



# THE IAFSM CURRENT

Illinois Association for  
Floodplain and Stormwater Management

Fall 2009 Newsletter

## Adams County's GIS Fights Floods and Saves Residents Money

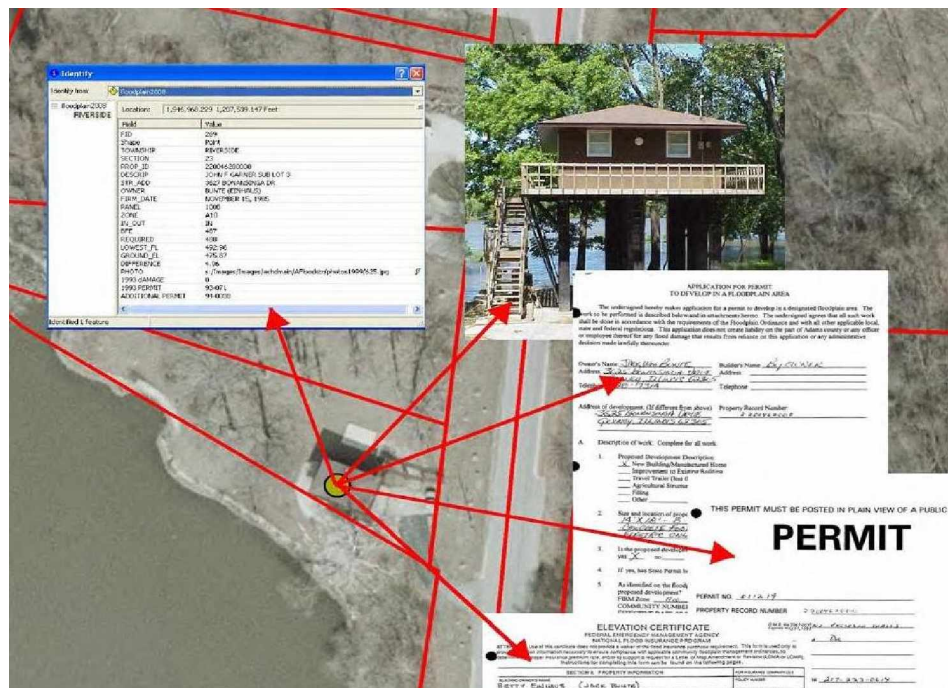
-Joye Dell, Adams County Highway Department

Adams County is located along the Mississippi River in west central Illinois with a population of 68,277 and over 125 square miles of floodplain. Their award-winning Geographic Information System (GIS) has a wealth of information available to the public. The GIS includes floodplain information that was recently used to fight 2008's floods and to provide post-flooding assistance to residents.

### Background

The Adams County GIS is a multi-participant effort that began in 1992 and is now used on a daily basis throughout the County. Cooperation has been the focal point of this GIS with an extensive and varied membership including Adams County, the City of Quincy, and five major utilities. The Adams County Highway Department is the custodian of the GIS.

Data sharing is a priority for Adams County. In the same consideration of cooperation that the Adams County GIS had been conceived on, it was decided to create an internet application available to everyone. ([www.adamscountygis.com](http://www.adamscountygis.com)). No passwords are needed, no subscriptions are required and no fees are charged. Adams County also formulated a "good neighbor policy" which allows neighboring counties to post their GIS data on the Adams County GIS website free of charge.



### The Great Flood of 1993

July of 1993 brought flooding to Adams County, which had never seen significant flooding before. Nearly 125 square miles were inundated with depths of up to 20 feet of water. Public entities claimed over \$9 million in damages to infrastructure, with an additional \$4.7 million in losses to individuals. Over 260 structures and residences were destroyed and an additional 400 were damaged.

