FLOOD & DROUGHT MANAGEMENT TOOLS

Planning tools for floods and drought events in a transboundary setting

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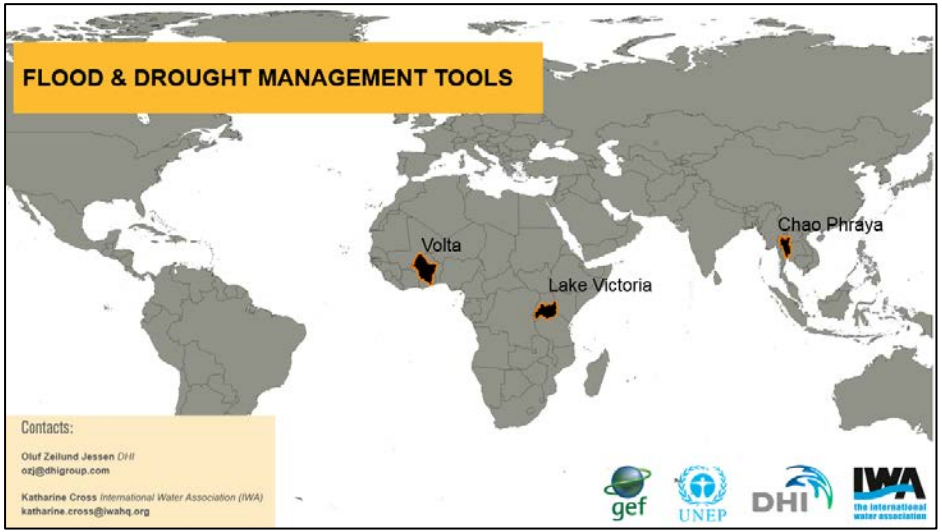
UNEP Flood & Drought Management tools project

- Facilitating a scientific approach to decision-making (TDA/SAP, WSP etc.)
- Technical tools for supporting the technical activities within flood and drought planning
- Support to decision process

