



Selected References

Development of Sava and Soca Flood forecasting System, Slovenia (2010-2011)

Establishment of hydrological and hydraulic flood forecasting model based on MIKE 11 for the Sava and Soca river basins in Slovenia and Italy. The forecasting models are run operationally using MIKE FLOOD WATCH based on real-time data sources for point measurement time series (precipitation, temperature, river discharge and water level) as well as meteorological forecasts in grid format. The forecasts are published through the EARS web services.

Client: Environmental Agency of the Republic of Slovenia

Consultancy Services for Development of Real-time Decision Support System for Operational Management of Reservoirs of BBMB, India (2009-2012)

Provision of real-time inflow, flow and flood forecasting system for operational reservoir management. The system integrates real-time data and novel mathematical models in an operational client-server environment. Long term reservoir operations are computed based on MIKE BASIN, while short terms flood forecasts are computed based on MIKE 11. Optimal short term operation strategies are identified taking into account trade-offs associated with hydropower generation, flood protection and the demands for water for irrigation schemes.

Client: Bhakra-Beas Management Board.

Development and Deployment of the Nile Basin Decision Support System, Nile Basin Riparian Countries (2009-2011)

Design, development and deployment of a decision support system capable of running models from multiple different suppliers based on data from several sources and presenting information in tailored reports to ease decision making. The system also provides tools for time series management and analyses, GIS and database queries, multi criteria analyses, optimization, ensemble and uncertainty estimation, climate change scenario modelling as well as a range of tools for user administration, reporting and web configuration.

Client: Nile Basin Initiative

Real-time Flow Modelling for Big Cypress Basin, USA (2007-20010)

Upgrading of MIKE SHE model, development of interfaces to real-time data and configuration of MIKE FLOOD WATCH.

Client: South Florida Water Management District.

Ijzer Real-time Flood Forecasting System, Belgium (2007-2008)

Upgrading of MIKE RR/HD model for forecasting purposes and provision of early forecasting and warning system.

Client: Waterbouwkundig Laboratorium.

Real-time Flood Forecasting for Gold Coast, Australia (2007)

Provision of MIKE 11 forecasting model, development of system interfaces and configuration of MIKE FLOOD WATCH system and web page .

Client: Gold Coast City Council.

Real-time Optimisation of the Orange-Fish Catchment, South Africa (2007)

Application of AUTOCAL, MIKE 11 and MIKE FLOOD WATCH for real-time optimisation of dams and diversion weirs.



Client: Department of Water Affairs & Forestry.

Development of a flood forecasting system on Mur, Austria (2004-2005)

The primary objective of the project was the establishment of a regional flood forecasting and warning system on Mur river basin in the Southern part of Austria, Slovenia, Croatia and Hungary. The flood forecasting system includes: Real-time monitoring and transmission of hydrologic and hydrometric data. Modelling of mur river and catchments. Preparation of accurate and timely warnings for dissemination

Client: Amt der Steiermärkischen Landesregierung.

MIKE FLOOD WATCH SLOVENIA, Slovenia (2005)

Development of a forecasting system for Mur River in Slovenia. The Forecasting system is a part of the transboundary forecasting system for Mur River. Automatic Forecasting is performed at the international forecasting centre in Graz, Austria.

Client: The Environment Agency of the Republic of Slovenia.

CHI-MUN Telemetry Project for DWR, Thailand (2006-2007)

Provision of real-time flood forecasting system based on MIKE 11 and MIKE FLOOD WATCH. System installation and testing on site and training of staff.

Client: Roge and Associates Co., Ltd. for Department of Water Resources (DWR).

Marun River Basin Management Project, Phase I, Iran (2005-2008)

Development of a management plan and real-time operation system for the reservoirs in the Marun River Basin.

Client: Dez Ab Consulting Eng. for Khuzestan Water and Power Authority.

AFFM-HYRAD Integrations, United Kingdom (2004-2005)

Integration of the Region's new radar system HYRAD in the Anglian Region Flow Forecasting System - AFFMS

Client: ATKINS - Integrated Solutions for Environment Agency, Anglian Region.

Ping River Basin Flood Forecasting Project, Thailand (2005)

Development of a real-time FLOOD WATCH flood forecasting system for Ping River Basin, Thailand.

Client: SIGMA Hydro Consultants Co. Ltd.

Songhua Flood Management and Forecasting System (2004-2007)

Setup of MIKE 11 and MIKE FLOOD forecasting models for Songhua River Basin. Provision of real-time forecasting system. Interface to telemetry database and provision of a web based decision support system. Training of staff.

End client: Songhua Water Resources Commission.

Flow Forecast for Three Gorges Reservoir, China (2004-2006)

An inflow forecasting system to the Three Gorges Dam on the Yangtze River including decision support on the dam operation.

