

# La Quinte Watershed and Flood Information System

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

## PROJECT SUMMARY

After the devastation caused by Hurricane Jeanne, Haiti needed to implement a flood warning system that would reduce risks and losses from future catastrophes. Riverside Technology, inc. developed and implemented a pilot watershed and flood information system.

LOCATION  
Haiti

PERIOD  
2005 – 2008

## PROJECT DETAILS

Flooding and related losses in developing countries cause economic hardships that frequently require several years for recovery. Lack of capacity to assess flooding conditions and provide timely flood warning, minimal emergency preparation, and disaster response, and large populations exposed to substantial flood hazard elevate the risk of catastrophic flood losses such as those experienced in northern Haiti during Hurricane Jeanne in September 2004. From the identification of appropriate flood warning system technology to the development of local operator capacity to sustain system operation, establishment of a flood warning system that successfully reduces risk to future catastrophes requires careful attention to several factors.



*Flooded highway outside of Gonaïves, Haiti*

The U.S. Agency for International Development (USAID) funded the Hurricane Jeanne Reconstruction Program to assist northern Haiti's recovery from the storm's aftermath and to mitigate risk to future flood related losses. Riverside Technology, inc. (Riverside) under contract to Development Alternatives, Inc. (DAI) provided the short-term technical assistance required for establishment of a pilot watershed and flood information system (WFIS) in northern Haiti. The WFIS was designed to provide critical real-time information and flooding advisories on current and forecasted hydrological conditions, while also strengthening local disaster planning and management.

Riverside provided the technical expertise demanded for successful implementation of the La Quinte WFIS and conducted a feasibility and needs assessment by evaluating existing institutional capacity, determination of flood risk and flood warning needs, and identification and recommendation of a suitable WFIS solution. Riverside recommended an automated real-time hydrological monitoring and flood forecast system as a solution for providing flood early warning information for the La Quinte watershed. Monitoring and flood forecasting was supported by a watershed information database framework of geographic information systems (GIS) and historical data.

The system included automated stream gaging and rainfall stations, radio data communications and real-time flood forecasting, and a GIS database that served as a framework for the development of a more comprehensive watershed information system. GIS and historical data were used to develop the hydrologic monitoring and flood forecast system and support data management of collected real-time hydrological data. Riverside's RiverTrak® Forecaster and Sentry software provided the needed capacity for automated and continuous evaluation of watershed hydrological conditions and initiating flood advisory messages. Riverside engineers provided the technical training needed to establish the local capacity to independently operate and maintain the La Quinte WFIS.

## RELATED PROJECTS

Flood Inundation Mapping for the Río Choluteca

Flood Forecasting System for the Río Choluteca

Hydrometeorological Data Collection Network Design for the State of Ceará, Brazil

Joint Reservoir Model Development of Gatun and Madden Lakes

Flood Forecasting System for the Río Polochic

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