Implemented by UNEP

Executed by IWA and DHI

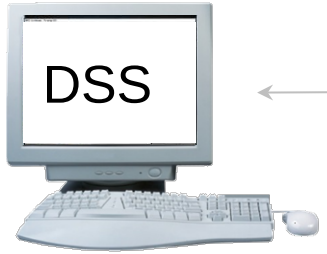
2014 to 2018



Objective

DSS supporting technical activities within flood and drought planning

- Data • Stakeholders • Planning
- Data management • Tools

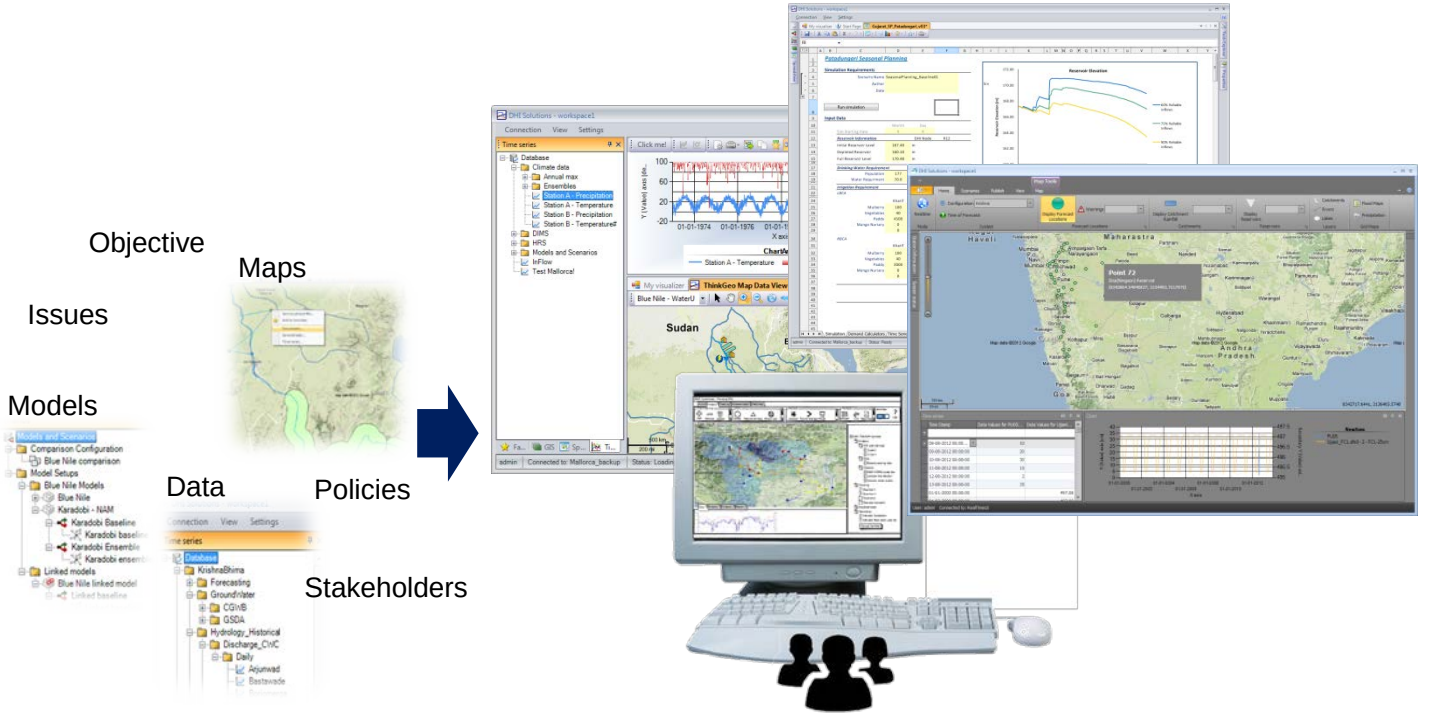


- Decisions • Optimisation
- Structure • Technical foundation

DSS is a software with technical functionality in ‘tools’ for supporting decision making within planning

What is a DSS?

Software for supporting decision making by providing structure and functionality within technical tools



Requirements to the DSS

- Based on freely available global data
- To be applied in any basin or location
- To cover different temporal scales (short to long planning horizons)
- To support existing planning methods

Project overview

Where? The project is working with three pilot basins for development and testing of the DSS before it can be promoted for wider use.

Danube and Nile Basin as learning basins

Drought management

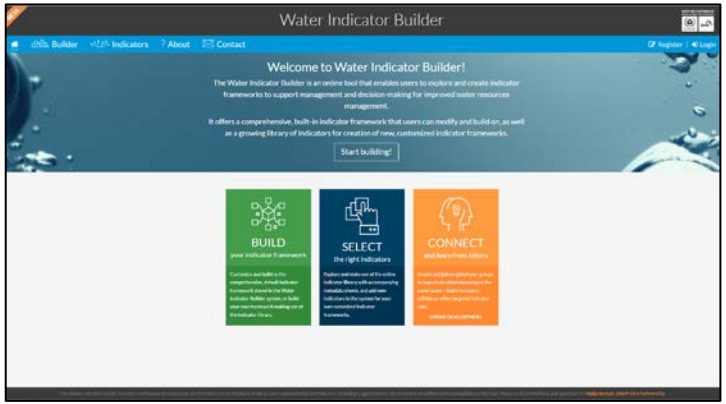
Indicator selection

Indicators are a critical part of any kind of planning

WEB based indicator selection tool:

- Assist user in selecting relevant indicators based on a specific issue
- Provides information about data, processing and use of the indicators

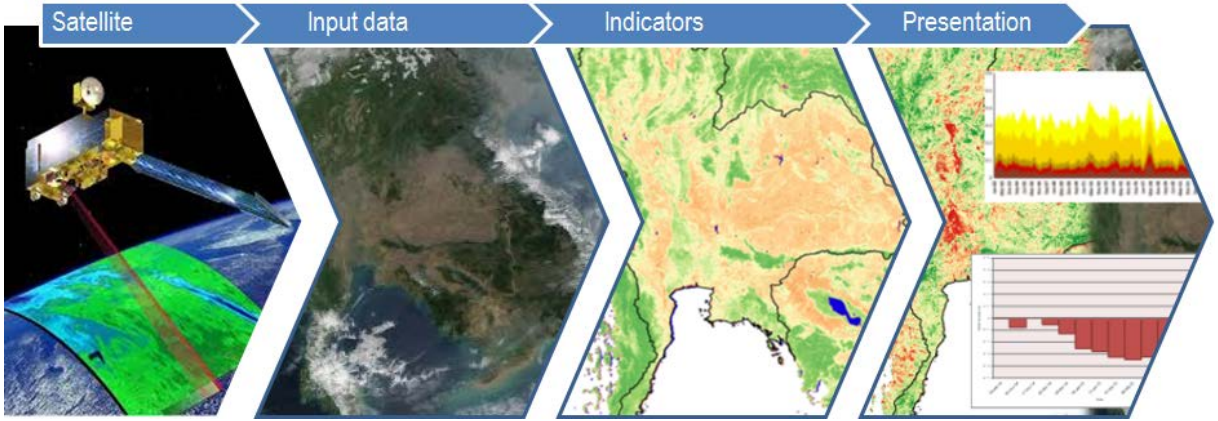
Selection of indicators to monitor the state or pressure of an issue



