



ROYAL IRRIGATION DEPARTMENT (RID)
MINISTRY OF AGRICULTURAL AND COOPERATIVES

AWCI

THAILAND IMPLEMENTATION PLAN FOR AWCI PHASE 2

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29 May 2014, Tokyo Japan

ISSUES AND NEED :

Natural disasters problems caused by climate change



The lack of capability:
Climate change assessment and adaptation at river basin scale / regional scale.

- Researching for Sustainable

The project area :

Ping River Basin,
Northern region
Thailand.



Project Purpose

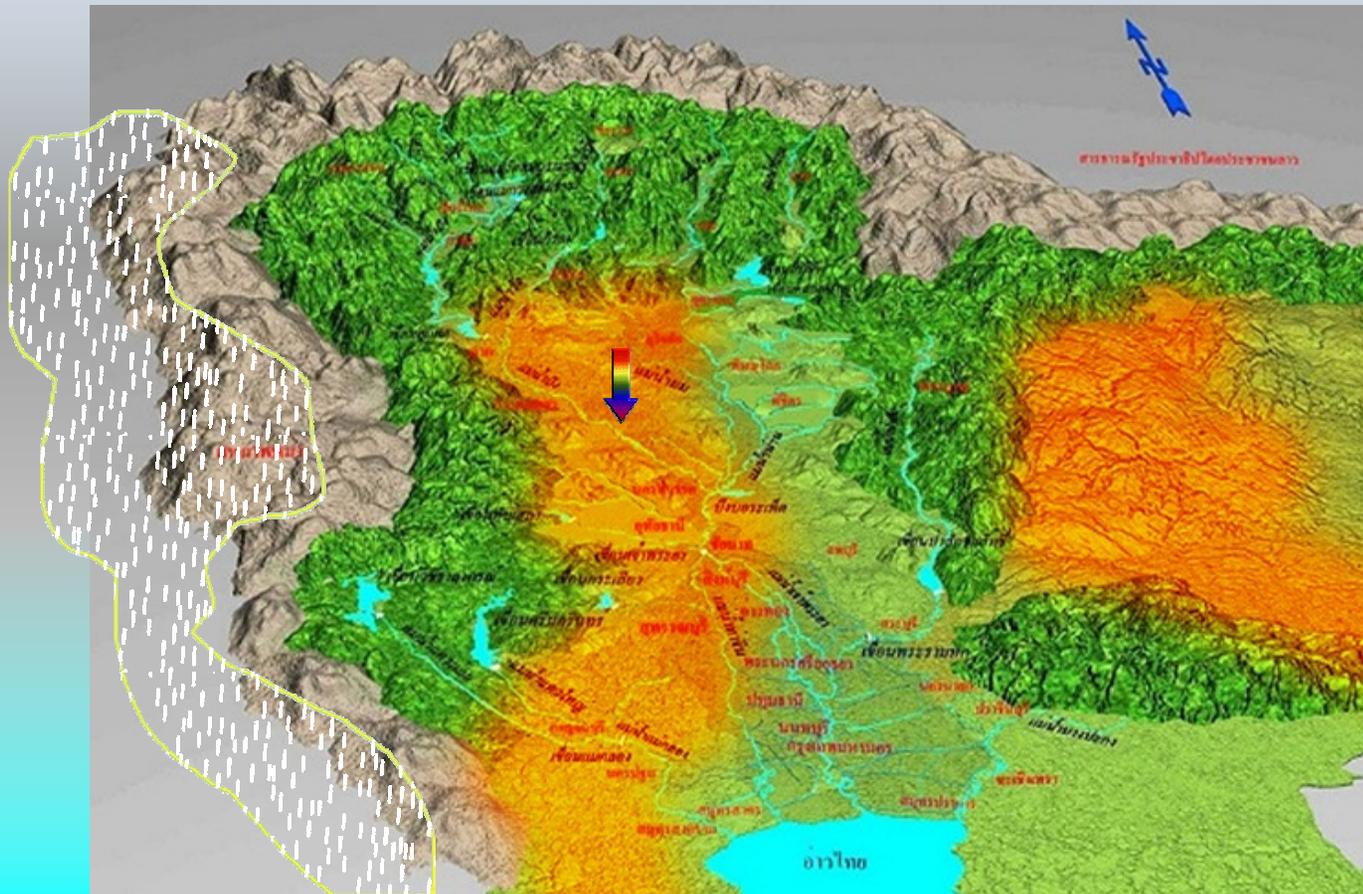
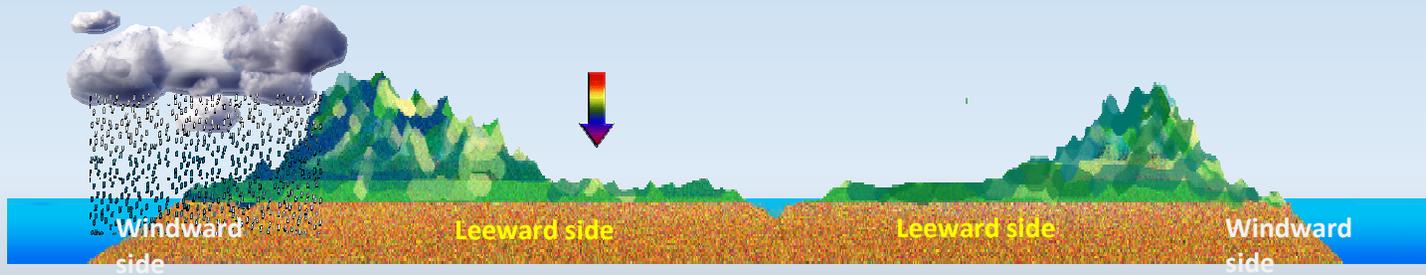
- * To study the structure and function of the basin, which is related to the hydrological characteristics and causes of the water disaster.

