



## National Hydraulic Research Institute of Malaysia (NAHRIM)

Regional Water Knowledge Hub for Water and Climate Change Adaptation  
in Southeast Asia

### NAHRIM's Expertise

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NAHRIM was established by the Government of Malaysia in response to the country's increasing number of water-related challenges, including floods, drought events, deteriorating water quality in rivers and coastal bodies, competing users, erosion, accretion, sedimentation, and not least, the impending anticipated impacts of climate change on water. Operating under the direction of NAHRIM's Research Centre for Water Resources, the regional water knowledge hub for water and climate change adaptation in Southeast Asia has building capacity in areas of water management impacted by climate change due to global warming as its goal.

### NAHRIM's Services

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The main priority of the regional water knowledge hub for climate change adaptation is to develop well-informed personnel in relevant agencies around the region to help it brace itself for the impacts of climate change. More specifically, the hub will:

- Develop and offer courses and training programs in the areas required and specific to the region that are relevant and self-sustaining;
- Assess the impacts of global climate change and land use change on water balances and water quality in Southeast Asia through regional interactive climate, hydrology, and water quality models, such as NAHRIM's Regional Environmental Hydroclimate Model (RegEHCM), part of which is already completed;
- Train technical personnel from interested agencies around the region in the use of state-of-the-art data and technology from regional environmental hydroclimate models and water resources systems models designed to assist in assessing the impact of climate change in the region;
- Help develop clients' and partners' awareness of water-related issues in agricultural, coastal resource, biodiversity, forestry, public health, energy, and socio-economic planning, drawing on the expertise of regional and international teaching personnel;
- Create feasible policies for the optimal management of the region's water resources and the mitigation of the potential impacts of climate change against a variety of likely future water demand and land use scenarios;
- Develop a simulation model for water resources systems at the regional, country, and watershed scales that will include both water balances and water quality conditions (water temperature, dissolved oxygen, turbidity, nutrient loads, etc.) under global climate change and future urban-industrial-agricultural water demand and land use scenarios; and
- Predict possible scenarios of land use change and urban-industrial-agricultural water demands in Southeast Asia in the 21<sup>st</sup> century at a fine space (grid resolution ~3 kilometers) and time (hourly/daily).resolution.

## NAHRIM's Knowledge Partners

NAHRIM facilitates regional networking with partners throughout the Asia-Pacific region to share knowledge, develop capacity, and coordinate services. NAHRIM's current national and local partners include government agencies and municipalities in charge of managing water resources and water quality conditions and/or land use and land cover in Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. NAHRIM's international partners and clients consist of global research agencies and training institutions, development agencies, and financing agencies that address water resources development and environmental issues. Possible partners of the regional water knowledge hub for climate change adaptation in Southeast Asia include the following:

- Local and national agencies and governments at risk of being affected by climate change
- The Asian Institute of Technology (AIT), Thailand
- United Nations University (UNU)
- California Hydrologic Research Laboratory (CHRL), United States
- Institute of Water Modelling (IWM), Bangladesh
- UK Climate Impacts Programme (UKCIP), University of Oxford, United Kingdom
- Caribbean Community Climate Change Centre (CCCCC)
- Forest Research Institute of Malaysia (FRIM), Malaysia
- Malaysian Agricultural Research and Development Institute (MARDI), Malaysia
- Academy of Sciences Malaysia (ASM), Malaysia
- Network of Asian River Basin Organizations (NARBO)

All local, national, regional, and international agencies and institutions interested in water and climate change adaptation in Southeast Asia are invited to join.

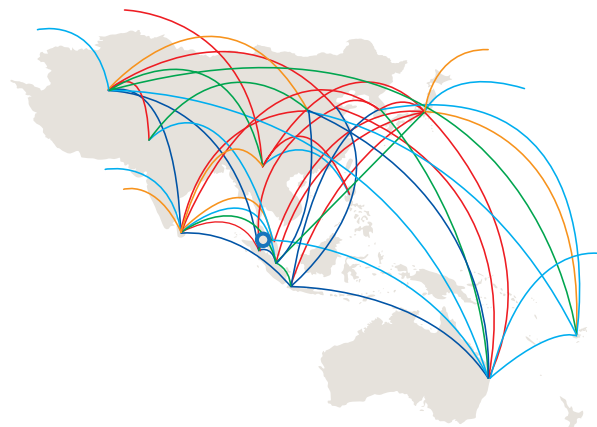
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### About KnowledgeHubs

*KnowledgeHubs*, the Asia-Pacific Water Forum's network of regional water knowledge hubs, is a family of internationally recognized institutions committed to generating and sharing water knowledge and building capacity in the Asia-Pacific region. Each hub takes the lead in networking with clients and partners on a priority water topic such as urban water management, water quality in river basins, flood management, river basin organizations and management, water and climate change adaptation, hydroinformatics, irrigation service reform, water governance, and more. For more information, visit [www.apwf-knowledgehubs.net](http://www.apwf-knowledgehubs.net).

### About the Asia-Pacific Water Forum

The Asia-Pacific Water Forum is an independent, not-for-profit, nonpartisan, and nonpolitical network dedicated to improving sustainable water management by championing best practices, boosting investments, building capacity, and enhancing cooperation in the water sector. For more information, visit [www.apwf.org](http://www.apwf.org).