Client: China Yangtze Three Gorges Project Development Corporation.

Real time water quality forecast system, Thailand (2004-2005)



Implementation of a water quality decision support system in Bangkok for identification of polluters, gate control and forecast of water quality. The system combine advanced sensor technology and model updating in real time.

Client: Fugro OCEANOR AS for Bangkok Metropolitan Administration.

Chantabury Phase II, Thailand (2004-2005)

MIKE 11 DA, FLOOD WATCH, Real-Time Flood Forecasting, Telemetry, GIS

Client: Panya Consultants Co. Ltd. for Royal Irrigation Department.

Bangkok Flood Forecasting, Thailand (2004-2005)

Setup and customisation of the MIKE 11 hydrological and hydraulic models. Employment of MIKE 11 the data assimilation module for forecasting purposes. Setup and customisation of MIKE FLOOD WATCH.

Client: TEAM Consulting Engineers Co. for Bangkok Metropolitan Area.

Environment Waikato Flood Forecasting System, New Zealand (2004-2005)

Real-time flood forecasting, MIKE FLOOD WATCH, MIKE 11 DA, WWW.

Client: DHI New Zealand for Environment Waikato.

Hydrological Forecasting in Sydney, Australia (2005)

Development of run-time adapters for third party hydrological models to run with MIKE FLOOD WATCH. Setup of on-line system and interface to telemetry. Setup of alarm procedures.

Client: Sydney Catchment Authority.

Tianjin Flood Forecasting, China (2003-2004)

Shanghai Environmental Protection Bureau is implementing a GIS and Water Quality Modelling and Water Basin Monitoring Information System. . DHI is providing the MIKE 11 flood forecasting model for use in real-time.

Client: JinShui Engineering New Technology Development for Tianjin Water Conservance Bureau.

Leie-Bovenschede Rreal-time Flood Forecasting System, Belgium (2005-2007)

Upgrading of MIKE RR/HD model for forecasting purposes and provision of FLOOD WATCH system.

Client: Waterbouwkundig Laboratorium.

Rio Negro Lower Catchment Flood Forecasting (2005)

Set-up and Configure the MIKE FLOOD WATCH for the lower basin of the Negro River. This river causes large floodings in the capital city of the Province of El Chaco, Resistencia and neighbouring areas. For this purpose it has been implemented flood protection embankments, several pumpin stations and a control structure (pump and gates) to discharge the water into the Parana River. The end user and who will operate the system is APA - Administracion Provincial del Agua de la Provincia del Chaco.

Client: TECMES S.R.L.

Ubol Ratana Dam – Real-time Flood Forecasting - (2004-2006)

Development of a real time forecasting system for the inflow to Ubol Ratane Dam in Thailand.



Client: Loxley Public Company Limited.

Dender, Demer and Grensmas on-line Flood Forecasting Models, Belgium (2004-2005)

MIKE FLOOD WATCH, data assimilation, updating, MIKE 11 flood forecasting, training

Client: SORESMA N.V for Hydraulics Laboratory, Antwerp.

Electro-Peru, Reservoir Operation, Peru (2003)

As part of a larger SCADA system DHI designed a FLOOD WATCH based decision support system for optimising the operation of system of 17 reservoirs supplying a 1000 MW power station and other water users in the Mantaro river basin in the high Peruvian Andes.

Client: SAINCO for Electroperu S.A.

Pilot Flood Forecasting System, Lower Colorado River, Texas, USA (2003)

Implementation of a pilot flood forecasting system on Lower Colorado river in Texas. The project includes setup of a MIKE 11 FF model, Set-up and Customization of Flood Watch with direct coupling to telemetric system, flood mapping and dam break analysis.

Client: DHI Inc for Lower Colorado River Authorities (LCRA).

Updating of the Sigma plan for Scheldt, Rupel and Durme, Belgium (2002-2004)

Real-time flood forecasting, MIKE FLOOD WATCH, MIKE 11 DA, World Wide Web

Client: International Marine and Dredging Consultants NV (IMDC).

Chantaburi Flood Protection Project, Thailand (2002)

Flood Forecasting, FLOOD WATCH, telemetry, GIS, database.

Client: United Communication Industry PCL for Royal Irrigation Department.

Flood Relief - A real-time decision support system integrating hydrological, meteorological and radar technologies, Europe (2002-2005)

FLOOD RELIEF - A real-time decision support system integrating hydrological, meteorological and radar technologies.

Client: EU 5th Framework.

Chumphon Flood Forecasting Services and Software, Thailand (2002)

Real-time telemetry, GIS, flood forecasting, FLOOD WATCH, world wide web, training, grid-based rainfall forecasts.