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The County was required to complete damage assessments on the remaining structures in the floodplain, and all substantially damaged structures had to be elevated above 100 year floodplain elevation. At that time, the County had no comprehensive way to monitor floodplain development. Completing damage determinations for the structures was a massive undertaking. There were no record of permits, property owners were simply a paper record in the assessor's office, and lowest floor elevations were unknown. It took a team of 16 field workers and six office personnel over four months to complete the damage assessments at a cost of over \$155,000 (in 1993 dollars). Residents were dismayed to learn that they could not rebuild their homes until they received a building permit from the County. Most had to wait four months or longer for the damage determinations to be completed and permits to be issued. Additionally, homeowners were required to obtain an elevation certificate prior to rebuilding, which required the assistance of local engineering firms and cost nearly \$200,000 for all the affected homes in the County.

### **FEMA Grant to Incorporate Floodplain Information Into GIS**

Adams County approached FEMA with the idea to develop a digital database of floodplain information for use in the GIS, and FEMA awarded Adams County with a \$35,000 grant to create this database.

Since the flood of 1993, Adams County has developed a Floodplain Management plan within its GIS to monitor and regulate development of the floodplains. The County used the grant from FEMA to purchase a GPS unit to locate every structure in the floodplain, then determine the lowest floor elevation and photograph it. Additional information and layers were added, such as floodplain maps (FIRM), Letters of Map Revision & Amendments, Elevation certificates, previous damages to the structures, building dimensions and floor plans, as well as permits issued for each structure. The GIS is automatically updated when any permits are issued.

### **2008 Flood and GIS Uses**

In 2008 the county was hit with another flood. During this flood, the GIS was an invaluable tool for emergency service agencies.

*“The Adams County GIS gives Emergency Management the tools necessary to analyze disaster intelligence. During the 2008 Flooding, maps and data lists were created from the system showing the exact location of every residence, resulting in the assurance that every resident was evacuated in case of levee failure. Furthermore, the GIS provided accurate and up to date information on which structures were flooded. This information was forwarded to Illinois Emergency Management Agency and to FEMA to justify our need for a federal disaster declaration.” John Simon, Director, Adams County Emergency management agency*



Adams County offered the GIS website application to surrounding counties and Levee Districts, including counties and Levee Districts in Missouri. This enabled those counties to also successfully fight the flood.

*“During the 2008 Mississippi River flood, the South River Industrial Levee Subdistrict, located in Northeast Missouri, needed an immediate means to display to its flood fighters the low points along the top of the existing levee system protecting the Subdistrict.... When the resources of the Adams County Geographical Information System (GIS) were offered to serve up this information to all of our flood fighters, this was indeed a "God Send." Your GIS server allowed our data to be served up immediately, through the internet, to all of our volunteers. With only access to a computer and an internet browser, our flood fighters were able to readily see all points of vulnerability in our levee system and take corrective action, to protect our people, plants, and other facilities. Your GIS system located in Adams County, Illinois (not even in Missouri!) proved to be a valuable resource. We would like to thank you for making this important REGIONAL service available to the entire tri-state community and especially to us at the Subdistrict in our time of need.” Phil Held, President, South River Industrial Levee Subdistrict, Missouri*

After the flood of 2008, Adams County was again assigned the task of damage determinations. This time damage determinations were completed in less than three weeks at an estimated cost of \$14,300, resulting in substantial savings to the County. With the GIS, the County was able to issue elevation certificates free of charge, resulting in additional savings to County residents of over \$198,000.

These dollar figures do not include lives saved and properties protected during the flood. It also does not include the everyday uses the county has for the GIS floodplain management. The GIS is used constantly for permits and general administration of the floodplain ordinance. The County can now easily access information about any structure in the floodplain. The Adams County GIS is proud of what has been accomplished over the years and plans on expanding the system in the future. For more information, contact Richard A. Klusmeyer P.E., County Engineer, Adams County Highway Department, 217-223-0614 or achd@adams.net.

