

Fall 2010

(click on text to go
directly to the page)

What's Inside

From the Chairman ... 2

2011 NC/SC Joint
Annual Conference.... 2

NFIP's New Lower Cost
Insurance Option 3

ASFPM 2010 Annual
Conference Report 4

New Endangered Species
Act Requirements..... 6

Enhanced Local Hazard
Mitigation Planning... 7

CFM Corner..... 9

Flood Venting for Closed
Crawl Spaces..... 11

ASFPM 2011 Annual
Conference 15

Regional Reports..... 16

Education/Training.. 18

Floodplain Mgmt
Resources..... 20

Calendar..... 20

Thank you to our Sponsors:

AECOM	5
Baker	10
ESP	10
Dewberry.....	13
SmartVent.....	14
North Carolina Flood Insurance ...	19



Fall Floodplain Institute

NORTH CAROLINA ASSOCIATION OF FLOODPLAIN MANAGERS

Cherokee, NC
October 21-22, 2010

Pre-Conference Workshops - Wednesday, October 20

We hope you are planning to join us for this year's Fall Floodplain Institute, which will be held in Cherokee at Harrah's Cherokee Casino and Hotel, October 21-22.

This year the conference will be held on Thursday and Friday, with pre-conference workshops on Wednesday afternoon. The Wednesday workshops will include information on Flood Mitigation/Hazard Mitigation Grants, and Substantial Damage Estimator software and procedures. A Certified Floodplain Manager (CFM) exam will be offered on Friday, October 22, beginning at 9:00, with a review session offered on Wednesday at 1:00.

The registration fee for the conference is \$175 (\$150 if postmarked by October 4), which includes Wednesday workshops, Thursday and Friday conference presentations, break refreshments, lunch on Thursday and Friday, and the conference social at the hotel on Thursday at 5:30. A one day rate of \$80 will apply for those who want to attend the Wednesday workshop sessions only.

Golfers who are interested in playing on Wednesday should contact John Fullerton at 910-341-3247 or john.fullerton@wilmingtonnc.gov for more information.

More details — including Continuing Ed hours, hotel information, and the registration form — are available on the website: www.ncafpm.org.

NCFloodplain Listserv



ncfloodplain listserv

The North Carolina Association of Floodplain Managers, through the University of North Carolina School of Government, has established a listserv dedicated to floodplain management issues. The listserv provides a forum for local floodplain administrators, state agencies, and other professionals involved in floodplain management and mapping to send and respond to e-mails for guidance and technical assistance, generate discussion on floodplain management topics, and share useful information (jobs, conference/training info, etc.). The ncfloodplain listserv has been in place for a few years and would benefit from increased membership and user interaction. To join the listserv, please visit www.ncafpm.org and click on the icon shown.

From the Chairman's Desk



ROBERT BILLINGS, PE, CFM
NCAFPM CHAIRMAN

On August 27, 2008, the City of Charlotte and Mecklenburg County were visited by the remnants of Hurricane Fay. Briar and Little Sugar Creeks experienced greater than 100-year events during the storm. The weeks that followed the flood event were filled with angry public meetings, investigative interviews with the media, and numerous governmental meetings. It was a difficult time. Shortly before the August 27th flood, Charlotte-Mecklenburg had used a Hazard Mitigation Assistance (HMA) grant to purchase Cavalier Apartments. Many of you have heard me tell this story, so I'll be brief with the details. One of my most memorable moments involving the Cavalier flooding occurred in late October – almost two months after the flood. The State was conducting a routine audit of our HMA grant files and Stacey Fuller and Meagan Honnold asked to visit the Cavalier site. During the visit, we managed to push open a swelled door to one of the flooded apartments. The acidic cloud of foul air that escaped pushed us all back. I'll never forget Stacey saying, "That's Floyd...that is exactly how the homes smelled after Floyd. You will never forget that smell as long as you live."

I wanted to tell this story because it symbolizes how we are all connected. We are connected by our association with floods – the most devastating and deadliest naturally occurring events that North Carolina faces. All of us – consultants, government workers, sales representatives, and other colleagues – have a duty to the citizens of North Carolina to be ethical, knowledgeable, and courteous in our jobs. We also have a duty to each other. We are professionals. I think we do a good job with this, and I know there will always be competition for projects, but we need to strive to do our best and treat everyone fairly.

Our Association continues to grow. We are financially and fiscally secure. We have a very good record over the past several years of recruiting and retaining hard working officers. Problems with 501(3)(c) non-profit associations can be very real – ask someone from Mississippi. I cannot express how blessed the Association has been with our current and past Treasurers. I cannot speak for Treasurers prior to about 2003, but from then until present – Maria Cox, Cynthia Barcklow, and Susan Frady, the Association is in your gratitude; Thank You!

We are poised to take Cherokee by storm. This promises to be a great conference at a new venue. Please let us know what you think to help us decide whether we should add this venue to our rotation. In spring 2011 we are planning another joint conference with the South Carolina Association. We have just locked in our location – Charleston!! Are you ready? Please check the website and newsletter for upcoming details!

Robert Billings, PE, PH, CFM
Chair - NCAFPM

North Carolina/South Carolina 2011 Joint Annual Conference

NCAFPM and SCAHM will hold a joint conference in North Charleston, SC in April 2011. A highly successful similar conference was held in the spring of 2005 and the current Boards of both organizations have decided to join forces again. This will replace the annual conference for both groups. Angela McJunkin from SC and John Fullerton from NC have looked at several potential sites and preliminary plans have the conference set for April 12-15 at the Sheraton Hotel, North Charleston which is conveniently located close to I-26. Watch for further information on the website and in the next newsletter. Program ideas or any thoughts on any aspect of the conference are welcome. Contact John Fullerton at 910-341-3247 or john.fullerton@wilmingtonnc.gov or any Board member.



NFIP's New Lower Cost Insurance Option

EDWARD L. CONNOR
ACTING ADMINISTRATOR FOR FEMA'S MITIGATION DIRECTORATE

Have your customers recently been affected by flood map changes? They may be eligible for a new flood insurance option that can provide temporary financial relief.

In 2003, more than 70 percent of the flood maps (known as Flood Insurance Rate Maps, or FIRMs) in the United States were at least 10 years old and many no longer reflect current flood hazards. Congress passed a law and appropriated funds that directed the Federal Emergency Management Agency (FEMA) to create the five-year Flood Map Modernization Program — a program dedicated to using current data and technology to update flood maps nationwide. Since then, communities across the country have been experiencing flood map changes.

With the Flood Map Modernization Program – and now Risk MAP1 – providing updated FIRMs, communities are gaining a better understanding of their real flood risk. In some cases, this means areas in a community previously thought to be at a moderate-to-low-risk for flooding are now being accurately identified as high-risk and designated as Special Flood Hazard Areas (SFHAs). This increased risk of flooding is real and many property owners now find themselves required by lenders to purchase flood insurance.

To help reduce costs, property owners can now purchase the low-cost Preferred Risk Policy (PRP) during the two years following a map revision. However, at the end of the two year eligibility period, the PRP would have to be rewritten as a higher premium standard-rated policy at each subsequent renewal. While the PRP premiums are not permanently available, policies converted from a PRP to a standard-rated policy will be eligible for grandfathering using the lower risk zone reflected on a previous map. FEMA recognizes the financial hardship that a SFHA may place on your customers; therefore, they are extending the eligibility period for PRPs starting January 1, 2011.

