

Colorado Association of Stormwater and Floodplain Managers



The Open Channel

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CASFM TO HOST 11TH ARID REGIONS CONFERENCE

By Kevin Houck

The 18th Annual CASFM conference will be held this year in Breckenridge at the Beaver Run Resort on September 11-14. This year's conference will be combined with the ASFPM Arid Regions Conference. This will be the 11th Arid Regions Conference held by ASFPM and its arid states chapters and will be the first time that this regional conference has been held in Colorado. This year's conference theme will be "Roundup in the High Country—Gather at the Source". This theme reflects Breckenridge's location as being near the headwaters of three important watersheds for our country—the Colorado, South Platte, and Arkansas Rivers. In addition to CASFM, the conference is being cosponsored by the Association of State Floodplain Managers (ASFPM), the Arizona Floodplain Management Association (AFMA), and the New Mexico Floodplain Managers Association (NMFMA).

The conference program has been finalized and will appeal to a number of related fields in floodplain and stormwater management, water quality, watershed restoration, and water resources. Presentations will be delivered by individuals from several states, including most of the Arid West, as well as individuals from as far away as New England. Four technical field trips will be conducted to such beautiful areas as Black Hawk, Glenwood Springs, Vail, and the Dillon Reservoir. A bicycle tour will be offered along the Blue River restoration area north of Breckenridge. As in past years, the conference will include an optional golf tournament, vendor booths, a banquet dinner, a CFM exam with review course, and several networking opportunities. Also featured this year will be a Casino Night following the Thursday banquet.

New for this year, the Corps of Engineers (COE) will run a separate track of technical sessions to present the results of work performed under two COE demonstration programs. These programs focus on urban flood damage reduction and channel restoration in the arid and semi-arid regions of the Southwestern United States. The goal of the programs is to develop and demonstrate innovative technologies to address regional problems.

The Platinum Sponsor for this conference is the Michael Baker Corporation. Gold Sponsors include AMEC, Ayres Associates, FLO-2D Software, Merrick and Company, and PBS&J.

If you are interested in attending the conference, please see the conference webpage at www.casfm.org. Registration is online only, and payment can be made by Paypal or by mailing a check separately. Registration must be made by August 6th to receive the early registration rate of \$220.

Register online at www.casfm.org today

Past Arid Regions conferences have been held in Arizona, New Mexico, California, and Nevada.

It is anticipated that many attendees will come from out of state. This conference will be a good opportunity to network with professionals from other states experiencing similar floodplain, stormwater, and watershed issues as Colorado.

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A Word from the Chair

By Tom Browning

It seems quite apparent that 2007 is proving to be another banner year for CASFM in light of some important upcoming and recent events. As an example, and for the first time ever, CASFM will host its 18th Annual Conference in conjunction with the 11th Triennial Arid Regions (ASFPM) Conference. The joint conference will be held at the Beaver Run Resort in Breckenridge, and we anticipate a large turnout from Colorado and other states in the arid west. The conference committee has worked extremely hard in preparation for this exciting event, and I am pleased to announce that the conference will not only provide excellent technical sessions, but also some of the best field trips ever offered in Colorado. The dates are September 11-14, so please mark your calendars and register for the event by accessing information on our website at www.casfm.org.

CASFM has the bragging rights for a very strong association that includes membership hovering around the 600 mark, keeping in mind that there are only a limited number of other states in the nation having more members in their chapters. The number of professionals in Colorado who have become Certified Floodplain Managers further indicates our professional strength and leadership in the industry.



For those who are not already aware, CASFM hosts and sponsors excellent workshops and training opportunities for its members and other interested parties. Two sets of regional workshops regarding Levees and the CWCB's Floodplain and Stormwater Criteria Manual were recently offered in Greeley, Colorado Springs, Glenwood Springs, and Durango. I am also happy to report that last year's annual conference in Glenwood Springs attracted a record attendance.

In closing, I would like to thank the many active members of the Association for their dedication and countless hours of volunteer time to further the goals of our organization. Our state chapter continues to be a front-runner in the areas of stormwater and floodplain management, and leads the way nationwide in helping to minimize flood losses by promoting a variety of traditional and cutting-edge hazard reduction measures.

