



Climate Outlook:

1. During the next 3 months, the total rain of Thailand will be below normal, specifically that of Bangkok Metropolitan and Vicinity is to be 10% below normal or about 690 millimeters: mm (from Normal: 768 mm).

In other words, the total rain of the central and eastern parts including with that of the Southern Thailand (East and West Coasts) will be 5% below normal. Expectedly, the amount of rainfall for each part is to be about as follows:

- the central part = 570 mm (from Normal: 635 mm),
- the eastern part = 810 mm (from Normal: 858 mm),
- the Southern Thailand (East Coast) = 500 mm (from Normal: 528 mm) and
- the Southern Thailand (West Coast) = 1,130 mm (from Normal: 1,189 mm).

However, the total rain of the northern and northeastern parts is to be 5% above normal. Expectedly, the amount of rainfall for each part is to be about as follows:

- the northern part = 590 mm (from Normal: 565 mm) and
- the northeastern part = 660 mm (from Normal: 632 mm).

Moreover, the mean temperature of Thailand will be near normal whereas that of October is to be slightly above normal.

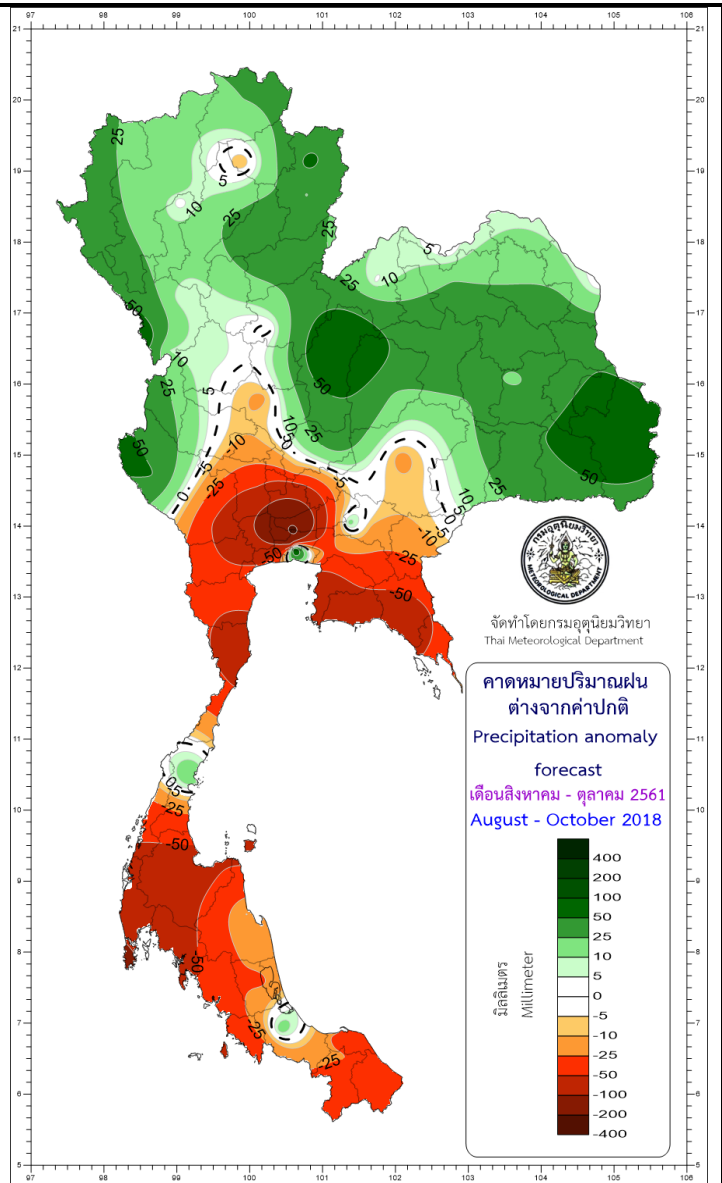
2. In August 2018, the total rain of each part comparing to normal is as follows:
Bangkok Metropolis and Vicinity = 10% below normal,
the central and eastern parts and the Southern Thailand (East Coast) = 5% below normal,
the northern and northeastern parts = 5% above normal and the Southern Thailand (West Coast) = near normal.

In addition, the mean temperature of Thailand of this August will be near normal.

3. In September 2018, the total rain of the Southern Thailand (East & West Coasts) will be 5% below normal whereas that of the northern and northeastern parts is to be 10% above normal. However, the total rain of other parts is to be near normal. Also, the mean temperature of Thailand of this September will be near normal.

4. In October 2018, the total rain of the Southern Thailand (East and West Coasts) will be near normal whereas that of other parts is to be 5% below normal.

Furthermore, the mean temperature of Thailand of this October will be slightly above normal while that of the Southern Thailand (East and West Coasts) is to be near normal.