Who's Eligible? Owners of buildings that were mapped into an SFHA due to a FIRM revision effective on *or after October 1, 2008, and before January 1, 2011* are eligible to receive a reduced premium for up to two years beginning January 1, 2011 through December 31, 2012. Additionally, owners of buildings that will be newly mapped into an SFHA due to a map revision *on or after January 1, 2011*, will also be able to receive up to two years of reduced premiums. The property must still meet PRP eligibility requirements related to claims and disaster aid. In addition, insurance agents will need to provide previous and current flood zone documentation (e.g., previous and current effective FIRM) to validate PRP extension eligibility. Agents should remember to share with their customers other available rating options offered through the National Flood Insurance Program that may provide them with additional savings (e.g., grandfathering, elevation rating, and higher deductibles).

Significant Savings

Beginning January 1, 2011, a property owner who has a home without a basement will pay \$343 for \$200,000 in building and \$80,000 in contents coverage for a PRP versus more than \$1,400 for a standard-rated policy in an X zone, and even more if rated in a high-risk flood zone (i.e., A zone) ... a savings of more than \$1,000 a year.

FloodSmart, from page 3



Ed Connor serves as the Acting Administrator for FEMA's Mitigation Directorate and oversees several programs, including the National Flood Insurance Program with a portfolio of over \$1.1 trillion coverage in force, the Unified Hazard Mitigation Assistance Grant Programs, the National Flood Mapping Program, the National Earthquake Hazard Reduction Program, the Dam Safety Program, the National Hurricane Program and FEMA's Office of Environmental

Planning and Historic Preservation. He has worked closely with public and private risk managers, as well as leaders in government, industry, research and academia. Mr. Connor was appointed to the Senior Executive Service in 2006.

He has over twenty years of experience in the Insurance Industry working for two major Property and Casualty Insurers (Allstate Insurance Company and the Chubb Group of Insurance Companies) in the areas of Underwriting, Controller, Marketing, and Auditing. In 1992, he joined FEMA as an Insurance Specialist in the Federal Insurance Administration.

Mr. Connor holds a Bachelors of Science Degree from Bowie State University, in Bowie, MD, a Masters of Science Degree from the U.S. National Defense University in Washington, D.C. and has completed post graduate studies at the Harvard University-John F. Kennedy School of Government.

For more information: The PRP extension provides an agent's customers temporary financial relief in order to adjust to the new flood risk designation. To learn more about this cost-savings option, agents should talk to their flood insurance carrier or visit www.Agents.FloodSmart.gov or www.Floodsmart.gov/PRPExtension. To view and print historic and current FIRMs, agents can visit www.msc.fema.gov. ▲

¹ Risk MAP (Mapping, Assessment, Planning) is FEMA's current five-year mapping initiative that builds on the successes of Flood Map Modernization. While Flood Map Modernization was focused on generating new countywide FIRMs, Risk MAP will be focusing more on a watershed level as well as remapping all coastal areas. For more information about Risk MAP, go to http://www.fema.gov/plan/prevent/fhm/rm_main.shtm.

REPORT



ASFPM 2010 Annual Conference

JOHN FULLERTON, CFM
NCAFPM VICE-CHAIRMAN

Nearly 1,150 attended the national conference in Oklahoma City this past May. Participants were introduced to a massive hailstorm and several tornados on the opening Sunday and more tornados around the city on Wednesday. A few NC engineers became "storm chasers" and got up close and personal with a few twisters. A field trip to the National Weather Center on Monday at the OU campus in Norman provided an overview of the storms and storm tracking along with a hands-on simulation of weather warning systems.

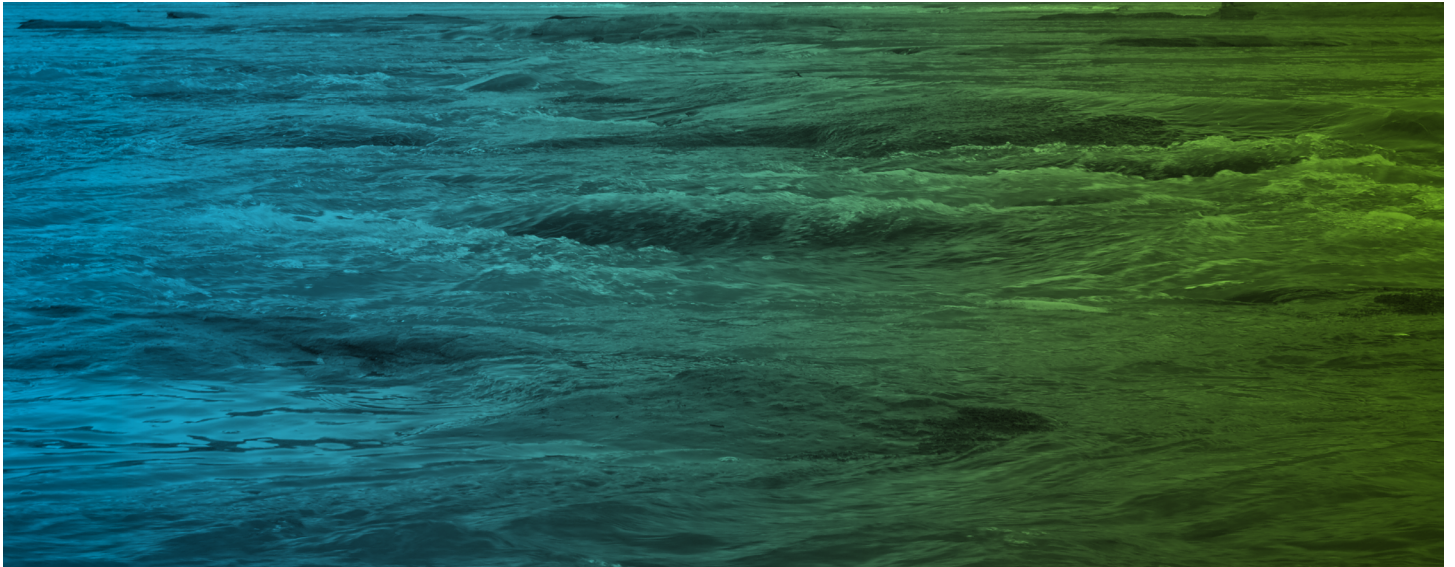
The week was full of general sessions and breakout sessions dealing with old and new ideas regarding floodplain management. Interspersed with the sessions were many networking opportunities along with a few evening social events. Members of the NC and SC Boards took time to meet and lay the groundwork for a joint conference to be held in April 2011 (see related article in this newsletter).

In addition to the floodplain management sessions, Board members obtained information on chapter legal issues such as liability, taxes, and chapter administration including membership issues and record keeping for certification renewals and testing for new CFMs.

The conference was able to pack an abundance of information into a relatively short time and the host city and the conference planners proved to be gracious and warm hosts. Evidence of the information gained will be passed along at both the Fall Floodplain Institute (Cherokee) and Spring conference. ▲

Plan now to attend the 2011 ASFPM Annual Conference. See page 15 for more details.