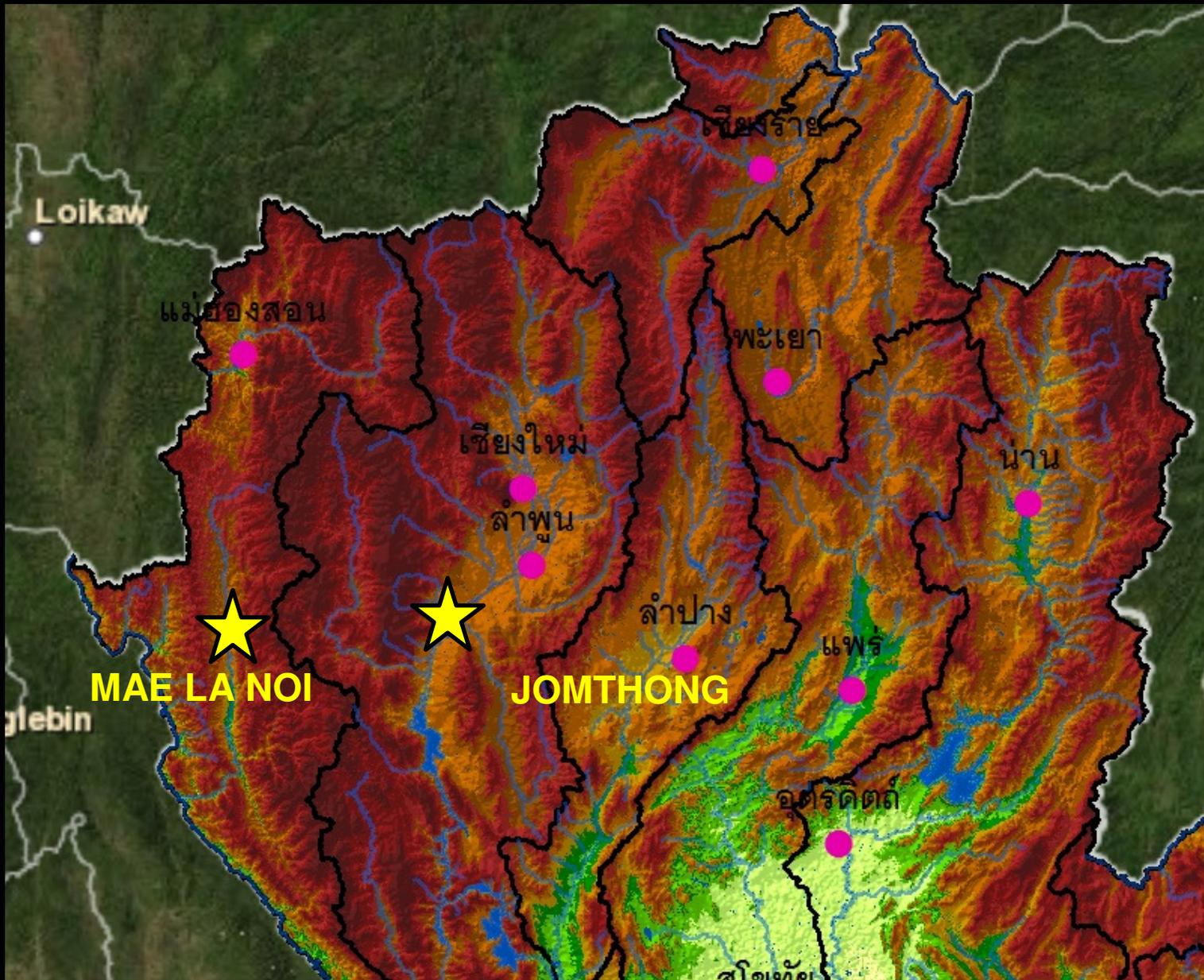
- *To select the appropriate models and satellite data application for forecasting and warning in Upper Ping River Basin.

- *To prepare the database and services to be available online.