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

Thailand climate for August-September-October 2018 from baseline: 1981-2010

August 2018: Usually, densely abundant rainfall 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 southwestern 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 more than other areas of the country.

September 2018: Thailand will meet densely abundant rainfall as the most abundant rainy month in the past year. The reason is that the influential low-pressure air mass trough places around the central portion of Thailand together with the southwestern monsoon prevails over Thailand. Additionally, some influential tropical cyclones may move to dissipate near or toward Thailand directly, specifically around the eastern portion of the country.

October 2018: As being the transition month from the rainy to the winter seasons, the rain and temperature of the Upper Thailand will reduce and cool weather begins since the middle of this month. The reason is that the southwestern monsoon starts to transform to become the northeastern monsoon along with cold high-pressure air mass areas from China begin to prevail over the Upper Thailand periodically.

As a result, a low-pressure air mass trough placing over the central and eastern parts will move downward to place over the Southern Thailand and the Gulf of Thailand during the 2nd half of this month. Consequently, the Southern Thailand will still meet densely abundant rainfall. Probably, some tropical cyclones may move near or toward the eastern portion of Thailand to the upper portion of the Gulf of Thailand or the Southern Thailand further.

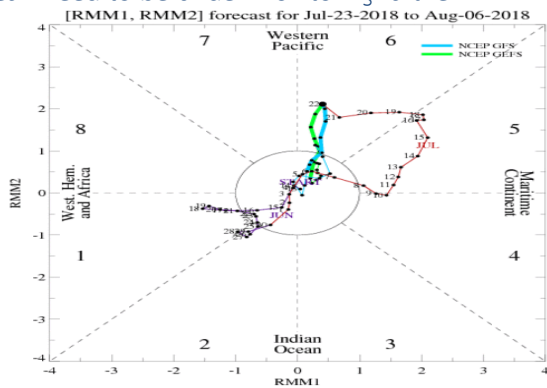
Outlook of the phenomena influencing climate of Thailand

1. Madden Julian Oscillation (MJO)

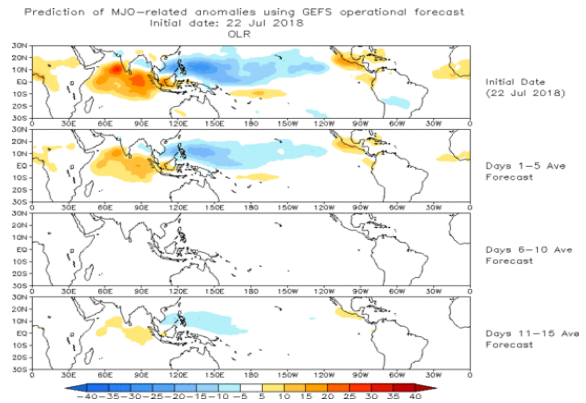
During the past late July 2018, moderately active MJO prevailed over the western portion of the Pacific Ocean influencing westerly wind waves around the eastern portion of the Indian Ocean to become more active.

And from MJO index forecast models, they all predict quite the same that for the next 2 – 3 weeks until middle August 2018, MJO will weaken continuously and move to dissipate around the eastern portion of the Indian Ocean. The reason is that the upper-level wind will move disruptively and brings about higher chances for tropical cyclone development.

Thus, the rain amount of Thailand, specifically around the northeastern part will increase during late July 2018 until the first half of August 2018. Still, MJO and the tropical cyclones around the eastern portion of the Pacific Ocean need to be under monitoring further.



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



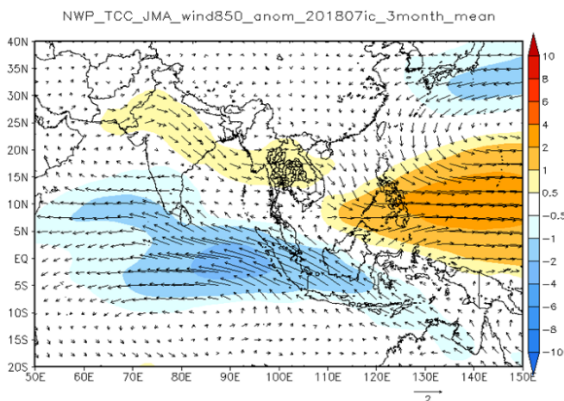
Three-phase forecast maps of mean OLR, each phase consists of 5 days. (source: IRI/CPC)

