

Online portal supporting flood and drought management in Asia



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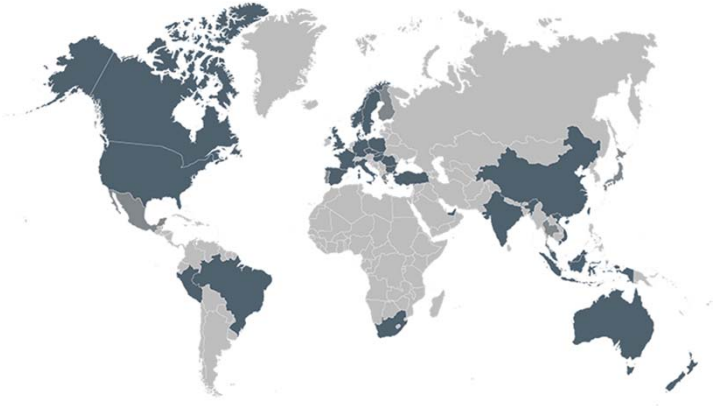
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DHI in Asia



FLOOD & DROUGHT MANAGEMENT TOOLS

A world map with two specific regions highlighted in brown: one in West Africa and one in Southeast Asia. The map is part of a project description slide.

Project description

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Logos for the Global Environment Facility (gef), United Nations Environment Programme (UNEP), DHI, and International Water Association (IWA).

Flood & Drought Management Tools Project

...get the full benefit of real-time monitoring and early warning systems

The Chao Phraya River Basin, 160,000km². **One** Decision Support System to reduce flooding and help ensuring water during drought periods

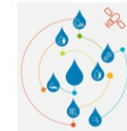
“HAII highly appreciates DHI for their excellent job, especially on the close collaboration and hands on experience that made us become a good partner.”
Dr. Piyamarn Siamthorn, Project Leader, Hydro and Agro Informatics Institute

A topographic map of the Chao Phraya River Basin in Thailand, showing the river network and surrounding terrain. The DHI logo is in the bottom right corner.

Flood early warning - Thailand



Ayeyarwady decision support system and basin master plan - Myanmar



Basin Planning - objectives



Drought



Coastal erosion

Navigation

Water quality



Multiple competing objectives at different time scales

Multiple institutions and stakeholders

Basin Planning – across time scales



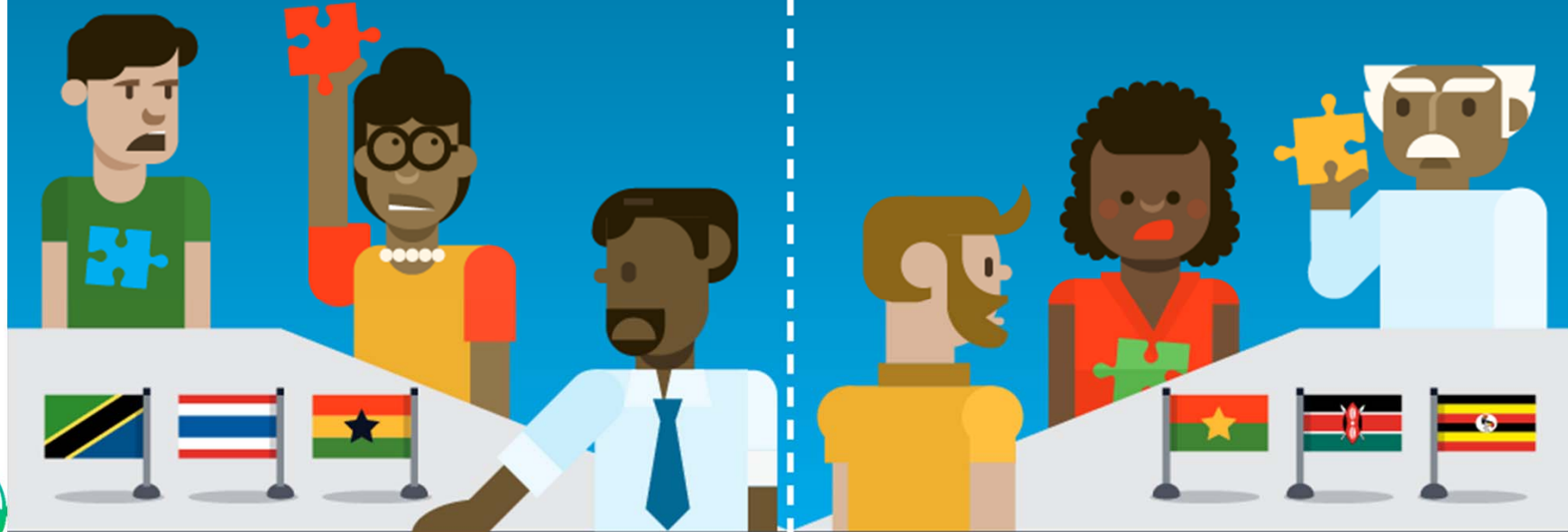
Online portal with tools for basin and catchment planning

