

## Winter 2010

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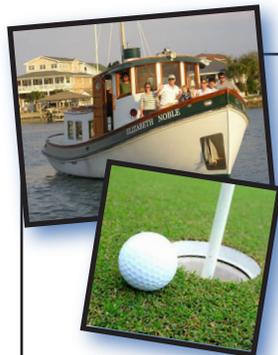


We hope you are planning to join us for the 2010 NCAFFPM Annual Conference, April 11-14 in Wrightsville Beach. In addition to the traditional relevant floodplain management topics, this year's conference will include sessions highlighting Coastal Issues. One full track on Tuesday will be dedicated to addressing coastal issues (coastal mapping in detail, NFIP compliance, CAMA requirements, building code concerns, beach nourishment, etc.). On Tuesday afternoon, there will be a panel discussion on coastal issues. The panel will include local, state and federal agencies as well as private coastal experts. For more details on workshops, see the conference agenda, which should be posted online by March 31.

If you plan to attend but haven't registered yet, go to [www.ncaffpm.org](http://www.ncaffpm.org) and print the registration form to mail with your fee by **March 29**.

### Bylaw Changes

Proposed changes to the NCAFFPM bylaws will be presented for a vote at the conference. Please review page 15-18 of this newsletter in preparation for this vote.



### Conference Social Events

**Golf Tournament** • Start off the conference by catching up with friends at the golf course. Tee times begin at 1pm on Sunday. The cost (\$50) includes prizes, refreshments, and dinner. You can sign up for golf on your registration form. For additional information, contact John Fullerton at [John.Fullerton@wilmingtonnc.gov](mailto:John.Fullerton@wilmingtonnc.gov).

**Boat Tour** • On Tuesday, we will offer a boat tour outing. Cost is \$10 per person and can be paid at the registration table at the conference.

North Carolina Association  
of Floodplain Managers

## 2010 Annual Conference

# NCAFFPM

ANNUAL CONFERENCE

Into a New Decade with  
Floodplain Management

Holiday Inn Resort  
Wrightsville Beach, NC  
April 11-14, 2010

*Note: The block of rooms at the Holiday Inn Resort has been extended to March 29.*

### CFM Exam

A Certified Floodplain Manager (CFM) Exam will be offered Wednesday, April 14, from 9am-12pm. Note: The application be approved prior to taking the exam. The application packet can be found at [www.ncaffpm.org/CFM.htm](http://www.ncaffpm.org/CFM.htm) and must be submitted by April 5. For more information, contact Anita Larson with ASFFPM at [cfm@floods.org](mailto:cfm@floods.org).

# From the Chairman's Desk



STEPHEN E. SMITH, CFM  
NCAFPM CHAIRMAN

I hope everyone has survived this colder than normal winter and is looking forward to spring. It's hard to believe that it is just two days away. It's also hard to believe that we are less than one month away from the 21<sup>st</sup> Annual NCAFPM Annual Conference, which is being held April 11-14 at the Holiday Inn Resort in Wrightsville Beach. This years conference is shaping up to be another great one.

A special thanks to John Gerber (Program Chair) and John Fullerton (Conference Chair)

for their work putting things together. If you haven't done so already, please visit [www.ncafp.org](http://www.ncafp.org) and register for the Conference.

I had the pleasure of traveling down to N. Myrtle Beach, SC last week to attend the SCAHM annual conference. The conference was packed with informative sessions and was well attended. The final count of attendees was over 120. While I was there, I had the opportunity to meet with their Board of Directors to begin discussions on holding a joint conference in 2011. I was encouraged by the dialogue and I am excited about the possibilities of bringing our two associations together again. I have invited their Chairman to attend our conference to continue our discussion on this possibility. Be on the lookout for more information.

I want to again thank the Board of Directors, Regional Representatives, working committees, and our Executive Director for their hard work and dedication. The many things they do behind the scenes help keep this organization running as smooth as it does. If you do not know who your Board of Directors and Regional Representatives are, I encourage you to turn to page 6 of this newsletter or check out our website at [www.ncafp.org](http://www.ncafp.org). Also, if you are interested in a position on the board or would like to participate on one of our many committees, please let me know.

Finally, I would like take this opportunity to bid my farewell. I am stepping down as NCAFPM Chairman this year. It has been a great ride. Thank you for allowing me to lead our Association for the past three years. Your dedication to our profession and your commitment to NCAFPM made my job easy. It has been very rewarding watching our Association continue to grow. While I am stepping down as chairman, I still plan to remain active in NCAFPM and help out in any way that I can.

If I can be of any assistance please do not hesitate to contact me. I can be reached at (252) 902-3257 or [sesmith@pittcountync.gov](mailto:sesmith@pittcountync.gov). Again, thank you and I look forward to seeing each of you in Wrightsville Beach!

Sincerely, Stephen E. Smith, CFM

## Fall Floodplain Institute

NORTH CAROLINA ASSOCIATION OF FLOODPLAIN MANAGERS

**The 2010 NCAFPM  
Fall Floodplain Institute  
has been scheduled for  
October 20-22, 2010  
at Harrah's Resort and Casino  
in Cherokee, North Carolina**



## ASFPM 2010 Annual Conference

ASFPM's 34<sup>th</sup> Annual  
National Conference

"Building Blocks of

Floodplain Management" will be held at the Cox Convention Center in Oklahoma City, Oklahoma on May 16-21, 2010. The full conference brochure is now available at [www.floods.org](http://www.floods.org). *(Note: The early discount registration deadline is April 3!)*

The conference is six days of outstanding presentations, training workshops, technical field tours, products and services exposition, and networking opportunities. An important thread throughout this year's sessions addresses FLOOD RISK MANAGEMENT and challenges participants to track progress, make critical decisions, and identify resources to accomplish sustainable flood mitigation and community goals.

Information for exhibitors and sponsors can be found on the conference web page, [www.floods.org](http://www.floods.org), and will be continually updated as additional information becomes available.

