



# ASEAN Hydroinformatics and Climate Data Center (AHC)

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# Outline

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**1** **NHC** (National  
Hydroinformatics and  
Climate Data Center)

**2** **AHC** (ASEAN  
Hydroinformatics and  
Climate Data Center)

**3** Collaboration  
within ASEAN

Workshop on  
**4** “SMART  
Informatics for  
Sustainability”

# ▶ Background of National Hydroinformatics and Climate Data Center (NHC)

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# Thailand 2011 Flood Leads to the Establishment of NHC

## Early warning and real time decision making

Flood sensorweb

Forecast & modeling

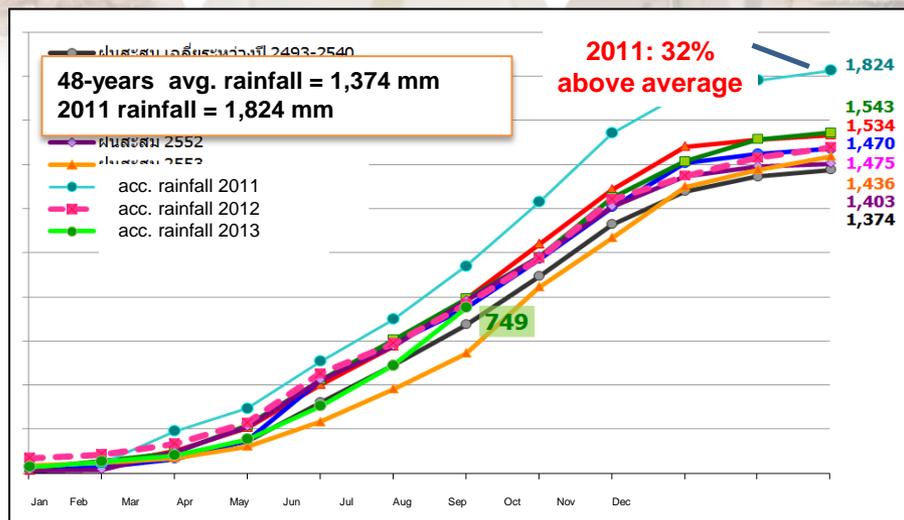
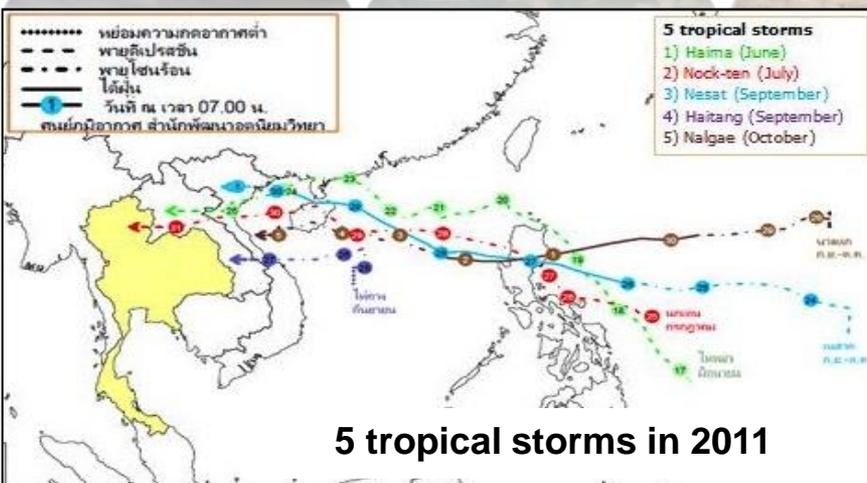
Networking & cluster

