

2021.09.28

InterRisk Thailand Flood Report <2021 No.05>

Heavy rains and flooding caused by tropical storm “Dianmu”

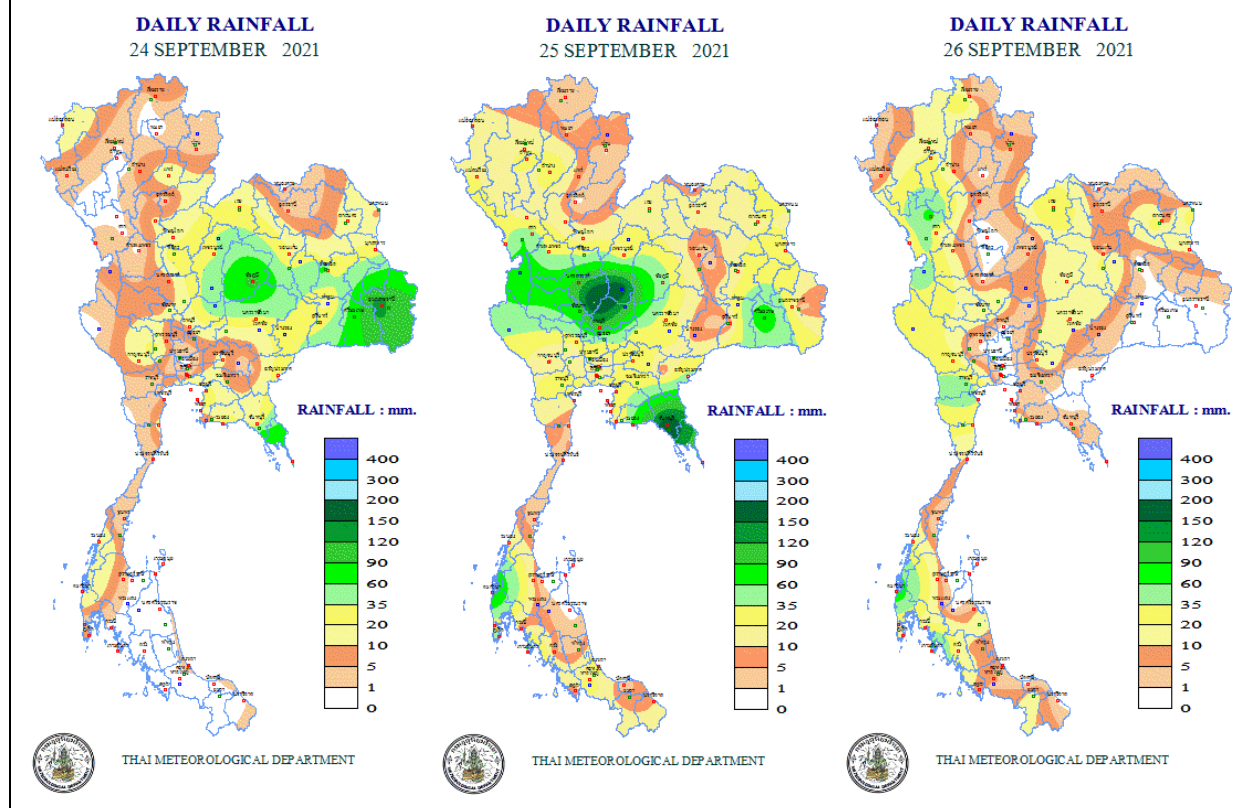
Summary

- ✓ Last weekend, the tropical storm “Dianmu” brought heavy rain to the north, northeast, and central of Thailand.
- ✓ According to the department of Disaster Prevention and Mitigation (DDPM), 58,977 households across 27 provinces have been affected by flood due to the heavy rain in mid-September and the tropical storm “Dianmu”.
- ✓ Sukhothai province in the north and Lopburi province in the central region have been severely damaged according to the DDPM announcement.
- ✓ The water levels at major dams in the upper Chao Phraya River basin have rapidly increased.
- ✓ The water level of the Chao Phraya River has reached “Critical” level at several observation points. If the amount of water released from the dams increases in the future, the water level in the Chao Phraya River may further increase.