The conference will take place at the Cox Convention Center in downtown Oklahoma City. ASFPM has negotiated great room rates at four different downtown OKC hotels, all within easy walking distance of the Convention Center. Refer to the website at [www.floods.org](http://www.floods.org) for more information on these hotels.

# Harnessing the Vortex for Large-Scale Flood Prevention

BY ROBERT Y.G. ANDOH

There are nearly 100,000 dams operating throughout the United States. These dams serve a variety of purposes, including water supply regulation, agriculture water supply, hydroelectric energy generation or fire protection. The third most common use is for flood control.

North Carolina has experienced its share of flooding. When Hurricane Floyd swept through the eastern coast in September 1999, the state's rivers were swarmed with torrential rainfall. Some areas experienced 15 to 20 inches of rain within a 12-hour period. The storm and ensuing floods claimed 35 lives, brought devastation to hundreds of communities and left behind an estimated \$6 billion in damages.

Years later, severe weather continues to raise questions about the most effective form of flood prevention. Just in the past few months, residents have felt the soggy effects of heavy precipitation and overrun rivers. As a result, communities continue to seek new alternatives to safeguard their property from destructive floodwaters.

Dams have traditionally played an important role in public safety. To protect against downstream flooding during heavy rains, engineers typically deploy two strategies: build up communities' flood defenses or hold back the flood waters upstream. The challenge is to devise a scheme that balances the need to stop the damaging floods downstream of the dam and to limit the protective flooding on the upstream side. Some dam projects in Europe have used vortex valves to help strike this balance.

Vortex valves act like natural hydraulic brakes; high flows initiate a vortex within the valve which in turn restricts the flow of water out of the device. When head pressure builds, water circulates in a vortex pattern, allowing an air core to form within the device preventing excess amounts of water from entering conveyance systems such as channels through urbanized areas or combined sewers and other collection systems. These valves are currently used in the U.S. for flow control purposes in urban drains and ponds, but they haven't been applied to dam projects.

*Figure 1. In the spring of 1998, heavy rains spread much across the English Midlands. As a result, communities in and around the village of Weedon Bec, in the upper River Nene valley, suffered overrun waters and disastrous flooding.*



In the United Kingdom, however, three such flood prevention schemes are already in use, with more planned or under construction. One example can be found in the village of Weedon Bec, situated west of Northampton. Over the Easter holiday in 1998, the village suffered severe flooding from the River Nene due to the limited capacity of culverts under a railway embankment downstream of the village and at a road bridge within the village. To protect against the flooding, engineers considered several options. Increasing the capacity of the channel required the existing river channel to be doubled in size. This would have resulted in land takings and fundamentally

would only have transferred the problem further downstream. Containment of floodwater within the river channel would have also required construction of flood walls through 30 private gardens, which would have been costly and disruptive. It soon became evident that the most viable solution was the provision of upstream flood storage.

**Harnessing the Vortex, from page 3**

A site was identified less than a mile upstream of the village where the river flows through a well-defined valley with little habitation, forming a suitable location for a flood storage scheme. The project team decided the best solution was to install a vortex flow control to attenuate the peak flow. A conical vortex valve from Hydro International was chosen on the basis of its simplicity, low maintenance requirements and relatively low cost for this site. Other options for controlling flows through the culvert such as a fixed orifice, an actuated penstock or a float operated radial gate were considered but discounted due to lack of power supply, the unrealistic expectations of maintenance and the risk of operational failure of equipment with moving parts.



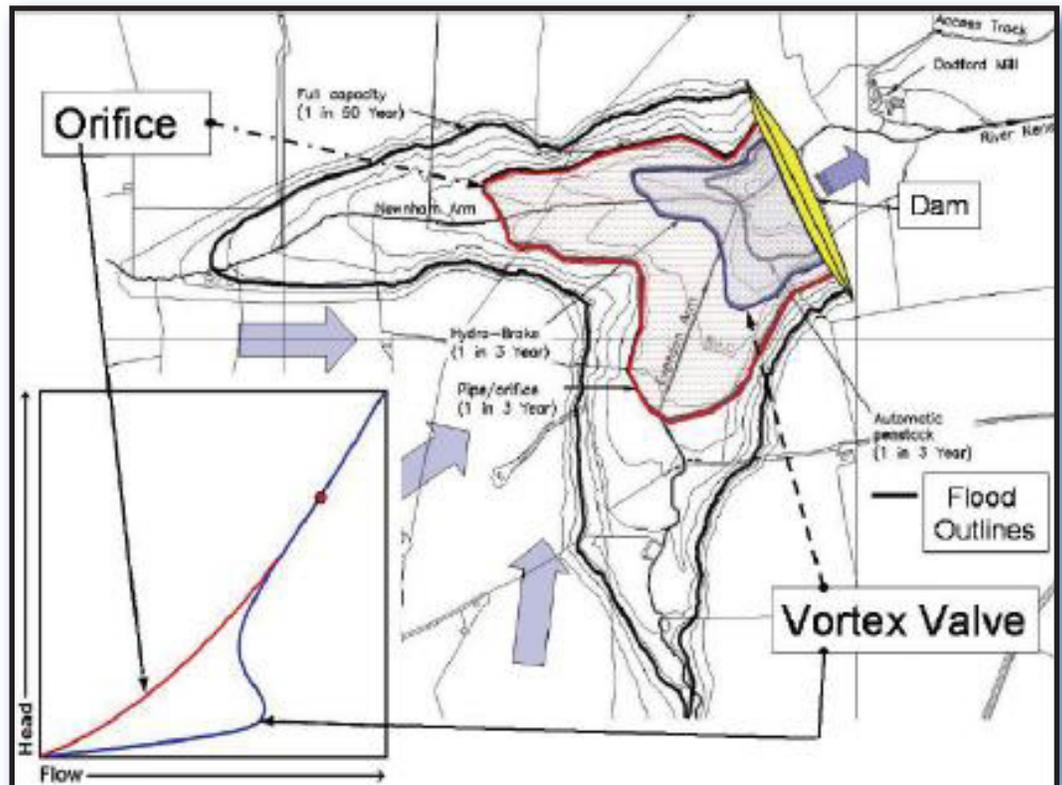
**Figure 2.** (above) Installation of a large vortex valve at Weedon Dam. This robust, conical-shape valve is designed to initiate a vortex during high flows, restricting the flow of water out of the device.