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## **Taxpayer Victory: Federal Lease Cabins in the Floodplain to be Re-Rated**

A long battle is over... and it's a victory for the taxpayer, the state of Illinois and the National Flood Insurance Program.

During the 1999 Association of State Floodplain Managers (ASFPM) Conference in Portland, Ore., U.S. Rep. Earl Blumenauer (OR-3rd) was informed of problems with repetitive loss claims on U.S. Army Corps of Engineers (USACE) lease cabins in Illinois. He said he was shocked to learn that these federal lease cabins account for many millions of dollars in annual flood claims, and flood insurance premiums paid on these properties are not actuarially based.

At the time, Rep. Blumenauer was working closely with the ASFPM to develop legislation to address repetitive loss claims. He included in his bill the requirement that federal lease properties be re-rated to have actuarial flood insurance premiums, and the bill was passed in 2004.



*Before and After photos showing flooding at one of the repetitive loss federal lease cabins in southern Illinois.*

Over the intervening years, the state of Illinois has conducted hundreds of meetings with FEMA and the USACE regarding these cabins; thousands of letters, calls, and emails also were exchanged. With subsequent floods, many of the lease cabins have been required by local regulations to be reconstructed above the flood protection elevation. Last year, the state of Illinois provided FEMA with a detailed listing of all 300 USACE lease cabins in Illinois that would be subject to the new actuarial rate rules.

The actuarial rating rules finally became effective on Oct. 1, 2009. FEMA provided all write-your-own insurance companies with a list of applicable USACE lease properties. On these properties, policy renewals must be re-rated at the time of renewal. Actuarial premiums will, in some cases, increase the cost of flood insurance premiums by over \$1,000.

For the taxpayer, this is a rare victory that was 10 years in the making. The taxpayer will no longer subsidize premiums on repetitive loss federal lease properties located in floodplains.



## Woodford County Board Members Tour Floodplain and Gain Understanding

Woodford County, Illinois, is located across the Illinois River from Peoria. The County was in danger of losing its eligibility to participate in the National Flood Insurance Program (NFIP) due to inaction and lack of floodplain regulation enforcement. John Hamann took over as the County's Zoning Administrator, but was under pressure by the County Board to relax his strict enforcement of floodplain regulations.



*Woodford County Zoning Director John Hamann explains the importance of floodplain regulation aboard a bus tour of the floodplain area. In the foreground is a map of the area and photos of flooded property. Photo by Matt Dayhoff, Peoria Journal Star*

Last month, John took the entire County Board on a bus tour of the floodplain to point out repetitive loss properties, mitigation projects, and other floodplain issues, to help educate the Board. Several Board members said they have now “seen the light” and understand his motives in enforcing floodplain regulations.

His actions have turned the County around and made them worthy of participation in the Community Rating System (CRS).

A newspaper article highlighting John's successful bus tour can be found here:

[www.pjstar.com/news/x1035827181/Woodford-board-members-tour-floodplain-see-zoning-issues](http://www.pjstar.com/news/x1035827181/Woodford-board-members-tour-floodplain-see-zoning-issues)



