Bush’s new Watershed Initiative. The program, initially announced in the President’s State of the Union address, would provide assistance to state and local communities to protect and restore inland and coastal watersheds.

The President’s vision for clean and healthy watersheds is a key focus of the Year of Clean Water, which celebrates the 30<sup>th</sup> anniversary of the Clean Water Act. As part of this new Watershed Initiative, the President has requested that Congress appropriate \$21 million for grants to encourage community-based approaches and techniques to protect water resources throughout the country.

Governors and tribal leaders are being invited to submit project nominations to the U.S. EPA by November 21, 2002. Project awards would range from \$300,000 to \$1,300,000, which would be made available in the form of grants to help local entities protect and restore their local watersheds. Selection and funding are contingent on favorable Congressional action on the appropriations request.

After careful review of the nominations by a panel of experts, the EPA would announce the watersheds receiving grant funds early next year. The Federal Register Notice and other information on the new Watershed Initiative are available at: [www.epa.gov/owow/watershed/initiative](http://www.epa.gov/owow/watershed/initiative)

# Floodplain Focus: Substantial Improvement

Floodplain management regulations are most effective in reducing flood damage to new construction. Buildings built before the adoption of the National Flood Insurance Program (NFIP) regulations are often subject to repeated flood damage, flood insurance claims, and federal disaster assistance. The NFIP regulations address this problem by requiring that substantially improved and substantially damaged buildings be brought up to the same standards as new buildings built in the 100-year floodplain.

Substantial improvement is defined as “any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. The term does not include either: 1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or 2) any alteration of a ‘historic structure’, provided that the alteration will not preclude the structure’s continued designation as a ‘historic structure’.” A substantially improved structure must be brought into compliance with the NFIP regulations. Typically this means the structure must be elevated to or above the base flood elevation (BFE).

For purposes of determining substantial improvement, market value pertains only to the structure in question. It does not pertain to the land, landscaping or detached accessory structures on the property. Acceptable estimates of market value can be obtained from the following sources: 1) An independent appraisal by a professional appraiser; 2) Detailed estimates of the structure’s Actual Cash Value; 3) Property appraisals used for tax assessment purposes (Adjusted Assessed Value); 4) “Qualified estimates” based on the sound professional judgement made by staff of the local building department or local tax assessor’s office; or 5) Replacement cost minus depreciation. Items that should be included in the cost of repairs are all materials, all structural elements, all interior finishing elements, all utility and service equipment, demolition costs, labor (including donated or volunteer labor), overhead and profits. Items that should not be counted toward the cost of repairs include the cost of plans and surveys, permit fees, post-storm debris removal, landscaping, swimming pools, and detached structures.

A single large improvement or repair project is clearly a substantial improvement no matter how many separate permits are issued. However, the NFIP regulations do not require that smaller individual improvements made over a period of years and that add up to 50% be considered a substantial improvement. Theoretically, the property owner could beat the system by applying for a 40% improvement project one year and applying for another 40% project the following year. Communities can eliminate this loophole by strengthening their local floodplain ordinance or regulation above the minimum NFIP standards. Improvement and repair projects can be counted cumulatively so that buildings will be brought into compliance with flood protection standards sooner. Examples would be to have a cumulative substantial improvement requirement over a 5 or 10 year period, or over the life of the structure. Another way to bring more buildings into compliance with the standards for new construction is to use a lower number than 50% in the substantial improvement requirement. A building is more likely to be brought up to code sooner if the threshold is lower, such as 25%, 30% or 40%. In communities with many older buildings that are exposed to flood damage, this is an effective means of speeding up compliance.

Structures are substantially improved in one of four ways: 1) Rehabilitation (improvements that do not affect the external dimensions); 2) Addition (improvements that increase the square footage); 3) Reconstruction (entire structure is destroyed or purposefully razed and a new structure built on the old foundation); 4) Substantial Damage. Substantial damage is defined as “damage of any origin that is sustained by a structure where by the cost of restoring the structure to its before damaged condition equals or exceeds 50 percent of the market value of the structure before the damage occurred”. All structures that are substantially damaged are automatically considered to be substantial improvements, regardless of the actual repair work performed.