Flash flood & landslide warning

Reservoir networking

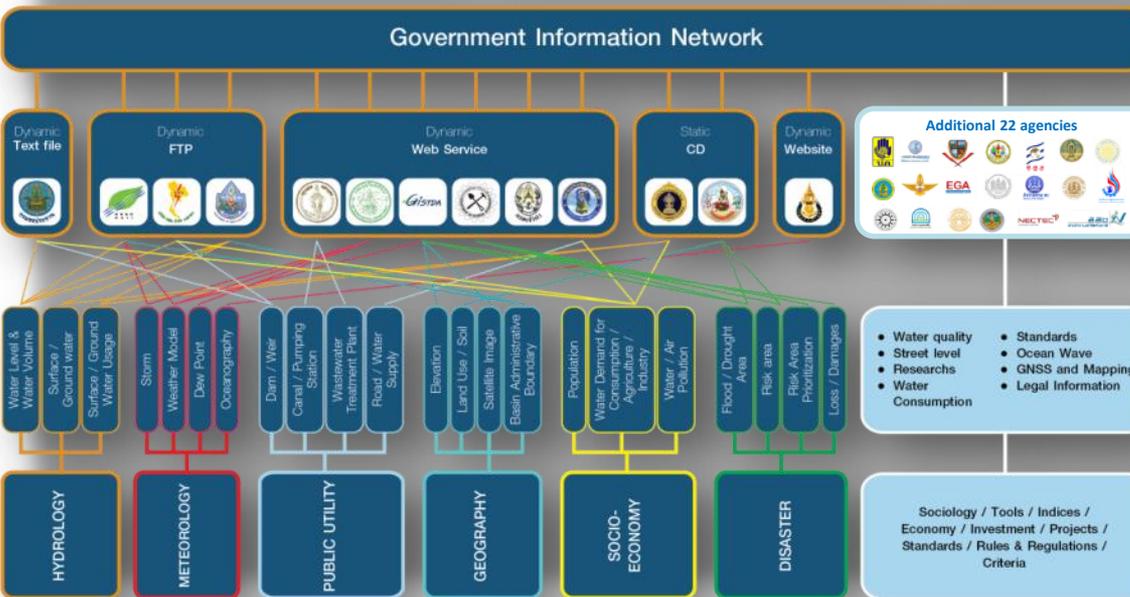
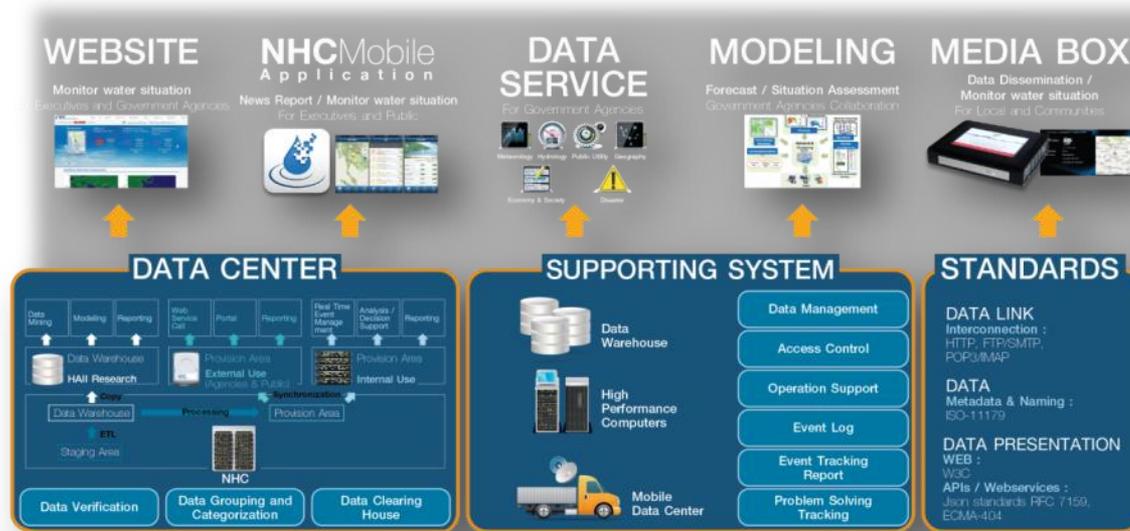
Data warehouse