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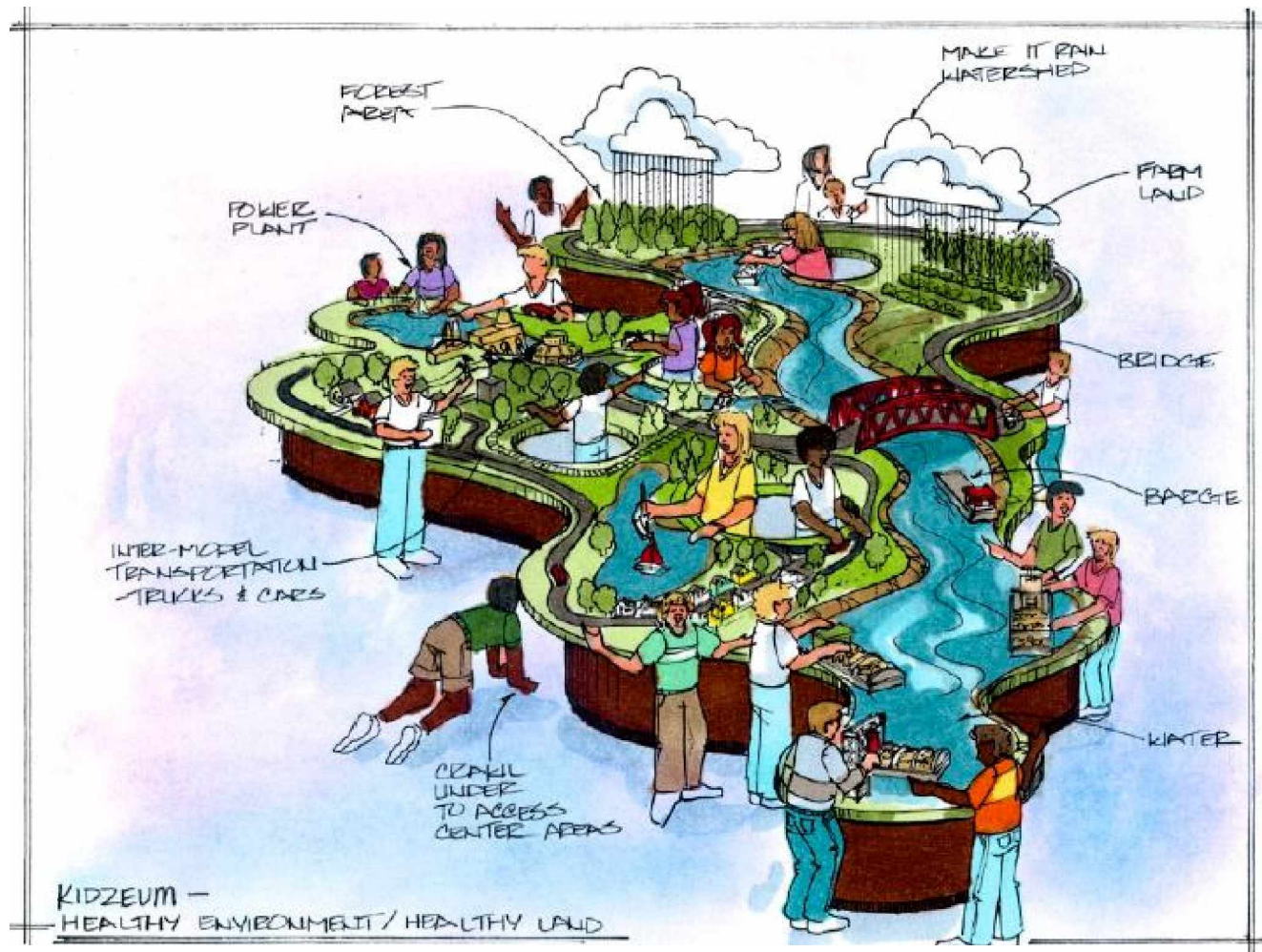
## IAFSM Helping Design a Watershed Model for a Children's Museum

-Loren Wobig, IDNR

Kidzeum of Health and Science is a 15 member board composed of doctors, engineers, scientists and teachers partnering with the city of Springfield, Illinois and the Springfield Park District to establish a new children's museum in Springfield. With a focus on health (healthy body, healthy planet, safety, etc.), Kidzeum has asked IAFSM to join other professional agencies and organizations to help develop a healthy environment water table for their new children's museum.

Members of IAFSM met with the Kidzeum professional exhibit design team on September 24th to brainstorm on a variety of potential water table exhibit features including dam safety, appropriate floodplain uses, wetland benefits, open space preservation and water power. IAFSM stressed the need to educate children and adults alike on how changes to one part of the watershed can impact other parts of the watershed, both for good and bad. Discussions with the Kidzeum professional exhibit design team also included potential outside exhibits such as a pervious parking lot exhibit, and a 3-D scale exhibit of the state's watersheds made with colored concrete at the museum's entrance.