Rainfall brought by the tropical storm “Dianmu”

* Tropical storm "Dianmu" turned into a low-pressure on September 25, thus not all rainfall is exactly due to the tropical storm. However, it is described as an effect of "Dianmu" in this news.

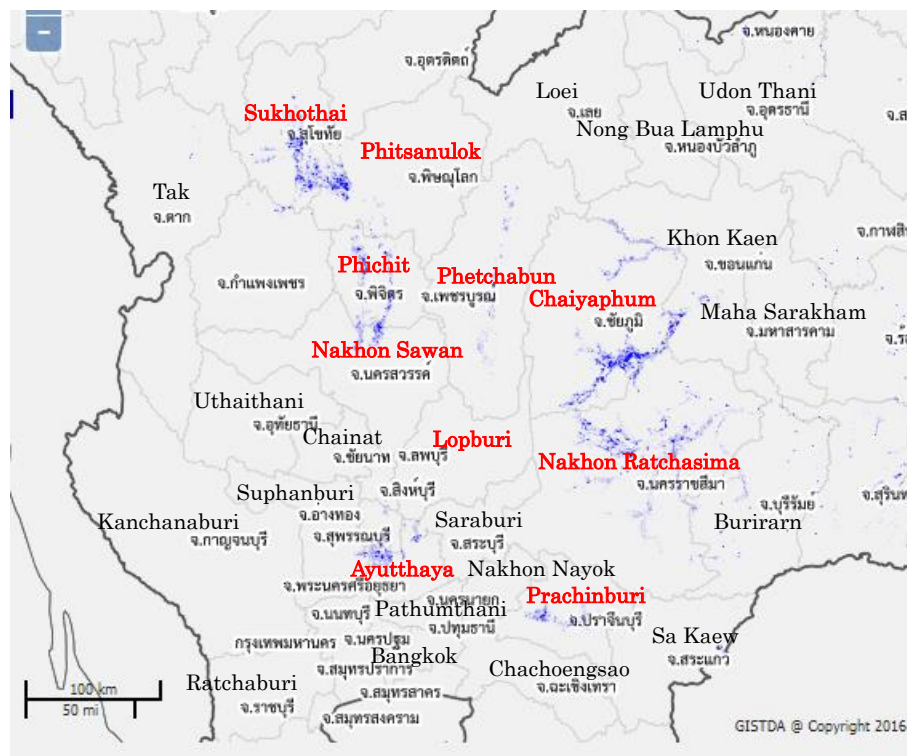
Tropical storm "Dianmu" caused heavy rainfall mainly in northern, northeastern and central Thailand from around 23rd to 26th September. The observed daily rainfall maps on 24th, 25th, and 26th are shown in the figure below. On 24th and 25th September, daily rainfall of 100 mm to 200 mm was observed in northern, northeastern, central, and eastern Thailand.



Damage by flooding

According to DDPM, 7,392 households have been affected by severe flood in Sukhothai province in northern Thailand, while 37,451 and 453 households have been damaged in Lopburi province and Chaiyaphum province respectively in central region.

The figure below shows a map of flooded areas for the past seven days (September 21 to September 27) published by the Geo-Informatics and Space Technology Development Agency (GISTDA). According to the map, other than the above three provinces, flooding has also occurred in Phitsanulok, Phichit, Phetchabun, Nakhon Sawan, Nakhon Ratchasima, Prachinburi, and Ayutthaya provinces. In Nakhon Ratchasima province, the provincial government has issued a warning because the water volume in some reservoirs has exceeded their capacity.