Increasing uncertainty of the climate can make it difficult to plan and prepare for floods and droughts

Transboundary basin organisations are set up for cooperation across borders but getting agreement can be difficult

Decisions are often made at the country level. But countries may have differing priorities and don't always share critical information

Sharing data between countries can be difficult, but working alone is not an effective approach to water management



Online portal with tools for basin and catchment planning

The screenshot displays the 'Flood and Drought Portal' website. At the top, logos for 'gef', 'UN Environment', 'IWA', 'DHI', and 'MIKE' are visible. The main navigation bar includes 'HOME', 'User: oaj', 'Workgroup: Public', and 'Area: Thailand'. The central content area features a grid of ten tool icons with descriptions:

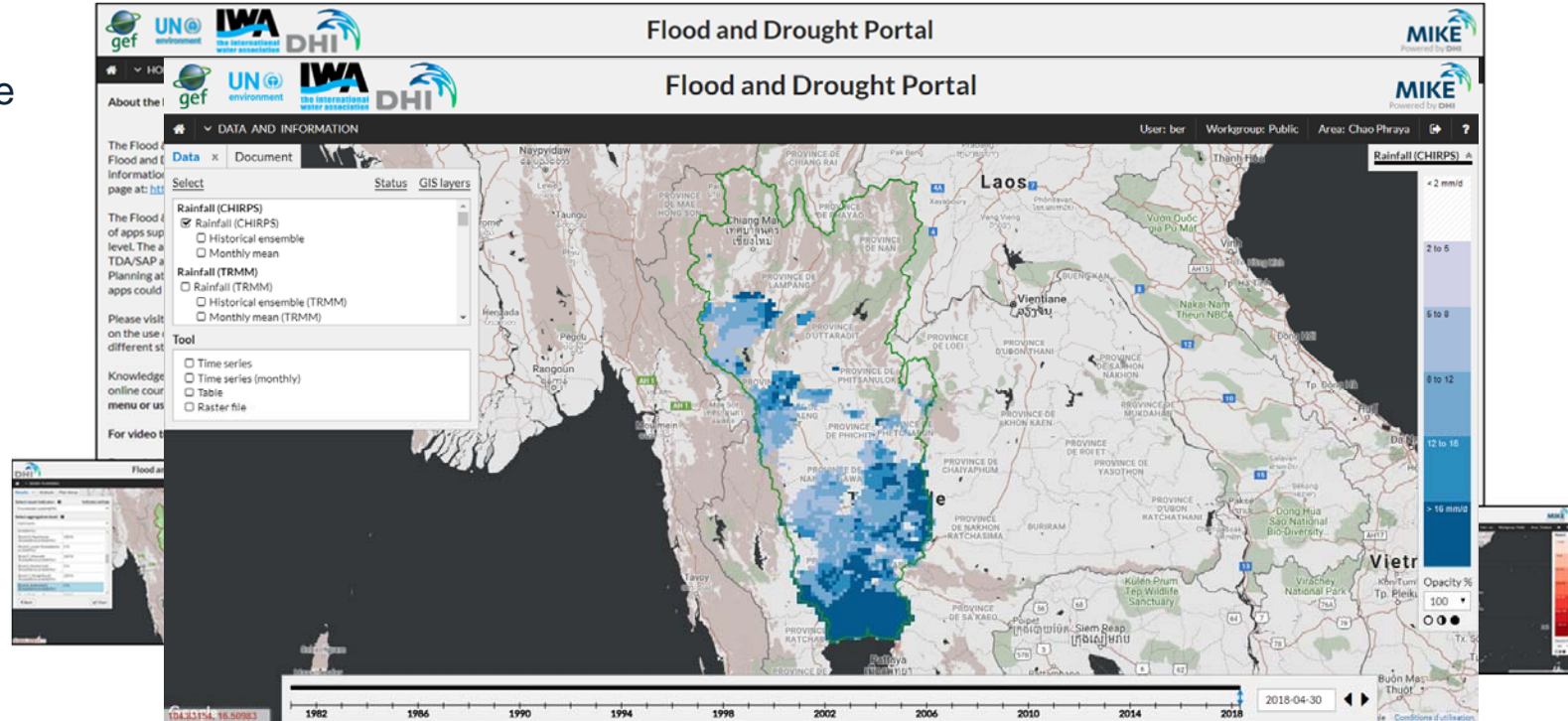
- ISSUE ANALYSIS**: Causal Chain analysis and WRIAM. Understand and prioritise the causes behind issues.
- WATER INDICATOR**: Identify water related indicators to support management and decision-making.
- DATA AND INFORMATION**: Access to near real-time data. Flood and drought indices. Climate forecast and climate change data.
- DROUGHT ASSESSMENT**: Locate and identify hazards, estimate impacts and provide risk assessment.
- CROP APPLICATION**: Visualise crop calendar, estimate crop water requirement and crop yield.
- FLOOD ASSESSMENT**: (Under development). Locate and identify hazards, estimate impacts and provide risk.
- Basin Planning**: Create and evaluate basin plans.
- Water Safety Planning**: Robust Decision Making Tool.
- RDM TOOL**: Robust Decision Making Tool.
- REPORTING**: User configured templates.