PARTNERING MORE POWERFULLY



We are AECOM. As a global leader in water resources management, our experts integrate the latest technologies in watershed, river and reservoir planning and modeling for diverse applications, including coastal and riverine flood risk assessment and mitigation.

Our teams of engineers and scientists understand the dramatic effects that climate and hydrologic variability have on the Nation's watersheds. We provide sustainable solutions to assess and reduce the often disastrous impacts of flooding.

AECOM...Enhancing the world's built, natural and social environments.

www.aecom.com

AECOM

**North Carolina Association
of Floodplain Managers
Board of Directors
2010-2011**

Chairman

Robert Billings, PE, PH, CFM
Mecklenburg County
704/432-0902
robert.billings@mecklenburgcountync.gov

Vice-Chairman

John Fullerton, CFM
City of Wilmington
910/341-3247
john.fullerton@wilmingtonnc.gov

Secretary

Cynthia Barcklow, AICP, CFM
Buncombe County
828/250-4836
cynthia.barcklow@buncombecounty.org

Treasurer

Susan Frady, CFM
City of Hendersonville
828/697-3010
sfrady@cityofhendersonville.org

Executive Director

Bill Tingle, PG, CFM
Mecklenburg County
704/336-3734
bill.tingle@mecklenburgcountync.gov

Representatives

Region A

Billy Merrill, PLS, CFM
City of Greenville
252/329-4478
bmerrill@greenvillenc.gov

Region B

Heather Keefer, CFM
Town of Holly Springs
919/557-3938
heather.keefe@hollyspringsnc.us

Region C

Tony Wilson, CFM
Town of Wrightsville Beach
910/524-7701
twilson@towb.org

Region D

Annette Liggett-Lineberger
AECOM
336/855-8422
annette.liggett-lineberger@aecom.com

Region E

Neal Banerjee, PE, CFM
Baker Engineering
704/334-4454 x7881
nbanerjee@mbakercorp.com

Region F

Brad Burton, CFM
City of Brevard
828/885-5630
bburton@cityofbrevard.com

New Endangered Species Act Requirements for LOMC Submittals

STEVE GARRETT, CFM

OFFICE OF GEOSPATIAL AND TECHNOLOGY MANAGEMENT, NCDEM

EFFECTIVE OCTOBER 1, 2010 FEMA will institute a new mandatory requirement for Conditional Letters of Map Revision (CLOMR) and Conditional Letters of Map Revisions based on Fill (CLOMR-F).

All CLOMRs and CLOMR-Fs received on or after October 1, 2010 will be required to demonstrate compliance with the Endangered Species Act by submitting either an Incidental Take Permit, Incidental Take Statement, “not likely to adversely affect” determination from the US Fish and Wildlife Service or National Marine Fisheries Service, or an official letter from the US Fish and Wildlife Service or National Marine Fisheries Service concurring that the project has “No Effect” on listed species or critical habitat. FEMA and Cooperating Technical Partners will not process CLOMR or CLOMR-F requests until this requirement is met. Also, if the project is likely to cause adverse impacts to listed species or critical habitat, FEMA will deny the Conditional LOMC request.

FEMA’s Procedure Memorandum 64, issued August 18, 2010, is available at www.ncfloodmaps.com/lomc/pdf/documents/pl_memo64.pdf

If you have any questions on how this requirement will impact existing or future CLOMR submittals (MT-2) please contact Steve Garrett, NCFMP LOMC Manager, at 919-715-5711 ext. 118 or sgarrett@ncem.org. For cases located in Mecklenburg County, please contact David Love, LOMC Project Manager, at 704-432-0006 or david.love@mecklenburgcountync.gov.

More information about ITPs can be found on the US Fish and Wildlife Service website:

- Federal Fish and Wildlife Permit Application Form: www.fws.gov/endangered/esa-library/pdf/3-200-56.pdf
- Habitat Conservation Planning Process Handbook: www.fws.gov/endangered/esa-library/pdf/HCPBK1.PDF
- Overview of Habitat Conservation Plans www.fws.gov/endangered/what-we-do/hcp-overview.html

Other useful websites:

- U.S. Fish and Wildlife Resources
- Endangered Species Program | www.fws.gov/endangered
- SE Region Endangered Species Permit Office | www.fws.gov/southeast/es/#
- Asheville ES Field Office | www.fws.gov/Asheville
- Raleigh ES Field Office | www.fws.gov/raleigh/

U.S. NOAA Fisheries Office of Protected Resources

- www.nmfs.noaa.gov/pr/permits/esa_permits.htm

U.S. National Marine Fisheries Service Southeast Region

- sero.nmfs.noaa.gov/pr/pr.htm ▲

Incidental Take Permit

Incidental take permits (ITPs) are required when non-Federal activities will result in take of threatened or endangered species. A habitat conservation plan or “HCP” must accompany an application for an incidental take permit. The habitat conservation plan associated with the permit ensures that the effects of the authorized incidental take are adequately minimized and mitigated.

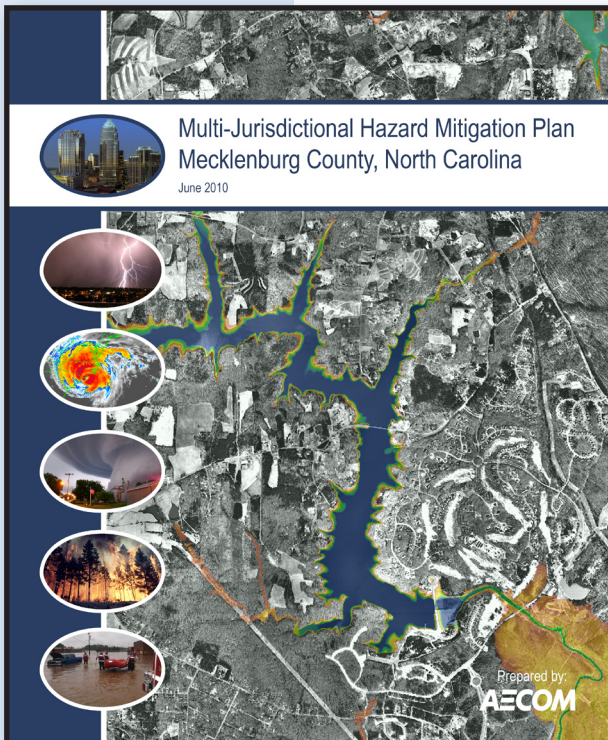
Enhanced Local Hazard Mitigation Planning: Going Beyond the Crosswalk

DARRIN PUNCHARD, AICP, CFM, AECOM

BILL TINGLE, CFM, MECKLENBURG COUNTY STORM WATER SERVICES

The City of Charlotte and Mecklenburg County recently completed a comprehensive update to their 2005 Multi-jurisdictional Hazard Mitigation Plan. The plan update process was jointly spearheaded by the Charlotte-Mecklenburg Emergency Management Office (CMEMO) and Storm Water Services (CMSWS) and included the active participation from the towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville. The 2010 update was prepared to address all natural hazards and maintain local compliance under the federal Stafford Act, but also to maximize potential credit points for those jurisdictions participating in the NFIP's Community Rating System (CRS). Through the

assistance of their planning consultant, AECOM, the updated plan was completed under an aggressive 5-month schedule in April 2010 and subsequently granted approval by the State of North Carolina and FEMA with no required or recommended revisions.