Weather Forecast

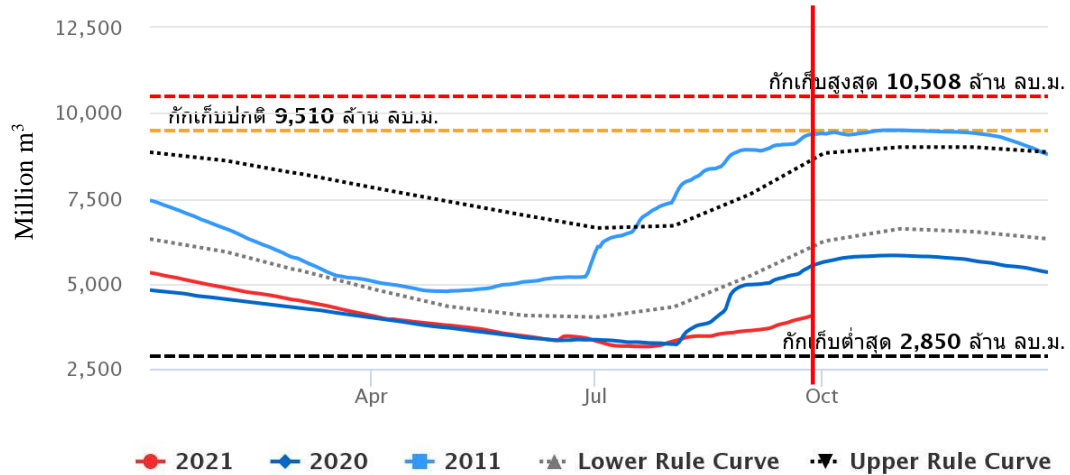
Thai Meteorological Department announced that:

“During 28-30 Sep, the weak monsoon trough lie across the lower Central and the upper South while the weak southwest monsoon prevails over the Andaman Sea, Thailand and the Gulf of Thailand. Less rain is likely over Thailand but still isolated heavy rain in the East and the South.

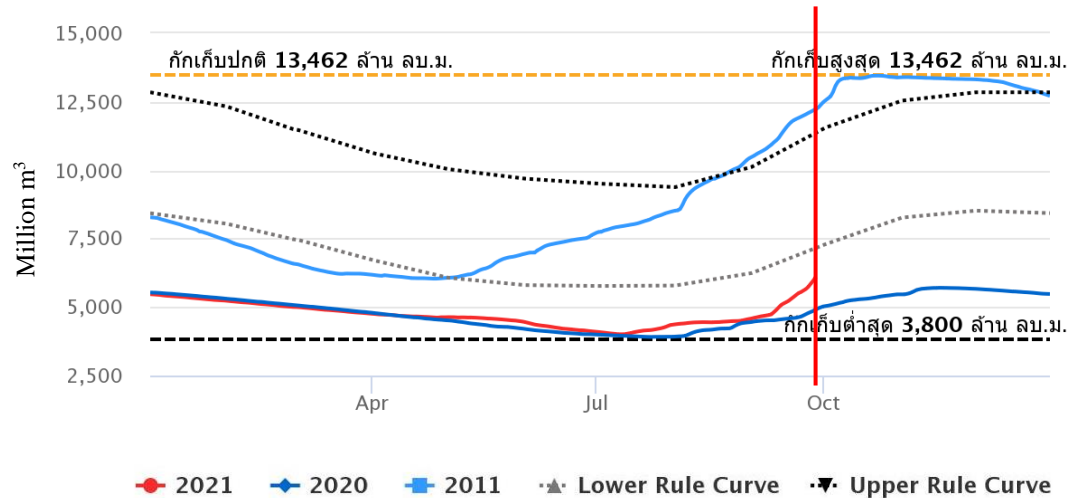
During 1 - 3 Oct, the weak monsoon trough will move up to lie across the North, the Northeast, the upper Central and the East. The southwest monsoon prevails over the Andaman Sea, Thailand and the Gulf of Thailand will strengthen. More rain is likely over Thailand and isolated heavy rain in the East and the South.”

Dam Storage Level (Sirikit Dam, Bhumibol Dam)