Data availability

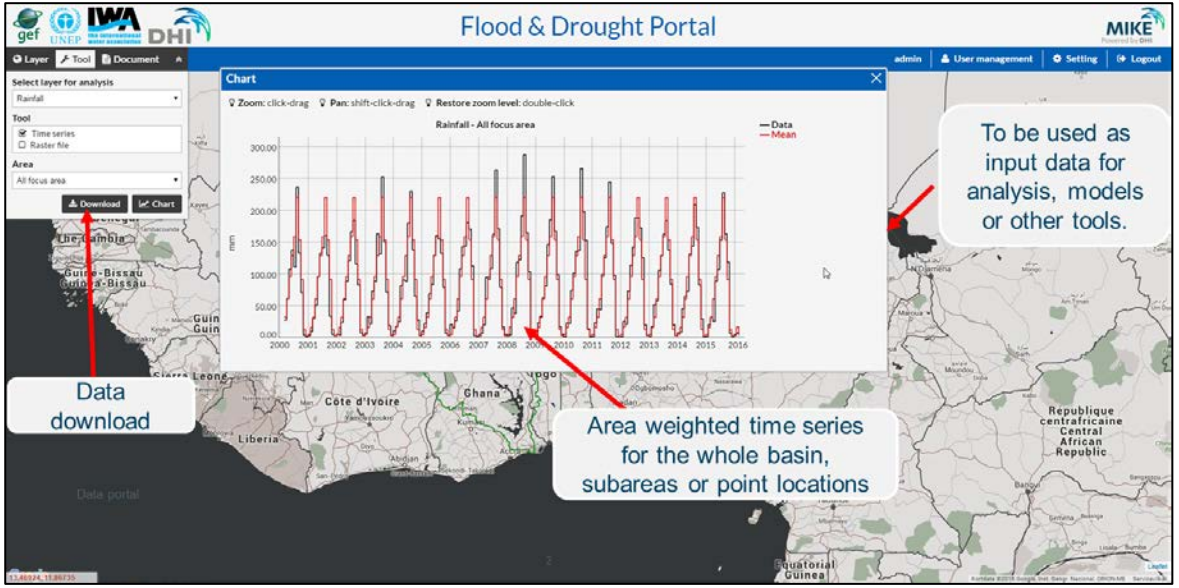
- Data availability is a key concern in many countries and basins
- Availability of a “basic” set of data for planning is critical

Objective: data to be made assessable in near real time through a web based data portal



Data availability

Flood & Drought portal enables near real time data, seasonal forecast data, flood and drought indices and identification of impacted areas.



Data portal from the Flood & Drought project

- Near real time satellite data
- Drought indices
- Seasonal forecast data
- Climate change information

Seamless weather prediction

Forecast products with highest confidence should be merged across different time scales

Combining predictions from
- In-situ gauges
- Weather radar
- Satellites
- NWP

Multi-decadal forecast
(Climate model, WG)

Seasonal, long-range
forecast (NWP, WG)

Medium-range,
NWP forecast

Short-range, limited
area NWP forecast

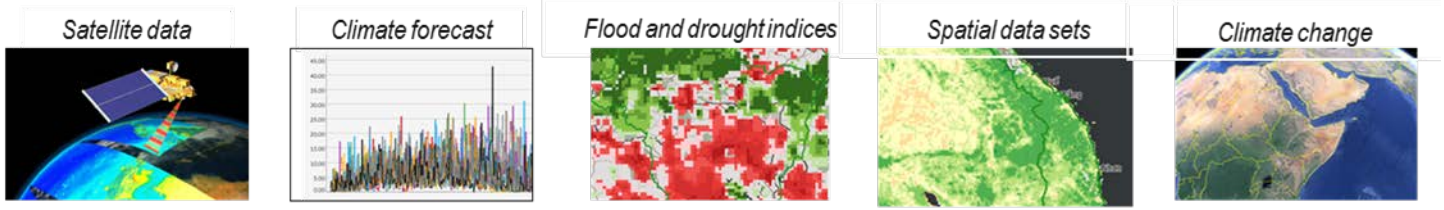
Weather radar
nowcast

Analysis

Weather forecast

Climate projection

Impact calculation



Data

Water resource models, rainfall-runoff, crop models….

Impact

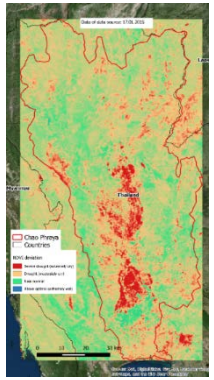
Scenarios, optimisation, cost-benefit…

Planning

Drought risk management framework

Drought management

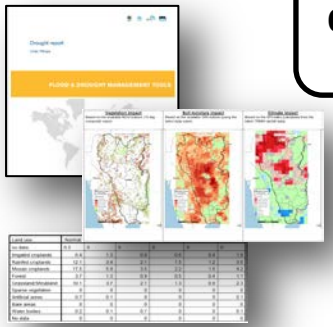
Near real time data



Identify drought impacted areas

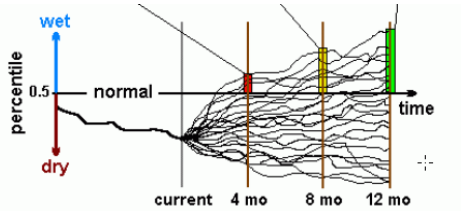
MIKE
Powered by DHI

Drought dissemination and warning



Drought risk assessment

Drought forecast



Next steps

Improve linkage to impacts assessments

Local validation

Dissemination and collaboration with relevant organisations

Thank you