Client: United Communication Industry PCL for Royal Irrigation Department.

Flood Prevention in Upstream Tisa, Romania (2002)

Transfer of MIKE 11 and MIKE FLOOD for flood forecasting by Romanian authorities in northwestern Romania.

Client: CFCU, Ministry of Public Finance for Romanian Water Authority.

Flood Management in Slovakia and Ukraine, Slovak Republic and Ukraine (2001-2004)

Strengthening of involved organisations responsible for Flood Management and Flood Forecasting through training, technology transfer equipment and model development.

Client: Danish Environmental Protection Agency for Slovak and Ukrainian Ministry of Agriculture and Ministry of Environment.



Telemetry Flood Control and Integrated Management System for the Limpopo and Incomati Basins, Mozambique (2001-2003)

Establishment of an integrated river monitoring and management system, including flood forecasting, for the Limpopo and Incomati river basins in Mozambique, including the design and installation of an automatic hydro-meteorological monitoring system.

Client: Administração Regional das Águas do Sul (ARA-Sul) for Direção Nacional de Águas (DNA) (National Water Directorate).

Turkey Emergency Flood and Earthquake Recovery Project, Turkey (2001-2003)

The development of a Flood Forecasting and Warning System and establishment in four pilot catchments in western Turkey.

Client: General Directorate of State Hydraulic Works for General Directorate of State Hydraulic Works.

Establishment of a Decision Support System for Dam Control in the Ebro Catchment, Spain (2001-2002)

Flood forecasting on the Ebro River Catchment. Set-up of MIKE 11 and implementation of a real-time flood forecasting system within FLOOD WATCH.

Client: DHI España for Conferación Hidrográfica del Ebro.

Klarälven, Phase III, Sweden (2001-2002)

Support to DHI Sweden for the expansion of the flood forecasting system for Karlstad town, situated in the Klarälven delta.

Client: DHI Sweden for Tekniska Verken.

Environmental Improvement and Flood Mitigation Project for the Klang River, Malaysia (2001-2002)

Project for improving the conditions in the heavily polluted and flood prone Klang River in Kuala Lumpur including: Detailed hydrological, hydraulic and water quality modelling, source assessment, land use and erosion analyses and flood forecasting using MIKE FLOOD WATCH.

Client: Dr. Nik & Associates.

Klarälven, Phase II, Sweden (2001)

Extension of the existing MIKE 11 model with the flood forecasting module and FLOOD WATCH. Real-time forecasting during snowmelt season.

Client: DHI Sweden for Karlstads Kommun.

Manila Flood Forecasting, Philippines (2001)

Telemetry, flood forecasting, FLOOD WATCH, World Wide Web, training.

Client: Japan Radio Co., Ltd. for Department of Public Works and Highways.

SWANTEL Integration East Anglia, United Kingdom (2000-2005)

Integration of the Regions new telemetry system SWANTEL in the Anglian Region Flow Forecasting System – AFFMS.

Client: Environment Agency Anglian Region.

Consolidation and Strengthening of Flood Forecasting and Warning Services, Bangladesh (2000-2004)



The Project aims at forecasting flood levels and inundation in all flood prone areas of Bangladesh, disseminating flood forecasts and warnings to government institutions, media, NGOs, relief organizations and local communities, and achieving a sustainable Flood Forecasting and Warning Center.

Client: Danida.

Piedmonte Flood Forecasting, Italy (2000-2002)

The primary objective of the project was the establishment of a regional flood forecasting and warning system on Po in the Piedmonte Region. The flood forecasting system includes: Real-time monitoring and transmission of hydrologic and hydrometric data. Modelling of Po River and catchments. Preparation of accurate and timely warnings for dissemination.

Client: Regione Piemonte, Direzione Regionale Servizi Tecnici di Previsione Settore Meteoidrografico di Monitoraggio for Regione Piemonte, Direzione Regionale Servizi Tecnici di Previsione Settore Meteoidrografico di Monitoraggio.

Establishment of a Real-Time Flood Forecasting and Flood Management System in Flanders, Belgium (2000-2002)

Client: Ministry van de Vlaamse Gemeenschap.

Little Pudding River Flood Plain Modelling Project, USA (2000-2001)

Flood management and mitigation study.

Client: Marion County, Public Works Department for Marion County, Public Works Department.

Savannah Pilot FF Model, USA (2000)

Preliminary study for development of a Flood Forecasting and Response System for Chatham County. Design of WEB page.

Client: DHI Inc. for Chatham County.

