

Río Santiago/El Cajon Hydrologic Forecast System

COMISIÓN FEDERAL DE ELECTRICIDAD

PROJECT SUMMARY

Mexico's Comisión Federal de Electricidad needed information about streamflow to be diverted from a hydroelectric project construction site, and potential flood risks at the site. Riverside Technology, inc. developed and implemented a hydrologic forecast system to predict streamflow at the construction site and the magnitude and time of arrival of severe floods that may threaten the project during construction.

LOCATION
Mexico

PERIOD
2003 – 2004

PROJECT DETAILS

Riverside Technology, inc. (Riverside) has extensive experience in Mexico and developing hydrologic forecast systems.

During construction of the El Cajon Hydroelectric Project on the Río Santiago in Nayarit, Mexico, Riverside was asked to develop a hydrologic forecast system to predict streamflow and floods.

Under a subcontract to Rossbach de Mexico, Riverside developed a system based on the RiverTrak® forecast system that consists of both a data collection network, and a hydrologic simulation and data display system.

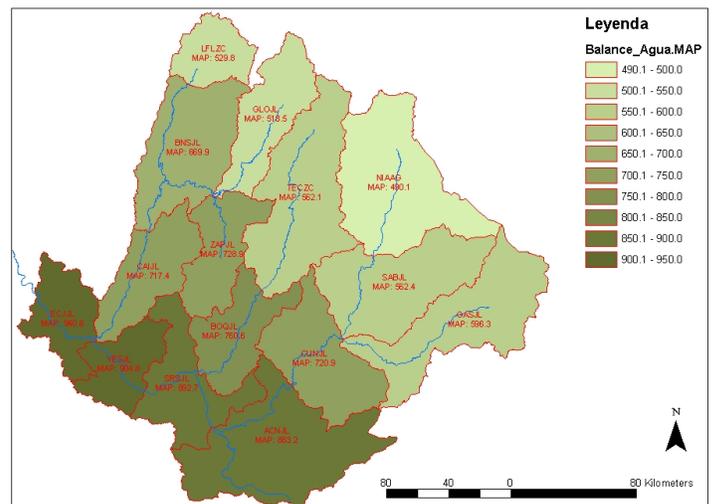
The data collection network obtains real-time precipitation and streamflow measurements, and the hydrologic simulation and data display system integrates the observed data, quantifies the hydrologic response, and presents the data and results to personnel responsible for the security of the project.

The system also includes a reservoir model for the Santa Rosa Dam, a hydroelectric facility owned by the Comisión Federal de Electricidad (CFE) on the Río Santiago.

Riverside analyzed and processed all of the available hydrometeorological data in order to calibrate the forecast system models. Once calibration was complete, the forecast databases were initialized to hold all required data.

When the complete system was initialized, Riverside staff traveled to Mexico to install and integrate the forecast system at each of three locations identified by CFE, as well as provide training and support to CFE personnel. This was an extremely important project for CFE as it was the first integrated hydrologic forecast system used in conjunction with dam construction.

Precipitación Media Anual por Area en mm



Average annual precipitation in the Río Santiago Basin

RELATED PROJECTS

Flood Forecasting System for the Río Polochic

Forecast System Development for Mexico

Flood Forecasting System for the Río Choluteca

Hydraulic Model Development for the Río Panuco

Data Management Systems for Mexico

Río Santiago/La Yesca Hydrologic Forecast System

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