Instead, vortex valves offered flexibility and ultimately attenuated the peak flow through Weedon Bec from 7,000 gallons per second to the in-bank capacity of the river channel through the village of 2,600 gallons per second during a 50-year event. Additionally, rather than send flows downstream to be dealt with later, vortex valves were able to regulate flows and allow drainage systems to distribute them in a more natural manner. Today, the unit at Weedon Dam has the ability to adjust the controlled outflow between 2,000 to 3,000 gallons per second via the use of removable stop logs on its intake.

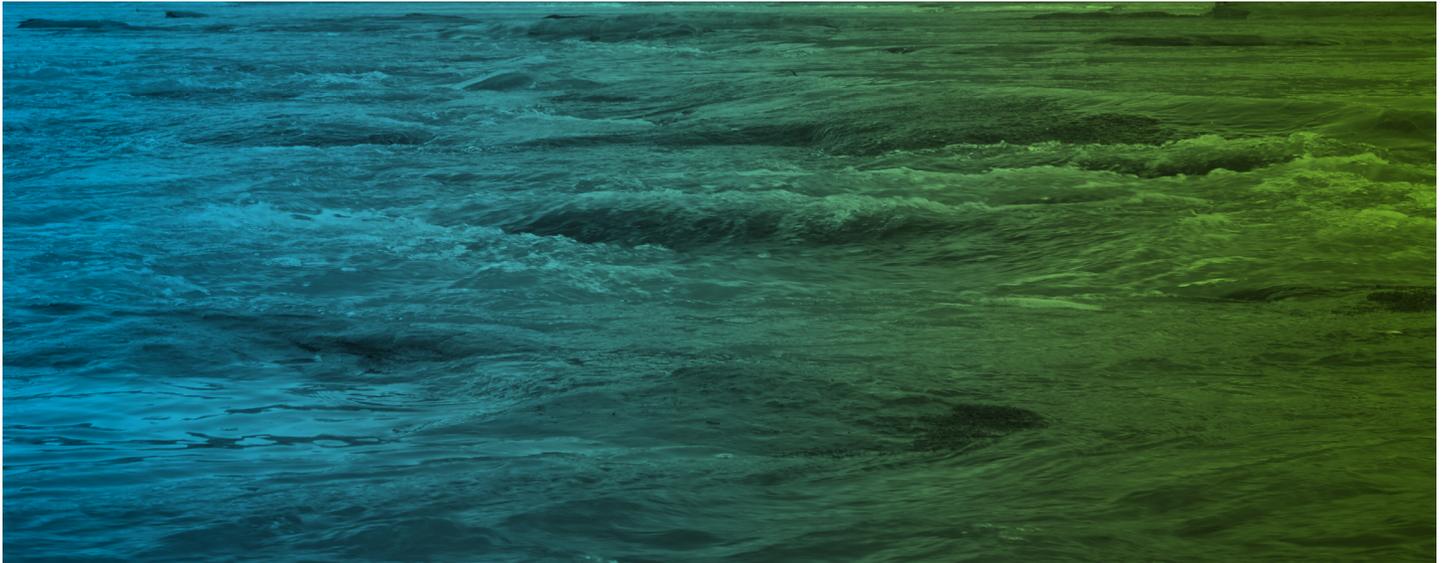
To solve future water issues in the most economical, efficient manner possible, society will have to adopt integrated water management plans that prevent problems before they occur. The use of vortex valves is one alternative to ensuring those plans can work.

*Prof. Robert Y.G. Andoh is Chief Technology Officer and Executive Director at Hydro International, Inc. ▲*

**Figure 3.** Vortex valves installed at Weedon Bec were able to reduce the amount of flooded area by constricting flows upstream of the dam. The graph in the bottom left shows the rate of constriction the valves supplied compared to a standard orifice.



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heather.keeper@hollyspringsnc.us

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828/250-4836  
cynthia.barcklow@buncombecounty.org

# Growing With the Flow: Reversing the History of Urban Hydrology

BY CHRISTOPHER J. ESTES, RLA, ASLA

Around the country interest is building in volume-reducing BMP's that take a portion of runoff out of the stormwater equation. Old and new research has resulted in a broader understanding of stormwater infiltration while putting to rest some stormwater myths.

Not too many years ago flooding was deemed a conveyance issue. Draining watersheds with speed by making channels and stormwater infrastructure larger and more hydraulically efficient was the objective. Timing of peak flows was (and still is) a train of site specific calculations with little consideration for downstream. The fact that development drastically increases the downstream size of floodplains and major waterways was (and still is) the accepted notion. However, floodplains in developed areas are not infinite in their ability to grow, and sooner or later become a more precarious state of affairs with additions of complex levee systems that allow flood elevations to climb above the surrounding topography.

Times are changing. The broader watershed view works somewhat in reverse. We are now looking at methods to reverse and neutralize the effects of development-induced runoff caused by impervious area. We can now reduce or eliminate excess runoff with the intentional goal of shrinking the downstream flood liability. We now have the tools to allow us to quantify potential reductions in post development runoff resulting from a variety of techniques that retain and infiltrate at least 90% of the annual rainfall events.

Runoff from an acre of pavement can be as much as ten to twenty-five times greater than the runoff from an acre of grass. In urban areas, thirty to forty percent of the rainfall runs directly into the nearest stream. In heavily urbanized areas, such as central business districts, precipitation run-off can be more than fifty percent. Compare this to the amount of runoff from



woodlands, which is often less than five percent. In the mid-Atlantic region infiltrating the 2-year storm can reduce the 100 year storm to the predevelopment level (Cahill) .