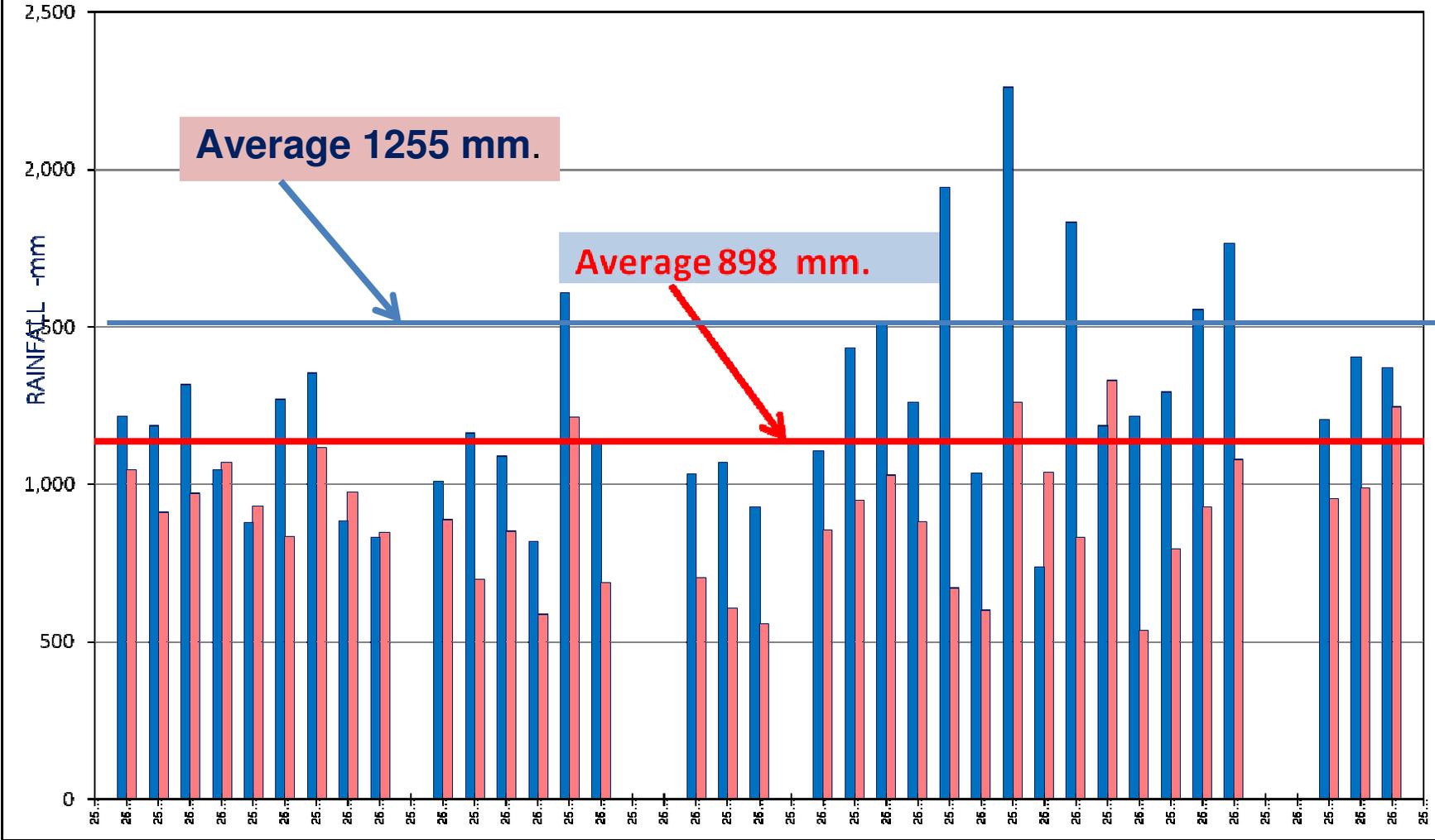
MONSOON RAINFALL

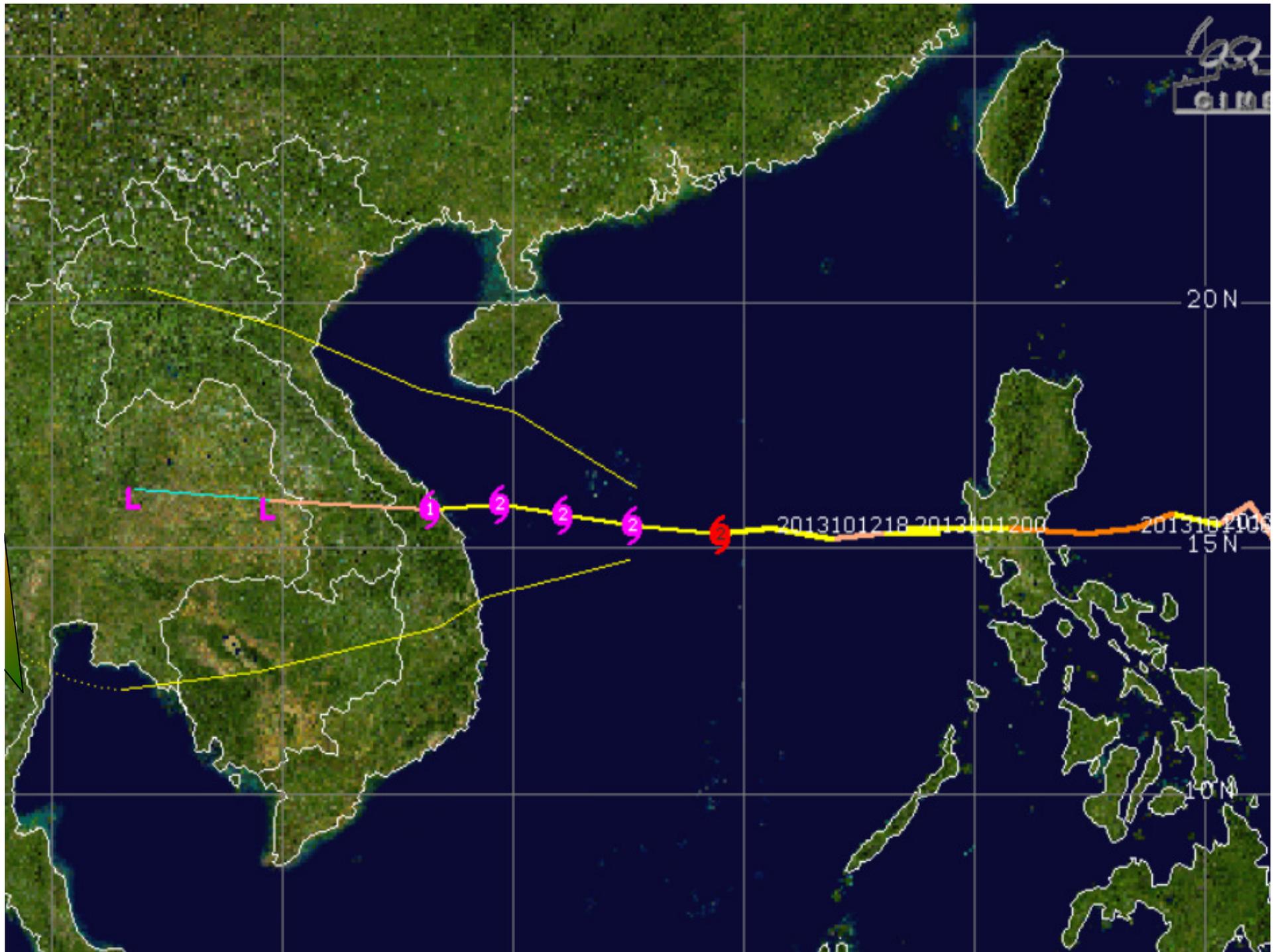
May->Oct