Best of luck for the remaining portion of 2007, and be sure to register for the fall conference!

Scholarship Awarded to CSU Student

By Jeremy Franz

Rob Rahrs is the recipient of CASFM's 2006/2007 scholarship. Rob graduated from the University of Nebraska with a Bachelor of Science in Meteorology/Climatology in May 2000. Since then, he has been employed along the Colorado Front Range applying his skills. He is currently working in the Hydro-Meteorology Department at HDR as a Meteorologist, while pursuing a Masters of Engineering degree in Geographic Information Systems (GIS) at CU Denver focused on hydrologic processes. His work at HDR has included working with the Department of Water Resources to develop an automated GIS software program to estimate Probable Maximum Precipitation for dams, and re-creation of historic rainfall events for input and calibration of rainfall-runoff models. We look forward to getting an update about Rob's M.S. studies at the joint CASFM/ASFPM Arid Regions Conference this fall.



Committee/Region News

FLOODPLAIN COMMITTEE (Kallie Bauer)

The Certified Floodplain Managers (CFM) exam was given at the National Flood Conference, which was held in Denver in May. All ten of the takers passed the exam. Congratulations! With nearly 200 CFM's, Colorado is ranked seventh in the country in number of certifications.

STORMWATER QUALITY (Michelle DeLaria)

The Stormwater Quality committee has a summary of our purpose and goals as well as a photo database of Low Impact Development (LID) structures. The Stormwater Quality committee is looking for folks to send more LID examples to profile on this database.

The 2007 annual field trip was on June 12. This year, the field trip invitation was extended to planners and others interested in Low Impact development techniques. A large tour bus with 47 people visited several Low Impact Development sites in Denver including the Wal-Mart experimental site at Tower Road, which features bio swales, porous concrete and porous asphalt. Also visited was the modular block paving example at Wenk Associates offices and the Pepsi Center, which divided the detention capacity into several detention basin/bio swale structures. The last stop on the trip was a tour of the sustainability features in the new EPA building in Denver.

The Stormwater Quality committee is working to establish a session at in 2008 that recognizes LID techniques and accomplishments in Colorado. More information to follow as this project develops...

MEMBERSHIP/TRAINING (Kevin Gingery)

A number of planned training activities are already on the books for the coming year:

- November 6-8, 2007; "Stream Corridor Restoration in Compliance with Floodplain Management" workshop to be held in the Denver metro area.
- February 2008; "Stream Corridor Restoration in Compliance with Floodplain Management" workshop to be held on the western slope.
- Between April & July 2008, "GIS Applications in HEC-RAS and HEC-HMS" workshop to be held in the Denver metro area.
- Between April & July 2008, "Stream Stabilization" workshop to be held on the western slope.

For the latest training opportunities/information/registration please visit the training tab on our casfm web page. If you would like to be part of the Technical Training Committee, please contact Kevin Gingery at gingek@ci.loveland.co.us

REGIONAL REPRESENTATIVES AND BOARD ELECTIONS

The CASFM board currently has two vacant regional positions and three officer positions to be filled. The NW and SW positions are currently vacant, and the CASFM Board is looking for any volunteers to fill the position. If you are unsure if you reside in the area, please check the CASFM website, which provides a map of regional boundaries.

The positions of Chair, Vice Chair, and Treasurer are currently open due to normal term limitations of the three individuals who now hold them. These officer positions will be elected by email ballot. Nominations are currently being accepted. If you know someone you would like to nominate, please send a nomination to Tom Browning (email: Tom.Browning@state.co.us) prior to August 15th. Self-nominations are acceptable. An email election will be held following this nomination period, and the elected candidates will be announced at the fall conference.

New Stormwater Quality Page on CASFM Website

By Kevin Houck

The Stormwater Quality Committee is pleased to announce the placement of a page on the CASFM website dedicated solely to activities and goals of the Stormwater Quality Committee. This link can be found on the left side of the main CASFM page.

The Stormwater Quality Subcommittee seeks to promote stormwater management techniques for the built environment to improve surface runoff water quality, protect receiving water quality, and protect aquatic and riparian habitat by facilitating discussion, information exchange, and education regarding various stormwater quality issues.