One sign of this change in philosophy is the recent 2009 EPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act. This guidance prescribes two options to be used. Option 1 requires the prevention of off-site discharge of precipitation for all events less than or equal to the 95th percentile rainfall event. Two example 95th percentile storms would be Atlanta's 1.8 inches and Baltimore's 1.6 inches. Option 2 would allow a site specific hydrologic analysis to determine the pre-development runoff conditions to be retained post-construction utilizing techniques that infiltrate, evapotranspire and/or harvest this volume.

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### Growing With the Flow, from page 6

Stormwater regulations in Alabama, Georgia and South Carolina already encourage the use of infiltration as part of their stormwater solutions. The North Carolina BMP Manual added porous pavements to it's infiltration tool box in 2006.

Not too long ago this practice would have been deemed by many people in North Carolina as expensive, impractical if not impossible, especially in "clay soils." However, this has been proven not to be the case in North Carolina's Piedmont soils. For example, re-

search conducted by Estes Design Inc. and UNCC has shown that typical clay soils in Mecklenburg County have more than ample capacity to infiltrate the required volume to meet pre-development conditions. Techniques such as properly designed and constructed bio-infiltration and porous pavements have been monitored for periods of 3 years or more with no evidence of failure either hydraulically or structurally. High infiltration rates are not necessary to meet predevelopment hydrology conditions. Properly designed and constructed infiltration BMP's function 24 hours a day everyday.

Now, with the advancement of porous pavement technology, we can retrofit existing urban areas to meet the pre-development hydrology goals. To be able to reverse the hydrologic and environmental impacts of runoff from urban areas is truly a ground breaking concept.

Careful consideration should be taken when implementing stormwater infiltration, but it is here to stay. In the Carolina Piedmont, clay soils can be predictable if assessed correctly. Infiltration is a stormwater solution that is necessary to reach pre-development hydrology goals. Correctly implemented storm water infiltration can be the most effective and important of all the stormwater management strategies available, because it truly treats the cause rather than the symptoms.

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**Figure 1.**  
*One of eight bio-retention cells completed at Wilmore Walk, Charlotte, NC*



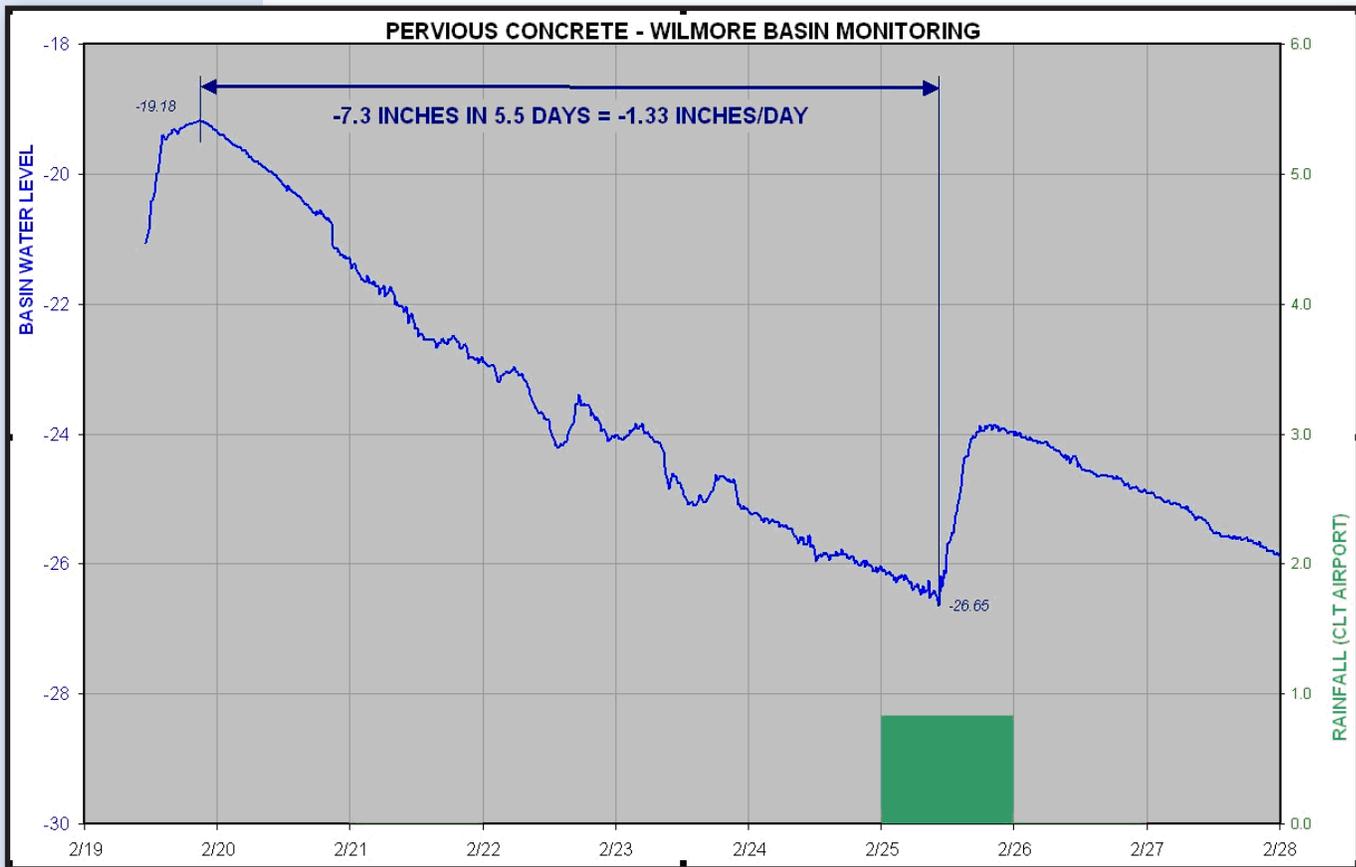
**Figure 2.**  
*Subgrade prep for infiltration basin, Wilmore Walk*