Storage level **Sirikit Dam (43%)**: as of 26 September 2021



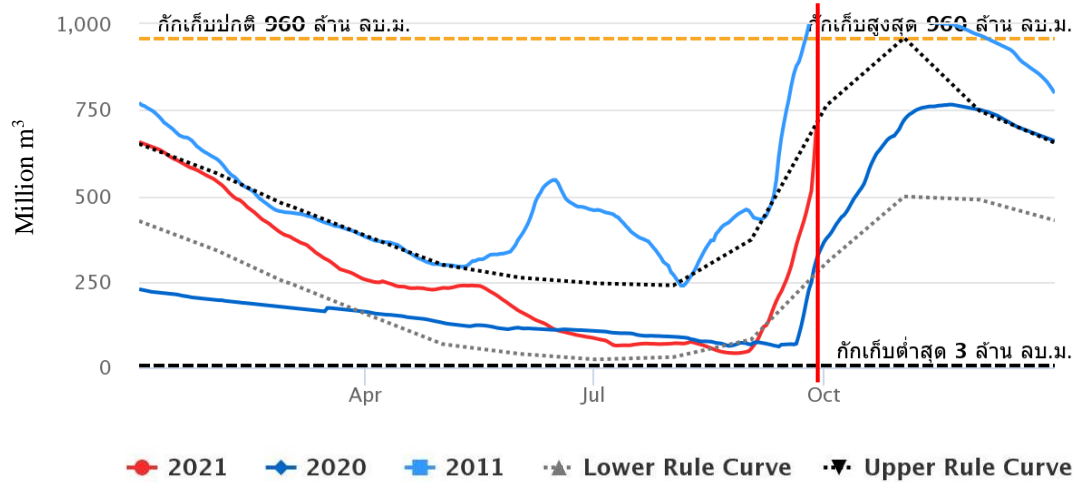
Storage level **Bhumibol Dam (45%)**: as of 26 September 2021



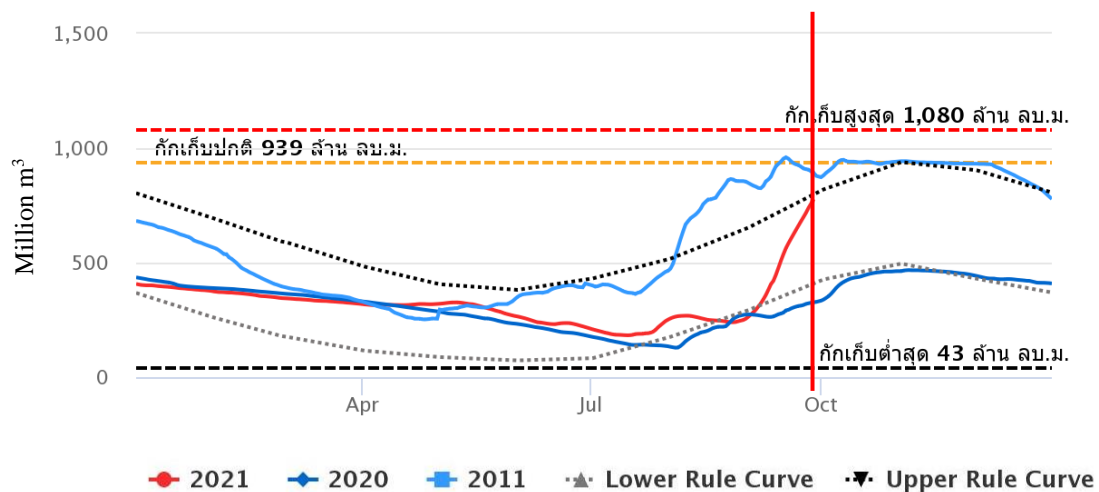
The water storage levels of Sirikit dam and Bhumibol dam have increased by 5% and 11% respectively since 1st September due to the rainfall in early to mid-September and the tropical storm “Dianmu”. It is possible that the storage levels of both dams will continue to increase. However, at present, the water storage levels are less than half of the level in 2011 when a major flood occurred.

Dam Storage Level (Pasak Dam, Kwaenoi Dam)

Storage level **Pasak Dam (73%)**: as of 1 September 2021



Storage level **Kwaenoi Dam (83%)**: as of 1 September 2021



The water storage levels of Pasak dam and Kwaenoi dam have rapidly increased by 67% and 55% respectively since 1st September due to the rainfall in early to mid-September and the tropical storm “Dianmu”. The water level in Pasak Dam usually spikes in September. This year, due to tropical cyclone Dianmu, the water level has almost reached the upper control level. For Kwaenoi dam, the water level has also almost reached the upper control level and is approximately 85% of the water level in 2011.

The Upper Chao Phraya River Flow

The water flow in the upper Chaophraya River basin has rapidly increased since 1st September. River flooding have occurred between Sukhothai and Phichit. The water level of Wang River, Nan River, and at the confluence of the four rivers have reached “Critical” level.