Below the main grid, several overlapping screenshots show the portal's interactive features, including maps of a basin with various colored overlays, data tables, and configuration panels.

www.flooddroughtmonitor.com

Online portal with tools for basin and catchment planning

Near real time satellite data



www.flooddroughtmonitor.com



Online portal with tools for basin and catchment planning

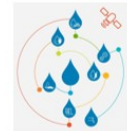
Planning tool
linked to water
resources
model

The screenshot displays the 'Flood and Drought Portal' interface. At the top, logos for gef, UN, IWA, DHI, and MIKE are visible. The main header reads 'Flood and Drought Portal'. Below this, a navigation bar includes 'About the DHI', 'MIKE Powered by DHI', and user information: 'User: ber', 'Workgroup: HAII_training', and 'Area: Chao Phraya'. The central part of the interface is a map of Laos and Thailand, with various provinces and catchments highlighted in different colors (green, red, orange). On the left side, there is a sidebar with 'BASIN PLANNING' and 'Results' tabs. A 'Select result indicator' dropdown is set to 'Groundwater sustainability'. Below it, a 'Select aggregation level' dropdown is set to 'Catchments'. A table lists several catchment blocks with their respective exceedance probabilities:

Block	Exceedance probability
Block10_Pasicharen	100 %
Block2_Lower	0 %
Block7_Utharadit	100 %
Block2_Kewkormah	0 %
Block11_RangitSouth	100 %
Block6_Sukhotha2	0 %

At the bottom of the interface, there are 'Back' and 'Chart' buttons. The map shows geographical features like Vientiane, Bangkok, and various provinces in Laos and Thailand. The bottom right corner of the map area includes copyright information: 'Données cartographiques ©2018 Google Conditions d'utilisation'.

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Online portal with tools for basin and catchment planning