## Integration of technology for data analysis and flood management



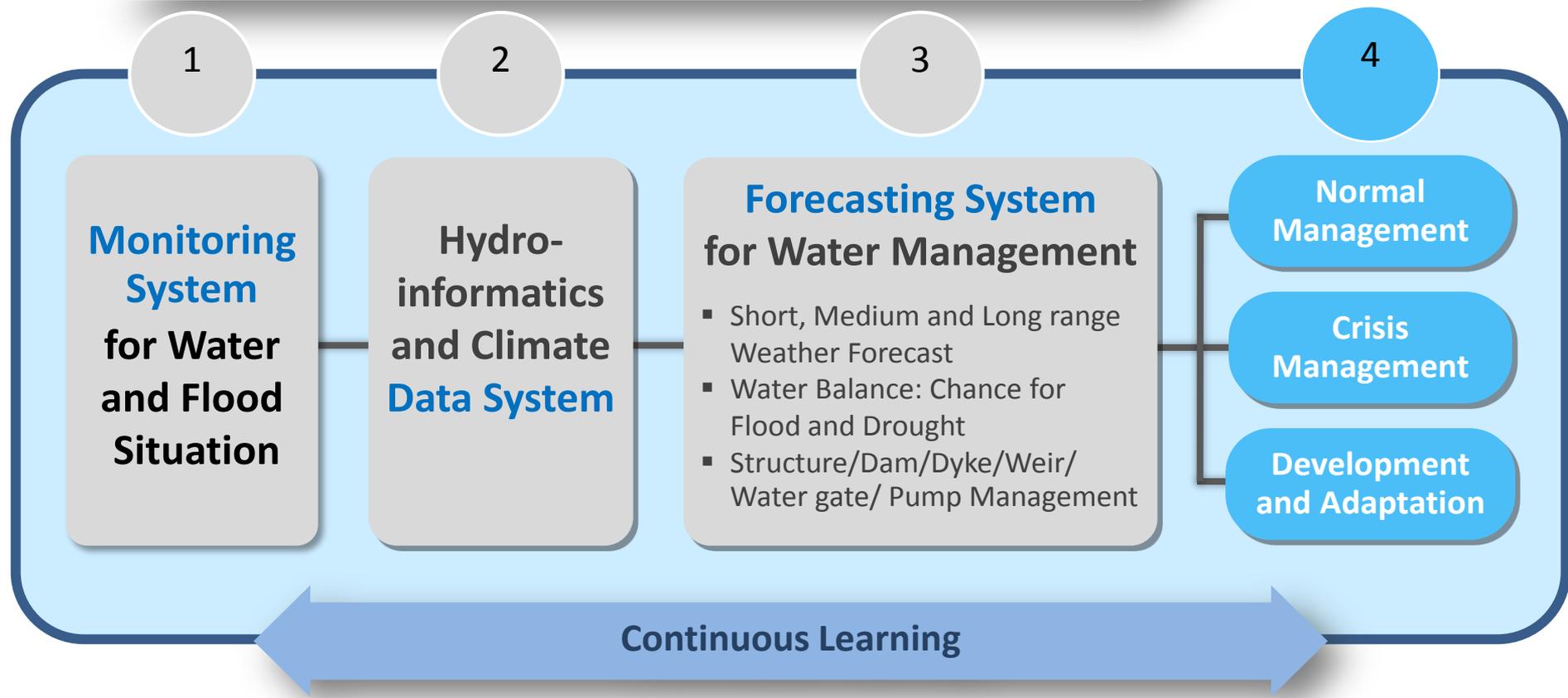
NHC = National Hydroinformatics and Climate Data Center

