# Monthly Weather Summary in Thailand July 2019

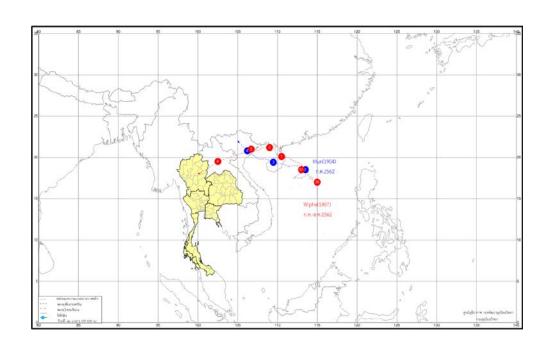
In July 2019, the monsoon trough which lay across the upper northern Thailand had shifted northwards to lie over Southern China during the middle of the month and weakened and disappeared. Consequently, less rainfall was observed in majority areas of upper Thailand with prolonged absence of rainfall for more than 2 weeks in some places which induced below normal rainfall in all regions. The average total rainfall over Thailand in this month was 21 percent lower than normal with the lowest normal rainfall of 37 percent and 24 percent in the central and northeastern regions, respectively. However, there were 2 tropical cyclones in the upper South China Sea having some effects on rainfall in Thailand including tropical storm "MUN" (1904) that made landfall over upper Vietnam during early month and tropical storm "WIPHA" (1907) that moved close to the Hainan Island on the last day of the month in addition with the covering of the low pressure cell over upper Vietnam during late month. These conditions caused increasing in amount and distribution of rainfall in upper Thailand during this period. In southern part, there was less rainfall except for during the middle of the month that received plentiful of rain due to the active southwest monsoon during that time. Monthly rainfall was lower than normal in every parts of Thailand i.e. northern part 35.4 mm (20%), northeastern part 51.0 mm (24%), central part 57.8 mm (37%), eastern part 57.0 mm (21%), southern part (eastern coast) 22.0 mm (19%) and southern part (west coast) 43.6 mm (13%). The average total rainfall over Thailand in this month was 21 percent lower than normal. Mean temperatures were about 1.0 degree celsius above normal in all parts.

1 – 10 July: During early period, the monsoon trough lay across upper northern and Laos to the active low pressure cell in the upper South China Sea on the first day of the period. It intensified into the tropical depression at 07.00 p.m. of July 1 and reached tropical storm strength "MUN" (1904) at 07.00 p.m. of July 2 after that it moved through the Hainan Island to the Gulf of Tonkin before making landfall over upper Vietnam at 04.00 a.m. of July 4. It moved further inland and downgraded into the tropical depression at Hanoi, Vietnam at 10.00 a.m. on the same day and degenerated into an areas of low pressure cell over upper Vietnam on the following day. Also, the active southwest monsoon prevailed over the Andaman Sea, southern part and the Gulf of Thailand during the first half of the period and later weakened and blowing over upper Andaman Sea and Thailand. These conditions caused plentiful of rain in the northern and northeastern parts with fairly widespread rain during early period with isolated heavy to very heavy rainfall in some areas after that rainfall decreased. The central and eastern part received fairly widespread rain with heavy to very heavy rainfall in some areas during the first half of the period then isolated rain with heavy rainfall in some areas. The highest daily rainfall was 127.0 mm at Tha Uthen in Nakhon Phanom province on July 2. Gusty wind was reported at Ubon Ratchathani province on July 1 and at Chon Buri province on July 2 with flooding at Samut Prakarn province on July 4 and flash flooding at Tak province on July 8. In southern Thailand, there was less rainfall, isolated rain with heavy to very heavy rainfall in some areas was observed along the east coast while isolated rain almost the period along the west coast. The maximum daily rainfall of 100.0 mm was measured at Amphoe Mueang in Phatthalung province on July 6.

11 – 20 July: The monsoon trough shifted northwards to lie over Southern China during early period after that it weakened and disappeared. Also, the southwest monsoon that prevailed over the Andaman Sea and Thailand was weakened. These caused scanty rain in upper Thailand with isolated rain and heavy rainfall in some areas almost the whole period and very heavy rain in the lower coastal of the

eastern part at Chanthaburi and Trat provinces during late period. The maximum daily rainfall in upper Thailand was 156.6 mm at Plew Agrometeorological station in Khlung, Chanthaburi province on July 18. Southern part obtained scattered rain during the first half of the period with heavy to very heavy rainfall in some areas. After that, rainfall increased both amount and distribution along the west coast due to the active southwest monsoon. The highest daily rainfall in southern part was 275.0 mm at Takua Pa in Phangnga province on July 18 with flash flooding at Phangnga province on July 21 and at Ranong and Krabi provinces on July 19.