2. Monsoon

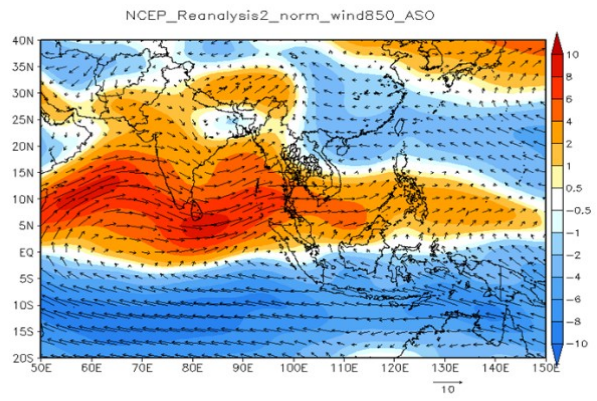
On average, the prevailing southwestern monsoon over Thailand during the past month was slightly above normal and periodically active. In August and September 2018, the prevailing southwestern monsoon over Thailand will be above normal active periodically, specifically around the northern and northeastern parts. Thus, the rain amount of Thailand in August until September 2018 will be above normal.

Later in October 2018, the southwestern monsoon prevailing over Thailand will become less active and transform to become the northeastern monsoon. From this reason, Thailand will meet lesser rain and reducing temperature at some periods.

On average during August until October 2018, the southwestern monsoon prevailing over Thailand will be slightly above normal. Consequently, Thailand will meet slightly above normal rain, especially at the northern and northeastern parts.



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

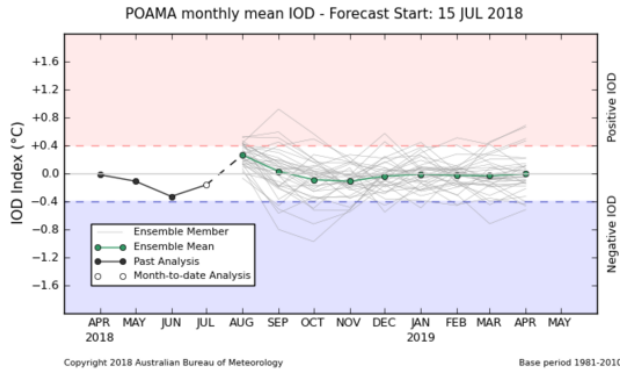


Map of mean wind speed at the 850-hPa level during August until October 2018 (NCEP - National Center for Environmental Prediction, NOAA,

3. Indian Ocean Dipole (IOD)

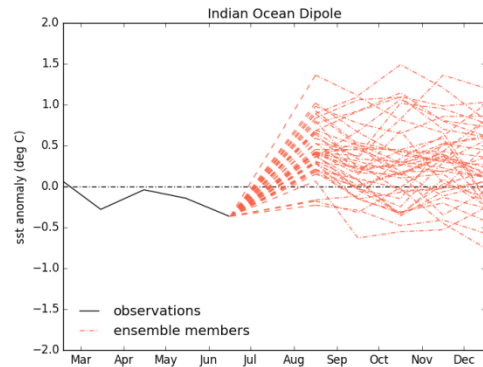
During the past June till July 2018, IOD was still neutral. Moreover, from forecast models of IOD index, IOD scenario probability and sea surface temperature forecast around the Indian Ocean, they predict that IOD will still become neutral for the whole period of August until October 2018.

In other words, IOD will not influence on the total rain and mean temperature of Thailand during the next three months.



Model forecast of IOD index

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



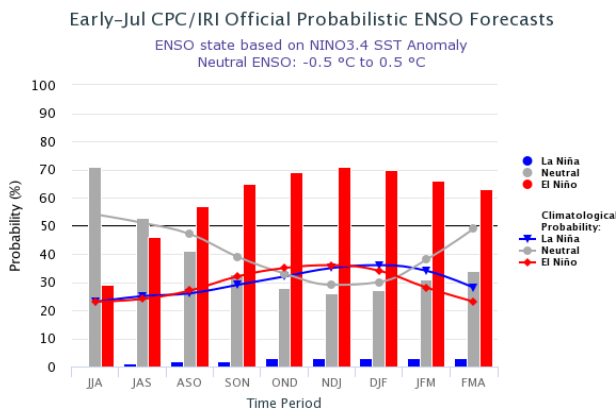
IOD index graph

(source: United Kingdom Met. Office (UKMO))

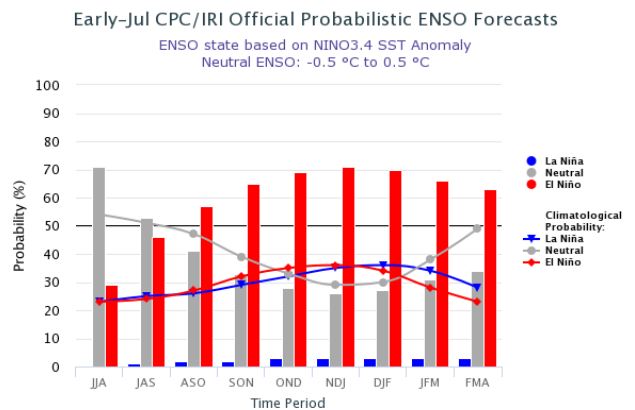
4. El Niño Southern Oscillation (ENSO)

During the past June 2018, the ENSO phenomenon was neutral (Nino 3.4 = -0.2). And from El Niño/Southern Oscillation (ENSO) Diagnostic Discussion, ENSO probability forecast, and ENSO: Recent Evolution, Current Status and Predictions, they predict for ENSO scenario probability and sea surface temperature around the Pacific Ocean.