Multi-Agency/Jurisdiction Involvement

Approval of the updated plan ensures that Mecklenburg County and all of its participating jurisdictions remain eligible for federal and state hazard mitigation and disaster recovery funding assistance. More importantly, the 2010 plan update process provided a number of opportunities for local government staff to assess existing local programs and activities that affect hazard risk (either positively or negatively) and to consider new strategies for risk reduction. These efforts involved staff from a broad range of local departments and agencies across Mecklenburg County including public safety (emergency management, police, fire/rescue), planning and community development, environmental services, engineering, public works, as well as executive officials from city and town manager offices. In addition to those participating on the multi-jurisdictional Mitigation Planning Committee, local staff members from each community were encouraged to provide input through various innovative

methods applied during the plan update process. One example of this was the completion of a “safe growth survey” by each jurisdiction’s planning department.

Safe Growth Survey

The safe growth survey was drawn from a technique proposed by David Godschalk, FAICP and professor emeritus of city and regional planning at the University of North Carolina, to help better evaluate the extent to which a community is positioned to grow safely relative to its natural hazards. In completing the survey, each respondent was asked to indicate how strongly they agree or disagree with a lengthy list of statements as they relate to their own jurisdiction’s current plans, policies and programs for guiding future community growth and development (including comprehensive plans, zoning ordinances, subdivision regulations, capital improvement programs and infrastructure policies). The survey was used to evaluate how adequately existing planning mechanisms and tools for each jurisdiction were being used to support the notion of safe growth as currently advocated by organizations such as FEMA and the American Planning Association. In addition, the

For more information on Safe Growth Surveys, see “Safe Growth Audits” in the October 2009 edition of Zoning Practice published by the American Planning Association.

Hazard Mitigation, from page 7

survey instrument was aimed at further integrating the subject of hazard risk management into the dialogue of local planners throughout Mecklenburg County and to encourage the identification of new “soft” (i.e. non-structural) mitigation practices that may be pursued as it relates to those local planning mechanisms already in place. It is anticipated that the safe growth survey will be used again during future plan updates to help measure progress over time and to continue identifying ways in which hazard mitigation principles may be further integrated into routine land use planning and community development processes.

Public Involvement

Additional stakeholder involvement and public participation in the plan update process was solicited through the assistance of the City of Charlotte’s Corporate Communications Office. This included extensive outreach to local media outlets in the entire Charlotte regional market such as the Charlotte-Observer, WBTV (local CBS affiliate in Charlotte) and Carolina News 14 which prepared and delivered captivating stories to help promote participation in the plan update process. Opportunities for the public to participate included the completion of an online survey as well as taking part in open

meetings that were simultaneously broadcast live on local television and streamed online at charmeck.org. Those who could not attend the meetings in person were provided with the opportunity to submit comments and questions via e-mail during the meeting. In order to gain additional public input to the plan update process, the Mitigation Planning Committee called upon the existing Charlotte-Mecklenburg Stormwater Advisory Committee (SWAC) to serve as a separate committee in which to present plan update findings and seek feedback on changes or updates to the current plan. The SWAC is made up entirely of citizen (non-governmental) volunteers and therefore also helped maximize CRS points for involving the public under Activity 510, Floodplain Management Planning.

Next Step – Property Specific Flood Mitigation

While the 2010 plan update process has been completed, Charlotte-Mecklenburg continues to aggressively pursue flood mitigation planning strategies that go beyond FEMA’s multi-hazard mitigation planning and CRS activities. CMSWS recently initiated a new, innovative approach to assessing flood risk for each of its approximately 4,400 flood prone properties located within the FEMA floodplain (existing land use) and Com-

munity Floodplain (future land use). Using existing GIS databases in combination with new flood hazard data, quantitative flood risk scores will be calculated for each of these properties according to a variety of contributing factors that determine potential impact (injury, damage or loss) such as flood depths, velocity and various building attributes, as well as flood hazard probability. In addition to calculating flood risk scores, CMSWS will be using newly created tools to apply various programmatic and funding factors to determine flood mitigation scores for each property. These factors will include benefit-cost ratios for a range of flood mitigation techniques (both public and private mitigation actions) as well as additional criteria, including those that further other community goals, to assist CMSWS in making decisions on when and where to use resources to reduce flood risk for individual properties. The overall purpose of this planning effort is to recommend specific flood mitigation techniques at a building or parcel level that reduces the risk of loss of life and damage to property due to flooding.

CMSWS recently completed the development of its framework to determine cost-effective risk reduction measures for each of its flood prone properties, and is now moving forward with AECOM to begin testing and applying these methods in two pilot study areas before taking the assessment countywide. ▲

KNOW YOUR RISKS

Our region is at risk from the impacts of severe weather. Not having a plan or information could result in **the loss of life and property**.

What concerns you about severe weather? Do you have ideas for helping our community better prepare for possible natural disasters?

Take an online survey to help assess risks at <http://emergency.charmeck.org> or email your questions to publicinput@charlottenc.gov and we will provide answers during our live coverage of the Jan. 21 meeting.

PUBLIC MEETING

Thursday, January 21
6:30pm-8:00pm
600 East 4th Street
Charlotte-Mecklenburg Government Center

**FREE parking in
Davidson Parking Garage**

CFM® Corner

Keep us updated

Please remember to notify Anita at cfm@floods.org when you move. CFM renewals and other certification related mailed material is sent to your HOME ADDRESS. Also, make sure we always have your current employment information with correct email address.

We've Been Audited!

BILL TINGLE, CFM, NCAFPM CFM ADMINISTRATOR

HEATHER KEEFER, CFM, NC PROFESSIONAL DEVELOPMENT COMMITTEE CHAIR

When anyone hears the term “audit,” the first things that usually come to mind are invasive, probing reviews by IRS agents or other accountants, whose main purpose in life is to find any tiny error in your book or record keeping which will eventually lead to you or your company’s financial ruin. The NCAFPM Certified Floodplain Manager (CFM) program was audited by the Association of State Floodplain Managers (ASFPM) in August, and the experience and results could not have been any farther from those preconceived notions of an audit experience.

NCAFPM is one of six accredited states in the country that provide the CFM certification to individuals in the state eligible to apply for, and eventually pass the CFM exam. Even though we have our own program, we are accredited by the Association of State Floodplain Managers (ASFPM) which oversees the entire CFM program. Our program is required to be audited every 3-5 years to ensure that it meets the standards of the national CFM certification program.

The first ever audit of our program took place August 18-19 at ASFPM headquarters in Madison, Wisconsin. Heather Keefer (NCAFPM Professional Development Chair) and Bill Tingle (NCAFPM CFM Administrator) attended the audit for NCAFPM. Upon arriving at the office, we were greeted with a snack of cheese curds followed by a tour of the office space, meeting many of the 13 staff members.

