



MINISTRY OF DIGITAL ECONOMY AND SOCIETY,
THAI METEOROLOGICAL DEPARTMENT

Three-month Climate Forecast

For June – August 2018

Issued on 28 May 2018

Climate Outlook:

1. During the next 3 months, the total rain of Thailand at central and eastern parts including with that of the Southern Thailand (east coast) and Bangkok Metropolis will be 5% below normal.

In other words, the total rain of the central part will be about 450 millimeters from Normal: 477 mm, that of the eastern part is about 800 millimeters from Normal: 841 mm, that of the Southern Thailand (east coast) is about 340 millimeters from Normal: 358 mm and that of Bangkok Metropolis is about 500 millimeters from Normal: 536 mm.

On the other hand, the total rain of the northern and northeastern parts and that of the Southern Thailand (west coast) will be near normal or about 555, 701 and 1047 millimeters consecutively.

Mean temperature of Thailand will be near normal.

2. In June 2018, the total rain of the northeastern part will be 5% below normal whereas that of Bangkok Metropolis will be 5% above normal. Furthermore, the total rain of other parts will be near normal.

The mean temperature of Thailand this June will be near normal.

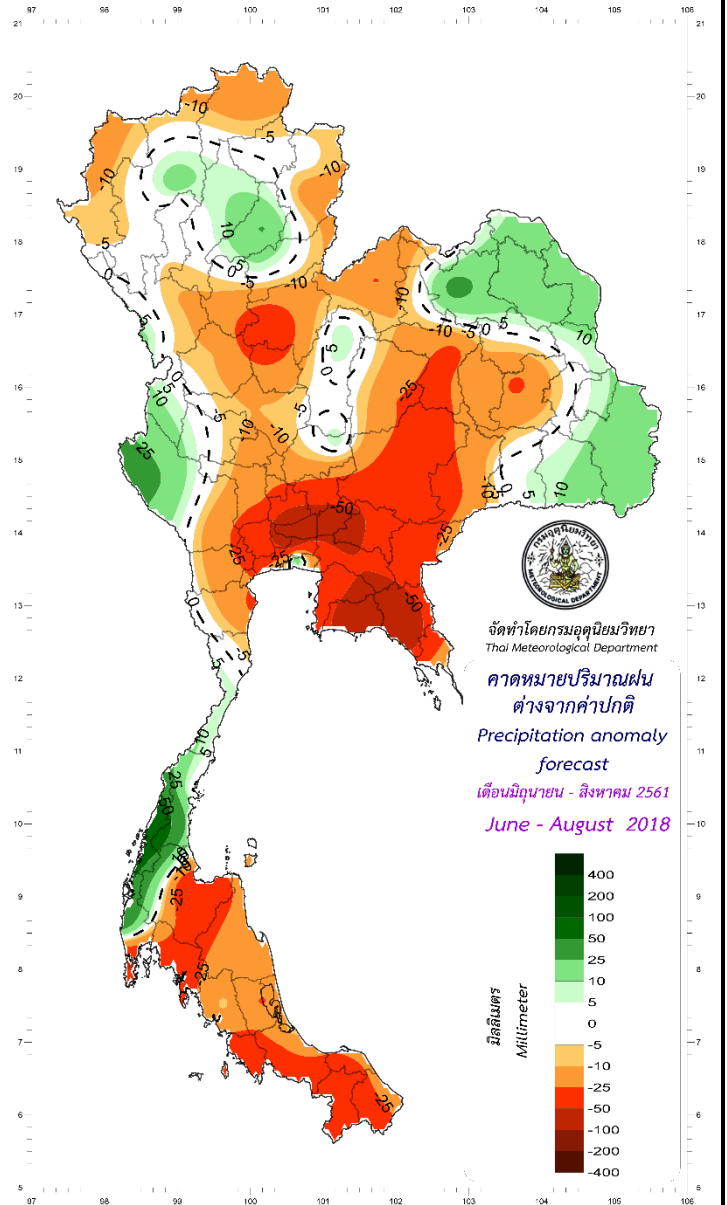
3. In July 2018, the total rain of the central and eastern parts will be 5% below normal while that of the Southern Thailand (east coast) and Bangkok Metropolis is 10% below normal. Moreover, the total rain of the northeastern part will be 5% above normal whereas that of the northern part and the Southern Thailand (west coast) is near normal

The mean temperature of Thailand this July will be near normal.