As part of IAFSM's continued youth outreach endeavors, IAFSM will continue to be involved in the further development of Kidzeum as it relates to floodplain and stormwater management education. If you have an interest in participating in this unique opportunity to combine fun and education through the continued design of the water table, please contact Mark Hoskins, chair of the Youth Outreach Committee, at [mark.hoskins@fluidclarity.com](mailto:mark.hoskins@fluidclarity.com). More information about Kidzeum can be found at [www.kidzeum.org](http://www.kidzeum.org).



Rendering prepared by Kraemer Design + Production, Inc.



## Borrow Our Stormwater-Floodplain Simulation System and Teach Our Youth About Watershed Management

IAFSM recently purchased two stormwater and floodplain models for members to borrow and use with their children's scout groups, school classrooms, and in other similar settings.

The WARD'S Stormwater-Floodplain Simulation System is a large-scale and visually striking model that features a large clear acrylic tank (48" x 20" x 18") and a colorful hand-painted resin landform insert, with three different headwater trays and two rainmaker trays to simulate several real world environmental scenarios that students can recreate and modify.



Developed for education and outreach in cooperation with the Michigan Stormwater-Floodplain Association, this new model offers a real opportunity to educate children and adults alike about the dangers and impact of unplanned development and human activity in the floodplain.



Through the use of this model, students can explore the value of wetlands and retention ponds in flood management. They can construct their own levees and witness how stream flow is affected and can impact downstream communities during times of high runoff. They can simulate ice damming and other seasonal risks in the floodplain. They can measure runoff volume and construct their own hydrograph of stream flow over time. Most importantly, they will work as a team to find and test solutions to a variety of floodplain problems simulated by the model. An in-depth curriculum guide is available to introduce students to new concepts such as "no adverse impact", "turn around, don't drown", "runoff footprint", "green gardens", "green roofs", and "porous pavement"—all important tools in the management of our critical watershed resources. Curriculum is geared towards middle school and high school students, with adaptations for younger grades.

IAFSM is housing one model in Springfield and another in northeast Illinois for use by our members. If you are interested in borrowing the model, please contact Loren Wobig to borrow the downstate model (loren.wobig@illinois.gov or 217-782-9130) or contact Mark Hoskins to borrow the northeast Illinois model (mark.hoskins@fluidclarity.com or 708-383-3500) to make arrangements.

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## From the Chair

*-Jeff Wickenkamp, Hey & Associates*

It's been an active season for the IAFSM board and its committees. You've probably noticed a number of training sessions and workshops that have recently been offered or are coming up shortly. The most recent session was the BMP Workshop organized by Bob Murdock and the Stormwater Committee. One attendee has already told me that the workshop "was excellent and well thought out, with high quality presentations." Our committee chairs have been outdoing themselves by offering compelling workshop and training opportunities.

We recently published the Call For Speakers for the 2010 annual conference. Please note that the abstracts are due October 30. There are several opportunities to provide input to the annual conference even if you don't wish to submit an abstract. Each of the topical committee chairs (Stormwater Management, Floodplain Management, Mitigation, Community Rating System, Wetlands, and Legislation) has a role in planning a conference session that may involve a combination of submitted abstracts and invited speakers to round out a topic. If you think a special topic or issue deserves attention at the conference, feel free to contact one of the Committee Chairs listed above or contact the conference chair Mike Cothard. Contact information for all of our Committee Chairs is available on our website at [www.illinoisfloods.org/board\\_directors.html](http://www.illinoisfloods.org/board_directors.html).

In 2010, we also plan to offer one or more workshops ahead of the main conference. We are still formulating these workshops based on ideas from the Board and also on input from our membership.