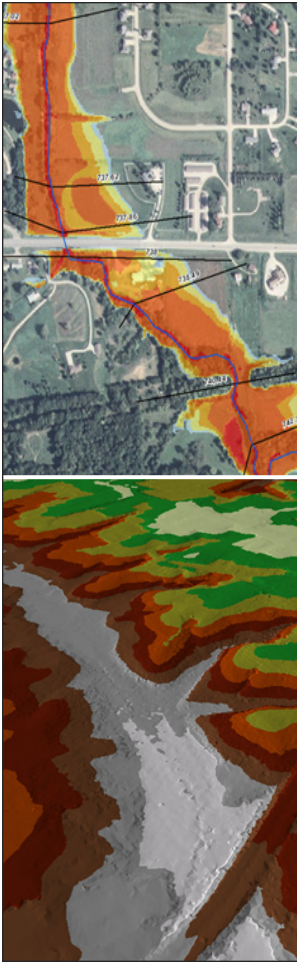
NCAFPM contracts with ASFPM to administer the NC CFM program. This means that all records including applications, fees paid or owed, exam results, continuing education related data, and much more is actually housed and maintained at the ASFPM office. Because of this, our two day visit to ASFPM was more of an educational visit than an actual audit.

The audit was facilitated by Anita Larson (Certification Program Coordinator) with input from George Riedel (Deputy Executive Director) and Katie Matson (certification program assistant). We were shown where and how all hard copy records are housed. We were also able to view the comprehensive data base application that maintains data for all NC CFMs and automatically generates renewal letters, and other correspondence. The audit also included a review of all NC CFM forms and documentation as well as the NCAFPM website which resulted in several updates and corrections that will be taken care of soon.

ASFPM will prepare written results of the audit to NCAFPM and indications are that the report will recognize that the NCAFPM CFM program is a very sound and well run program. In addition, NCAFPM is now confident that the administration of our CFM program is being carried out in a very efficient and organized manner.

Even though the audit visit was fairly intense and time consuming, we were still able to enjoy some non-audit activities. These included visiting the University of Wisconsin student union (the only student union in the country allowed to serve beer), dining at a renowned supper club (which had an 85 year old bar tender who knew how to mix any drink ever concocted) and visiting a cheese shop to buy some of those curds to bring home to NC. ▲





SERVING NORTH CAROLINA SINCE 1986

GIS services | water resources
 floodplain studies & mapping | GPS surveying
 land surveying | hydrographic surveying
 rapid response disaster recovery | stormwater inventory
 3D laser scanning | LEED® consultation
 civil engineering | subsurface utility engineering
 environmental services | geotechnical engineering
 materials testing | special inspections
 land planning | landscape architecture



Raleigh | Wilmington | Fort Mill, SC | Concord
 1.800.280.8920
www.espassociates.com

Creating Value...

Abuse of valuable water resources comes in varying forms—runoff from agriculture and urban areas, damage from livestock and logging, and much more.

Baker's ecosystem restoration experts come face-to-face with these impacts and have achieved documented success in restoring waterways and improving water quality.



...Delivering Solutions

Stream and Wetland Restoration • Mitigation Banking • Monitoring
 Watershed Management • Stormwater Management • Permitting • Training

To learn more about Baker's comprehensive services,
 visit www.mbakercorp.com

Baker

Flood Venting Requirements for Closed Crawl Spaces

BUDDY HOLLIDAY, CMP, CFM
PRESIDENT, HAZARD MITIGATION CONTRACTORS, INC.

A new residential building process is rapidly growing throughout the Carolinas. This process is called “closing the crawl space.” The end result is referred to as a “Closed Crawl Space.”

In 2001, Advanced Energy, a private non-profit organization located on the campus of NCSU in Raleigh, launched a research project. This project was supported in part by the Department of Energy (DOE). The mission of this project was to compare the performances of homes built with traditional wall-vented crawl spaces to a new crawl space design that did not ventilate with outside air. The project began in Princeville. A small community governed by Rocky Mount and located on the banks of the Tar River. The

community was still recovering from the devastation caused by the floodwaters of Hurricane Floyd in 1999. Because of this project, the NC Residential Building Code (ICC/NCIRC) was modified to allow for closed crawl space construction. The new code language was officially adopted and became enforceable in 2006.

In short, a closed crawl space eliminates moisture issues, thus reducing the likely hood of future damage and costly repairs. Advanced Energy has also documented an average of a 15% decline in the heating and cooling costs in closed crawl spaces compared to the traditional wall vented crawl spaces. To learn more about closed crawl spaces please visit their website at www.advancedenergy.org

There are many benefits to closing the crawl space; the single most important benefit is the ability to control the Relative Humidity (RH%) within the crawl space. This ability cannot be achieved with traditional wall venting. For many years, the residential building codes have prescribed air vents as the means to control crawl space moisture. This prescription may work well for other parts of the country however; it does not work for us here in the humid southeastern United States, so much for that conventional wisdom.

Let’s think about this for a second from a logical standpoint. What happens when you introduce hot humid air into a cool crawl space? The air condenses, vapor molecules grow larger as they ricochet around

and crash into each other, at a given point, this vapor becomes liquid. This effect is easily verifiable in the summer months. Simply remove the crawl space door and look for beads of moisture on the HVAC ductwork, the truss plates, insulation, and the wooden structural members, including floor joist, girders, rim band and even the sub floor. Often times there are puddles of water on top of the vapor barrier below the ductwork. Eventually the water evaporates back into the crawl space and absorbed by the insulation and the wood, thus contributing to and repeating the cycle. Insulation and wood, by nature, act



Crawl space before (top) and after (bottom)

Closed Crawl Spaces, from page 11

as a sponge and absorbs moisture. A crawl space, by normal design, traps humidity and becomes an amplifier for moisture.

The American Lung Association, American Medical Association, and the EPA recommend maintaining a relative humidity (RH) level between 30% - 50% range in the living area. But what about the crawl space? What happens when crawl space conditions are ignored and the relative humidity has been allowed to linger above 60% for extended periods? The result is that mold, mildew, and bacterial growth is stimulated. Often homeowners will notice a damp or musky odor inside the living area. This odor is often associated with an increase in humidity or a flood event. It has been estimated that as much as 40%

to 60% of the air inside of your home comes from the crawl space. Mold spores migrate with air currents.

Destructive levels of relative humidity begin to occur in the crawl space at 70%. The moisture levels in wood are expressed as “moisture content”. (MC). The acceptable range for wood moisture is below 14%. Levels of 15% - 18% should be monitored, 19% and above is a call for action. Wood moisture content exceeding 19% (excluding treated lumber) is an invitation for trouble. Once conducive conditions are present, your home becomes susceptible to; wood rot, pest and termite infestations, wood destroying fungi, mold, mildew, and bacteria just to name a few. All of which can cause structural damage.



Compliant flood venting

Mold not only can cause structural damage, but also can become a health issue for the home's occupants. Millions of dollars are spent every year because of moisture damage. Simply put, eliminate the moisture, and eliminate the problem. Kinda like “treat the symptoms, but cure the cause”.

In 2004, I became involved with Advanced Energy. Also in 2004, I received my CFM certification. Provisions to allow closed crawl spaces began in 2005. That is when my phone began ringing from both homeowners and code officials. The code officials would say (in a slightly elevated voice) “Why are you telling these people they can close off their crawl space??? They can't do that...they're in a flood zone”!!! I simply responded back with: “If they meet or exceed the flood venting requirements as set forth in section R327.2.2 of the NC Building Code, and meet or exceed the requirements of the NFIP Regulations, (Title 44 of the Code of Federal Regulations, Part 60.3 (c)(5), How can you turn down their permit? The answer is you cannot. Closed crawl spaces are permissible in flood zones or SFHAs if the venting requirements are satisfied.