Specific applications for flood and drought assessments

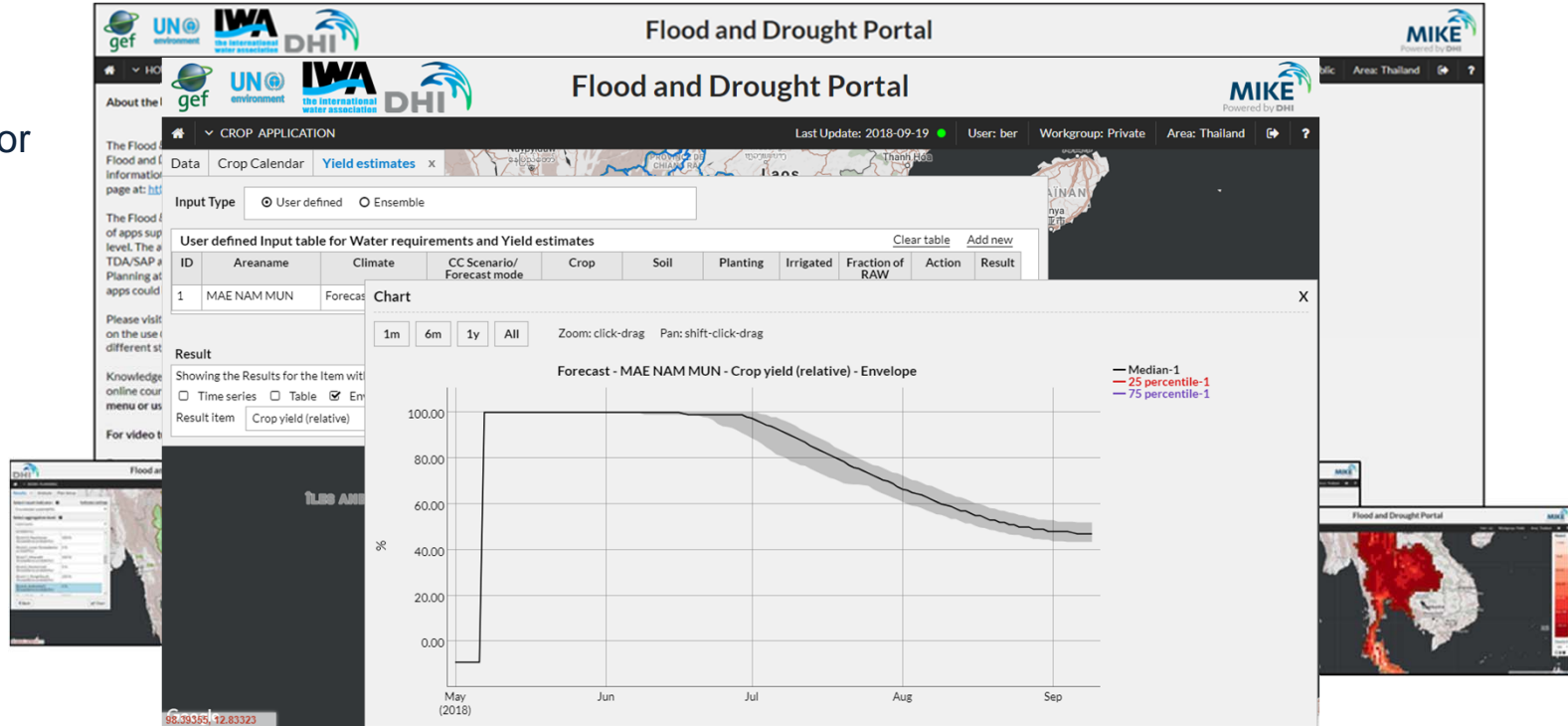
The screenshot displays the 'Flood and Drought Portal' interface. At the top, logos for gef, UN, IWA, DHI, and MIKE are visible. The main header reads 'Flood and Drought Portal'. Below this, a navigation bar includes 'Data', 'CROP APPLICATION', 'Yield estimates', and 'Results'. The 'CROP APPLICATION' section is active, showing a 'Crop calendar' window. This window lists crops and their activity periods from February 2014 to September. The crops listed are Potatoes (Plant, Growing, Harvest) and Rice (Plant, Growing, Harvest). The calendar shows green bars for planting, grey bars for growing, and orange bars for harvest. Below the calendar, there are buttons for 'Update Calendar with selected Crops' and '+ Add selected Crops to Yield Estimates'. The background features a map of Thailand with various provinces labeled, such as Phitsanulok, Kamphaeng Phet, Nakhon Sawan, and Bangkok. The map includes geographical features like the Chao Phraya River and several national parks.

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Online portal with tools for basin and catchment planning

Specific applications for crop yield assessments



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Online portal with tools for basin and catchment planning

Providing the best basis for sound decisions

