

# Kim Carsell, CFM

Geographer/Floodplain Manager  
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## Education

Master of Basic Science, Geography (2001), University of Colorado at Colorado Springs.

Bachelor of Arts, Geography and Environmental Studies (1998), University of Colorado at Colorado Springs (outstanding undergraduate in geography, honors with highest distinction).

## Professional registration

ASFPM Certified Floodplain Manager, 2003

## Experience

Geographer/Floodplain Manager, David Ford Consulting Engineers, 2002-Present.

Professional Research Assistant, Department of Geography and Environmental Studies, University of Colorado at Colorado Springs, 2001-2002; Research Assistant, 1997-2001.

## Professional memberships

Association of State Floodplain Managers (ASFPM)

Floodplain Management Association (FMA)

National Hydrologic Warning Council (NHWC)

Southwest Association of Alert System (SAAS)

## Selected projects

- Managed feasibility project for flood warning at low-water crossings in San Bernardino's Morongo Basin. This project included the identification of measures for enhancing data collection and management; notification; response; and public decision making. During the project telephone interviews were conducted with experts in the field – including flood warning system owners/operators, emergency managers, flood control district personnel, and National Weather Service (NWS) representatives. Alternative plans were formulated, costs were identified, and plans were evaluated for completeness, effectiveness, efficiency, and acceptability.
- Managed project to evaluate NWS flood severity categories and NWS use of gage station flood history information. This project included gathering information and opinions from 24 emergency managers in the different NWS regions. Conversations with emergency managers focused on their knowledge, understanding, use, and opinion of flood severity categories and how the categories and/or the category system might be improved. Conversations also focused on the opinion of each emergency manager on the use of gage station flood history information (NWS E-19 data) and how that information might be improved. Recommendations were made to the NWS based on findings from the emergency managers and from similar discussions with NWS Weather Forecast Office personnel.
- Conducted feasibility study for implementation of a flood warning system for Johnson County, KS. This included identifying trends in flood warning; evaluating flood forecasting alternatives; identifying options for coordination, ownership, and responsibility of the system; estimating benefits of the flood warning system; and identifying capital, staffing, and operational costs. The project also included surveying communities across the nation to determine the state of flood warning systems.
- Acted as project manager for implementation of automated threat recognition and notification system for: the U.S. Bureau of Indian Affairs (BIA) National Monitoring Center (NMC); Yanacocha Mine in Peru; Apele Romane in Romania; and for the City of Tulsa, OK. Projects included assessing existing flood warning components, coordinating implementation activities, developing threat recognition “rules” and notification actions for prototype watersheds. Similarly, managed projects to update the automated threat recognition and notification system for Mecklenburg County, NC and the Confederated Salish and Kooteni Tribes. Evaluated the Boulder, Colorado flood warning system. This included conducting an extensive survey to determine the flood knowledge, risk awareness, perceptions, and needs of floodplain residents. Businesses and organizations in the floodplain were interviewed

to assess their flood response plans and their awareness level of flood risks. Similar flood control agencies and cities were also surveyed to gain an understanding of leading warning and public education methods.

- Investigated flood warning siren system false alarm. This required evaluation of events that led to the installation, testing, and ultimate malfunction of siren system. The project included interviewing members of the public who assisted with planning the siren system; collecting testimonials regarding individual decisions and actions during the siren malfunction; and conducting a survey of the general public to determine if the false alarm reduced confidence in the warning system and/or willingness to respond to future warnings.
- Investigated stakeholder perception of false flood warnings. This included conducting a survey of emergency managers, forecasters, and hydrologists.
- Assisted with and participated in international NATO funded Institute *Coping with Flash Floods* in Ravello, Italy.

## Publications and book reviews

Carsell, K., Pingel, N., and Ford, D. (2004). "Quantifying the benefits of flood warning systems." *Natural Hazard Review*. American Society of Civil Engineers (ASCE), Reston, VA.

Carsell, K. (2005) "Book review: Red River Rising." Ashley Shelby. *Bulletin of American Meteorological Society*, Vol. 86, No. 7. American Meteorological Society, Boston, MA.

Carsell, K. (2001). "Book review: Environmental Hazards: Assessing Risk and Reducing Disaster, Third Edition." Keith Smith. *Bulletin of American Meteorological Society*, Vol. 82, No. 10. American Meteorological Society, Boston, MA.

## Selected reports

*Evaluation of National Weather Service Flood Severity Categories and Use of Gage Station Flood History Information* (2004). Report prepared for National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS), Office of Hydrologic Development. With D. Ford and E. Gruntfest.

*Johnson County flood warning/flood forecasting: Feasibility and implementation plan* (2004). Report prepared for Johnson County Public Works. With D. Ford, Peridian Group, OneRain, WeatherData, The Larkin Group.

*Flood warning for low water crossings: San Bernardino County/ Morongo Basin* (2004). Report prepared for US Army Corps of Engineers, Los Angeles District. With D. Ford and D. Curtis.

*Flood warning system for City of Tulsa, Oklahoma: system design* (2002). Report prepared for City of Tulsa. With D. Ford.

*A Survey of Boulder Creek Floodplain Residents: Flash Flood Perceptions and Knowledge* (2003). Report prepared for Urban Drainage and Flood Control District and Boulder City/County Office of Emergency Management. With E. Gruntfest.

*Impacts of a False Alarm, The January 29, 2000 Ventura, California Experience* (2001). Unpublished masters thesis. University of Colorado, Colorado Springs, CO.

*The Warning Process: Toward an Understanding of False Alarms* (2000). Report prepared for U.S. Bureau of Reclamation, Denver, CO. With E. Gruntfest.

## Selected presentations

*Flood threat recognition and notification system for Romania's Arges Basin*. Presented at NHWC 2005 Conference, Sacramento, CA.

*FINS to the left, FINS to the right, and no adverse impact in sight*. Presented at ASFPM 2004 Annual Conference, Biloxi, MS. With M. Combs.

*Shedding light on flood warning and emergency response planning in California's Central Valley*. Presented at ASFPM 2004 Annual Conference, Biloxi, MS.

*Keepin' up with the Joneses' – Status report on flood warning systems throughout the United States*. Presented at Alert Users Group 2004 Annual Conference, Yosemite Valley, CA.

*Flood warning saves lives and reduces damage with no adverse impact in Mecklenburg County, NC*. Presented at ASFPM 2003 Annual Conference, St. Louis, MO. With M. Combs.

*What Mork and Mindy know about flood warning and response*. Presented at SAAS 2002 Conference, Houston, TX.