*FEMA publishes a guide entitled “Answers to Questions About Substantially Damaged Buildings” (FEMA 213) that may be helpful to local officials in determining substantial damage or substantial improvement. Contact Kerry Redente, Diane Ifkovic or Carla Feroni, CTDEP, at (860) 424-3706 to obtain this publication and for any further questions. More information can also be found at the FEMA website, [www.fema.gov](http://www.fema.gov).*

## UPCOMING CONFERENCES & WORKSHOPS

**October 11, 2002: 11<sup>th</sup> Annual Meeting and Seminar of the New England Floodplain and Stormwater Managers Association (NEFSMA)**, Stowe, Vermont. Contact: Peter Richardson, Phone: (781) 391-5757, e-mail: [peter@nefsma.org](mailto:peter@nefsma.org), [www.nefsma.org](http://www.nefsma.org).

**October 14-16, 2002: Storm Sewer System Design**, Madison, Wisconsin. Sponsor: University of Wisconsin-Madison College of Engineering. To register, call (800) 462-0876, <http://epdweb.engr.wisc.edu/brochures/E693.html>.

**October 16-18, 2002: Open Channel Design: Streams, Ditches and Channels**, Madison, Wisconsin. Sponsor: University of Wisconsin-Madison College of Engineering. To register, call (800) 462-0876, <http://epdweb.engr.wisc.edu/brochures/E694.html>

**October 21-24, 2002: Engineering Innovative Fish Passage: Dam Removal & Nature-Like Fishways**, Waterville Valley, New Hampshire. Sponsors: University of Wisconsin-Madison College of Engineering, New Hampshire Department of Environmental Services and American Rivers. To register, call (800) 462-0876, <http://epdweb.engr.wisc.edu/brochures/E814.html>.

**October 28-30, 2002: Storm Water Detention Basin Design**, Las Vegas, Nevada. Sponsor: University of Wisconsin-Madison College of Engineering. To register, call (800) 462-0876, <http://epdweb.engr.wisc.edu/brochures/E695.html>.

**November 3-7, 2002: American Water Resources Association (AWRA) 2002 Annual Water Resources Conference**, Philadelphia, Pennsylvania. Contact: Janet Bowers, Conference Chair, Chester County Water Resources Authority, West Chester, PA. Phone: (610) 344-5400, Fax: (610) 344-5401, e-mail: [jbowers@chesco.org](mailto:jbowers@chesco.org), [www.awra.org](http://www.awra.org).

**November 13-15, 2002: 2002 Institute for Business and Home Safety (IBHS) Annual Congress for Natural Hazard Reduction**, New Orleans, Louisiana. Sponsor: IBHS. Contact: IBHS, 1408 North Westshore Boulevard, Suite 208, Tampa, FL 33607, Phone: (813) 675-1047, Fax: (813) 286-9960, e-mail: [info@ibhs.org](mailto:info@ibhs.org), [www.ibhs.org/congress](http://www.ibhs.org/congress).

**May 11-16, 2003: Association of State Floodplain Managers (ASFPM) 27<sup>th</sup> Annual Conference**, St. Louis, Missouri. Sponsor: ASFPM. Contact: Trisha Nelson or Diane Brown Watson, ASFPM, 2809 Fish Hatchery Road, Suite 204, Madison, WI 53713. Phone: (608) 274-0123, Fax: (608) 274-0696, email: [asfpm@floods.org](mailto:asfpm@floods.org), [www.floods.org](http://www.floods.org).

## 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 (\$80). The following is a list of upcoming EMI courses through September 2003. For more information on the courses listed, visit the EMI website: [www.fema.gov/emi](http://www.fema.gov/emi). To apply, call Diane Ifkovic at (860) 424-3537.

E234 **Digital Hazard Data** – October 21-24, 2002, January 27-30, 2003, May 12-15, 2003.

E260 **Hazard Mitigation Grant Program (HMGP)** – November 11-15, 2002, January 20-24, 2003.

E263 **Managing the Hazard Mitigation Grant Program (HMGP)** – December 16-20, 2002,  
April 7-11, 2003, September 22-26, 2003.

E273 **Managing Floodplain Development Through the NFIP** – October 14-18, 2002,  
March 31-April 4, 2003, August 11-15, 2003, September 15-19, 2003.

E276 **Benefit-Cost Analysis: Entry Level Training** – December 4-6, 2002.

E278 **NFIP/Community Rating System (CRS)** – Nov. 4-8, 2002, April 7-11, 2003, Sept. 22-26, 2003.

E279 **Retrofitting Floodprone Residential Buildings** – January 27-31, 2003.

E307 **Basic Hazards HAZAS U.S. Training** – October 28-31, 2002, April 14-17, 2003, August 25-28, 2003.

E386 **Residential Coastal Construction** – March 10-14, 2003, September 28-October 3, 2003.