Water Situation in the Chao Phraya River
27th September 2021

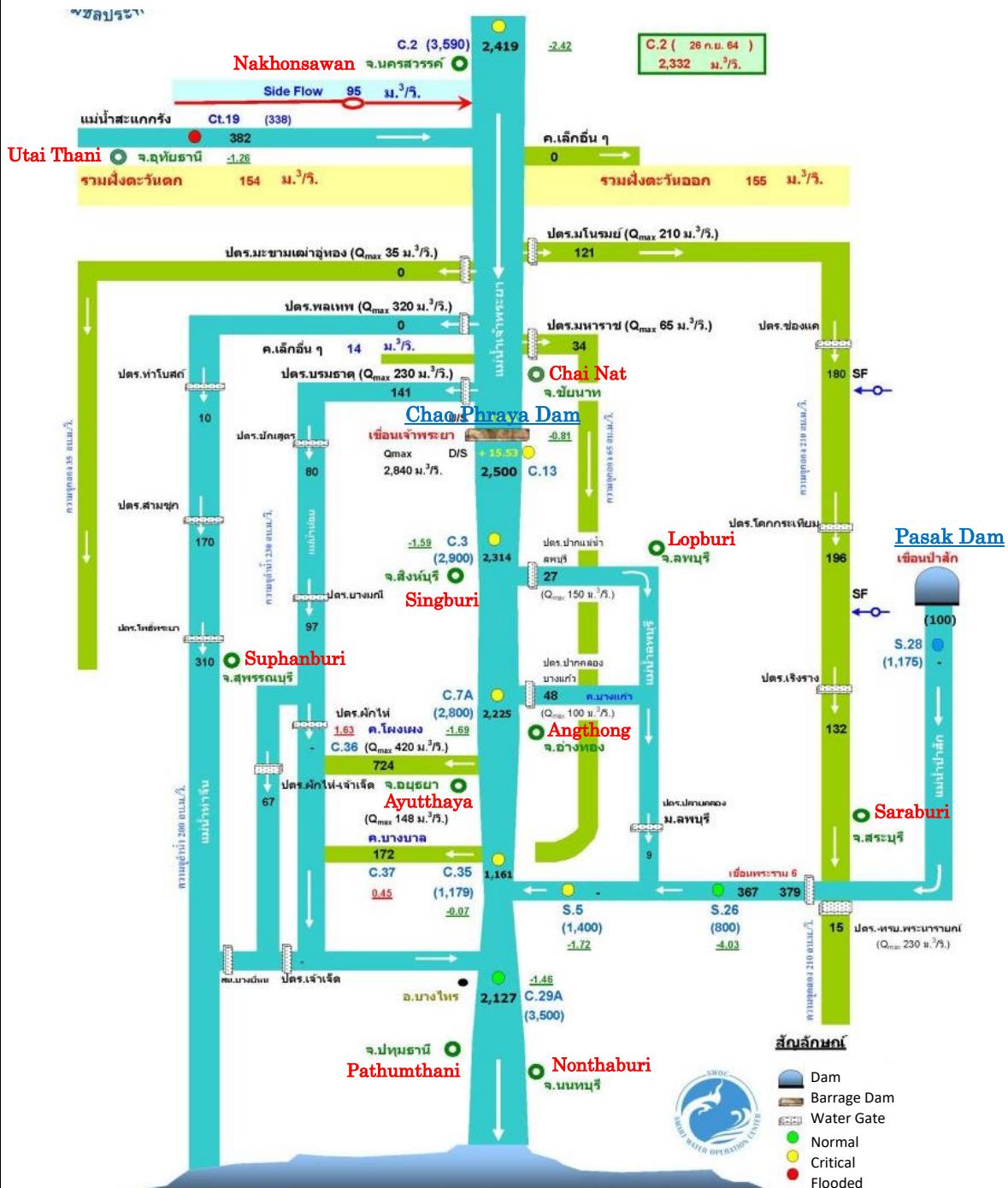


The Lower Chao Phraya River Flow

The water level in the lower basin of the Chaophraya River has been also increasing rapidly. River flooding has occurred in Utai Thani and the water levels at several observation points are “Critical”. However, the water flow is still under the control in most areas.

Water Situation in the Chao Phraya River

27th September 2021



Note: - Numbers in black indicate the flow rate of water in m³/sec.
 - Numbers in bracket the flow rate of water in m³/day.
 - Numbers with underline indicate higher (+) or lower (-) of water level than the river bank in meters.

References

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