4. In August 2018, the total rain of Thailand around the eastern part and the Southern Thailand (east coast) will be 5% below normal while that of the central part and Bangkok Metropolis will be 10% below normal. Nevertheless, the total rain of the northern and northeastern parts and that of the Southern Thailand (west coast) will be near normal.

The mean temperature of Thailand this August will be near normal.

* The information supporting this 3-month climate outlook are at the following pages:



Thailand climate for May-June-July 2018 from baseline: 1981-2010

June 2018: Usually, abundant rainfall occurs during the 1st half of this month due to the influential southwest monsoon prevailing over Thailand together with low-pressure air mass cells placing over the central portion of Thailand. Afterward, rainfall will reduce and dry spell may happen for about 1-2 weeks, specifically at the Upper Thailand. The reason is that a low-pressure trough moves upward to the southern portion of China along with the southwest monsoon prevailing over Thailand weakens. Additionally, some tropical cyclones from the Northwest Pacific or the South China Sea may move near or toward Thailand further, especially at the eastern side of Thailand.

July 2018: During the 1st half of this month, the dry spell will continue from late June because a low-pressure trough still places over the southern portion of China. Together with the southwest monsoon prevailing over the Upper Thailand mostly weakens influencing many areas to meet slight or no rain continuously for many days.

Later during the 2nd half of this month, more abundant rainfall appears because of the low-pressure trough moving downward to place over the Upper Thailand again including with the southwest monsoon prevailing over Thailand becoming more active periodically.

In addition, some tropical cyclones may move near or toward Thailand along the eastern side of the country.

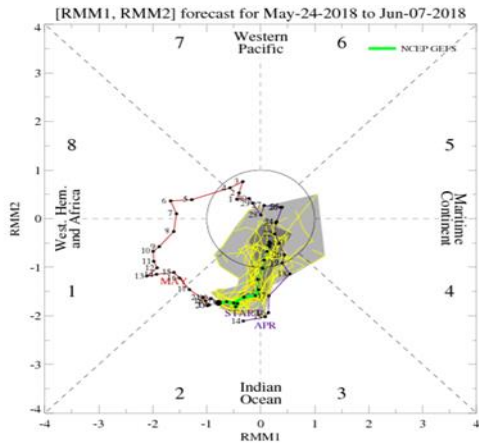
August 2018: Usually, densely abundant rain occurs at this month with more rain amount than the past July. The reason is that the influential low-pressure air mass trough places over the northern and northeastern parts along with the prevailing southwest monsoon over Thailand becomes more active from time to time. Besides, some tropical cyclones may move near or toward Thailand around the upper portion of the northern and northeastern parts than other areas of the country.

Outlook of the phenomena influencing climate of Thailand

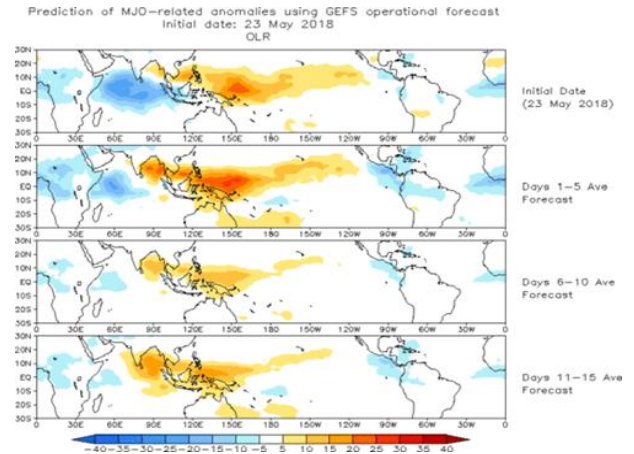
1. Madden Julian Oscillation (MJO)

During the past May 2018, MJO became more active and moved from the African Continent toward the west coast of the Indian Ocean during the last week of the month. This influences on air mass uplifting around the western Indian Ocean bringing about the westerly wind wave at this area to become more active.

