



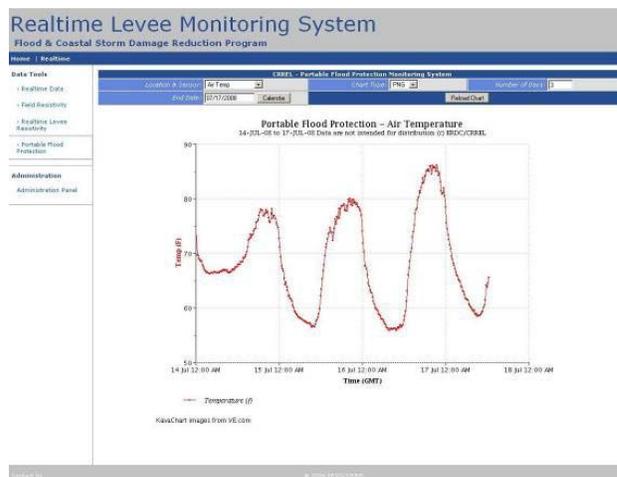
US Army Corps  
of Engineers®

## Flood & Coastal Storm Damage Reduction R&D Program

# Portable Flood Protection Monitoring System

### Description

The U.S. Army Corps of Engineers relies on a system of hydrologic and meteorologic gauges operated by the National Weather Service, United States Geological Survey, and the Corps for hydrologic data, but these near real-time data are often highly variable in time and slow in acquisition and dissemination to provide critical information in localized urban settings where many of the Corps' flood damage reduction systems are located. The rapidly evolving conditions associated with urban floods call for sophisticated, versatile, low-cost and rapidly deployable sensor systems capable of providing real-time data needed by forecast modelers, the Corps of Engineers, and local emergency operations personnel. A monitoring system that visualizes the problem via a multitude of sensors and can easily transmit data at varying intervals will enhance the Corps advanced measures and emergency response times in disaster situations. The rapid acquisition of environmental data during flood events and disaster situations is essential to enhance the capabilities of federal, state, and local officials during emergency operations.



A rapidly-deployable, stand-alone data acquisition system has been developed that will monitor and report the condition of a river system and serve as a flash flood warning activation tool, if necessary. It includes the ability to monitor all climate parameters and water level information, a robust system that can be applied to numerous monitoring situations. This system is ground-based and utilizes the Geostationary Operational Environmental Satellite (GOES) and cellular modems to transfer data. All real-time data feeds flow directly into the Corps Water Management Systems (CWMS) Oracle database software and displays data to end users via a Web portal. Information includes graphical charts, location maps, and tabular products.

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<https://swwrp.usace.army.mil/>

**Benefits** Emergency management personnel from Corps Districts, the Federal Emergency Management Agency (FEMA), and federal, state, and local agencies involved in flood response and monitoring activities will greatly benefit from this system. The Portable Flood Protection Monitoring System allows for near-real-time access and analysis of information derived in the field and dissemination of this information to managers and emergency personnel.

**Status** The Portable Flood Protection System is currently operational and was ready for Beta deployment during 2009. A full-scale deployment is tentatively scheduled for 2010. Additional system integrations will include releasing datastreams to Englink and the National Levee Database.

**Distribution Source(s)** Access and information about the Portable Flood Protection Monitoring System and Web site can be obtained by contacting David Finnegan at ERDC-CRREL.

**Available Documentation** Currently there is no official available documentation.

**Available Training** There is currently no organized training, but demonstrations and Web site access are available on request.

**Available Support** System support and requests can be obtained by contacting David Finnegan at ERDC-CRREL.

**Application** A list of current field locations and applications can be obtained by contacting David Finnegan, ERDC-CRREL.

**Point of Contact** Cold Regions Research and Engineering Laboratory, Hanover, NH  
David Finnegan, (603) 646-4106, Email: [David.Finnegan@usace.army.mil](mailto:David.Finnegan@usace.army.mil)  
Christopher Williams, (603) 646-4160

**Partners** N/A