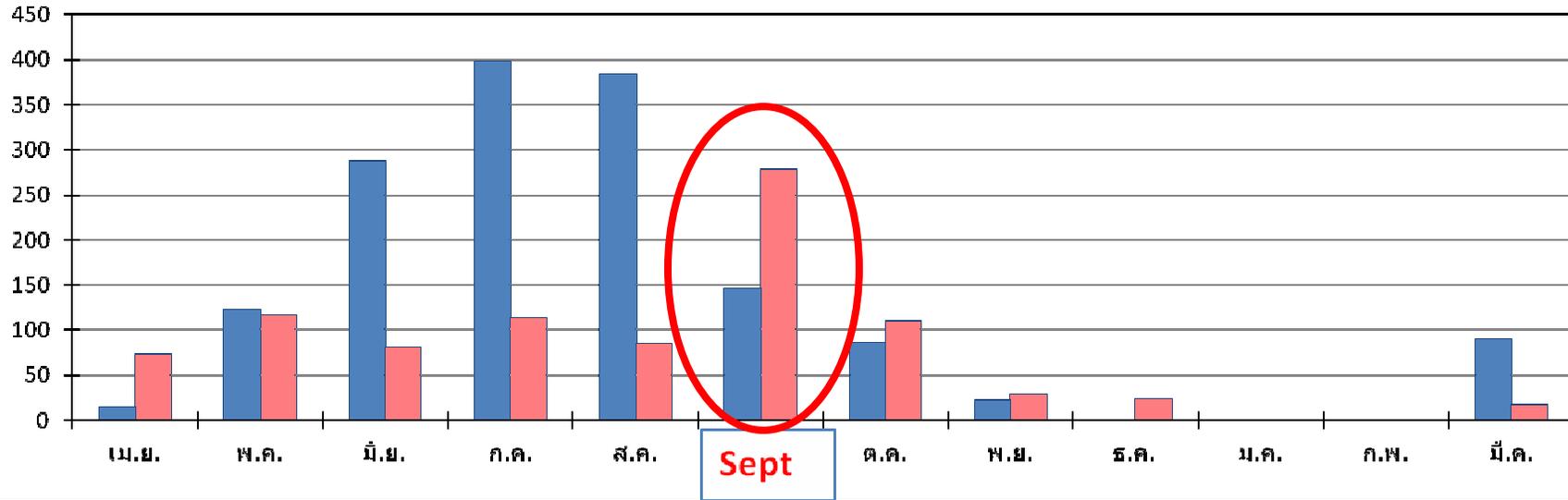


Annual Rainfall Windward -Leeward

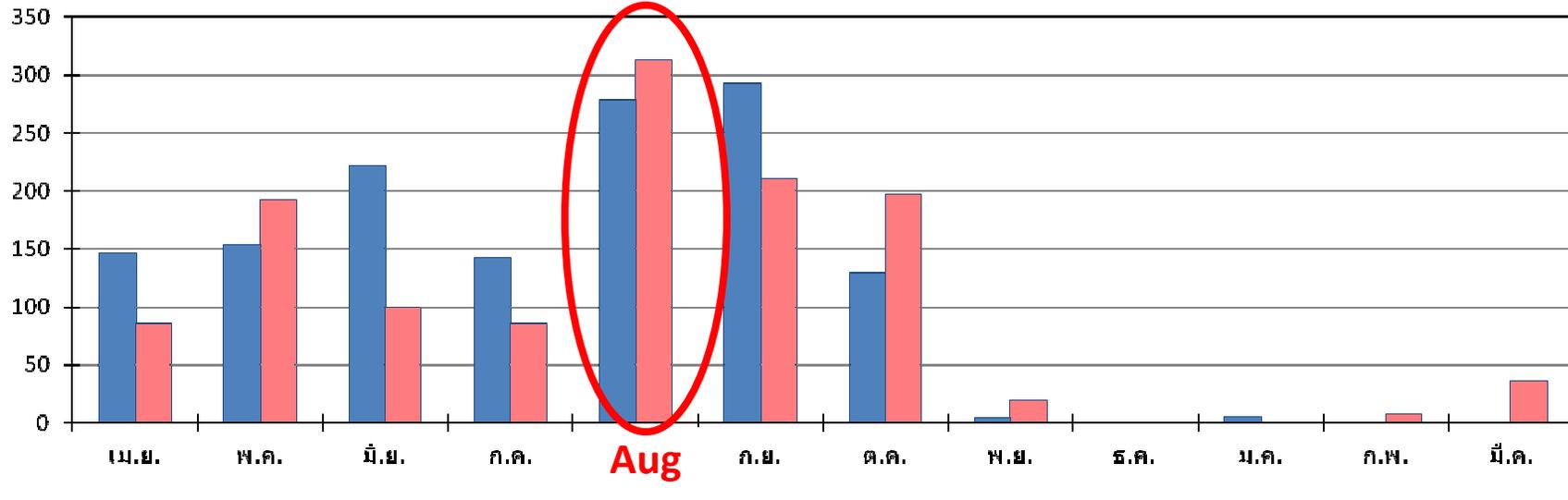




YEAR 2005