And from MJO index forecast models, they predict that for the next 2 – 3 weeks until middle June 2018, MJO will become more active continuously and move through the Indian Ocean, the Andaman Sea, Thailand and the Western Pacific Ocean. Consequently, the rain amount of Thailand will increase during the 1st half of June 2018 while MJO needs to be monitored closely further for the 2nd half of June 2018.



Graph of MJO index and phase forecast from global climate centers (source: IRI/CPC)

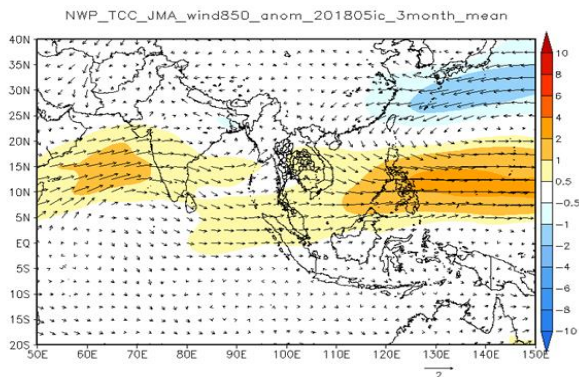


3-phase forecast maps of mean OLR, each phase consists of 5 days. (source: IRI/CPC)

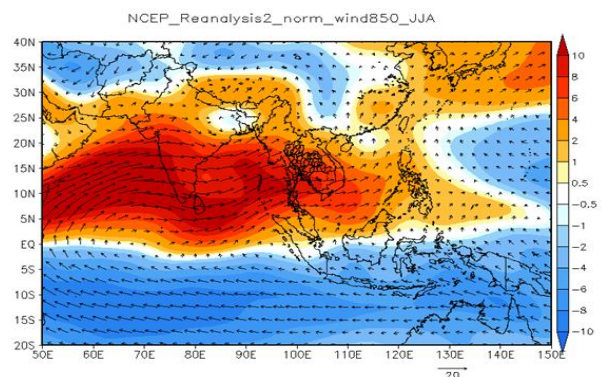
2. Monsoon

During the past May 2018, most prevailing winds over Thailand consist of easterly, southeasterly and southerly winds. Except for the 2nd half of the past May, southwest monsoon prevails on some days as being “less active than normal”. In June 2018, the southwest monsoon will prevail over all of the country as being “slightly more active” at the Southern Thailand and “near normal active” at the Upper Thailand. As a result, the rain amount of Thailand will be near normal with “slightly above normal” at some areas. During July and August 2018, the “near normal active” southwest monsoon will prevail over all of the country causing the rain amount of Thailand to be near normal.

On average from June till August, the southwest monsoon prevailing over the whole country will be “near normal active” influences the rain amount of Thailand to become near normal.



Map of 'mean wind speed' anomaly from normal at the 850-hPa level during June until August 2018 (Tokyo climate center, JMA - Japan Meteorological Agency, Japan)

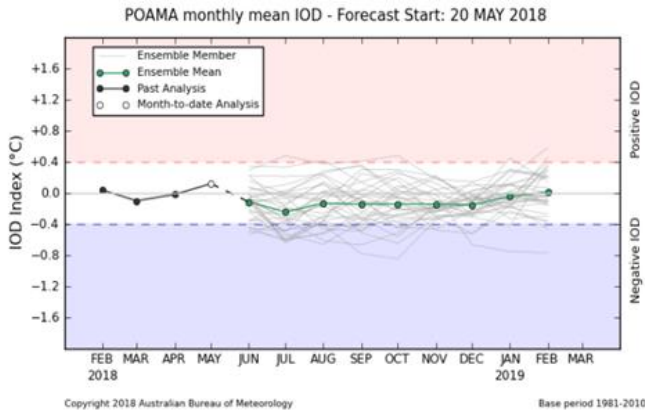


Map of mean wind speed at the 850-hPa level during June until August 2018 (NCEP - National Center for Environmental Prediction, NOAA, USA)