This (now) generally is not a problem for new construction. Flood venting requirements are addressed at the permitting stages. The problem occurs on pre-existing homes, which accounts for over 90% of the crawl spaces being closed. There are some variations in

— *continued on next page*

Closed Crawl Spaces, from page 12

closed crawl space construction, but one thing they all have in common is that the air-vents or flood vents are closed and sealed. Of course, this automatically puts the homeowner and property in a “non-compliant” status. Pest control companies do most of the crawl space modifications. Most of which unfortunately do not have a clue as to the flood venting requirements. I have encountered this on numerous occasions. From the outside of the residence, everything looks normal and compliant. Open the crawl space door and look in...guess what.

At the time of this writing and to the best of my knowledge: There is only one manufacturer of flood vents that are commercially available on the market today that will satisfy all of the codes, and allow a homeowner to do a closed crawl space in a flood zone.

That company is Smart Vent, Inc. of Pitman, NJ. They offer several models that perform well in a closed crawl space. For more information please visit their website at www.smartvent.com. ▲

Buddy Holliday is the Founder and President of Hazard Mitigation Contractors, Inc. He has worked for over 25 years in the building industry. He is a Moisture Control Specialist and IAQA Professional. Buddy presents at both the NCAFPM Annual Conference and the NC Building Inspectors Annual Conference. You can contact him at 252-672-5100 (office), 252-617-0404 (cell), or buddy@hazardmitigationcontractors.com. Website is www.hazardmitigationcontractors.com.



Since its founding in 1956

Dewberry has held to a few **time tested** principles that have served us well:

Our clients are Priority #1 - We thrive on turning **our clients' wishes** and dreams into reality. It's what gets us up in the morning . . . and keeps us working late into the night.

Partnership - from **start to finish**. Our commitment to teamwork extends to our clients. We believe that every successful project is also a successful partnership. When our **clients talk, we listen**. And we keep listening every step of the way.

Excellence - Nothing short of superb satisfies us. We aspire to the **accuracy** of a fine Swiss watch ; the **speed** of an Italian race car; and the **dependability** of sunrise and sunset. Our word is our bond. In short, we demand the best of ourselves.

Value - Lower design fees because of our **efficiency and low overhead**; more bang for the buck in problem-solving, in project management and team communications, and above all, in evaluating our own abilities and performance.

The Dewberry Way

Dewberry & Davis, Inc.
provides water resources
and GIS services from two
locations in North
Carolina.

Raleigh, NC 27607

2301 Rexwoods Drive, Suite 200

Phone: 919.881.9939

Fax: 919.881.9923

Contact: Michael A. Hanson, P.E.

Email: mhanson@dewberry.com

Charlotte, NC 28269

6135 Lakeview Road, Suite 400

Phone: 704.509.9918

Fax: 704.509.9937

Contact: Frederic M. Shmurak, P.E.

Email: fshmurak@dewberry.com

Other locations nationwide

www.dewberry.com

SMART VENT®

Because You Care About Your Community.
ICC-ES Evaluated and Proud to Show Our Colors.

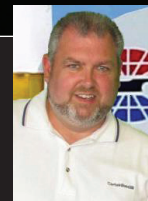


SMART VENT® FOUNDATION FLOOD VENTS

Our Pledge of Support to Quality and Service

- Our ICC ES seal ensures superior design and performance.
- Our manufacturing plant in South Carolina is ISO 9001 certified.
- Our Engineering Staff are Certified Floodplain Managers. They are available and eager to answer any technical questions you may have related to floodplain construction.

If you would like to schedule a full presentation on the significant changes made to FEMA's new Technical Bulletin TB-1 please contact me at 910-279-1222. Thanks Paul Abrams.



www.smartvent.com • 877-441-8368



ASFPM Seeks Local Floodplain Managers to Present at 2011 National Conference

Every year following our conference, ASFPM receives requests for more local content, topics, and speakers to present at our National Conference. Increasingly, we receive requests for topics which provide locals the tools

ASFPM 2011 Conference

May 15-20, 2011
Louisville, KY

www.floods.org



and ideas that they can implement back in their community. While we make great efforts to provide opportunities for these topics on our conference agenda, we can only consider the presentations that are actually submitted. This year we're challenging our chapters and their members to help us fill this gap!

Do you know a local with great stories who has faced obstacles or opposition on the job and overcame it? What about a floodplain manager who's the "go-to" person on a specific topic or best practice? Have you partnered or collaborated with a local on a specific project, initiative or disaster? Has your experience on the job provided you with "lessons learned" to share with other locals who can benefit from your experience? We urge you to reach out and encourage them to submit a presentation (or better, submit one yourself!) for our 2011 National Conference in Louisville, KY, May 15-20, 2011. Attending the conference as a presenter or workshop instructor is a great way to get buy-in from your supervisor to attend the conference. Locals know better than anyone the daily hurdles other local floodplain managers face.

Concurrent Session presentations are 20-25 minutes in length; Workshop topics are 1-4 hours in length. More than one presenter can be a part of any presentation – so you don't have to do it alone! ASFPM needs the wisdom of your front-line experience to help provide professional development opportunities to other locals – please help us make it possible! Details on how to submit a presentation topic or workshop for consideration can be found on the ASFPM 2011 Conference Page of the ASFPM website (www.floods.org). The deadline for the concurrent session abstracts and workshop topic submittals is October 31, 2010.

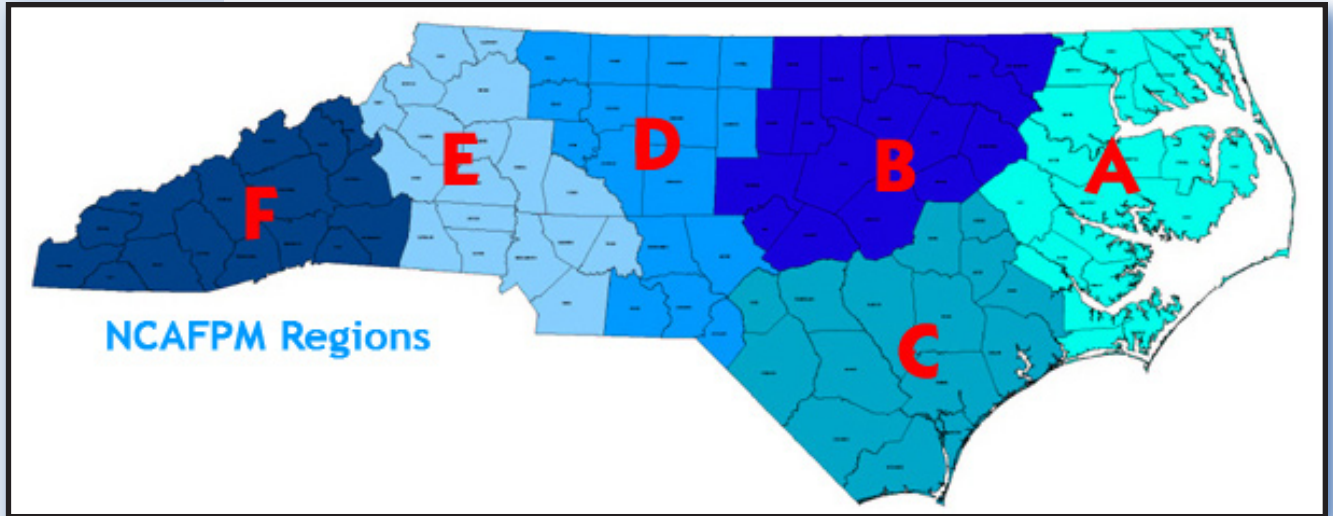
For questions regarding concurrent session topics, contact Steve McMaster, Conference Program Chair at steve.mcmaster@nebraska.gov. For questions about presenting a workshop, please contact Kait Laufenberg, Workshop Coordinator at Kait@floods.org.