# National Hydroinformatics and Climate Data Center (NHC)

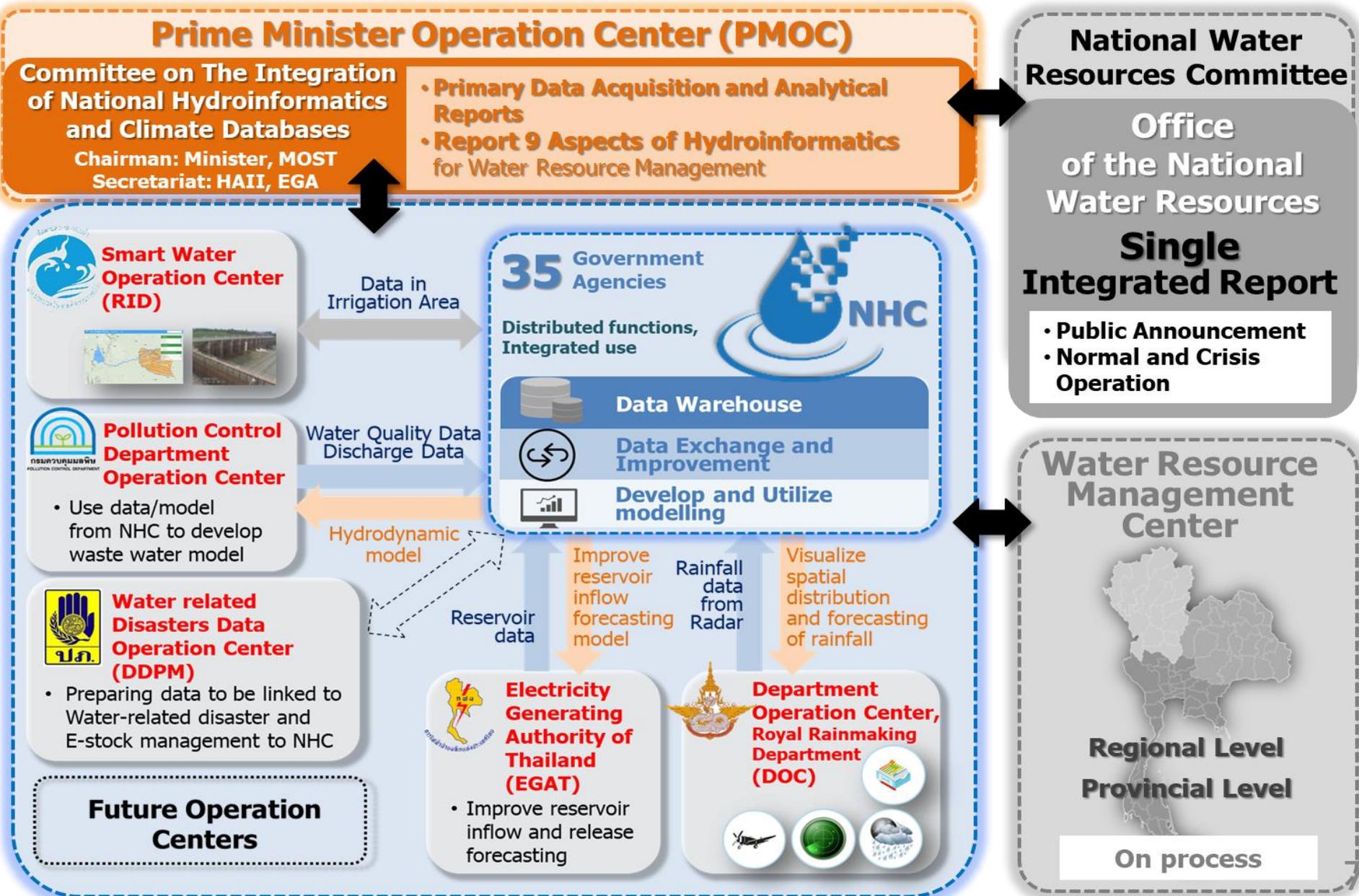


- **Decision Support** Information System
- **Processing and analysis** of water management information
- **Data integration** and exchange among water related agencies
- **De Facto Standard** flexible data format for monitoring, analysis and forecast of water situation
- Unified water management system for both **normal and crisis situation**

## S&T for Hydroinformatics



▶ The process and integrated function chart of NHC with the collaboration of the Government Operation Centers to support National Water Resources Management



## ► From National to Regional

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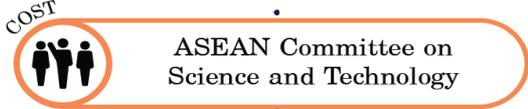
ASEAN Hydroinformatics and Climate Data Center