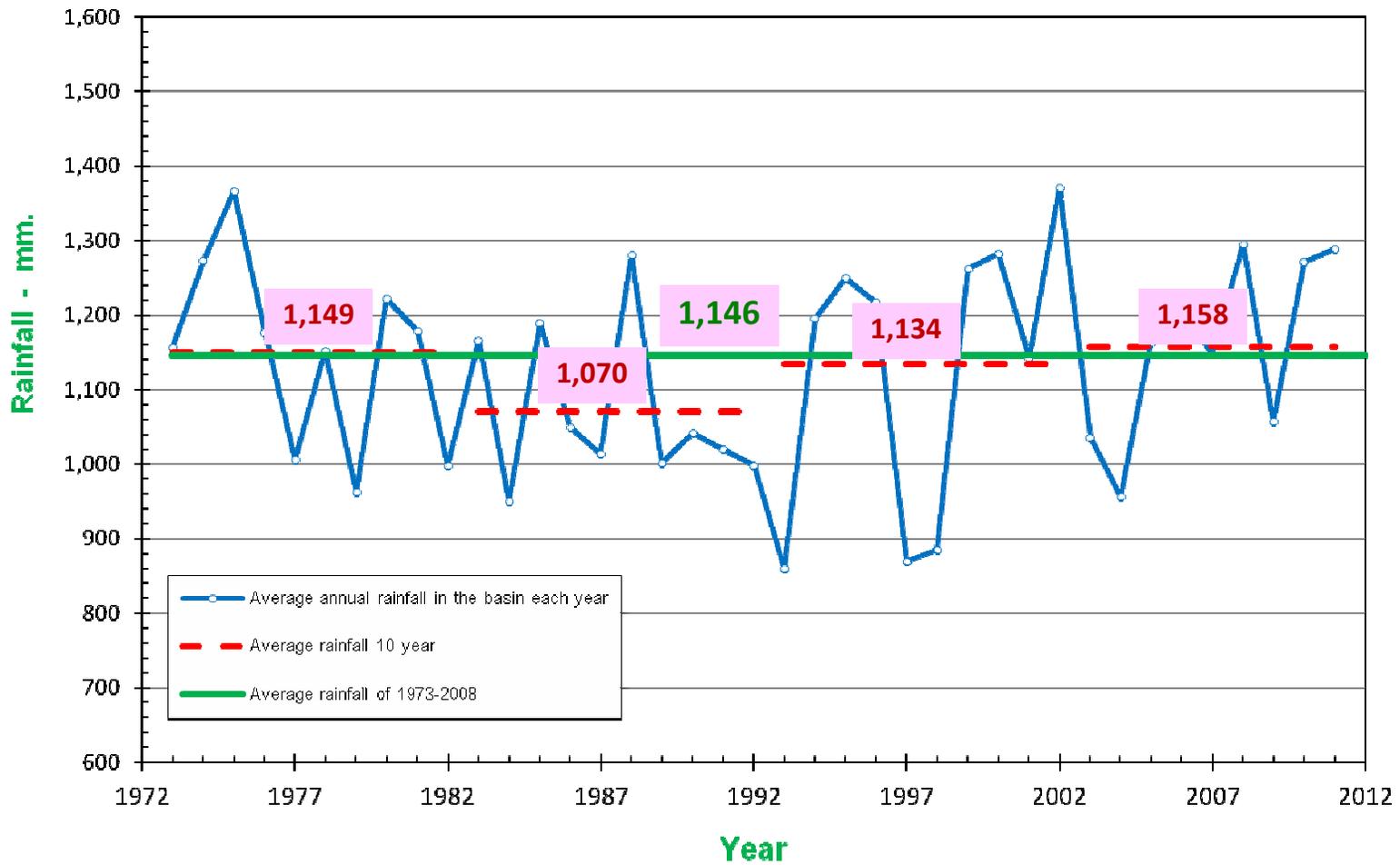
YEAR 2011



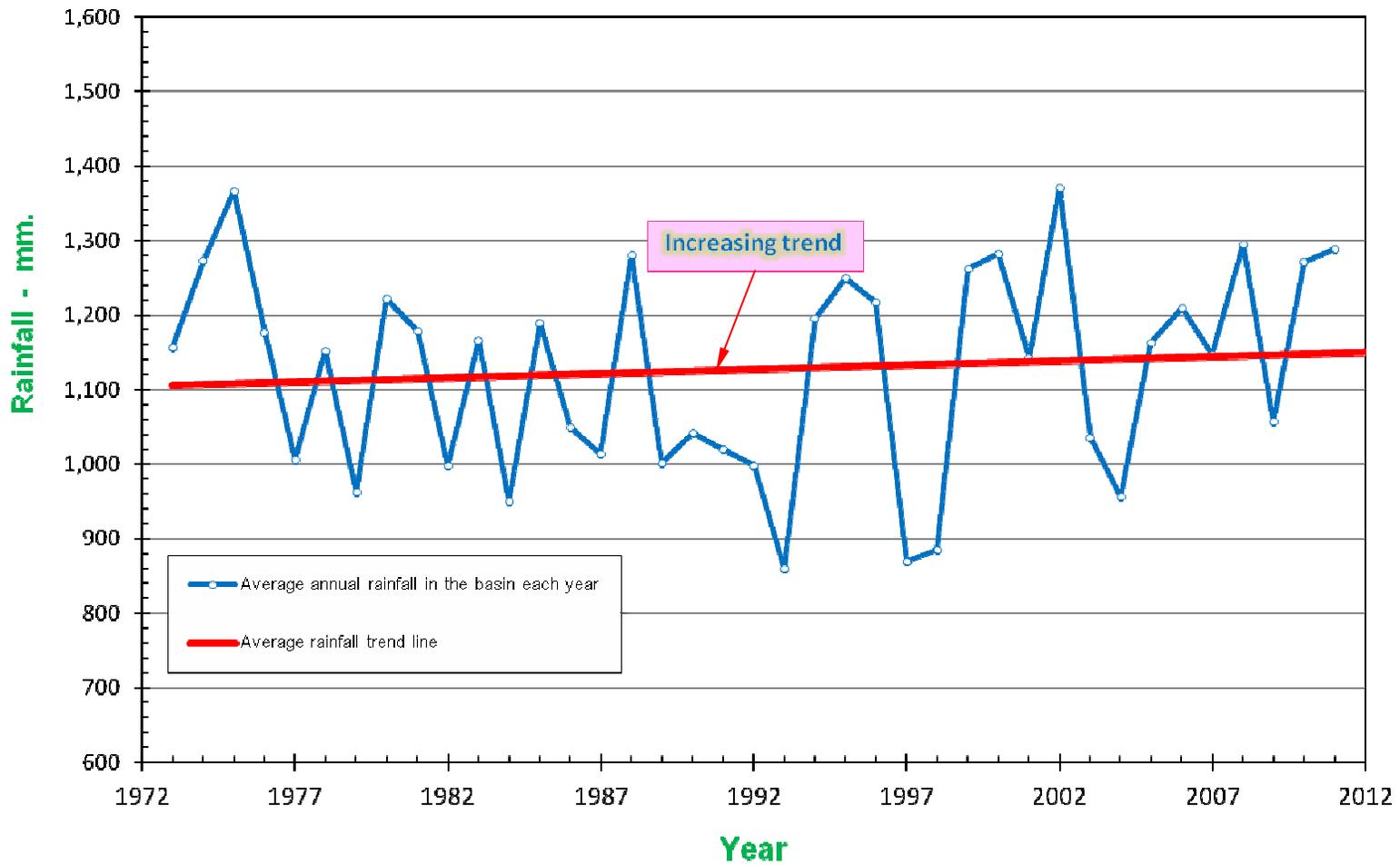
Causes and factors of flood and debris flow