Award Nominations Sought for 2011 Conference

ASFPM is currently accepting award nominations from Chapters and their members for consideration and recognition at the 2011 Conference in Louisville, KY, May 15-20, 2011. A full listing of the ASFPM Awards with description of qualifying criteria can be found on the Awards Page of the ASFPM website. We're always looking for nominees from local government for the James Lee Witt Local Award (awarded to exemplary local programs or projects) and the Larry R. Johnston Local Floodplain Manager of the Year Award (recognizing exceptional local professionals). To nominate a floodplain manager for consideration, please submit the Nomination Form online per instructions on the form page. Award nominations are due via the online form no later than March 1, 2011.

If you have questions about an award or the process, please contact Diane Brown, Communications Manager at diane@floods.org. ▲

NCAFPM Regional Reports



Region B

Heather Keefer, CFM

Region B had a notable showing at the 2010 Summer Floodplain Management Training Workshop held on July 20-21 in Pinehurst, NC. We hope to see additional Region B people at the Fall Floodplain Institute in October. The Floodplain Mapping Program's Statewide Mapping Summary identifies the following map status for Region B counties: Seven of the Region B Counties are in listed as being in the Map Maintenance Cycle, DFIRMS are in review for Wilson and Edgecombe Counties. Model development and review are in progress in Durham, Wake and Johnston Counties. Franklin and Nash Counties are in the preliminary/90-day review period. Other Region B counties have effective maps from the first Statewide Mapping Cycle and most of them have had Map Maintenance scoped in 2008. You can check out more about your map's status at www.ncfloodmaps.com.

Region C

Tony Wilson, CFM

New Hanover County/City of Wilmington Update Hazard Mitigation Plan

A multi-jurisdictional Hazard Mitigation Plan for New Hanover County, City of Wilmington, Town of Carolina Beach, and Town of Kure Beach has recently been approved by NCEM and FEMA. The required five year update to the original plan has passed review and awaits final adoption from the respective jurisdictions to become official.

Besides addressing and identifying potential hazards, the plan presents multiple action plans from all jurisdictions and from several departments within those jurisdictions that are designed to minimize risks, foster education and plan for events that may threaten the communities.

PBS&J representatives, Nathan Slaughter and Caroline Cunningham assisted in the update and provided contracted professional expertise.

— continued on next page

NCAFPM Regional Reports

Region D

Annette Liggett-Lineberger, CFM

Disaster Preparedness and Recovery materials available from County Cooperative Extensions

The county web sites for NC cooperative extension (*.ces.ncsu.edu/Publications) vary in what materials they provide, but several counties have chosen to make Disaster Preparedness and Recovery materials available. For Rockingham County, for example, these titles include "Correct Potential Hazards Before a Disaster," "How to Salvage Flood-Damaged Appliances," "Your Rights as a Tenant After a Fire or Natural Disaster," and "Deducting Property Loss on Your Federal Income Tax Form." Some of these titles can also be found at www.ces.ncsu.edu/xrdb/search.php.

New Yadkin County digital floodmaps

New digital floodmaps have been prepared for Yadkin County and were reviewed at a public meeting June 2010. The DFIRMs are scheduled to become effective later this year.

Richmond County Daily Journal articles highlight flood risk

Richmond County's Emergency Management Director, Frank McKay, and Environmental Health Supervisor, Mike Norton, were featured in two articles in the Richmond County Daily Journal in June 2010. The articles noted that floods remain a major concern for residents as Governor Bev Purdue urged NC residents to get ready for hurricane season. The articles also exposed insurance scams that have been reported after flood events.

Scotland Co. requests funds for relocating Emergency Operations Center

Congressman Larry Kissell of the NC 8th District sponsored a request for funds in the NC House 2010 Appropriations bill for the Scotland County Emergency Operations Center. The project would relocate the center from its present location in the floodplain next to an active railroad and expand and improve 911 capabilities. The funds sought would be through the FEMA State and Local Programs/Emergency Operations Center Account.

Reduced Nutrient Offset Program Rates for the Neuse, Tar-Pamlico and Jordan Watersheds

Effective September 1, 2010, nutrient-offset payments in the Neuse River, Tar-Pamlico River and Jordan Lake watersheds were reduced based on new methodology. These payments are made by developers whose projects will exceed allowable thresholds for anticipated nutrient loading. The new rates are based on an actual cost method developed by the Ecosystem Enhancement Program through working with representatives of 17 key interest groups. The changes were approved by the NC Environmental Management Commission and the NC Rules Review Commission during summer 2010. For more information about the nutrient offset program, see www.nceep.net.

Region E

Neal Banerjee, CFM

The eighteen counties in Region E (western Piedmont/Foothills area), as are most counties in the State, have had a very hot and dry summer. The State's Drought Monitor lists our region as "Abnormally Dry" and unfortunately the current outlook State/US forecasts indicate dry conditions may continue through the Fall. Trying to look at the bright side, the drier weather may make your construction projects a little easier and give us some good camping weather. When going through these dry times it can be easy to forget about not only flooding and the associated risks, but also the overall importance of managing and protecting floodplain areas. As you are well aware, flooding is always a risk. Our job as floodplain managers is to make sure we keep that message out there.

Education & Training



Workshops

Microbes and Stormwater 101

- **October 13, 8am-12pm**
NCSU Centennial Campus
Raleigh, NC
- **October 19, 1-5pm**
Gaston County Extension
Dallas, NC

Rain Garden Certification

- **September 29-30**, Asheville
- **October 12-13**, Holly Springs
- **October 18-19**, Winston-Salem
- **November 10-11**, Mt. Holly

River Course 435

- **October 21**
NCSU Centennial Campus
Raleigh, NC

Rainwater Harvesting

- **October 27, 9am-3:15pm**
Craven Co. Cooperative Extension
Auditorium, New Bern

For a complete list of workshops offered by NCSU-BAE and to register online, please go to www.bae.ncsu.edu and click on Training & Credit

Microbes and Stormwater 101: An Introduction to Pathogens and Indicator Bacteria in Urban Stormwater Runoff

Microbial pollution in surface waters threatens sources of drinking water and results in the closure of numerous beaches and shellfishing waters throughout North Carolina and the USA. Stormwater runoff has been identified as a contributor to microbial pollution. Further, large amounts of rainfall have been associated with increased incidents of disease outbreak. Stormwater is commonly treated using various structural and non-structural Best Management Practices (BMPs). However, the processes related to microbial transport in urban watersheds and sequestration in stormwater BMPs are not well established. The purpose of this training is to supply professionals in the stormwater management community and the broader environmental professional community with a basic understanding of pathogens, indicator bacteria (used to detect the presence of fecal matter), transport of microbes at the watershed scale, and stormwater BMP functionality for indicator bacteria. An agenda is available to download at our website. 3 professional development hours (PDHs) will be offered for professional engineers and surveyors, approved by the NC Board of Examiners for Professional Engineers and Land Surveyors.

