

FLOOD & DROUGHT MANAGEMENT TOOLS

Flood and drought events are becoming increasingly common, more severe and less predictable. Climate change is a major driver, but a growing global population, urbanisation, changing land use, and increased demand for water from agriculture and industry, are putting pressure on limited resources.

This hydrological uncertainty dramatically increases risks for many countries, affecting the organisations responsible for managing river basins as well as their end-users such as industries and utilities. These risks are magnified in transboundary river basins, which have the additional challenge of multiple countries competing for water resources.

There is a growing sense of urgency around the need to improve our ability to recognise and address flood and drought risks, and to improve resilience and cooperation within river basins and amongst end-users

Land, water and urban area managers can better prepare for water related risks by integrating information on flood and drought events into planning and analysis processes. This includes Transboundary Diagnostic Analysis / Strategic Action Programmes (TDA / SAP) and Integrated Water Resources Management (IWRM) at the basin level, and Water Safety Plans (WSP) at the local (water utility) level.



Project partners

The Flood and Drought Management Tools (FDMT) project is being implemented from 2014-2018, and is supported by the Global Environment Facility (GEF) trust fund with the UN Environment (UNEP) as the implementing agency. DHI and the International Water Association (IWA) are the executing organisations.

Technical applications (tools) are integrated in a single workflow to support planning from the basin level to the local (water utility) level, by including better information on flood and droughts to build resilience

Transboundary Diagnostic Analysis (TDA) identifies, quantifies, and sets priorities for environmental problems that are transboundary in nature using the best available scientific evidence.

Strategic Action Programme (SAP) outlines the actions needed to resolve priority threats to international waters identified in the TDA.

Integrated Water Resources Management (IWRM) planning is a process which coordinates the development and management of water, land and related resources, while ensuring economic, social and environmental sustainability.

Water Safety Plan (WSP) is a comprehensive risk assessment and risk management approach, which is health driven, and encompasses all steps in water supply from catchment to consumer.

Planning for Floods and Droughts

Land, water and urban area managers need to prepare for water-related risks by integrating scientifically sound information on flood and drought events into their planning processes. The FDMT project responds to this need, contributing to improving capacity of managers operating in transboundary basins to recognise and address the implications of changing climatic scenarios and land-use on water resource management. This is achieved through the development of a methodology with technical applications (tools) to incorporate information about floods, droughts and climate change into planning.

Development of the tools to support planning for flood and drought events has been in partnership with stakeholders through consultations and trainings across the three pilot basins (Chao Phraya Basin, Lake Victoria Basin and Volta Basin).

The project also collaborates with water management authorities in learning basins (the Nile and Danube basins) and through work with strategic partners (e.g. WHO) to gather knowledge and experiences for the development of the methodology and tools and ensure their sustainability.



Geographical focus

The project is a global initiative, however three pilot basins are involved in developing and testing the methodology and tools.

The **Chao Phraya Basin** is an exclusively national basin in Thailand, where investment in tools to manage floods and droughts is a priority.

The **Lake Victoria Basin** is prone to both floods and droughts. The umbrella institution in the catchment is the Lake Victoria Basin Commission.

The **Volta Basin** represents a basin where there is irregular flooding and drought, in a drought prone region. The Volta Basin Authority is the main basin institution.

The Flood and Drought Portal

Flood and Drought Portal

The methodology adopts an online approach providing stakeholders with access to a package of web-based tools. The tools can be used individually or together to incorporate information about floods and droughts, and likely future scenarios into planning across scales from the transboundary basin (TDA/SAP, IWRM) to water utility level (WSP). The tools allow users to carry out baseline assessments using readily available satellite data, impact assessments through the analysis of the data, planning options and a means for disseminating information to relevant groups or individuals.

The tools can be applied in a single workflow which enables stakeholders to compile information from models, indicators and existing planning approaches to develop future planning scenarios that are robust, resilient and pragmatic.

Project website: fdmt.iwlearn.org

Flood & Drought Portal: www.flooddroughtmonitor.com

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