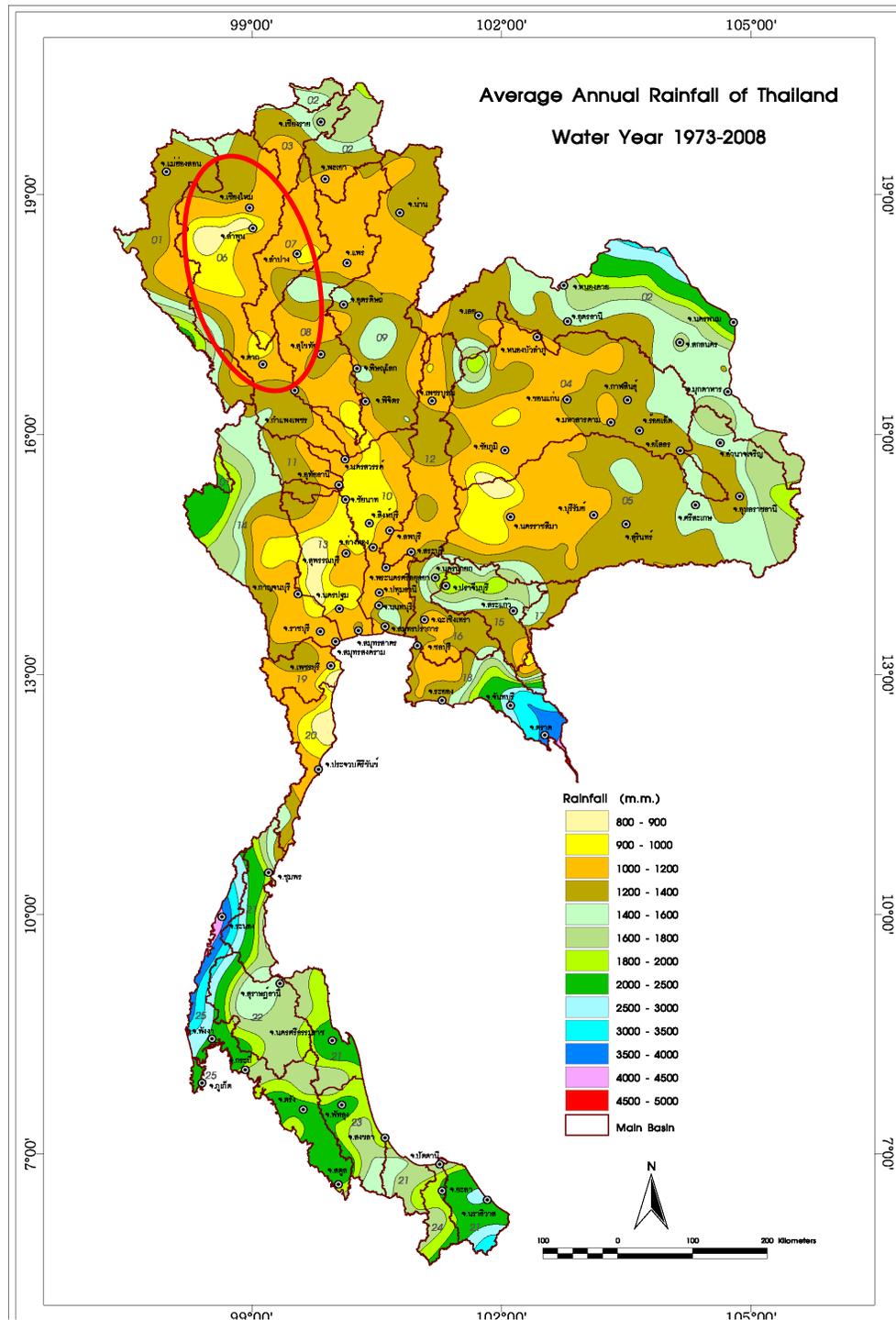


Average Annual Rainfall of Ping Basin



Average Annual Rainfall of Ping Basin





THE CHALLENGE OF WATER MANAGEMENT

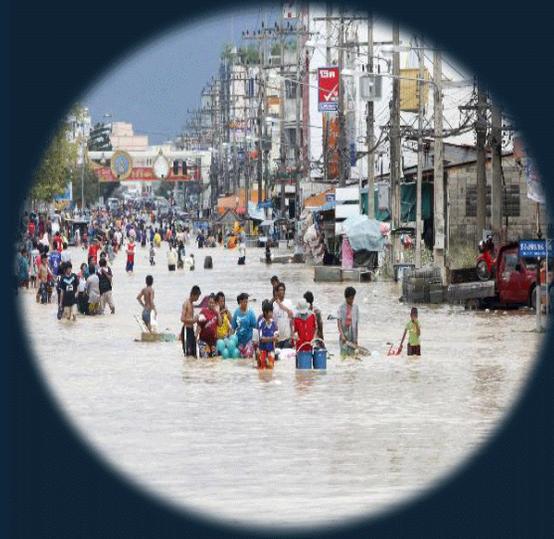
INCREASE
INCOME



WATER
RESOURCE



DECREASE
LOSSES



THE CHALLENGE OF WATER MANAGEMENT



**WATER
RESOURCE**



MAXIMIZE
BENEFITS

MINIMIZE
LOSSES

EXCESS / SHORTAGE