Items that can be found on this page include a photo library, links to recent articles of interest in the news and professional journals, and other useful links.

The Stormwater Committee Chairperson is Michelle DeLaria. Michelle, who served as the Stormwater Quality Coordinator for Jefferson County, will be taking a position with Meza Construction to build a Low Impact Development construction unit.



CWCB Highlights

By Kevin Houck

The CWCB is pleased to announce that the “Colorado Floodplain and Stormwater Criteria Manual” has been published and is available on the CWCB website at <http://cwcb.state.co.us> in the Flood Page. This document serves as a technical guidance tool to assist local officials, engineers, and other interested parties with flood and stormwater studies and projects in Colorado.

The CWCB continues to manage the State’s Map Modernization Program as a Cooperating Technical Partner (CTP). See Page 5 for more information.

Thuy Patton, CFM, is the new State Floodplain Manager. Thuy can be contacted with any questions regarding floodplain management, floodplain mapping, or flood insurance. Thuy arrived from the private sector after moving here from Minnesota. Welcome, Thuy!

The CWCB issues a daily Flood Threat Bulletin during the flood season from June through September. This bulletin announces the flood hazard for the entire state for that day. In addition, on Mondays and Fridays, a longer range flood outlook is also produced. These documents may be found at www.hdrweather.com/cwcb, and the link is provided on the CWCB home page at www.cwcb.state.co.us

CFM Corner

Did you know that Colorado now has 184 Certified Floodplain Managers (CFM)? This total places our state as seventh in the country. If you are interested in becoming a CFM, please consider taking the test being offered at the Annual Conference (see Page 1). If you have any questions, especially with respect to Continuing Education Credits, please contact Kallie Bauer, Floodplain Committee Chair, at kalliebauer@applegategroup.com. You may also send general CFM questions via email to cfm@floods.org. It is interesting to note that a growing number of communities across the nation are now requesting or requiring that their floodplain administrators be Certified Floodplain Managers.

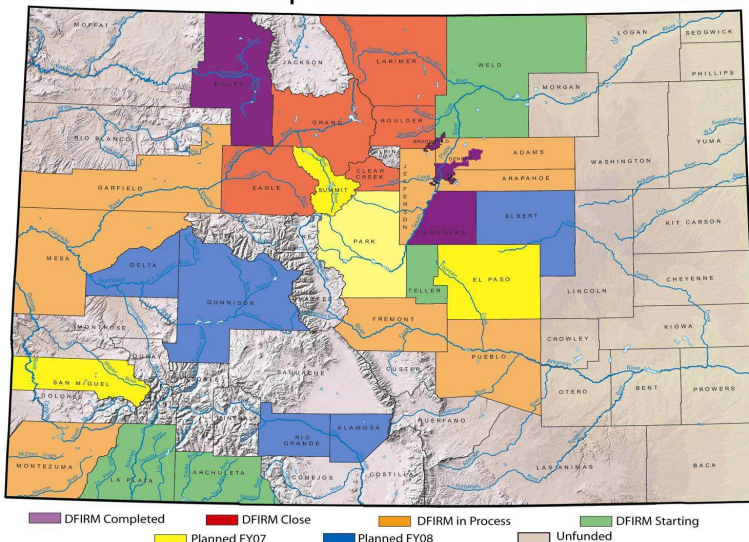
Colorado Map Modernization

By Kevin Houck

Dawn Gladwell, P.E., CFM, continues as the full-time CAP-3MS coordinator with the Colorado Water Conservation Board. The CWCB acts as a Cooperating Technical Partner (CTP) with FEMA, which means it actively manages much of the mapping work being prepared under this program. The Urban Drainage and Flood Control District also serves as a CTP for the seven county Denver metropolitan area. The Map Modernization Program continues to be a key activity within the state.

Currently, 21 counties have been completed or begun, and another four counties are in the negotiations and scoping process. With 64 counties in Colorado, there is still a long way to go, as can be seen on the attached map. The CWCB is excited about the recently announced mid-course adjustment and remains interested in how it will affect the studies around the state.