3. Indian Ocean Dipole (IOD)

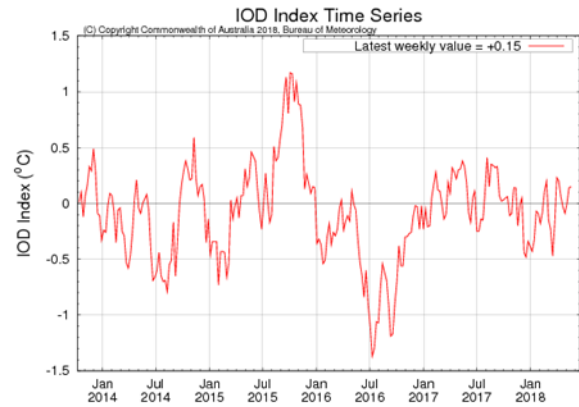
During the past April till May 2018, IOD was still neutral. Moreover, from forecast models of IOD index, IOD probability scenario and sea surface temperature forecast around the Indian Ocean, they predict that IOD will still become neutral for the whole period of June till August 2018.

In other words, IOD will not influence on the total rain and mean temperature of Thailand in June 2018.



Model forecast of IOD index

(source: Bureau of Meteorology, Australia (BOM))

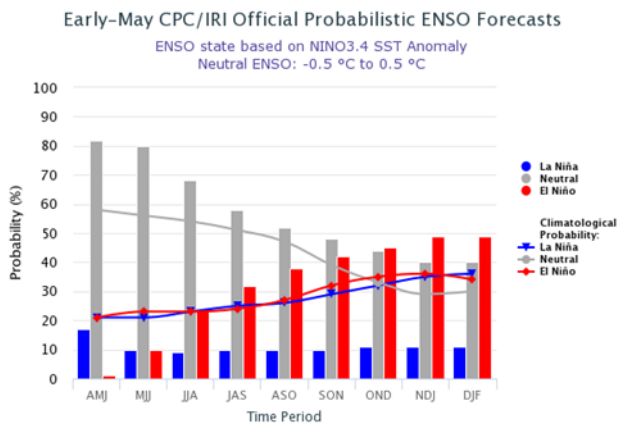


IOD index graph

(source: Japan Meteorological Agency (JMA))

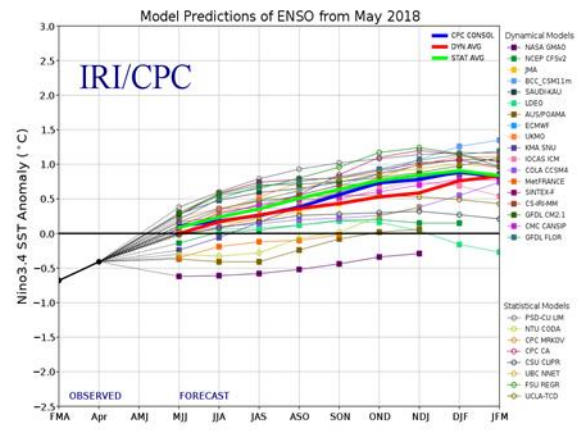
4. El Niño Southern Oscillation (ENSO)

During the past April 2018, the ENSO phenomenon returned back to become nearly neutral (Nino 3.4 = -0.6). And from El Niño/Southern Oscillation (ENSO) Diagnostic Discussion, ENSO probability forecast, and ENSO: Recent Evolution, Current Status and Predictions, global climate centers predict that ENSO will still become neutral continuously until September – November 2018.



Graph of probabilistic ENSO forecasts

(source: IRI/CPC)