Of water

1. **PROVIDE SUFFICIENT
AND QUALITY WATER.**

2. **EFFICIENT IRRIGATION.**

3. **APPROPRIATE ALLOCATE
FOR EVERY STAKEHOLDER.**

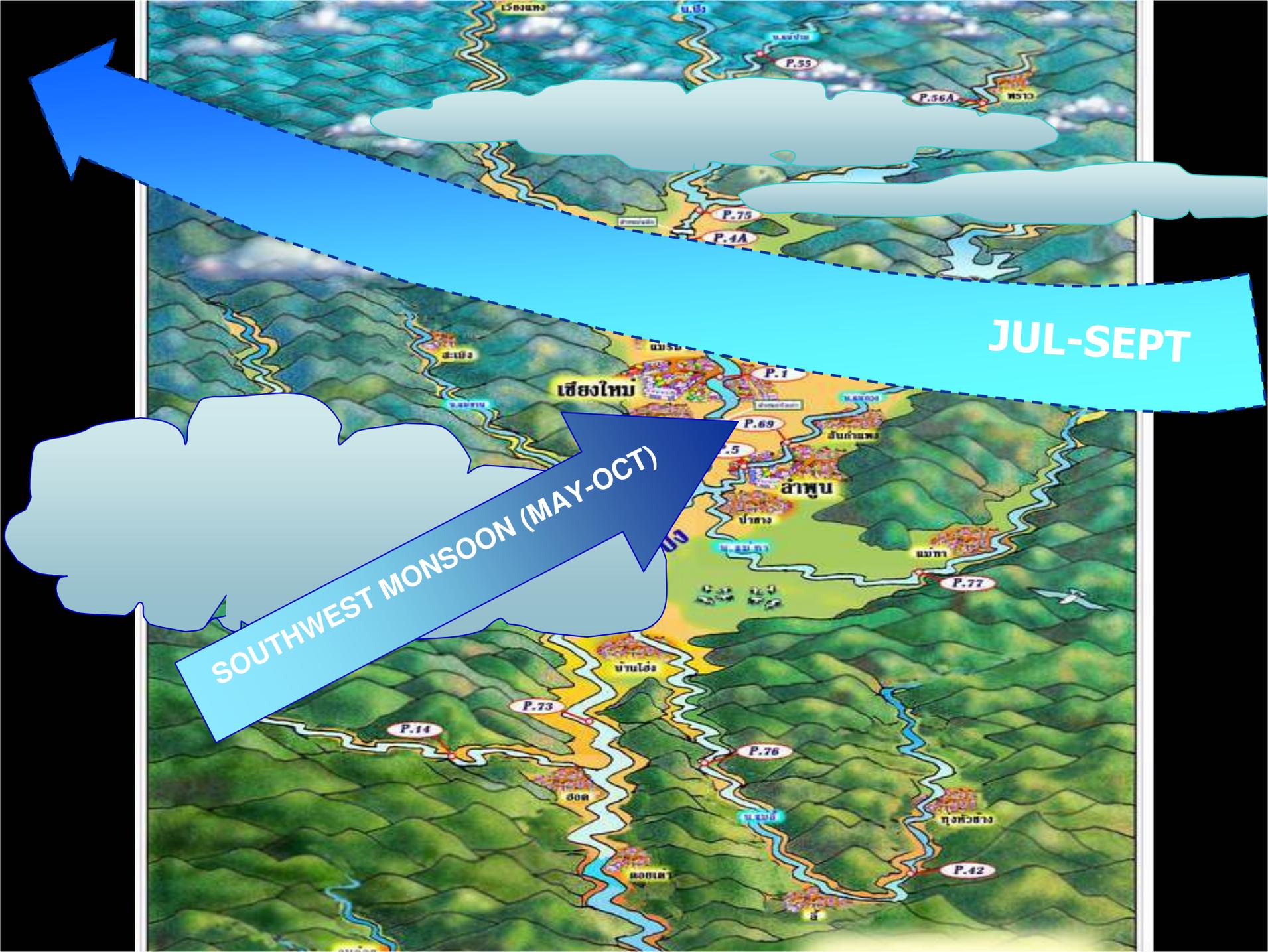
1. **FLOOD CONTROL**

2. **DROUGHT MITIGATION.**

3. **REDUCE IMPACTS
OF DISASTERS.**

- Damages, casualties..

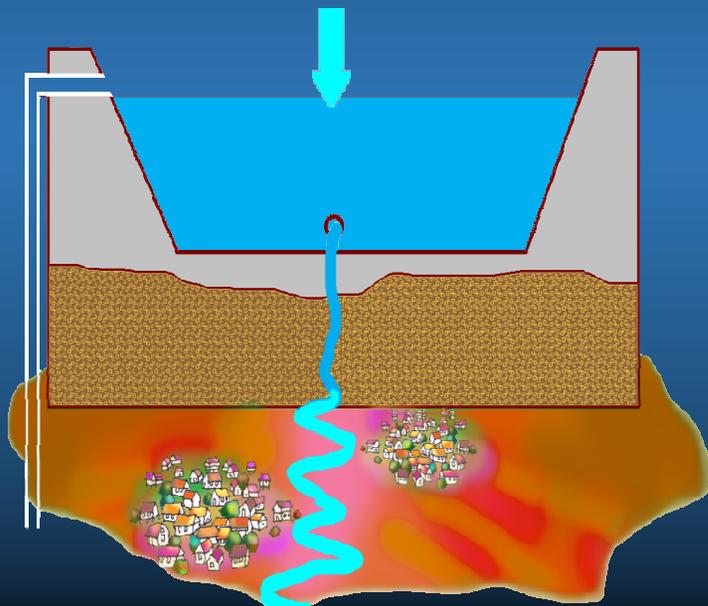




SOUTHWEST MONSOON (MAY-OCT)