**Figure 3.**  
*Completed pervious concrete and infiltration basin captures the 2-year 24-hour storm, Wilmore Walk*



Growing With the Flow, from page 7



**Figure 4.**  
Infiltration data  
after filling with  
watering truck,  
Wilmore Walk

**Footnotes**

- <sup>i</sup> Christopher J. Estes, President of Estes Design Inc. Charlotte, NC, <http://www.estesdesign.com/>
- <sup>ii</sup> A High-Density, Low Impact Development with Infiltration in a Limestone Area: The Village at Springbrook Farms, Andrew Potts, P.E., M. ASCE; Michele Adams, P.E., M. ASCE; Thomas Cahill, P.E.
- <sup>iii</sup> Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act (PDF) - Peter S. Silvia - Dec. 4, 2009, <http://www.epa.gov/owow/nps/lid/section438/>
- <sup>iv</sup> Storm Water Infiltration in Clay Soils: A Case Study of Storm water Retention and Infiltration Techniques in the North Carolina Piedmont: Storm Water Magazine January-February 2009, Christopher J. Estes, Estes Design Inc., Charlotte, NC 28271, <http://www.stormh2o.com/january-february-2009/infiltration-clay-soils.aspx>
- <sup>v</sup> Monitoring Report for the Wilmore Walk Porous Pavement Monitoring Study Prepared for City of Charlotte Stormwater Services. Prepared by Craig J. Allan, and Megan Gray. Department of Geography and Earth Sciences, UNC Charlotte

## CFM® Corner

ANITA LARSON  
ASFPM CFM CERTIFICATION COORDINATOR

*This article was adapted from a letter submitted by a CFM for your information:*

### Training On-line for CFM Continuous Education Credits (CECs)

Most find that attending the annual conference is the best way to meet their yearly ASFPM CFM training. For those on restricted time and dollars, on-line training might be the perfect solution. Since 2007, I have completed 11 on-line courses for a total of 34 credit hours — five 2 hour courses; two 3-hour courses; and one each of the 1-hour, 4-hour, 5-hour, and 8-hour type. The costs are very affordable compared to attending the annual conference. The materials for the courses I took were set up to be able to do it in increments (I did most in 30-60 minute sessions).

Again, for those that have limits, on-line certification can be completed with allocation of \$400-600 per year and 8-12 hours of time per year at your computer. If you haven't checked out ASFPM's new website, I strongly encourage you to log on and check out all the training opportunities that are there. Just go to **www.floods.org**. If you have any questions on the acceptance of a course, Anita Larson at CFM@floods.org has been a great source for all of my questions. If you have any additional questions on my training courses, please feel free to contact me (Eugene A. Rondash, MBA, MSEVM, CFM,

P.E.; SBCFCD, Civil Engineer Associate; 123 E Anapamu St, Rm 240, Santa Barbara, CA 93101; 805-568-3267; erondas@cosbpw.net.)

## 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.

For more information on approved online training for CECs, go to the following links:

#### FEMA Online Training Courses

[www.floods.org/ace-files/certification/FEMA\\_Approved\\_CEC\\_Courses\\_120209.pdf](http://www.floods.org/ace-files/certification/FEMA_Approved_CEC_Courses_120209.pdf)

#### RedVector Online Training Courses

[www.floods.org/index.asp?menuID=325&firstlevelmenuID=180&siteID=1](http://www.floods.org/index.asp?menuID=325&firstlevelmenuID=180&siteID=1)

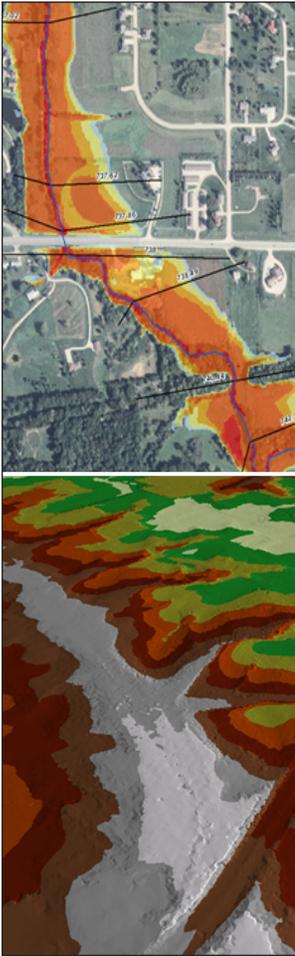
### FEMA E279: Retrofitting Floodprone Residential Buildings

For more information, please contact Joseph "Joe" K. Bills, Training Specialist, Emergency Management Institute, DHS-FEMA, 16825 South Seton Ave., Emmitsburg, MD 21727 (301) 447-1356; fax: 301-447-1598; joseph.bills@dhs.gov.

## Retrofitting Floodprone Buildings Learn more about Mitigating Future Flood Damage

The Federal Emergency Management Agency is again offering its 4-day resident course in floodproofing (retrofitting) at the Emergency Management Institute in Emmitsburg, Maryland, May 10–13, 2010. This course gives participants the opportunity to learn current engineering principles and practices for retrofitting flood prone residential buildings. Participants will complete a design exercise based on a real-life case study. The course also has a written examination and covers these topics: Introduction to Retrofitting; Regulatory Framework; Parameters of Retrofitting; Determination of Hazards; Benefit/Cost Analysis; and General Design Practices addressing Elevation in Place, Relocation, Dry Floodproofing, Wet Floodproofing, Floodwalls, and Levees.

The course is intended for those with engineering, architectural, or building science knowledge. Applicants from state or local agencies are eligible for the student stipend program, which reimburses the student's transportation to the facility and provides a room on site. All other costs must be borne by the student, including meals (\$19.35 each day in the dining hall). Costs for federal employees must be borne by their agencies (please note there is no fee for the course itself).