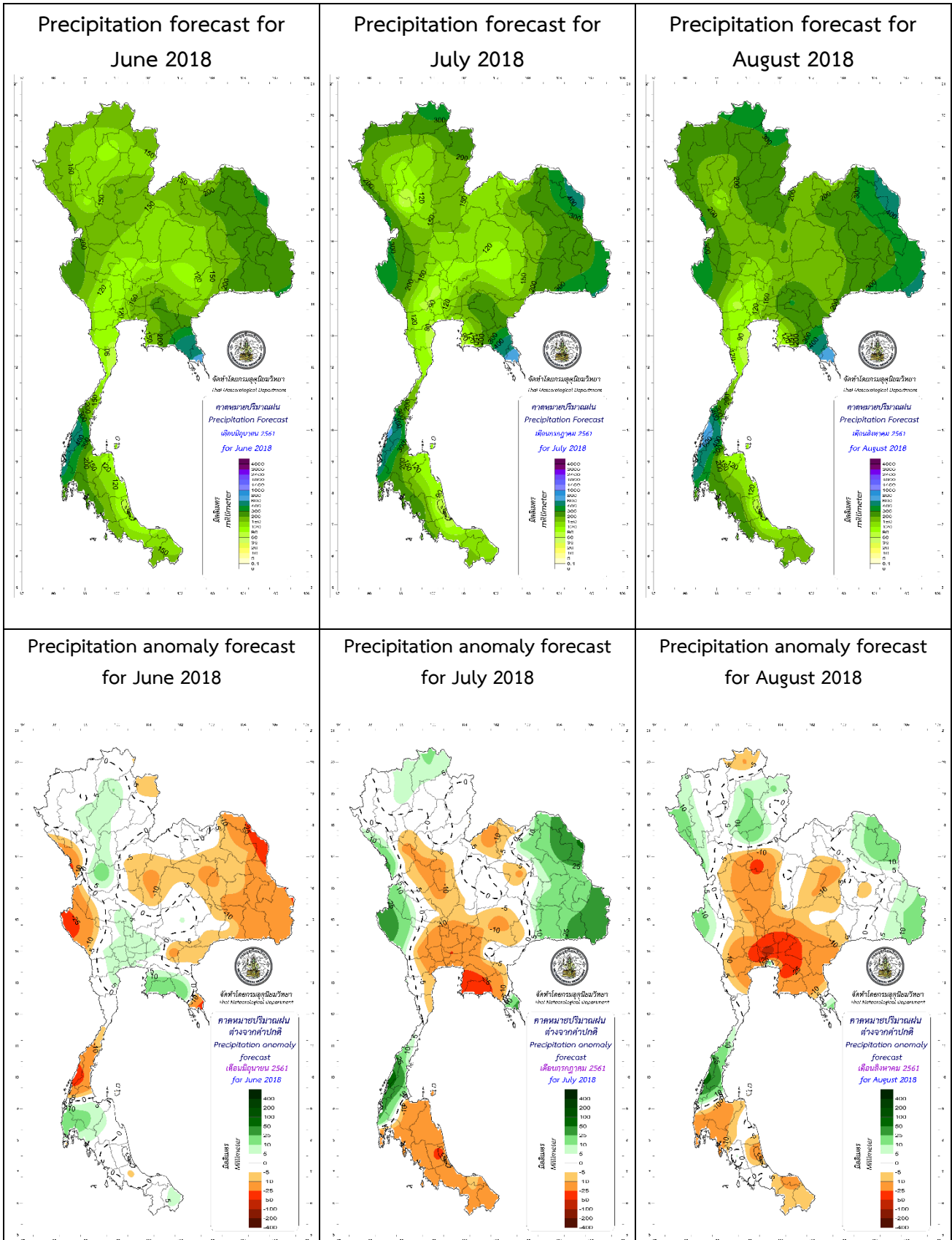


Graph of model forecasts from global climate centers for 'mean sea surface temperature' anomaly around Nino 3.4

