MS&AD InterRisk Report

InterRisk Thailand Flood Report <2022 No.01>

Thailand current water situation

[Summary]

- The rainy season is expected to arrive in the mid of May.
- The rainfall amount from the beginning of this year is close to last year except in the south.
- The effect from La Nina mitigated the drought situation and will cause higher precipitation in the first half of the rainy season. However, the precipitation will decrease after June as the turnover from La Nina to El Nino.
- The storage level in all major dams of the Chao Phraya Basin are in a decreasing trend due to the drought season. However, the storage levels are mostly relatively higher than last year.
- There are no concerning topics in the main rivers of the Chao Phraya Basin. The river levels are mostly in low level.

Precipitation

The precipitation until the beginning of May comparing to last year is slightly lower, in the upper country and substantially higher in the south. The accumulated rainfall is in the range of 200-1200 mm in the southern area which is the effect from La Nina. If comparing to the average rainfall value, this year's accumulated rainfall is significantly higher, especially in the northern and southern regions.



Note: Normal value is the average rainfall amount within the period of 30 years (1981-2010)

Forecast

According to the monthly weather forecast from the Thai Meteorological Department, the weather will be turbulent in the upper country in the first half of the month by the weather will be intermittently stuffy and rainy in some areas. Afterwards, the quantity and dispersion of rainfall will increase to be approximately 40-60 percent of the area, especially in the eastern region. For southern region, rain will increase and the wave height will be 2-3 meters in the west side and 1 meter in The Gulf of Thailand. These are the consequence of the transition from the southeast monsoon that has covered the country to the southwest monsoon that will cover the southern Thailand. In addition, there will be monsoon trough that will periodically lay along the northern region. This year rainy season is expected to arrive in the middle of May. The government has revealed the protection measures for the coming rainy season as follows:



- 1. Speculate the flood risk areas and low rainfall areas to establish the countermeasures.
- 2. Management of the lowland areas to prepare for any flood situations and also include reserving of water before the end of rainy season.
- 3. Revise the management plan of the large-medium dams.
- 4. Repair and restore the water drainage systems and telemetering stations.
- 5. Clear obstacles and obstructions in the water drainage way.
- 6. Dredge canals and remove weeds.
- 7. Prepare machines, equipment, staff, protection and prevention plans.
- 8. Optimize the water allocation to be consistent with the water budget.
- 9. Inspect flood walls/dikes to ensure the condition.
- 10. Indicate evacuation areas and conduct the response plan drill (within May).
- 11. Establish district government office prior to the situations.
- 12. Establish communication with public (before and along the rainy season).
- 13. Monitor, assess and manipulate the measures to suit the situations.

For this year precipitation forecast, the weather will be fluctuated as the first half of the year will be influenced by La Nina which has been in effect since September last year, and will later turn over to El Nino in the second half of the year (August till December), according to the director of Hydro-Informatics Institute (HII). This means that this year rainfall will be intermittent during March and April due to tropical storms and the rain will be higher in May and will keep decreasing from June to the rest of the year. Dam Storage Level (Sirikit Dam, Bhumibol Dam)

Storage level Sirikit Dam (38%) 8 May 2022



Storage level Bhumibol Dam (42%) 8 May 2022



The storage level of Sirikit Dam until May 8th is almost the same level as the last two years although the storage level at the beginning of the year is lower. For Bhumibol Dam, the storage level is relatively higher than the two previous years.

Dam Storage Level (Pasak Dam, Kwaenoi Dam)

Storage level Pasak Dam (30%) 8 May 2022



Storage level Kwaenoi Dam (39%) 8 May 2022



The storage levels of both Kwaenoi Dam and Pasak Dam are slightly higher than the two previous years although the water budgets are substantially higher.

The Upper Chao Phraya River Flow

The river levels are low in the Ping, Wang, Yom and Nan. For example, the river level is up to 9 meters lower than the river bank at Nakhonsawan province. The river level of the Chao Phraya River above the Chao Phraya Dam is also significantly lower than the bank. Thus, there is no critical situations regarding flood event.



Note: - Numbers in bracket indicate the flow rate of water in m³/sec.

- Numbers with underline indicate higher (+) or lower (-) of water level than the river bank in meters.
- Water levels U/S and D/S are in meters.

The Lower Chao Phraya River Flow

The situation in the Lower Chao Phraya is analogous to the Upper Chao Phraya. The river level is clearly lower than the river bank. There is no notable situation.



Note: - Numbers in black indicate the flow rate of water in m^{3}/sec .

- Numbers in bracket the flow rate of water in m^3/day .

- Numbers with underline indicate higher (+) or lower (-) of water level than the river bank in meters.

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References

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