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# Baker



## “Is That Your Final Answer?”

### The 5 Questions a Floodplain Manager Should Be Prepared to Answer

As a floodplain manager, you play an important role in protecting your residents and business owners and their property from the dangers of flood. Providing them with useful, actionable information is an effective way to reduce flood loss/property damage and make your community safer. Here are suggested answers to five key questions you are likely to get.

#### (1) Do I live in a flood zone?

Anywhere it can rain, it can flood – meaning everyone lives in a flood zone! Risk levels vary, but just because you haven’t experienced a flood in the past, doesn’t mean you won’t in the future. The best way to learn your individual flood risk is to locate your property on a flood map or talk to your insurance agent.

Please visit <http://maps.co.mecklenburg.nc.us/website/floodzone/> to view your community flood map. You can also learn your approximate flood risk through the National Flood Insurance Program’s (NFIP) “Risk Assessment Tool.” Visit [FloodSmart.gov](http://FloodSmart.gov) and enter your address. You’ll be provided with information about your property’s flood risk, flood insurance premium estimates and contact information for flood insurance agents in your community.

#### (2) Do I need flood insurance?

Flooding can happen anywhere but certain areas are especially prone to serious flooding. Depending on your property’s location, you could be considered at high-risk or moderate-to-low risk for a flood. Most homes and businesses in high-risk flood areas that have a mortgage are required to buy flood insurance.

In moderate-to-low risk areas, the risk of being flooded is reduced but not removed. “Not required” is not the same as “not needed.” In fact, about 25 percent of all NFIP flood claims occur in moderate-to-low risk areas.

#### (3) What can I do to reduce flood damage costs and ease recovery?

Being prepared for a flood not only helps keep your family safe – it can also help lessen flood damage and accelerate recovery efforts.

In addition to having a flood insurance policy, safeguard your home and possessions. Create a personal “flood file” containing information about all your possessions and keep it in a secure place, such as a safe deposit box or waterproof container. This file should include:

- A copy of your insurance policies with your agent’s contact information.
- A room-by-room inventory of your possessions, including receipts, photos, and videos.
- Copies of all other critical documents, including finance records or receipts of major purchases.

**Final Answer, from page 11**

You should also develop a family emergency plan.

- Create a safety kit with drinking water, canned food, first aid, blankets, a radio, and a flashlight.
- Post emergency telephone numbers by the phone and teach your children how to dial 911.
- Know safe routes from home, work, and school that are on higher ground.
- Ask an out-of-state relative or friend to be your emergency family contact.
- Have a plan to protect your pets.

And one more thing: take time to understand what's covered in your flood insurance policy. This will make it easier when you have to file a claim. To learn more about what you can do to reduce possible damage from a flood, visit [FloodSmart.gov](http://FloodSmart.gov).

**4) Is flood insurance expensive?**

Coverage costs vary depending on how much insurance is purchased, what the policy covers, and the property's flood risk, but it's more affordable than you may think. The average premium for a yearly flood insurance policy is approximately \$540, but most homeowners in moderate-to-low risk areas are eligible for coverage at a lower rate. A Preferred Risk Policy premium offers building and contents coverage starting at just \$119 per year. Compare that to the thousands of dollars in damage caused by a few inches of water from a flood, and you'll see that flood insurance is the best way to protect you from major flood financial loss. In fact, over the past 10 years, the average flood claim has amounted to more than \$33,000!

**(5) Where can I get more information about flood insurance?**

To learn more about your flood insurance coverage options, visit [FloodSmart.gov](http://FloodSmart.gov) or contact your local insurance agent. You can also contact the NFIP by calling 1-800-427-2419 or emailing [info@femafloodsmart.gov](mailto:info@femafloodsmart.gov) with questions.

**Additional Resources for Floodplain Managers**

The NFIP can help you educate your community and provide a wealth of information that can strengthen residents and business owners understanding of flood-related issues. This includes how to prepare for floods, how to obtain financial protection against flood damage, and what to do after a flood disaster. You can utilize these materials when reaching out to your community.

- Visit [www.FloodSmart.gov](http://www.FloodSmart.gov) to learn how to prepare for floods, how to purchase a flood insurance policy, locate an agent, and what the benefits are of protecting homes and property against flooding.
- Visit the FloodSmart Toolkits-specific Web page ([www.floodsmart.gov/toolkits/](http://www.floodsmart.gov/toolkits/)) to access three useful toolkits:
  - o **Map Change Toolkit** with materials that you can customize to communicate the effects of map changes on residents being mapped into or out of a high-risk flood zone.
  - o **Flood Outreach Toolkit** to help you answer tough flood-related questions. The kit contains materials such as fact sheets on flood insurance, preparedness topics, and the implications of local map changes.
  - o **Levee Toolkit** with useful resources such as fact sheets on living behind levees, and answers to frequently asked questions.
- E-mail us at [info@femafloodsmart.gov](mailto:info@femafloodsmart.gov) and request a copy of our newsletter, which provides updates about the tools and resources available through FloodSmart. ▲

# NCAFPM Regional Reports

## Region D

Annette Liggett-Lineberger, CFM

### Heavy January Rain Forces Evacuations and Road Closings

A January 24<sup>th</sup> storm caused flooding of major and minor streams throughout the Piedmont. Emergency crews had to evacuate about 30 people to an emergency shelter when the Ararat River flooded a mobile home community in Pilot Mountain. Fortunately, no one was hurt but the Red Cross reported that homes were destroyed or damaged. In nearby Rockingham County, roads had to be closed as the Dan River crested near Eden. Flow in the Yadkin River in Rowan County measured 26.5 feet (flood stage is considered 18 feet) on January 26<sup>th</sup> according to the National Weather Service.