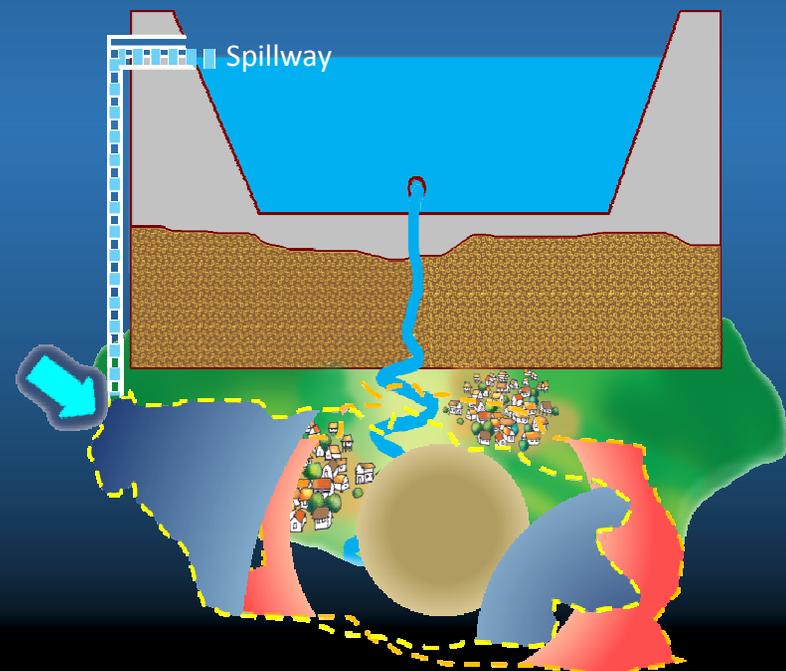
JUL-SEPT

PROBLEM OF THE RIGHT TIME DECISION MAKING BETWEEN STORAGE SAVING AND DRAINAGE



DECREASE STORAGE
TO PREPARE ROOM FOR COMING STORMS
- BUT.....

No rain.....and no water for
drought mitigation



PREPARE FOR THE DROUGHT
SAVING MAXIMUM STORAGE –
BUT.....

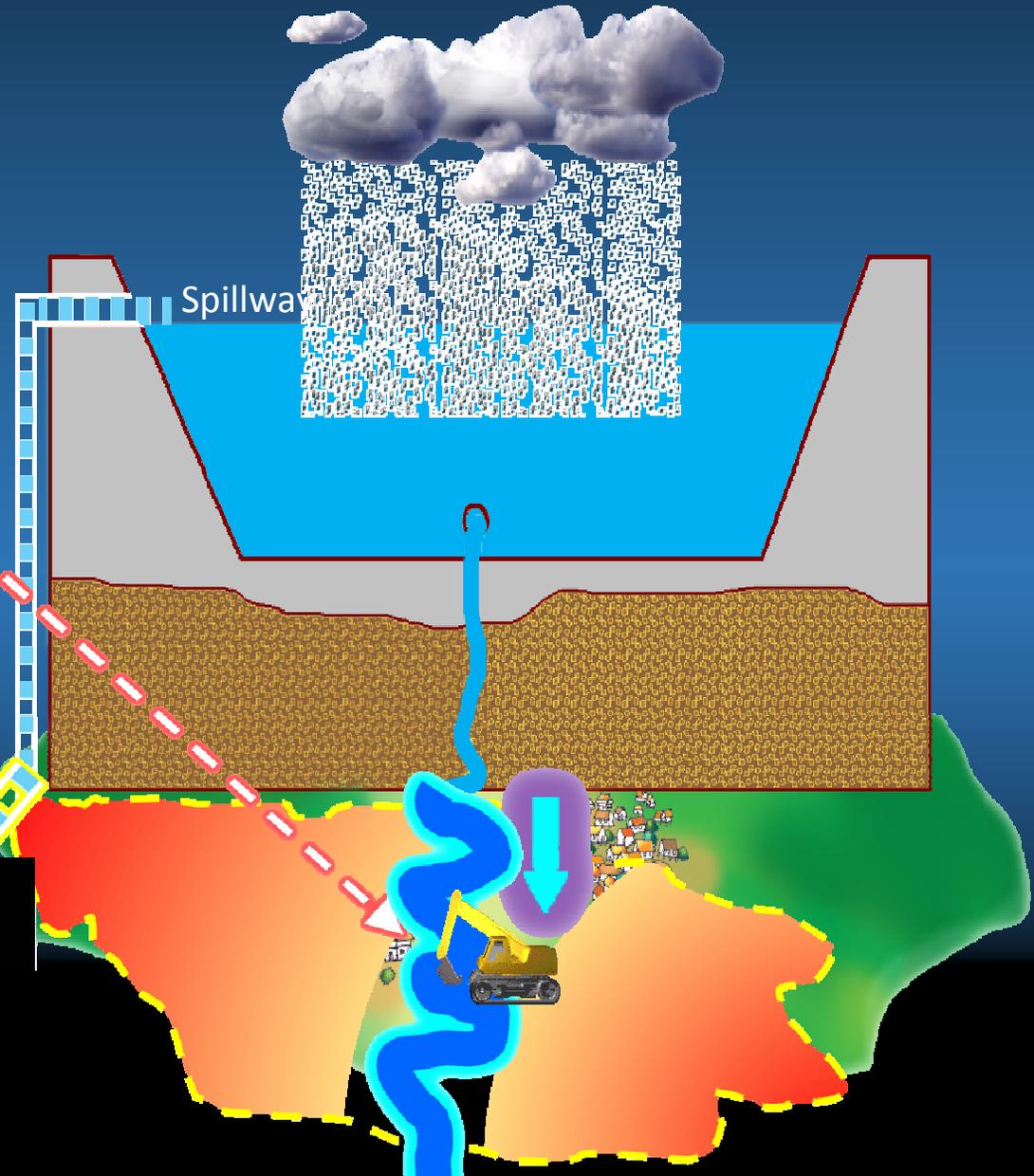
Continuous heavy rainfall –
exceeded storage -> flooding

MAIN CHANNEL CAPACITY AND FLOODWAY

1. INCREASE THE DRAINAGE EFFICIENCY OF THE MAIN CHANNEL (by enlargement, dredging or embankment...)

2. FLOODWAY OR BYPASS

SAVING STORAGE AND AVOID FLOODING AT THE SAME TIME



IMPLEMENTATION PROPOSAL :

“Flood and Landslide Disaster Management System
with Public Participation Model”

Activity 1 : Method –

1. Developing real-time upstream flood and landslide possibility estimating model.
2. Testing and adjusting the model for another basins application.

Activity 2 : Method -

1. Workshop on warning communication and dissemination procedure for local people.
2. Technology and geoinformatic system workshop and training for public sector.

Overall Goal

Increase the accuracy and efficiency of the water management process using hydrological modeling and satellite data.



THANK YOU
FOR YOUR ATTENTION