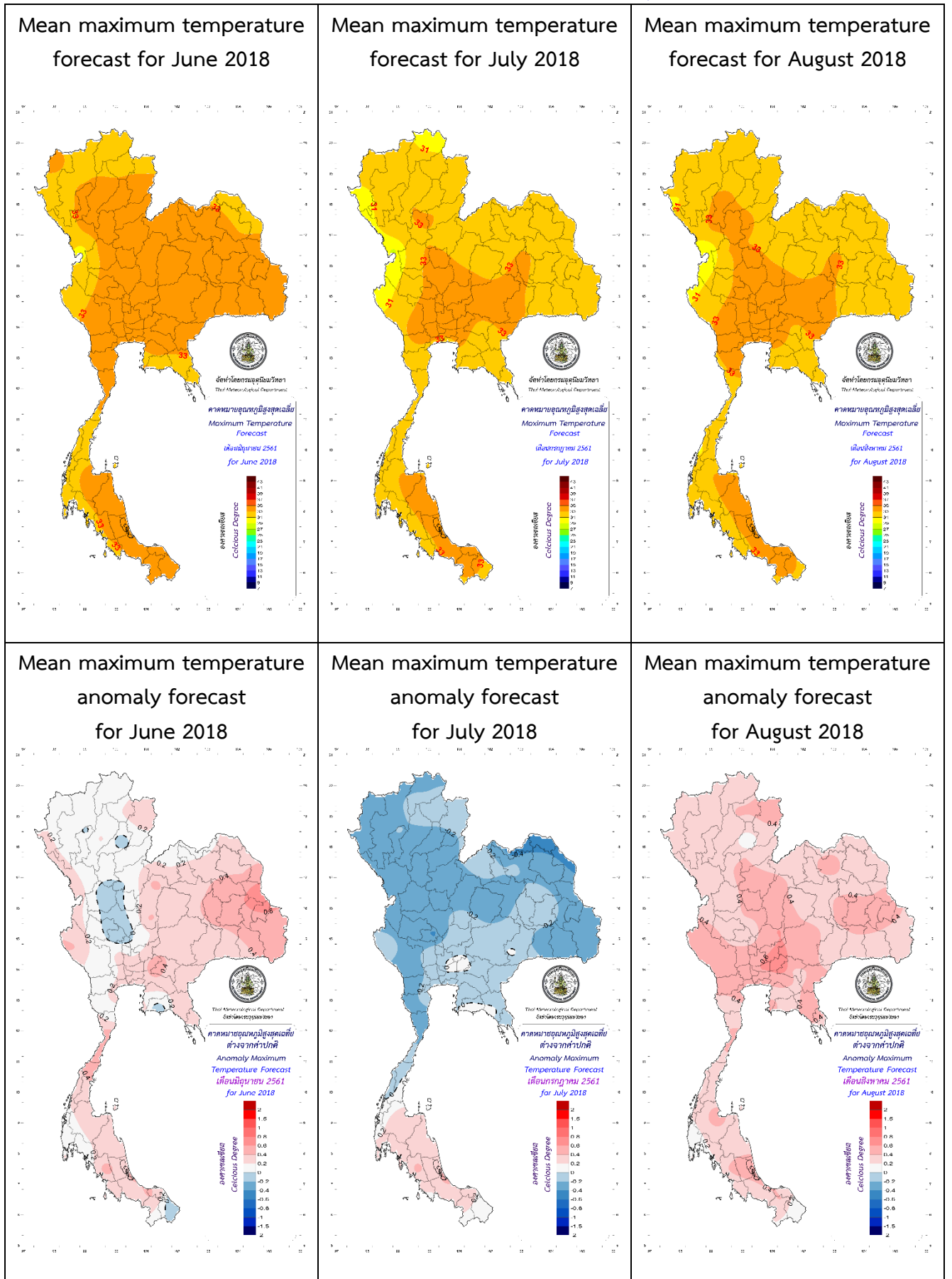
(source: IRI/CPC)