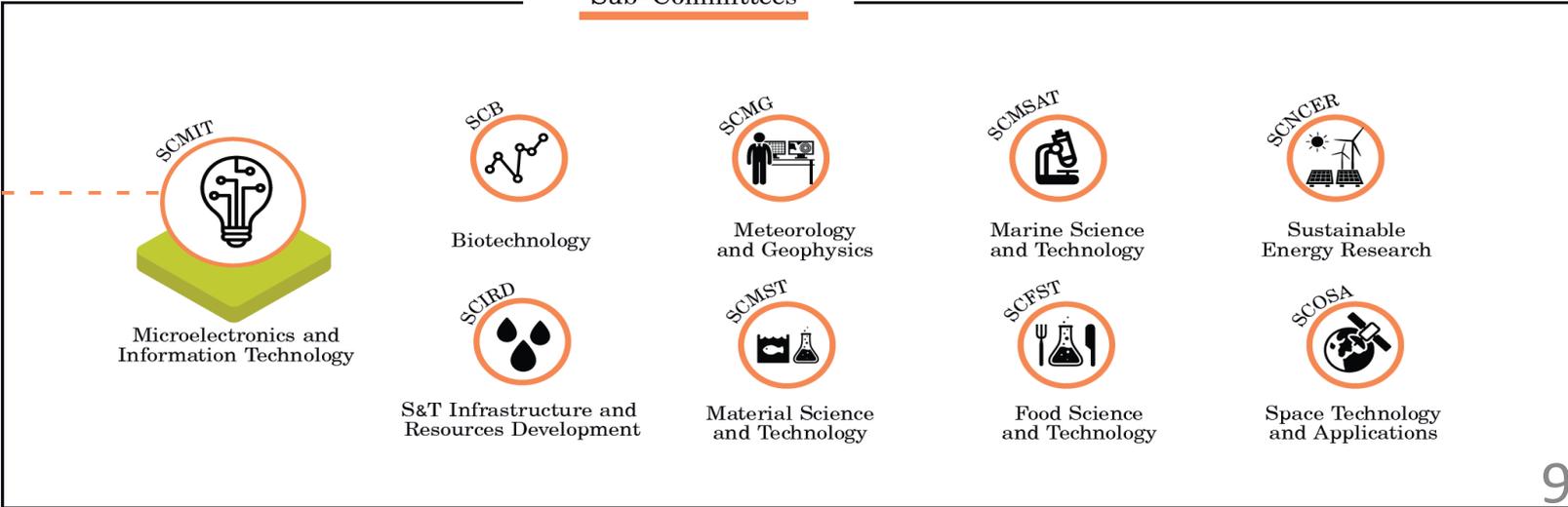
# Structure of STI Cooperation in ASEAN



**AHC**  
 - new initiative project  
 under the Sub-Committee on  
 Microelectronics Information  
 Technology (SCMIT) of  
 ASEAN Committee on  
 Science and Technology  
 (COST).



## Sub-Committees



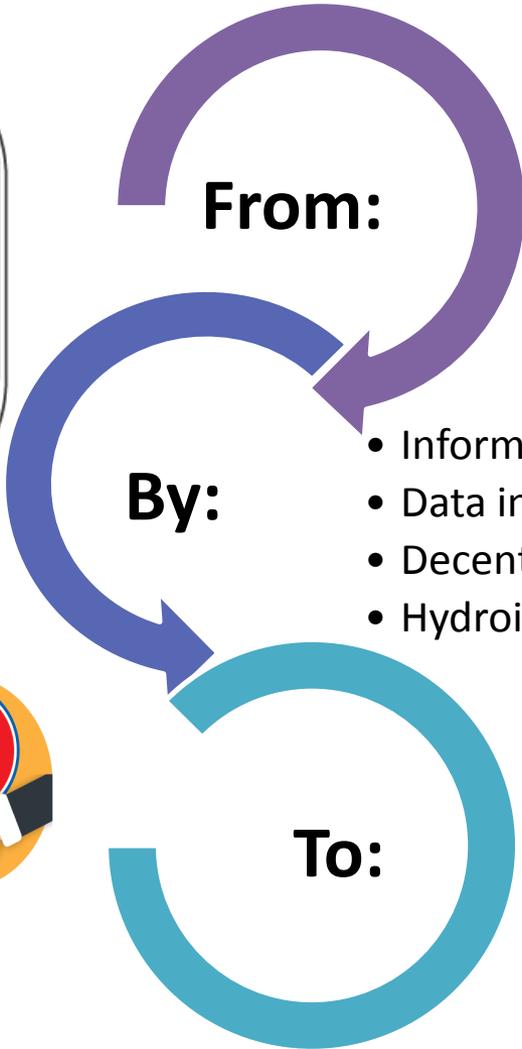
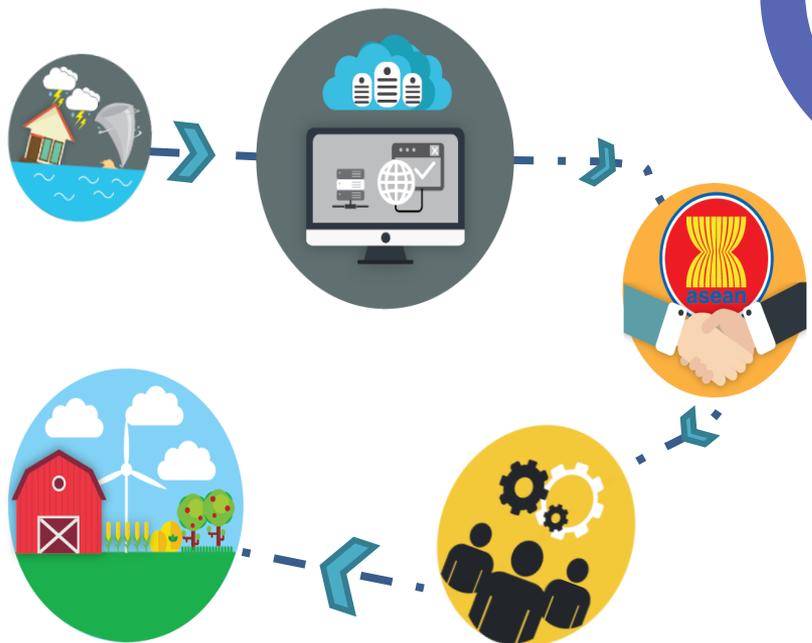
# ▶ ASEAN Hydroinformatics Center (AHC)