To be recognized as **StormReady**, a community must:

- Establish a 24-hour warning point and emergency operations center;
- Have more than one way to receive severe weather forecasts and warnings and to alert the public;
- Create a system that monitors local weather conditions;
- Promote the importance of public readiness through community seminars; and
- Develop a formal hazardous weather plan.

### Region D Communities Participate in NWS StormReady Program

North Carolina currently has 54 communities (counties, communities, commercial sites, universities, and military posts) and four Supporters qualifying for the National Weather Service StormReady program. Half of the 16 counties in Region D participate, in addition to Randolph Community College, a Supporter, and American Express, a commercial site in Guilford County.

StormReady is a voluntary program that helps communities prepare for and mitigate the effects of extreme weather. StormReady is separate from but complements the FEMA Pre-Disaster Mitigation Program and may provide Community Ratings Systems (CRS) points. For more information, see [www.stormready.noaa.gov](http://www.stormready.noaa.gov).



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**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.

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**Email:** [mhanson@dewberry.com](mailto: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.

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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.



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# NCAFPM BYLAWS

Proposed changes to the bylaws (highlighted in yellow) will be voted on at the 2010 Annual Conference in Wrightsville Beach on April 13.

## ARTICLE I Membership

The membership of the Association shall be as hereinafter set forth.

**Section 1. Members** - A person, group, association or corporation becomes a member upon payment of dues and enrollment on the list of active members of the organization.

There are four classifications of members.

**FULL** - Members of governmental agencies and other professionals such as Engineers, Insurance Agents, or Land Surveyors involved in floodplain management or others deemed appropriate by the Board of Directors.

**AGENCY/GROUP** - Non-profit organizations interested in floodplain management.

**CORPORATE** - Businesses (for profit) interested in floodplain management.

**STUDENT** - Members are registered, full or part-time students interested in floodplain management.

**Section 2.** Full members of the Association are voting members. Agency/Group, Student and Corporate members are entitled to sit and vote on NCAFPM Committees. They are not entitled to general membership voting rights.

**Section 3.** The annual dues of the Association shall be \$40 per person for Full members; \$20 per person for Agency/Group members with a minimum of \$100 and the maximum not to exceed \$500; \$100 for Corporations (small) with one (1) to ten (10) employees; \$200 for corporations with eleven (11) to one hundred (100) employees; and \$400 for Corporations with over one-hundred employees; and \$10 per person for Student members. *(Amended April 24, 2005)*

Dues are subject to review and modification of the Full members as established by the Bylaws.

**Section 4.** Any member delinquent in payment of dues for more than sixty (60) days shall be dropped from membership of the Association until such time as dues are paid.

**Section 5.** The Association Treasurer will be responsible for sending out notices and collecting dues and will be assisted in this responsibility as directed by the Board of Directors.

## ARTICLE II Meetings of the General Membership

**Section 1. Annual Meeting**- The annual meetings of the Association shall be held in accordance with the Constitution; shall elect a Board of Directors for the Association; may establish policy by resolution; and consider and revise proposed amendments to the Constitution; and may conduct other business and activities. The annual meeting shall be held at such time, date and place as may be designated by the Board of Directors.

**Section 2. Special Meetings** - All business and activities that may be conducted at an annual meeting, may be conducted at special meetings, except for the election of the Board of Directors. Special meetings of the Association may be called at any time by a majority of the four officers. Any member of the Board of Directors may request in writing a special meeting of the Association subject to approval of the majority of the four officers.

**Section 3. Notice of Meetings** - Written notice of each meeting of the Association shall be given, by mailing, a copy of such notice at least 21 days before such meeting to each member, addressed to each member's address last appearing on the books of the Association or supplied by such member to the Association for the purpose of notice. Such notice shall specify the place, day and hour of the meeting noticed, and, in the case of a special meeting, the purpose of the meeting.

**ARTICLE III**  
**Board of Directors**

**Section 1.** The purpose and objectives for which the Association is formed and established and the Association's property shall be managed by the Association's Board of Directors.

The Board of Directors consists of the Officers, the Regional Representatives, **Two (2) At-Large Representatives and a Corporate Liason**. In furtherance of the purposes of the Association, the Board may establish and appoint committees and delegate authority.

**The Board of Directors shall be and shall maintain, in good standing, the North Carolina Certified Floodplain Manager status. If a member of the Board of Directors is decertified, they will lose their position on the Board. The remaining Board of Directors may choose to leave the position vacant or may appoint a temporary replacement that will fulfill the duties of the vacant position until a new member is voted into the position by the membership.**

**Section 2. Officers and their Duties**

- a. Enumeration of Officers - The officers of the Association shall be Chair, Vice Chair, Secretary and Treasurer.
- b. Election of Officers - The election of officers shall take place at the annual meeting. Election shall be by a majority of all votes cast by Full members in good standing.
- c. Term - The officers shall hold office for one year or until the next annual meeting.
- d. Vacancies - A vacancy in any office may be filled by appointment by the Board. The officer appointed to such vacancy shall serve for the remainder of the term of the officer he/she replaces.
- e. Multiple Offices - No person shall simultaneously hold more than one office.
- f. Resignation and Removal - Any member of the Board of Directors may be removed from office with justifiable cause by the Board. Any member of the Board may resign at any time by giving written notice to the Board, the Chair, or the Secretary. Such resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Any member of the Board of Directors missing three (3) or more consecutive meetings without justifiable cause shall be requested to appear before the full Board for explanation. If there is no justifiable cause, such member shall be asked to resign or be removed. *(Amended October 19, 1989)*

g. Duties - The duties of the officers are as follows:

**Chair** - The Chair shall preside at all meetings of the Board of Directors, the annual meeting, and shall see that orders and resolutions of the Board are carried out.

**Vice Chair** - The Vice Chair shall act in the place and stead of the Chair in the event of absence, inability or refusal to act, and shall exercise and discharge such other duties as may be required by the Board.