** For further information, please visit www.tmd.go.th/en and www.climate.tmd.go.th **

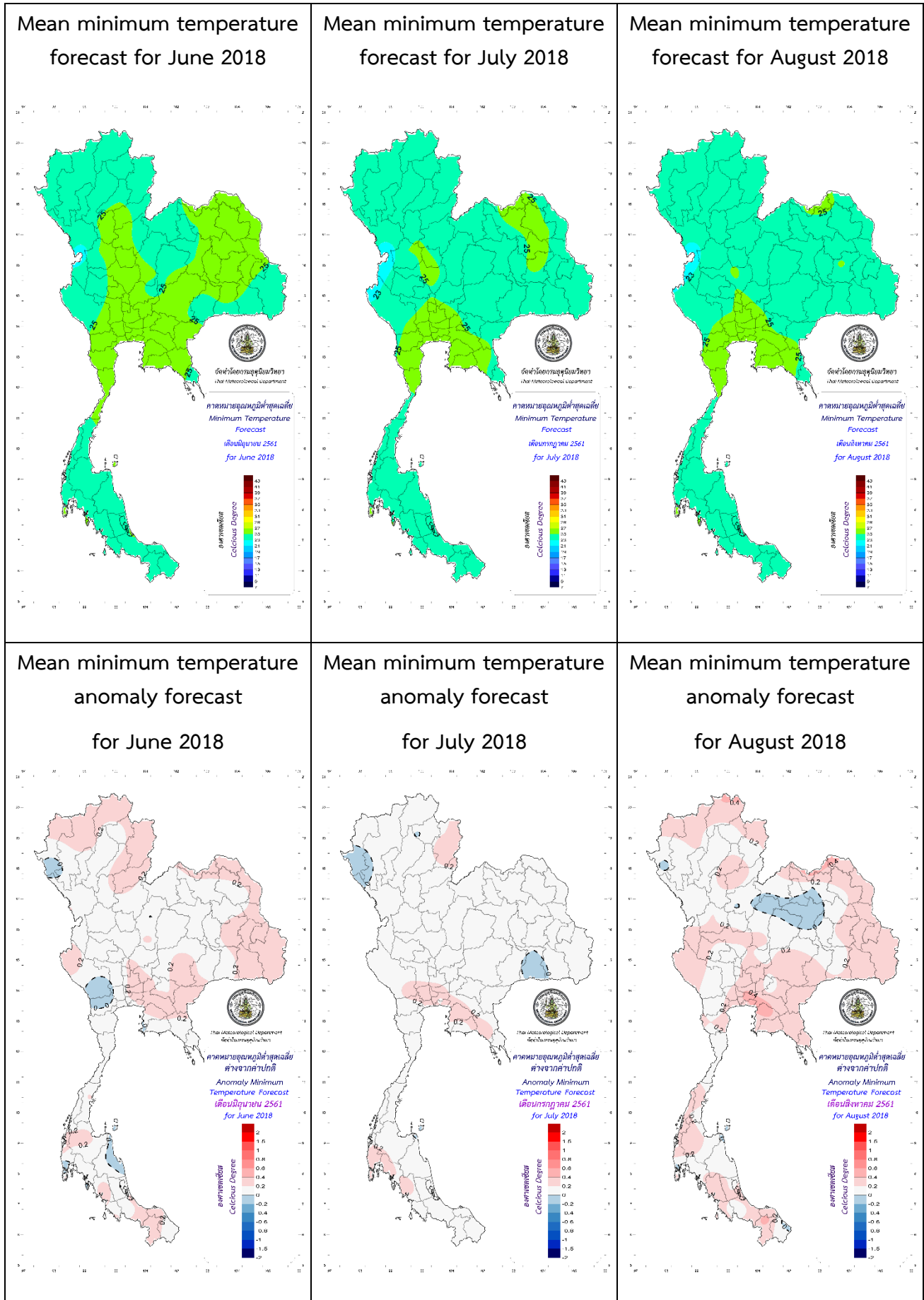
Precipitation (mm/month) and Precipitation Anomaly (mm/month) Forecast:



Mean Maximum Temperature (°C) and Anomaly (°C) Forecast:



Mean Minimum Temperature (°C) and Anomaly (°C) Forecast:



***** Caution: *****

June and July 2018: Some tropical cyclones often develop at the western side of the North Pacific Ocean and move pass the Philippines toward the South China Sea. This will influence the prevailing southwest monsoon over Thailand and the Gulf of Thailand to become more active. As a result, Thailand will meet more rain, specifically at the coastal region of the eastern part and the Southern Thailand (west coast).

Late June till early July 2018: Dry spell often occurs. In other words, the amount and distribution of rain will reduce greatly. This will cause water shortage for agriculture at many areas, specifically at the repeated drought areas outside irrigation zones.

August 2018: Some tropical cyclones often develop at the western side of the North Pacific Ocean or the South China Sea. They favor a high chance to move close or pass the Upper Thailand. As a result, Thailand will meet dense rainfall with heavy to very heavy rain amount at many areas. Thus, flash or forest flood with overflow will inundate at many areas. Therefore, the public should follow weather forecast news and tropical cyclone warnings from the Thai Meteorological Department further.