Anglian Flow Forecasting and Modelling System (AFFMS), United Kingdom (1999-2002)

As part of their regional water management strategy the Environment Agency (Anglian Region) required a comprehensive flow forecasting system for the rivers in the Region. The system should forecast both flooding events as well as low flows for water management and flood warning. The Anglian Region covers an area of 27,200 km² - about 20 per cent of the area of England and Wales - and is the largest geographically of the eight Agency regions. The contract to develop and supply the integrated flow forecasting system was awarded to a consortium of DHI and WS Atkins. DHI was responsible for the provision of the modelling software (MIKE 11) and for the design, development and implementation of the generic intranet software shell which links with the real-time telemetry system, controls the model simulations and provides various dissemination reports and outputs. Forecasts are then made available to Agency staff across the Region using an internet-based graphical user interface.

Client: The Environment Agency - Anglian Region.

Andhra Pradesh Hazard Mitigation and Emergency Cyclone Recovery Project, Study A, India (1999-2002)



Development of the Andhra Pradesh river and cyclone flood forecasting system. The river forecast system provides state-wide flood forecasting, using rainfall-runoff and river hydraulic models. A GIS-based GUI integrates the river forecast with a cyclone storm surge model.

Client: Baktie Group for Government of Andhra Pradesh.

FLOOD FORECASTING FOR HELGE RIVER, Sweden (1998-2002)

A flood forecasting system for the low-lying, embanked town of Kristianstad. The established MIKE 11 model has also been applied for flood management analysis.

Client: Kristianstad Kommun.

Inflow Forecasting for Hydropower Optimisation, United Kingdom (1998-2001)

Development of reservoir inflow forecast model based on MIKE 11 hydrological and hydrodynamic modules. Coupling with real-time SCADA system to allow automated forecasts to optimize hydro power generation.

Client: National Power Plc.

Flood Management and Forecasting in Poland, Poland (1998-2000)

The 2½ year project has focused on strengthening the capabilities of the polish authorities in the use of MIKE 11 for flood management. The main objectives were: Improved flood modelling capabilities, improved operational flood forecasting capabilities, improved flood control and planning capabilities.

Client: Danish Environmental Protection Agency (Miljøstyrelsen) for Institute of Meteorology and Water Management (Warsaw, Krakow and Wroclaw) Regional Water Management Board (Krakow and Wroclaw).

Flood Forecasting for Barrage Operation on the Sarawak River, Malaysia (1997-1998)

Establishment of an automatic real-time flow forecasting system for operation of the Kuching barrage on the Sarawak River.

Client: JUMSAR (Sarawak) Sdn Bhd for Sarawak River Board.

Modelling and Monitoring Study of the Water Resources, Upper Basin Iguacu River, Brazil (1996-1997)

The project main objectives are to review present hydrometeorological network, establish water quality and Flood Forecasting model for the Alto Iguacu River, design telemetric network for FF system and transfer of technology and train the SUDERHSA staff in the use of the models.

Client: Superintendência de Desenvolvimento de Recursos Hídricos e Saneamento Ambiental (SUDERHSA).

Flood Forecast, Venice, Italy (1995-2000)

Client: Consorzio Venezia Nuova.

Flood Forecasting for the Middle Yangtze River, China (1995-1998)

DHI's well-proven MIKE 11 FF flood forecasting system has been coupled to the advanced meteorological model HIRLAM and successfully used for flood forecasting for the large and heavily populated Middle Yangtze River Basin.

Client: World Bank for Changjiang (Yangtze) Water Resources Commission (CWRC).



Training in Flood Forecasting, Province of Entre Ríos, Argentina (1995)

Training of DHRH officers in MIKE 11 Flood Forecasting. Establishment of a flood forecasting system.

Client: Dirección de la Hidráulica y Recursos Hídricos (DHRH) de la Provincia de Entre Ríos, Argentina.

Atyrau Oblast Flood Warning and Protection System, Kazakhstan (1994-1997)

Client: Government of Kazakhstan and United Nations Development Programme (7956).

Flood Management in the Czech Republic II, Czech Republic (2000-2001)

Further analysis of flood mitigation options along the Morava River, Czech Republic, including flood damage assessment.

Client: Danish Environmental Protection Agency (Miljøstyrelsen).

Flood Modelling Programme, Thailand (1993-1999)

Transfer of modelling technology (MIKE 11) and comprehensive training programmes for six participating Thai government institutions (DOLA, RID, EGAT, MED, DEDP and DPW). Set-up and application of models for six river basins in Thailand, five of them operated in real time for flood forecasting by RID, EGAT and MED.

Client: Danida for Ministry of Interior, Department of Local Administration.

Mathematical Modelling for Real-Time Flood Forecasting and Flood Control in Central America, Central America (1993-1998)

MIKE 11 flood forecasting technology. Development of flood forecasting and flood management systems in river basins.

Client: CEPREDENAC (Center for Co-ordination of Prevention of Natural Disasters in Central America).