2006 Colorado Map Modernization Current Status



Introducing the Colorado Stormwater Council

By Kelly Hargadin, Adams County

The Colorado Stormwater Council (CSC) has been formed. This is a 501c3 organization that represents the interests of all Municipal Separate Storm Sewer System (MS4) Colorado Discharge Permit System (CDPS) Stormwater Discharge permit holders. All municipal, county, and non-standard MS4 permit holders are invited to join.

The CSC has five subcommittees: Administration, Technical, Legislation/Policy, Permit Compliance and Education and Outreach.

The CSC's most current project is a \$100,000 Best Management Practices (BMP) study to be completed by Dr. Roesner at Colorado State University. The Stormwater Council received supplemental funding from 30 members for this study and is in collaboration with Urban Drainage and Flood Control District and the Urban Watershed Research Institute and Water Environment Research Foundation for this landmark study that will provide tools for life cycle BMP costs.

Other working items include: establishing a website to serve as an information clearing house for members and the public, TMDLs, e.coli, and regional stormwater education campaigns.

We are only as strong as our members. Please contact Ms. Kelly Hargadin at khargadin@co.adams.co.us for a fee schedule and consider joining this effective and professional organization.

DFLIX - Is Map Maintenance as Close as your Local CTP?

By Troy Carmann, ICON Engineering

The next phase of the Federal Emergency Management Agency's (FEMA) Map Modernization program has been identified under the title, "Map Maintenance." By matching the existing systems for map change with the advances in digital mapping technology, authorized Cooperating Technical Partners (CTPs) can sharpen the tip of "Map Maintenance" into something every floodplain manager can rely upon for future floodplain management decisions.

First, consider that the definition of Map Maintenance is geographically variable, but the National Flood Insurance Program (NFIP) has one clear purpose for its Flood Insurance Rate Maps (FIRMs): flood insurance rate determinations. NFIP policy and sound engineering principles provide a natural secondary purpose: local floodplain management. Therefore, the initial direction of Map Maintenance is likely to aim for supporting flood insurance rate determinations and local floodplain management decisions.

In Colorado, there is already an established procedure for local review and approval of LOMCs as well as successful use of the Mapping Information Platform for digital data distribution. The Urban Drainage and Flood Control District (UDFCD) has completed local reviews for the last 5 years. Recently, they have been discussing moving annotated FIRM production to the MIP. In the last few years of Map Modernization, advancements in the Mapping Information Platform may provide a solution to the digital map repository and distribution system. Several Colorado counties already have their effective DFIRM data available to authorized users on the MIP. With existing provisions for these two responsibilities, it is possible for an authorized CTP to manage their own Map Maintenance program.



A CTP Map Maintenance program would be on the frontier of Map Modernization, but in Colorado the frontier is a familiar place. As with all CTP relationships, FEMA would maintain an oversight role and likely provide additional review and verification during the early stages of a CTP Map Maintenance program. Using the existing MIP structure, the Effective DFIRM database would be assigned to the CTP. Using the established UDFCD procedure, a LOMC review and approval could be processed. The CTP would then make the LOMR change to the effective database on the MIP, publish a hardcopy LOMC annotated FIRM exhibit for distribution, but also have an updated countywide DFIRM with a LOMR feature describing the change. With approval from FEMA, the discretion of the CTP, and a request from the affected community, the updated DFIRM database could be copied out of the MIP and distributed to the community. The community could then utilize the new DFIRM database in its entirety, instead of having to digitize, cut, and paste the hardcopy. Furthermore, the communities would be able to communicate their base map update needs more frequently to the CTP. And, if the CTP feels it has enhanced database features it can add to the DFIRM database, that information can be added by the CTP as funding, need, and schedules allow.

Consider the similarities of this proposed model of Map Maintenance to mail order movie services such as Net-Flix. With any of these services, an individual queues a series of movies they wish to view and the first DVD on the list is delivered to their mailbox. When they are finished with that movie, they mail it back and a new movie arrives a few days later. The CTP Map Maintenance program would work in a similar manner. The communities would receive the initial Effective DFIRM following the effective date. As soon as that community is affected by a LOMR, the CTP automatically sends an updated copy of the entire DFIRM a few days later. Instead of the community trying to piece the update into their initial version, the updated countywide DFIRM replaces it entirely. There are still plenty of questions to answer before a CTP Map Maintenance program can proceed full throttle. For example, the Map Service Center deliverables would have to be coordinated between the CTP and the NSP for each LOMR. Another unknown is determining the threshold for ending map maintenance and starting a new countywide DFIRM. At the least, if maintenance efforts are up to date, producing a new countywide DFIRM will be much quicker. As more floodplain managers utilize the DFIRM database in their daily routines, more questions will arise. A few pilot studies may uncover other procedural issues. And soon enough, the water will clear and a full program could be implemented.

