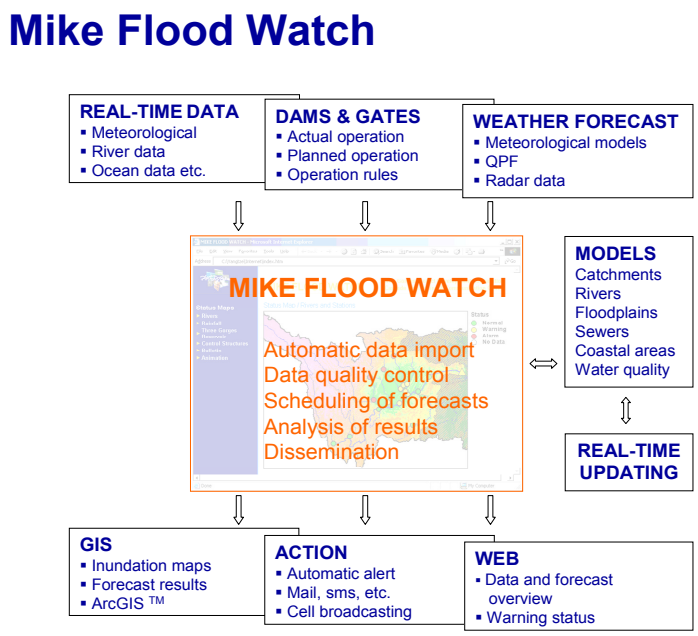
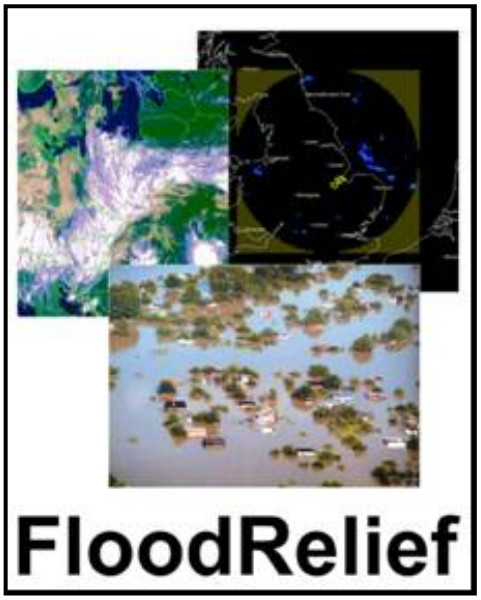
FLOOD FORECASTING & WARNING AND FLOOD MANAGEMENT TOOLS

DHI – Water & Environment, Denmark



DHI – Water & Environment has developed advanced technological tools for Flood Forecasting & Warning and Flood Management over the last two decades. The tools are being used world-wide by authorities, organizations and private enterprises. The model tools are under constant develop-ment to meet the requirements among the local communities, authorities and decision makers for accurate and timely informa-tion about floods. Products include MIKE11, MIKE11 FF, MIKE11 GIS, MIKE Flood, Flood Watch. The various model tools are presented.

Forecasting Flood Events: European Technology at the Leading Edge



Current flood forecasting and warning systems have several limitations, such as, insufficient lead-time to provide accurate flood warnings, inadequate spatial and temporal resolution of the real-time rainfall observations and forecasts for flood producing storm, little integration of different sources of forecast information. Moreover their ability in considering the uncertainties in estimating and forecasting precipitation and flood discharges is very limited, their application at regional level is also limited and the costs of improving forecasting may be prohibitive.

The FLOODRELIEF project, supported under the Fifth Framework Programme in the context of the Environment and Sustainable Development sub-programme, addressed these limitations by developing and demonstrating a new generation of flood forecasting methodologies which will advance present capabilities and accuracies. This is achieved by exploiting and integrating different sources of forecast information, including improved hydrological and meteorological model systems and databases, radar, advanced data assimilation procedures and uncertainty estimation, into a highly accessible Internet-based real-time decision support system designed to meet the needs of regional flood forecasting authorities and make the results more readily accessible. The FLOODRELIEF project including a case study from the Odra River Basin is presented.

Flood modelling in the Mekong Basin

DHI – Water & Environment has undertaken several model studies and –activities within the Mekong basin. Activities range from specific study projects to transfer of model technology to relevant agencies, institutes and private companies. Examples include:

Flood Inundation Analysis and Mapping for MRC (WUP-JICA and TSLV projects)

- Development of Flood Mapping Tool for the MRC
- MIKE 11 Flood Forecasting system for Royal Irrigation Department, Thailand. Used in various river basins, e.g. Chi and Mun rivers
- Flood modelling case studies in Mekong Delta. Under Capacity building and technology transfer to water sector institutes in Vietnam