## a first step to NEXUS ready

### AHC

is an ASEAN Center of hydroinformatics and related technologies for water and disaster risk management.



- From:**
- Climate Change
  - Water-related disasters
  - Losses in environmental, economy and society

- By:**
- Information Technology
  - Data integration
  - Decentralized Information
  - Hydroinformatics

- To:**
- Awareness
  - Preparedness
  - Implementation
  - Actionable Learnings and Practices
  - Development

# ASEAN Hydroinformatics Center (AHC)



## a first step to NEXUS ready

### Aims

Platform for information and knowledge sharing, strengthening ASEAN capacity collaboration in water and disaster risk management, and climate change adaptation



### Do

- To promote S&T implementation for water management and DRR in ASEAN
- To share experiences and good practices
- To strengthen capacity in applying hydroinformatics among ASEAN

### URL

[www.aseanwater.net](http://www.aseanwater.net)

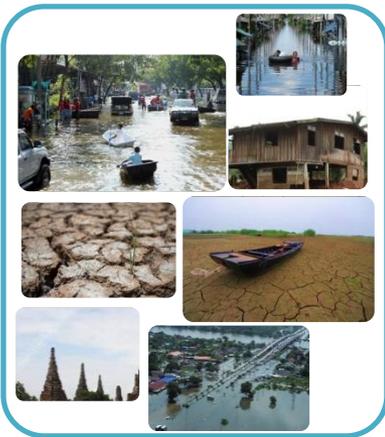


# Connectivity of IT tools

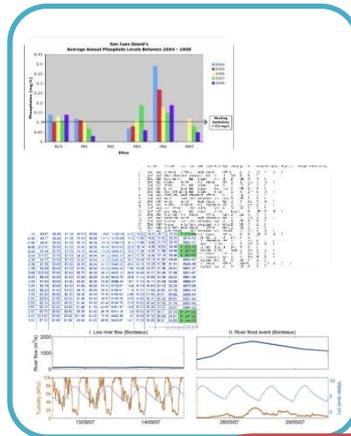
## for Water and Disaster Risk Management



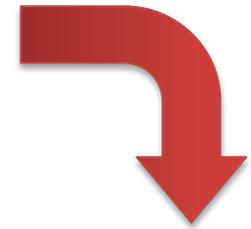
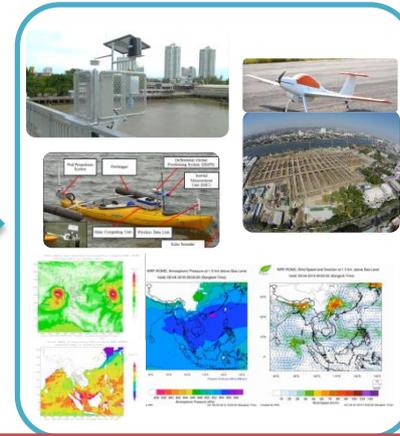
### Water-related Challenges



### Variety of Information



### Information Technology Tools



*Information technologies are essential to enhance efficiency of holistic WDRM.*

**Community Water Resource Management**

- GPS receivers
- Satellite Images
- Computer
- Internet
- Spreadsheet
- Crop Calendar
- Automated Telemetry

60 Core Communities  
In 19 River Basins  
Total 932 Villages  
13 Live Museums

# Beneficial to all ASEAN community



## ASEAN

- Support the work of cross - sectoral of ASEAN related to WDRM.
- Active web-based information system for sustainable ASEAN WDRM.