Rain Garden Certification Workshop

Rain gardens are shallow depression landscape features that can effectively collect and treat stormwater and reduce localized flooding. To effectively manage stormwater, rain gardens must be accurately sized and properly constructed. This workshop will present a simple method for sizing and designing rain gardens and detail proper construction techniques. As a result of this training you will understand why stormwater needs to be managed; understand the principles of rain garden location, design, construction and maintenance; be able to select appropriate vegetation; tour several local rain gardens; and be eligible to take a test at the conclusion of the training to be certified in rain garden design and construction.

River Course 435: Management of Invasive and Exotic Vegetation in Riparian Areas

This one-day course (October 21) will introduce students to management considerations and techniques used in controlling invasive and exotic vegetation in the riparian setting. This course is focused on riparian areas in the Southeast. Topics will include identification of common invasive and exotic plants, ecological considerations, assessment and pricing, and tools of the trade. Outdoor field demonstrations show various techniques used to control nuisance vegetation with some hands-on activities.

For more information and to register online, please go to: www.ncsu.edu/srp/rc435_workshop.html

— continued on next page

Education & Training (continued)

Rainwater Harvesting Workshop – Moving our Communities toward More Sustainable Water Use

The goal of this workshop is to promote rainwater harvesting as a means of meeting future water demands. This FREE workshop will explain why alternative sources of water are needed; provide examples of rainwater harvesting at the local scale; and get feedback from participants on what kind of assistance they need to make rainwater harvesting a reality at their public buildings and/or in their communities. For more information or to register, visit: www.nccoastaltraining.net/Scheduled-Workshops/92.aspx.

Stream Restoration Conference 2010

November 15 - 18
Marriott City Center
Raleigh, NC

2010 NSCU Stream Restoration Conference

*Stream Restoration in the Southeast:
Connecting Communities with Ecosystems*

This biennial conference provides an opportunity for natural resource professionals to share ideas and lessons learned in stream restoration planning, design, construction, and evaluation. The conference includes presentations, discussions, exhibits, networking opportunities and tours of local ecosystem restoration projects. Scientists and practitioners are encouraged to share experiences, network with colleagues, and become involved in shaping the future

of stream restoration in the Southeast.

This conference is hosted by: NCSU Stream Restoration Program, NC Sea Grant, NC Cooperative Extension, and the USDA National Institute of Food and Agriculture.

For more information, go to www.ncsu.edu/srp/2010conference

**We're
the Company
that Focuses ...**



ONLY ON FLOOD INSURANCE

 **North Carolina Flood
Insurance, Inc.**

888-900-0404

WWW.NORTHCAROLINAFLOODINSURANCE.ORG

**Affiliated with National Flood Insurance, LLC*

Calendar

October 20-22, 2010
NC ASSOCIATION OF
FLOODPLAIN MANAGERS
FALL FLOODPLAIN INST.
Harrah's Resort & Casino
Cherokee, NC
www.ncafpm.org

November 13-17, 2010
NATIONAL CONFERENCE
ON COASTAL & ESTUARINE
HABITAT RESTORATION
Galveston, TX
program.estuaries.org

March 21-24, 2011
COASTAL GEO-TOOLS
Myrtle Beach, SC
geotools.csc.noaa.gov

April 12-15, 2011
NCAFPMS-SCAHM JOINT AN-
NUAL CONFERENCE
Sheraton Hotel
North Charleston, SC
www.ncafpm.org

May 15-20, 2011
ASSOCIATION OF STATE
FLOODPLAIN MANAGERS
ANNUAL CONFERENCE
Louisville, KY
www.floods.org

Floodplain Management

Technical Assistance (FEMA)

National Flood Insurance Program

FEMA Region IV
Floodplain Management Specialist
Bob Durrin, CFM 770-220-5428

FEMA Region IV Outreach Specialist
J.P. Maier 770-220-5358

Floodplain Management and Insurance Branch

Branch Chief
Susan Wilson, CFM 770-220-5414

LOMA/LOMR/No-Rise

Mohammed Waliullah..... 770-220-5493

Individual Lot LOMA/LOMR

FEMA LOMA DEPOT
3601 Eisenhower Avenue
Alexandria, VA 22304-6425
Attn: LOMA Manager

Flood Insurance Policy Issues

Regional Manager
Lynne Magel 813-788-2624

Regional Liaison
David Clukie 813-767-5355

Websites

NCAFPM..... www.ncafpm.org
ASFPM www.floods.org
FEMA www.fema.gov
NFIP www.floodsmart.gov
NCEM www.nccrimecontrol.org/nfip
NC Maps www.ncfloodmaps.com

Resources

Technical Assistance (State)

NC Emergency Mgmt

National Flood Insurance Program

John Gerber, PE, CFM
NFIP State Coordinator
919-715-5711 x 106

NC CLOMR / LOMR Submittals

Steve Garrett, CFM
919-715-5711 ext 118
www.ncfloodmaps.com/mt-2_forms.htm

Meck. Co. CLOMR/LOMR Submittals

David C. Love, PE, CFM
704-432-0006

NFIP Planners

Central Area
Milton Carpenter, CFM 919-715-5711 x103

Eastern Area
Randy Mundt, AICP, CFM 919-715-5711 x119

Western Area
Terry Foxx 828-228-8526

Engineering Assistance
VACANT. Coordinate with
Tom Langan, PE, CFM 919-715-5711 x109

Hazard Mitigation Grant Program & Flood Mitigation Assistance Prog

Chris Crew, Mitigation Section Chief
919-715-8000 x277

Maps & Flood Insurance Studies

FEMA Map Information eXchange (FMIX)

1-877-336-2627 (1-877-FEMA-MAP).

NC Floodplain Mapping Program

919-715-5711
www.ncfloodmaps.com

FlashFlood NEWS is a semi-annual publication which offers information and education on topics that are of current interest in the field of floodplain management and the National Flood Insurance Program.

Information and opinions do not necessarily reflect the views of the North Carolina Association of Floodplain Managers.

All inquiries and article ideas should be directed to: Kelly Keesling, Editor (704-451-3823 or kgkeesling@carolina.rr.com)

For more information about the North Carolina Association of Floodplain Managers, see our website at www.ncafpm.org.

SPONSORS

For information on sponsoring **FlashFlood NEWS**, see our Media Kit on the NCAFPM website at www.ncafpm.org.

MEMBERSHIP

For more information about becoming a member of NCAFPM or for a membership application, go to www.ncafpm.org.



FlashFlood NEWS, Winter 2010.

Published by the North Carolina Association of Floodplain Managers in cooperation with the North Carolina Division of Emergency Management.

EDITOR

Kelly Keesling
kgkeesling@carolina.rr.com