21 – 31 July: Under the influence of the southwest monsoon prevailed over the Andaman Sea and Thailand in addition with the low pressure cell covered upper Thailand almost the period. In addition, the active low pressure cell in the upper South China Sea intensified into the tropical depression at 07.00 a.m. of July 30. It moved north-westward and reached tropical storm strength "WIPHA" (1907) at 07.00 a.m. of July 31 and later approached Hainan Island, China on the next time. As a result, rainfall was relatively increased in upper Thailand with fairly widespread rain almost the whole period and heavy to very heavy rainfall in some areas in the northern and northeastern parts. The central and eastern parts received isolated to scattered rain with heavy rainfall in some areas during the beginning and the end of the period while fairly widespread rain with isolated heavy to very heavy rainfall was found during the middle of the period. The maximum daily rainfall in upper Thailand was 148.2 mm at Chiang Kham in Phayao province on July 30. Flash floods was reported at Phayao province on July 30 and at Chiang Rai province on July 30 and 31 and also at Mae Hong Son and Chanthaburi provinces on July 31. In southern part, rainfall relatively decreased with isolated to scattered rain almost the whole period and heavy rainfall in some places. The highest daily rainfall was 67.0 mm at Mayo in Pattani province on July 24.



<u>Note</u>: 1) Rainfall, temperatures and natural disasters in this report were updated up to August 2, 2019.

#### Monthly Current Report Rainfall and Accumulative Rainfall July 2019

#### Northern Thailand

|                | Temperature (°c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|----------------|------------------|----------|---------------|----------|--|----------|
| Station        |                  | Above    |               | Above    |  | Above    |
|                | Mean             | or below | Actual        | or below | Actual                                     | or below |
|                |                  | normal   |               | normal   |  | normal   |
| Chiang Rai     | 28.3             | 1.6      | 210.3         | -100.6   | 460.8                                      | -389.3   |
| Mae Hong Son   | 27.5             | 0.5      | 180.3         | -46.6    | 532.9                                      | -151.4   |
| Phayao         | 28.2             | 1.2      | 151.4         | 9.6      | 332.3                                      | -226.3   |
| Chiang Mai     | 29.0             | 1.8      | 97.2          | -43.0    | 308.0                                      | -206.9   |
| Tha Wang Pha   | 28.5             | 1.3      | 262.6         | -5.8     | 651.3                                      | -125.5   |
| Nan            | 28.8             | 1.1      | 225.6         | 24.9     | 683.4                                      | 23.0     |
| Lamphun        | 29.2             | 1.4      | 53.0          | -64.0    | 273.0                                      | -188.3   |
| Lampang        | 29.4             | 1.6      | 98.7          | -35.9    | 394.9                                      | -117.9   |
| Mae Sariang    | 26.7             | 0.5      | 186.5         | 5.3      | 469.7                                      | -123.7   |
| Phrae          | 28.9             | 1.2      | 113.8         | -40.4    | 462.0                                      | -133.4   |
| Uttaradit      | 29.4             | 1.0      | 85.7          | -80.7    | 326.2                                      | -391.0   |
| Bhumibol Dam   | 29.3             | 1.1      | 24.1          | -42.6    | 235.5                                      | -232.0   |
| Tak            | 29.1             | 1.0      | 59.3          | -28.4    | 376.8                                      | -94.1    |
| Mae Sot        | 26.1             | 0.3      | 362.8         | 33.8     | 771.6                                      | -57.2    |
| Umphang        | 25.2             | 0.7      | 187.3         | -44.3    | 613.4                                      | -165.8   |
| Phitsanulok    | 29.2             | 0.7      | 53.6          | -125.8   | 404.0                                      | -211.8   |
| Lom Sak        | 28.9             | 1.3      | 91.0          | -37.6    | 480.5                                      | -64.0    |
| Phetchabun     | 29.1             | 1.4      | 135.9         | -12.9    | 500.7                                      | -118.2   |
| Wichian Buri   | 29.3             | 0.7      | 205.4         | 59.5     | 574.6                                      | -34.5    |
| Kamphaeng Phet | 29.4             | 1.3      | 28.0          | -131.4   | 444.2                                      | -180.7   |
| Over the area  | 28.5             | 1.1      | 140.6         | -35.4    | 464.8                                      | -159.6   |
|                |                  |          |               | -20%     |  | -26%     |