## SOCIAL

- Provide time-relevant information to users in easily understood manner for daily decision-making process
- Community-based organization and learning network

## ECONOMIC

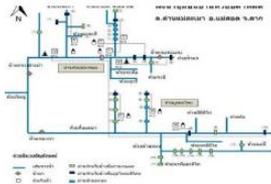
- Cost-effective usage to reduce losses in water and disaster recovery
- Overcome WDRM challenges faced in Agriculture and optimize food production
- Ensure water and food security

## ENVIRONMENTAL

- Solve the future water scarcity issue
- Sustainability



## TOOLS AND TECHNOLOGIES



### WATER DIAGRAM

Water Diagram A graphic representing the direction of water flow ...

[READ MORE](#)



### MOBILE APPLICATION

ThaiWater Mobile Application A mobile application that provide water and ...

[READ MORE](#)

## GOOD PRACTICES



### PATTANI RIVER BASIN NETWORK

Pattani River Basin Network Background: Pattani river basin covers 3,805.65 ...

[READ MORE](#)



### APPLICATION OF SCIENCE AND TECHNOLOGY FOR COMMUNITY WATER-RELATED DISASTER RISK REDUCTION

Application of Science and Technology for Community Water-Related Disaster Risk ...

[READ MORE](#)

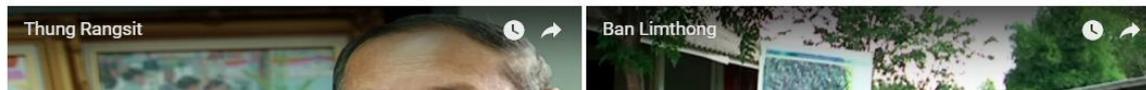
## OUR MEMBERS



ASEAN BRUNEI DARUSSALAM CAMBODIA INDONESIA LAO PDR MALAYSIA MYANMAR PHILIPPINES SINGAPORE THAILAND VIET NAM

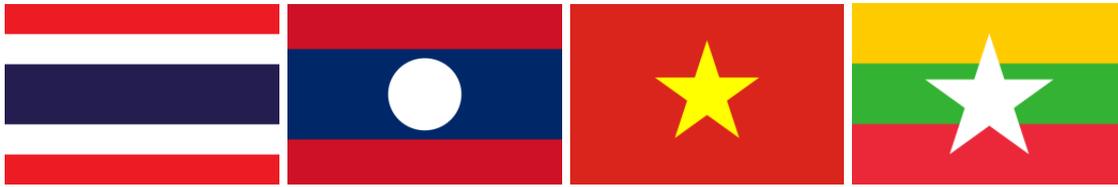
## Science and Technology for Future Sustainability

AHC also focus on the implementation and dissemination of the outcome by generating actionable learnings and promoting practical use of IT at community level to raise community action on disaster awareness and preparedness. This will also contributes to the inspiring UN's Sustainable Development Goals and ensure a safer forthcoming for ASEAN.



- ➔ About AHC
- ➔ Journey for One ASEAN
- ➔ Information
- ➔ Tools & Technologies
- ➔ Good Practices

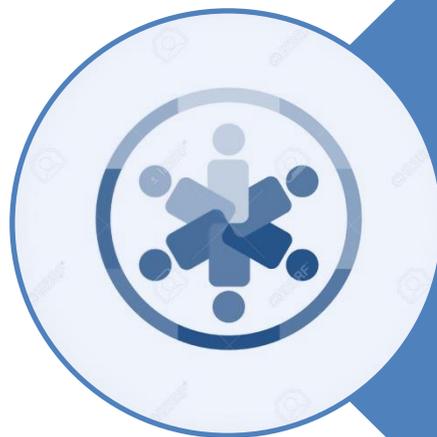
## ► Collaboration within ASEAN



# Connectivity in 2017: Lao PDR



Date: 8 – 11 August 2017  
Venue: Vientiane, Lao PDR



## Objectives

- Introduce AHC Concept
- Expand the collaboration for AHC project with the government and private agencies in Lao PDR