## Bylaws, from page 16

**Secretary** - The Secretary shall record the votes and keep the minutes of all meetings and proceedings of the Board and of the members, keep appropriate current records showing the members of the Association together with their addresses, and shall perform such other duties as required by the Board. The Secretary shall prepare and mail notices of all meetings of the Board and General Membership.

**Treasurer** - The Treasurer shall have the custody and control of the funds of the Association, subject to the action of the Board of Directors, and shall, when requested by the Chair or Board, report the state of the finances of the Association at each meeting thereof. The Treasurer shall also perform such other services as the Board may require from time to time. Checks issued by the Treasurer in excess of \$500 shall be co-signed by the Chair or his designee. The Treasurer and Chair shall be bonded at the discretion of the Board. *(Amended April 24, 2005)*

### Section 3. Regional Representatives, **At-Large Representatives, Corporate Liason**

- a. Six members of the Association shall be selected as Regional Representatives to serve on the Board of Directors. Each Regional Representative shall represent the membership in one of the geographic regions defined as follows: *(Amended July 14, 2004)*

**Area A** consists of the following counties: Beaufort, Bertie, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, Martin, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, and Washington

**Area B** consists of the following counties: Chatham, Durham, Edgecombe, Franklin, Granville, Halifax, Harnett, Johnston, Lee, Nash, Northampton, Orange, Person, Vance, Wake, Warren, and Wilson

**Area C** consists of the following counties: Bladen, Brunswick, Columbus, Cumberland, Duplin, Greene, Hoke, Jones, Lenoir, New Hanover, Onslow, Pender, Robeson, Sampson and Wayne

**Area D** consists of the following counties: Alamance, Anson, Caswell, Davidson, Davie, Forsyth, Guilford, Montgomery, Moore, Randolph, Richmond, Rockingham, Scotland, Stokes, Surry, and Yadkin

**Area E** consists of the following counties: Alexander, Alleghany, Ashe, Avery, Burke, Cabarrus, Caldwell, Catawba, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, Union, Watauga, and Wilkes

**Area F** consists of the following counties: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, and Yancey

- b. Election of Regional Representative to serve the following year shall be accomplished by the regional members prior to the adjournment of the annual meeting.
- c. Regional Representative shall be a Full member of the Association.
- d. Each At-Large Representative shall act to represent the overall interests of the members at meetings of the general membership and the Board of Directors; undertake activities and programs as assigned by the Chair; and promote the goals and objectives of the Association.**
- e. At-Large Representatives shall be a Full member of the Association.
- f. The Corporate Liaison shall act to represent the interests of non-governmental, corporate members, at meetings of the general membership and the Board of Directors; undertake activities and programs as assigned by the Chair; recruit new members and sponsorship for the Association; and promote the goals and objectives of the Association. The Corporate Liaison must be employed in the private sector in a flooplain management related position.**

**Section 4. Quorum** - A quorum at a meeting of the Board of Directors shall consist of a simple majority of the Directors currently serving.

**Section 5. Voting Required** - The affirmative vote of the majority of the Directors at the meeting in which a quorum is present shall be required for any act of the Directors.

## **ARTICLE IV**

### **Executive Director**

**Section 1.** An Executive Director may be appointed by the Board of Directors if the Board deems it necessary.

**Section 2.** The Board shall establish; methods of selection, term of service, compensation (if any) budget of related expenditures and level of effort, duties and responsibilities.

**Section 3.** Minimum duties of the Executive Director shall include, but are not limited to:

- A. Maintain up to date membership and mailing list information,
- B. Maintain all permanent records, and documents,
- C. Provide permanent mailing address for Association related correspondence.
- D. Assist with all Board meetings, conferences and other activities and duties as deemed necessary by the Board of Directors.

**Section 4.** If no Executive Director has been appointed by the Board of Directors, then the Chair may assign the duties specified in IV.C above to another person or agency. If compensation is to be provided to this person or agency, such compensation must be approved by the Board of Directors. *(Amended March 16, 2009)*

## **ARTICLE V**

### **Amendments**

At any meeting of the Board of Directors, the Board by a two-thirds vote may amend the Bylaws in conformity with the constitution, provided that written notice of such shall have been made to each Board member at least 21 days prior to the meeting at which action thereon is to be taken. The Bylaws may be amended by a majority vote of the members present at any Association meeting.

## **ARTICLE VI**

### **Special Corporate Acts**

**Section 1. Execution of Written Instruments** - Contracts, deeds, documents and instruments shall be executed by the Chair and Vice-Chair and verified by the Secretary, unless the Board of Directors shall, in a particular situation, designate another procedure for their execution. *(Amended June 23, 1992)*

**Section 2. Signing of Checks and Notes** - Checks, notes, drafts, and demands for money shall be signed by the officer or officers from time to time designated by the Board of Directors.

*These Bylaws were re-adopted at a meeting of the Board of Directors held on March 16, 2009.*

*These Bylaws were originally adopted at a meeting of the general membership held on January 12, 1989 and previously amended by the Board of Directors on October 18, 1989, June 23, 1992, January 19, 1993, July 14, 2004 and April 24, 2005.*

# Calendar

**March 29-April 1, 2010**  
L-273: MANAGING FLOOD-  
PLAIN DEVELOPMENT  
THROUGH THE NFIP  
Kinston, NC  
www.ncafpm.org

**April 11-14, 2010**  
NC ASSOCIATION OF  
FLOODPLAIN MANAGERS  
ANNUAL CONFERENCE  
Wrightsville Beach, NC  
www.ncafpm.org

**May 10-13, 2010**  
FEDERAL EMERGENCY  
MANAGEMENT AGENCY  
E279 RETROFITTING  
Emmitsburg, Maryland  
http://training.fema.gov

**May 16-21, 2010**  
ASSOCIATION OF STATE  
FLOODPLAIN MANAGERS  
ANNUAL CONFERENCE  
Oklahoma City, OK  
www.floods.org

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

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### EDITOR

Kelly Keesling  
kgkeesling@carolina.rr.com