#### Northeastern Thailand

|                   | Temperature (°c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|-------------------|------------------|----------|---------------|----------|--|----------|
| Station           |                  | Above    |               | Above    |  | Above    |
|                   | Mean             | or below | Actual        | or below | Actual                                     | or below |
|                   |                  | normal   |               | normal   |  | normal   |
| Nong Khai         | 29.6             | 1.8      | 154.2         | -127.2   | 811.8                                      | -105.6   |
| Loei              | 29.3             | 1.9      | 45.9          | -99.9    | 268.0                                      | -401.0   |
| Udon Thani        | 29.2             | 1.0      | 170.5         | -40.4    | 620.6                                      | -169.9   |
| Nakhon Phanom     | 28.4             | 1.1      | 475.2         | -27.8    | 1262.4                                     | -102.4   |
| Sakon Nakhon      | 28.7             | 1.0      | 226.5         | -62.2    | 631.7                                      | -336.2   |
| Mukdahan          | 28.6             | 0.8      | 210.8         | -21.1    | 567.1                                      | -234.0   |
| Khon Kaen         | 29.4             | 1.3      | 110.5         | -62.8    | 507.2                                      | -153.5   |
| Kosum Phisai      | 29.9             | 1.3      | 129.1         | -30.9    | 476.0                                      | -182.6   |
| Roi Et            | 29.4             | 1.1      | 144.9         | -51.0    | 448.3                                      | -297.1   |
| Chaiyaphum        | 29.8             | 1.8      | 56.4          | -54.0    | 390.5                                      | -160.4   |
| Ubon Ratchathani  | 28.7             | 0.7      | 318.5         | 64.1     | 767.7                                      | -70.2    |
| Tha Tum           | 29.2             | 0.6      | 130.7         | -87.5    | 478.1                                      | -270.6   |
| Surin             | 29.0             | 1.1      | 227.1         | 5.8      | 560.1                                      | -201.7   |
| Nakhon Ratchasima | 30.2             | 1.6      | 40.7          | -80.2    | 245.2                                      | -267.9   |
| Chok Chai         | 29.7             | 1.4      | 60.3          | -58.6    | 203.9                                      | -308.9   |
| Nang Rong         | 29.5             | 1.4      | 65.4          | -82.6    | 358.9                                      | -239.2   |
| Over the area     | 29.3             | 1.3      | 160.4         | -51.0    | 537.3                                      | -218.9   |
|                   |                  |          |               | -24%     |  | -29%     |

NOTES: 1) Mean temperature is the average of daily dry-bulb temperature

- 2) "T" is trace, rainfall amount less than 0.1 mm.3) "blank" is incomplete data.
- 4) Temperature and rainfall are preliminary data.

## Monthly Current Report Rainfall and Accumulative Rainfall July 2019

#### Central Thailand

|                    | Temperature (°c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|--------------------|------------------|----------|---------------|----------|--|----------|
| Station            |                  | Above    |               | Above    |  | Above    |
|                    | Mean             | or below | Actual        | or below | Actual                                     | or below |
|                    |                  | normal   |               | normal   |  | normal   |
| Nakhon Sawan       | 29.7             | 0.9      | 72.3          | -75.7    | 522.9                                      | -26.1    |
| Bua Chum           | 29.8             | 1.3      | 150.4         | 33.4     | 352.7                                      | -159.8   |
| Lop Buri           | 29.6             | 1.0      | 73.0          | -47.1    | 273.6                                      | -243.8   |
| Suphan Buri        | 30.0             | 1.3      | 28.1          | -70.7    | 249.7                                      | -136.4   |
| Thong Pha Phum     | 27.1             | 0.6      | 185.9         | -137.3   | 548.8                                      | -450.2   |
| Kanchanaburi       | 29.8             | 1.2      | 25.6          | -77.3    | 304.8                                      | -158.8   |
| Bangkok Airport    | 29.7             | 0.7      | 100.0         | -59.1    | 556.5                                      | -127.6   |
| Bangkok Metropolis | 29.5             | 0.5      | 146.4         | -28.7    | 436.1                                      | -310.6   |
| Over the area      | 29.4             | 0.9      | 97.7          | -57.8    | 405.6                                      | -201.7   |
|                    |                  |          |               | -37%     |  | -33%     |

