Graphical information about real-time and predicted reservoir levels, stream-flows, and rainfall enable officials to take decisive actions to safeguard lives and infrastructure from flood dangers.

Extreme weather patterns are altering the frequency and intensity of floods and droughts. Accurate analysis of historical high and low river flows provides insight to better manage future extreme weather conditions. When facing imminent flood dangers, time is of the essence. The ability to automatically acquire and validate data from remote sensors, compute related statistics, determine the current status of flood prone locations, and then issue alerts and situation reports is essential for effective flood management.

Officials trust AQUARIUS to acquire, process, model, and publish water data. Getting the right data, to the right people, at the right time helps protect lives, homes, and urban economies.

Brisbane is a world-class city, enjoyed for its subtropical climate, which also results in urban flooding. The Brisbane City Council trusts AQUARIUS for early flood detection and management. All real-time datafrom its many water ways are collected, processed, and quality controlled using AQUARIUS Time-Series. The information is made instantly available to City officers, engineers, planners, and emergency response personnel using their customized AQUARIUS WebPortal. Complex hydrological and meteorological data is represented in actionable graphical information with intuitive maps, grids, charts, and graphs on laptops and mobile devices. Powerful alerting capabilities, via email and SMS, enable officials to take timely action to protect residents and their city.

AQUARIUS Time-Series

AQUARIUS WebPortal

AQUARIUS Time-Series is the leading water management software. Water resource managers can correct and quality control time series data, build better rating curves, and derive and publish hydrological data in real-time to meet information demands. An interactive graphical environment supports the analysis of river flow records for the return frequency of both high and low flows, providing visualizations for the empirical distribution of flood or drought events.

A highly intuitive flood management system, AQUARIUS WebPortal turns complex hydrological and meteorological data into actionable graphical information with rich maps, grids, charts, and graphs. Instant email and SMS messages alert officials of unusual events. Equipped with a real-time and historical view of drastic events, officials can better prepare for and more effectively manage floods, improving the safety of citizens while protecting public infrastructure.

AQUATIC Informatics

AQUARIUS Forecast

AQUARIUS Forecast features rich modelling capabilities for flood analysis and forecasting. Post-flood models integrate historical storm, weather, and flow data. Insights into past conditions support better planning for future floods. Models of predicted rainfall and associated stream-flows within river catchments results in precise, timely forecasts. Advanced flood predictions allow officials to take decisive action to better safeguard lives, homes, and urban economies.

AQUARIUS EnviroSCADA

AQUARIUS EnviroSCADA is the most robust data acquisition software used by leading water and environmental monitoring agencies around the world. Managing natural disasters requires real-time data. Modernized data acquisition networks require AQUARIUS EnviroSCADA to ensure real-time, reliable data collection. Leveraging the power of standards- based, industrial strength SCADA technology and protocols ensures 100% acquisition system uptime during extreme weather conditions.

South Dakota DENR was faced with the challenge of competing water resource needs between the state and its citizens. While the state was working to protect residents and property from river flooding, maintain water quality, and reduce shoreline erosion, a group of lake users sought to raise the level of their lake for recreational uses. DENR used AQUARIUS to create a model to demonstrate that a newly proposed management plan would have minimal positive effect on the lake's water levels while having detrimental effects on the State's ability to protect against flooding. The right decision was made to ensure that the long-term health of the lake was protected.
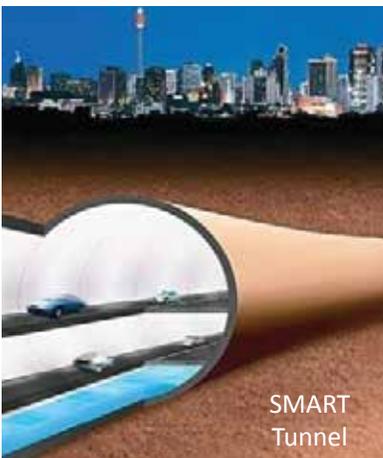
SMART Flash Flood Modelling & Forecasting

The Malaysia 'Stormwater Management and Road Tunnel' is the longest multi-purpose tunnel in the world designed to both reduce traffic and solve the problem of flash floods in Kuala Lumpur. During severe flooding, the motorway tunnel is cleared of vehicles and used to drain stormwater away from the city. Since 2012, the SMART Stormwater Control Center has used AQUARIUS for processing, storing, and building simulations of environmental data. AQUARIUS Time-Series centralizes data from 28 river flow and rainfall sites. This data is modelled in AQUARIUS Forecast to predict flash floods two hours ahead. When models forecast a flood, notifications trigger audio alarms at 20 operational sites. The decision to close the motorway tunnel is then made by a manager, and Kuala Lumpur is protected from Klang river floods.

SMART Tunnel