Drainage and Flooding

ICMLive™

REAL-TIME OPERATIONAL FORECASTING OF URBAN AND RURAL CATCHMENTS

By making powerful modeling technology instantly accessible to control room operators, ICMLive helps water utilities and river authorities operate their collection systems in real time; better understand and predict the effects of global climate change and changing flood conditions; and make better, faster, action-oriented decisions. ICMLive offers state-of-the-art, real-time operational forecasting of urban and rural catchments, combining the comprehensive integrated catchment modeling capabilities of InfoWorks ICM with sophisticated real-time operational forecasting, early warning, and emergency management. It provides water utilities and river authorities timely, accurate and reliable forecasts of what will happen within a catchment, based on past and current observations of a multitude of parameters along with future rainfall predictions.

LIVE MANAGEMENT SYSTEM

Warnings or alerts triggered during the forecast period are instantly displayed via the rich ICMLive user interface, allowing system operators to see at a glance which areas need attention and what actions might be taken. Comparison alerts highlight differences between observed and modeled results, enabling users to refine their models — creating unprecedented confidence in simulation results.

EMPOWERED PROBLEM SOLVING

ICMLive allows operators to perform additional scenario analysis simulations, exploring alternative real time control scenarios such as the impact of switching on a pump earlier than planned, and quickly seeing the effect of these changes on the system. This wide range of capabilities allows ICMLive to serve as a key tool in the decision making process, enabling operators to take action to avoid system issues, release timely alerts, and quickly deploy response teams if necessary.
REAL-TIME DECISION MAKING

ICMLive allows both large and small utilities and water authorities to manage their systems more efficiently and effectively than ever before. This powerful risk assessment and real-time decision making tool enables managers and operators to consider the influence of a full range of catchment factors in the management of flooding and the reduction of unregulated discharges; the optimization of storage and existing infrastructure, leading to savings on capital works; and the optimization of pumps to lower energy costs and reduce CO₂ emissions.

STREAMLINED OPERATOR ENVIRONMENT

ICMLive is designed to work automatically. Once a system is configured, real-time data is continually and automatically harvested and quality checked. This data can be defined by a number of parameters, including observed and forecast radar rainfall, online water quality measurements, and ancillary structure and pump operation time series. Simulations are run automatically at a user-defined frequency drawing on the full hydrodynamic and technological capabilities of InfoWorks ICM, including one- and two-dimensional modeling techniques, real-time control, dynamic water quality analysis, and GPU-enhanced and remote simulation. Simulation frequency can change in response to user-defined conditions. For example, increased rainfall intensity can trigger a reduction in the interval between simulations.

Warnings or alerts triggered during the forecast period are instantly displayed via the rich ICMLive user interface, allowing system operators to see at a glance which areas need attention and what options might be taken. Comparison alerts can be used to highlight differences between observed and modeled results, enabling users to refine their models — creating unprecedented confidence in simulation results. Users can also perform additional scenario analysis simulations, exploring alternative real-time control scenarios, such as the impact of switching on a pump earlier than planned, and quickly seeing the effect of these changes on the system. These capabilities enable operators to take action to avoid system issues, release timely alerts, and quickly deploy response teams if necessary.

AMONG THE MANY BENEFITS OF ICMLIVE:

Forecasting of system states
• Real-time model and telemetry data
• Early identification of maintenance issues
• Improved understanding of network operation
• Reduced flood damages
• Reduced risk to public, staff and contractors
• Reduced number of CSO spills

Operational management
• Pump and gate operation scheduling
• Different comparative control strategy evaluation
• Use of system storage evaluation
• Reduced energy CO₂ costs
• Continuous simulation runs
• Continuous evaluation of existing and proposed systems using real-world inputs