## Eastern Thailand

|               | Temperature ( °c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|---------------|-------------------|----------|---------------|----------|--|----------|
| Station       |                   | Above    |               | Above    |  | Above    |
|               | Mean              | or below | Actual        | or below | Actual                                     | or below |
|               |                   | normal   |               | normal   |  | normal   |
| Prachin Buri  | 29.6              | 1.1      | 219.0         | -52.9    | 740.8                                      | -177.0   |
| Kabin Buri    | 28.3              | 0.4      | 220.7         | -20.5    | 621.8                                      | -193.8   |
| Aranyaprathet | 29.1              | 1.0      | 68.2          | -98.2    | 504.0                                      | -165.4   |
| Chon Buri     | 30.0              | 0.8      | 103.7         | -36.9    | 513.3                                      | -96.1    |
| Ko Sichang    | 29.6              | 0.7      | 64.9          | -58.5    | 439.6                                      | -97.1    |
| Pattaya       | 29.5              | 1.0      | 18.9          | -78.5    | 468.9                                      | -43.0    |
| Sattahip      | 30.2              | 1.3      | 27.4          | -80.1    | 503.6                                      | -88.6    |
| Rayong        | 29.7              | 0.7      | 82.7          | -89.1    | 624.3                                      | -120.3   |
| Chanthaburi   | 28.5              | 0.9      | 542.7         | 59.5     | 1539.7                                     | -100.8   |
| Khlong Yai    | 27.4              | 0.4      | 856.8         | -114.8   | 2731.6                                     | 79.5     |
| Over the area | 29.2              | 0.8      | 220.5         | -57.0    | 868.8                                      | -100.3   |
|               |                   |          |               | -21%     |  | -10%     |

- NOTES: 1) Mean temperature is the average of daily dry-bulb temperature
  - 2) "T" is trace, rainfall amount less than 0.1 mm.
  - 3) "blank" is incomplete data.
  - 4) Temperature and rainfall are preliminary data.

## Monthly Current Report Rainfall and Accumulative Rainfall July 2019

# Southern Thailand, east coast

|                     | Temperature (°c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|---------------------|------------------|----------|---------------|----------|--|----------|
| Station             |                  | Above    |               | Above    |  | Above    |
|                     | Mean             | or below | Actual        | or below | Actual                                     | or below |
|                     |                  | normal   |               | normal   |  | normal   |
| Phetchaburi         | 29.6             | 0.9      | 80.1          | -0.7     | 299.4                                      | -58.2    |
| Hua Hin             | 29.4             | 0.8      | 53.7          | -39.3    | 259.5                                      | -148.7   |
| Prachuap Khiri Khan | 29.2             | 1.2      | 40.1          | -69.2    | 323.1                                      | -172.8   |
| Chumphon            | 28.5             | 1.3      | 105.3         | -73.7    | 741.6                                      | -82.5    |
| Surat Thani         | 28.1             | 1.0      | 67.6          | -81.2    | 537.3                                      | -61.0    |
| Ko Samui            | 29.4             | 1.1      | 112.4         | -3.9     | 578.0                                      | -122.8   |
| Nakhon Si Thammarat | 28.7             | 0.8      | 90.3          | -27.5    | 832.9                                      | 13.7     |
| Songkhla            | 28.8             | 0.5      | 168.3         | 73.3     | 642.2                                      | 69.5     |
| Hat Yai Airport     | 27.8             | 0.4      | 91.6          | -12.9    | 607.2                                      | -36.2    |
| Pattani Airport     | 28.1             | 0.5      | 151.0         | 21.9     | 705.5                                      | 122.6    |
| Narathiwat          | 28.3             | 0.8      | 105.2         | -28.8    | 755.0                                      | 10.2     |
| Over the area       | 28.7             | 0.8      | 96.9          | -22.0    | 571.1                                      | -42.5    |
|                     |                  |          |               | -19%     |  | -7%      |

## Southern Thailand, west coast

|                | Temperature (°c) |          | Rainfall (mm) |          | Accumulative rainfall (mm) Since 1 January |          |
|----------------|------------------|----------|---------------|----------|--|----------|
| Station        |                  | Above    |               | Above    |  | Above    |
|                | Mean             | or below | Actual        | or below | Actual                                     | or below |
|                |                  | normal   |               | normal   |  | normal   |
| Ranong         | 28.0             | 1.1      | 396.9         | -223.8   | 1743.4                                     | -267.1   |
| Takua Pa       | 28.0             | 0.6      | 539.2         | 109.3    | 1928.3                                     | 231.6    |
| Phuket         | 29.2             | 1.0      | 251.6         | -6.6     | 867.7                                      | -133.9   |
| Phuket Airport | 28.8             | 0.9      | 330.3         | 68.8     | 1398.7                                     | 281.2    |
| Ko Lanta       | 28.3             | 0.1      | 281.4         | -14.9    | 1162.4                                     | 148.4    |
| Trang Airport  | 27.9             | 0.9      | 143.2         | -115.3   | 889.7                                      | -63.8    |
| Satun          | 27.8             | 0.4      | 107.8         | -122.8   | 924.7                                      | -117.7   |
| Over the area  | 28.3             | 0.7      | 292.9         | -43.6    | 1273.6                                     | 11.3     |
|                |                  |          |               | -13%     |  | 1%       |

NOTES: 1) Mean temperature is the average of daily dry-bulb temperature

- 2) "T" is trace, rainfall amount less than 0.1 mm.
- 3) "blank" is incomplete data.
- 4) Temperature and rainfall are preliminary data.