## Outcomes

- Lao PDR is willing to join AHC and interested to create a website [www.laowater.net](http://www.laowater.net)

# Connectivity in 2017: Lao PDR



## JOINT RESEARCH AND DEVELOPMENT PROJECT

on Science and Technology usage for Water Resource Management

You are here: Home

### Main Menu

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- Principle and Rationale
- Objectives
- Project Details
- NEWS-Activities

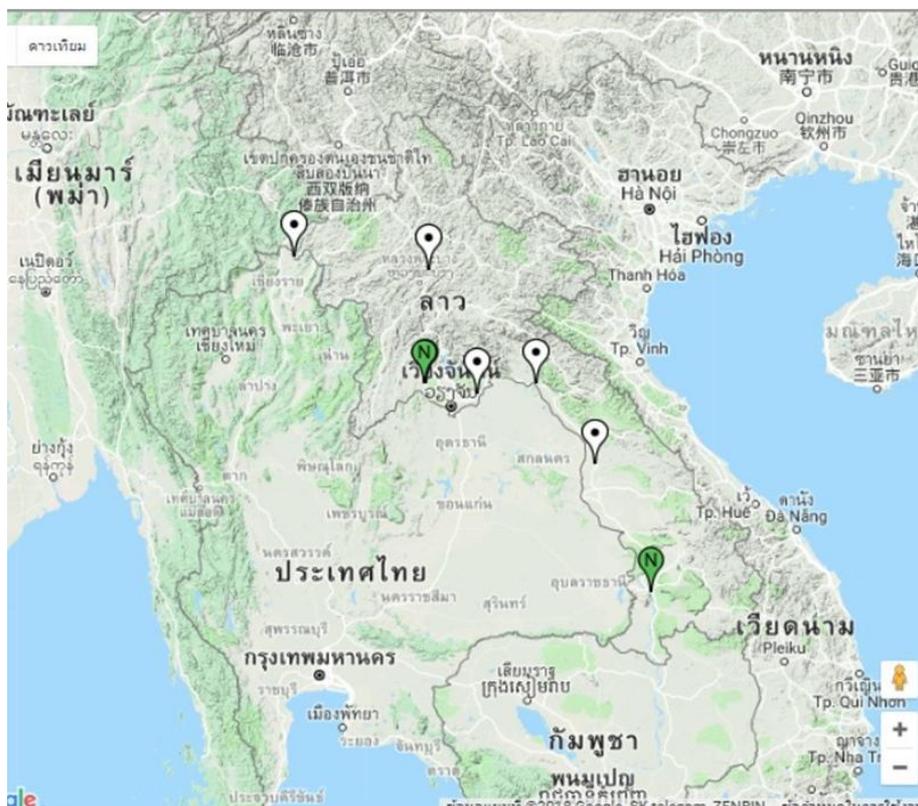
### Login Form

User Name

Password

Remember Me

[Forgot your password?](#)  
[Forgot your username?](#)  
[Create an account](#)



8 telemetry stations along the main rivers in Lao PDR

- Nam Ngum
- Nam Ou
- Nam Kading
- Xe Bangfai
- Bo Keo
- Pakse
- Ban Nathiam (2 stations)

<http://job.haii.or.th/LAOS/>

# Connectivity in 2017: Vietnam



Date: 4 – 6 September 2017

Venue: Hanoi, Vietnam



## Objectives

- Introduce AHC Concept
- Expand the collaboration for AHC project with the academia, government and private agencies, in Vietnam

## Outcomes

- 3 Ministries in Vietnam: MOST, MONRE (IMHEN, NHMS), and MARD are agreed to collaborate in **Data integration, Modelling, Community Water Resource Management: CWRM, Capacity Building**
- MOST, Vietnam is a main contact organization.

# Connectivity in 2017: Myanmar



Date: 10 - 11 September 2017

Venue: Yangon, Myanmar



## Objectives



- Introduce AHC Concept
- Expand the collaboration for AHC project with the government and private agencies in Myanmar

## Outcomes



- Statement of Cooperation on Technology for Water Resource Management between HAIL and DWIR
- Community Water Resource Management: CWRM

# ▶ Workshop on SMART Informatics for Sustainability

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# THANK YOU



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[www.aseanwater.net](http://www.aseanwater.net)