Prediction of Rain (mm = millimeters), Rainy Days (days) and comparing with normal:

Part	Prediction									Normal (Baseline period 1980-2010)					
	June 2018			July 2018			August 2018			June		July		August	
	Rain (mm)	Rainy Days	Comparing with normal	Rain (mm)	Rainy Days	Comparing with normal	Rain (mm)	Rainy Days	Comparing with normal	Rain (mm)	Rainy Days	Rain (mm)	Rainy Days	Rain (mm)	Rainy Days
Northern	110-215	17-19	Near Normal	140-210	18-20	Near Normal	175-270	20-22	Near Normal	156.2	17.8	176.0	19.4	223.0	21.0
Northeastern	130-260	15-17	5 % Below Normal	180-280	16-19	5 % Above Normal	225-340	18-20	Near Normal	203.4	16.1	211.4	17.4	266.2	19.4
Central	85-175	14-16	Near Normal	110-170	15-17	5 % Below Normal	125-195	16-18	10 % Below Normal	145.2	15.4	155.5	16.4	181.1	18.2
Eastern	165-335	15-17	Near Normal	210-320	16-18	5 % Below Normal	225-330	17-19	5 % Below Normal	261.5	16.7	277.5	17.2	302.5	18.4
Southern Thailand (East Coast)	65-150	12-14	Near Normal	75-130	13-15	10 % Below Normal	85-145	14-16	5 % Below Normal	113.0	13.7	118.9	14.5	124.1	15.4
Southern Thailand (West Coast)	180-340	18-20	Near Normal	265-420	19-21	Near Normal	325-500	19-21	Near Normal	312.4	18.9	336.5	19.8	398.5	20.5
Bangkok Metropolis and Vicinity	105-210	15-17	5 % Above Normal	100-170	15-17	10 % Below Normal	115-205	17-19	10 % Below Normal	157.1	16.2	175.1	17.1	211.3	19.1

Prediction of Mean Maximum Temperature (Tmax) and Mean Minimum Temperature (Tmin) (°C)
and comparing with normal:

Part	Prediction									Normal (Baseline period 1980-2010)					
	June 2018			July 2018			August 2018			June		July		August	
	Mean Tmax	Mean Tmin	Comparing with normal	Mean Tmax	Mean Tmin	Comparing with normal	Mean Tmax	Mean Tmin	Comparing with normal	Mean Tmax	Mean Tmin	Mean Tmax	Mean Tmin	Mean Tmax	Mean Tmin
Northern	32-34	24-25	Near Normal	31-33	23-25	Near Normal	31-33	23-25	Near Normal	33.0	24.3	32.1	24.0	31.8	23.8
Northeastern	33-35	24-26	Near Normal	32-33	24-26	Near Normal	32-33	24-25	Near Normal	33.4	24.9	32.8	24.6	32.2	24.4
Central	33-35	24-26	Near Normal	32-34	24-26	Near Normal	33-34	24-26	Near Normal	34.0	25.5	33.4	25.1	33.1	24.8
Eastern	32-34	25-27	Near Normal	31-33	24-26	Near Normal	32-33	25-26	Near Normal	32.8	25.7	32.2	25.3	32.0	25.3
Southern Thailand (East Coast)	33-34	24-26	Near Normal	32-34	23-25	Near Normal	32-34	24-25	Near Normal	33.1	24.7	32.8	24.4	32.8	24.2
Southern Thailand (West Coast)	31-33	24-26	Near Normal	31-33	23-25	Near Normal	31-32	24-26	Near Normal	32.0	24.6	31.7	24.3	31.5	24.4
Bangkok Metropolis and Vicinity	33-35	25-27	Near Normal	32-34	27-25	Near Normal	33-34	25-27	Near Normal	33.6	26.1	33.2	25.7	33.0	25.5

Remarks:

- Normal means average during the 30-year period (A.D. 1981 – 2010 or B.E. 2524 – 2553).
- This long range climate forecast is created by applying some climate models and statistical methods, the public then should follow the daily weather forecast news from the Thai Meteorological Department for more accuracy further.
- The next 3-month climate forecast will be published online before the end of June 2018.
- Further enquiry of monthly climate, 3-month climate and seasonal forecasts can be preceded at Tel: 02-398-9929 or Fax: 02-383-8827.
- Also, please follow monthly climate, 3-month climate and seasonal forecasts at <http://www.tmd.go.th/en/> at the climate tab.

Climate Center, Meteorological Development Division,
Thai Meteorological Department, Ministry of Digital Economy and Society.