Globeville and North Areas Flood Control Project

By Nancy Love, Love and Associates

This project, on the South Platte River in North Denver (Globeville Area), is the single largest flood control project ever undertaken by either the Urban Drainage and Flood Control District (UDFCD), and/or the City and County of Denver and represents state-of-the-art water resource engineering. The project began in 1995 and when completed will remove over 300 acres of land within north Denver from the 100-year floodplain. The project is currently in its third phase of construction which is anticipated to be completed by March, 2008.



This project has been divided into three (3) separate final design and construction phases. Phase I, which was completed in May 1997, constructed 2,000 linear feet of channel improvements including flood levees, greenway trails, bank stabilization, aquatic and wildlife habitat improvements, landscape plantings, and removal of a large abandoned sanitary sewer, which bridged the river and caused a significant blockage in the river with a risk of potential breakage of the pipe and spillage of its contents into the river.

Phase II, completed in August 1998, included construction of additional floodwalls and flood levees, bank stabilization, greenway trails, aquatic and wildlife habitat, and landscape plantings.

The Phase III construction is currently underway (Fall 2005 thru spring 2008) and includes the removal and relocation of the Burlington Ditch/O'Brien diversion dam from downstream of Franklin Street to upstream approximately 1,000 feet from its current location. These ditch facilities irrigate over 100,000 acres of land and are the same facilities that fill Barr Lake and several other downstream reservoirs. The Farmers Reservoir and Irrigation Company (FRICO) have been an integral part of insuring these reconstructed facilities meet the needs and requirements of their water users on this ditch system. Additionally, this phase of the project includes the construction of a diversion open channel and 700 linear feet of a 40-foot wide by 7-foot high box culvert to convey the river flows to the FRICO headgate, a new diversion dam with a fish ladder and boat passage and boat landings upstream and downstream for safety purposes.



Also included are the construction of grade control weirs within the South Platte River channel, the construction of the Franklin Street trail underpass, the construction of a new pedestrian bridge to link to the existing Adams County trail system along the South Platte River, removal and replacement of the Union Pacific Railroad (UPRR) bridge downstream of Franklin Street now owned by the Denver Rock Island Railroad, and removal and reconstruction of the 36-inch Denver Water Department suspended water line which bridges the channel. In addition, this project incorporates construction of scour protection for the project, aquatic and wildlife habitat improvements, and appurtenant facilities including a new and improved riparian corridor along the banks of the Platte. Obtaining a 404 Permit, other USFWS regulatory permitting, and FEMA floodplain submittals have been key components of this project.

The third and final phase of the project is anticipated to be completed in March of 2008 with a total design-construction cost of just under \$25,000,000.

Colorado Association of Stormwater and Floodplain Managers

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Address

CALENDAR OF EVENTS

2007/08 GENERAL MEETINGS

A notice will be sent through e-mail to all members prior to the meetings. The notice will include directions. This information can also be found on the calendar link at www.casfm.org.

Note that meeting dates and locations will be set at the November meeting, so please attend the November meeting if you would like some input into future meetings.

<u>Date</u>	<u>Location</u>
Sept. 13	Conference, Breckenridge
Nov. 8	Applegate, Westminster

OTHER ITEMS OF INTEREST

Stormcon 2007: Phoenix, AZ, August 20-23, 2007

National Association of Flood and Stormwater Management Agencies Annual Meeting (NAFSMA): Newport, RI, October 1-4, 2007

American Water Resources Association (AWRA) Annual Conference: Albuquerque, NM, November 12-15, 2007

Association of State Floodplain Managers (ASFPM) Annual Conference: Reno, NV, May 18-23, 2008

Please visit us at www.casfm.org