Have a great fall and early winter season. We'll be busy working on the conference!



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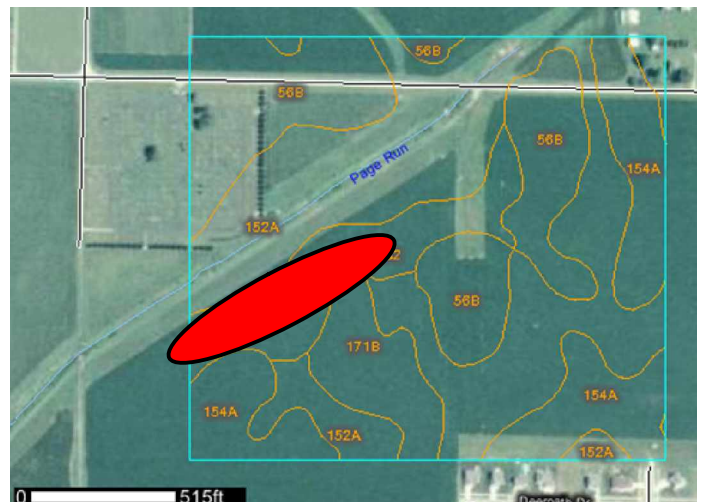
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## IAFSM's Successful BMP Design Course

*-Bob Murdock, M. Baker Corp.*

On September 29, the IAFSM Stormwater Committee hosted a 1-day Stormwater BMP Design Course. The workshop focused on the design and use of stormwater best management practices (BMPs). The morning session highlighted Low Impact Development (LID) principles and how to plan and design infiltrative BMPs. Presentations focused on real-life examples and obstacles to proper implementation of post-construction BMPs, including proper construction and long term maintenance. An expert panel shared their experiences and answered questions during lunch about obstacles to effective BMP implementation. The afternoon session was a hands-on design example, covering site layout, design and modeling from beginning to end.



*The workshop discussed "site fingerprinting" as a tool to find appropriate BMP locations.*

Approximately 100 professionals attended the morning session, while 45 attended the afternoon session. Committee chair Bob Murdock and Committee members Erin Pande and Greg Kacvinsky were pleased to see the immense interest in this topic, and the Committee is considering having a second, expanded hands-on design session within the coming months. Watch your email for more details. For further information on Committee activities or to join, contact Bob Murdock at 312-575-3946 or [Rmurdock@mbakercorp.com](mailto:Rmurdock@mbakercorp.com).



## Save the Date! IAFSM 2010 Annual Conference

IAFSM's annual conference will be held on March 9-11, 2009, at the Holiday Inn and Tinley Park Convention Center. A Certified Floodplain Manager exam will be held on March 9 and the main conference proceedings will occur on March 10 – 11. Watch your inboxes in January for the conference flyer and registration information.

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### Reminder: Call for Speakers for Annual Conference due 10/30

We are looking for presentations that address floodplain and stormwater management issues for our 2010 annual conference. The deadline to submit an abstract for consideration is Friday, October 30.

Visit [http://www.illinoisfloods.org/10\\_conference.html](http://www.illinoisfloods.org/10_conference.html) for more info.

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### Energizing the Mitigation Committee

Are you interested in Mitigation? Would you like to help shape the direction of the Mitigation Committee and the activities it supports and promotes?

Mitigation as a concept covers a lot of territory. Since FEMA began requiring community mitigation plans, much of the work of the IAFSM Mitigation Committee has been to promote community based mitigation planning. We need your ideas and a little of your energy to assure that the mitigation needs of IAFSM members are being met.

If you are interested in participating, please contact Terry Reuss Fell (Mitigation Committee Chair) at [terryfell@sbcglobal.net](mailto:terryfell@sbcglobal.net). Terry is assembling a new committee member contact sheet so be sure to let her know of your interest, even if you have previously participated on the Committee. Let's take a fresh look and explore how the Mitigation Committee can support local communities and the members of IAFSM!

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### Next IAFSM Board Meeting

The next IAFSM Board Meeting will be **November 19, 2009 at 9:00 a.m.** at the Grundy County Administrative Center, 1320 Union Street in Morris. **All members are welcome to attend and get involved!**



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## **Upcoming CEC/Training Opportunities**

IAFSM and the Environmental Engineering and Water Resources (EE&WR) Group of the Illinois Section American Society of Civil Engineers (ASCE) are hosting two dinner seminars in November at Fountain Blue in Des Plaines. Each seminar includes dinner and offers 1.5 Professional Development Hours. Registration information for each seminar can be found online at [www.illinoisfloods.org/conferences.html](http://www.illinoisfloods.org/conferences.html):

### **Floodplain Map Revision Workshop (CLOMRs and LOMRs)**

A November 3 dinner seminar with guest speakers Michael DePue, PE, CFM and Mike Anderson, both of STARR, will focus on the process and program for dealing with changes to the regulatory flood maps. The dinner will cover the following topics: NFIP, basic definitions, FEMA flood maps, CLOMRs and LOMRs, submittal requirements and key steps to successful map revisions.

### **MWRDGC's Cook County Ordinance and Watershed Studies**

A November 12th dinner seminar with guest speaker John P. Murray, PE, CFM, of the MWRDGC will present the upcoming Cook County Watershed Management Ordinance and on-going Watershed Plan Studies. The seminar will present an overview of MWRDGC's Stormwater Management Program, discuss development of and highlights of the draft Watershed Management Ordinance, provide an overview of Watershed Plans for Cook County, and discuss prioritization of projects recommended in the Watershed Plans.

### **Floodplain Management and Mitigation**

IAFSM is also planning a Floodplain Management and Mitigation seminar in Collinsville on November 18th. An announcement with further details will be sent to members in the upcoming weeks.

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## **CFM: One More Chance to Obtain Certification with the Illinois Exam**

As described in our summer newsletter, the Illinois CFM Exam will be retired effective January 1, 2010, in lieu of the National Association of State Floodplain Managers (ASFPM) Exam. Floodplain Managers that are certified up until January 1, 2010 in Illinois will be grandfathered in under the ASFPM Program and will not be required to re-take the national exam.

People wishing to pursue floodplain manager certification under the old (Illinois) exam have one remaining opportunity: a test will be held on December 9, 2009 in Rosemont. (Additional tests can be scheduled if there is sufficient demand.) The exam registration form can be downloaded from our website at: [www.illinoisfloods.org/certification.html](http://www.illinoisfloods.org/certification.html)

The March 9, 2010 CFM test in Tinley Park will use the National Exam. The National Exam will include questions on coastal floodplain requirements that are not currently included on the Illinois exam, and will exclude Illinois-specific questions.

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## **Jobmart**

Visit our Jobmart at [illinoisfloods.org/jobmart.html](http://illinoisfloods.org/jobmart.html) to view current job openings. Jobmart is a free service to members of IAFSM. If you would like to post a position, send complete information to [IAFSM@sbcglobal.net](mailto:IAFSM@sbcglobal.net).

Current openings include: The Illinois State Water Survey within the Institute of Natural Resource Sustainability at the University of Illinois is seeking three full-time Hydrologic/Hydraulic Engineers.



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*Fall 2009 Newsletter*

The IAFSM Newsletter is published quarterly for members of the Illinois Association for Floodplain and Stormwater Management. Information and opinions contained herein do not necessarily reflect the views of all members. Items for publication and other editorial matters should be directed to the editor at [jmaercklein@v3co.com](mailto:jmaercklein@v3co.com). To advertise in this newsletter (\$100-\$200 per year depending on ad size) contact the association at [IAFSM@sbcglobal.net](mailto:IAFSM@sbcglobal.net).



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