Accordingly, global climate centers predict that ENSO will still become neutral continuously until August – October 2018.



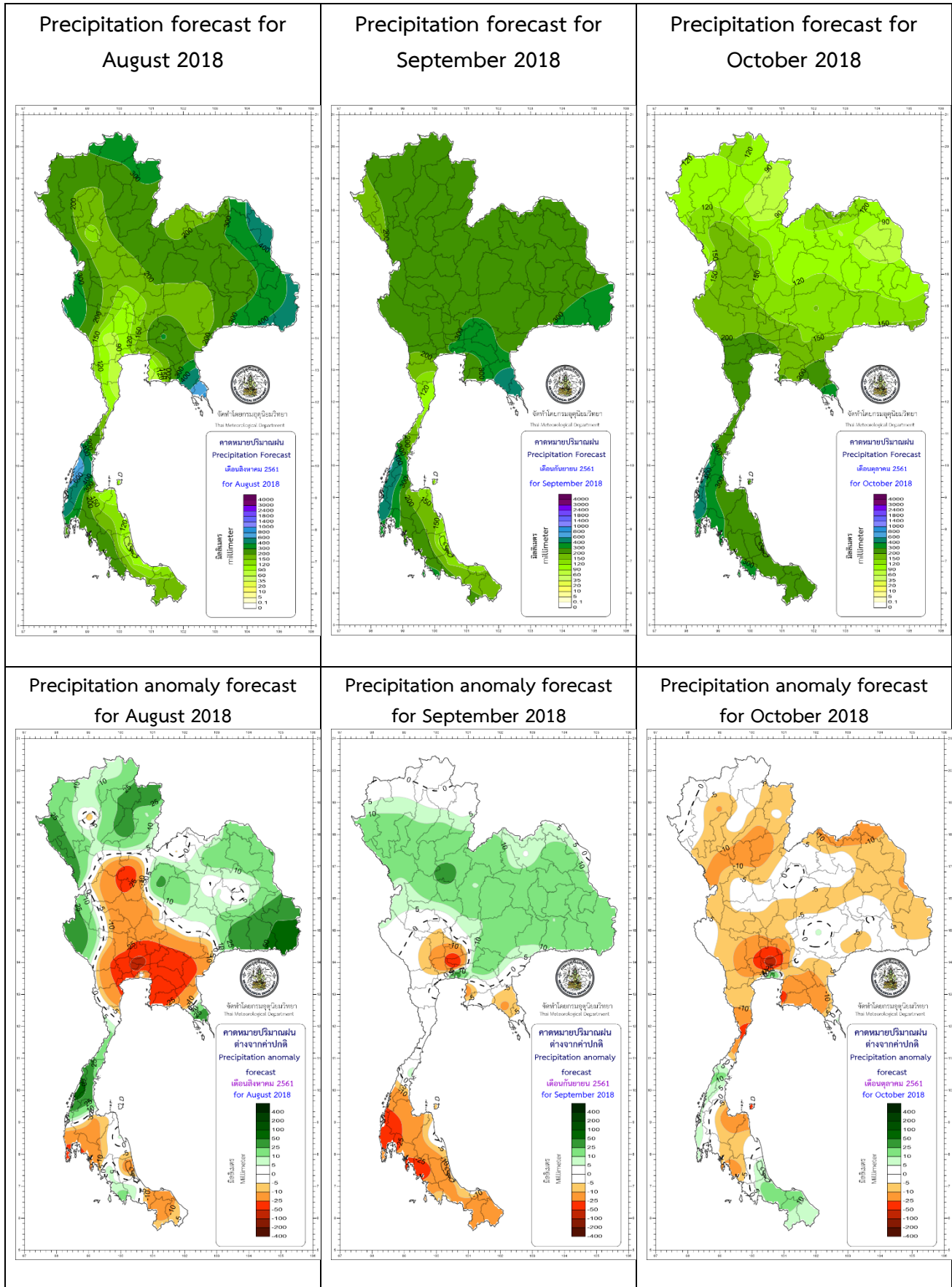
Graph of ENSO scenario probability forecasts
(source: IRI/CPC)



Graph of ensemble model forecasts
for 'mean sea surface temperature' anomaly
around Nino 3.4
from global climate centers
(source: IRI/CPC)

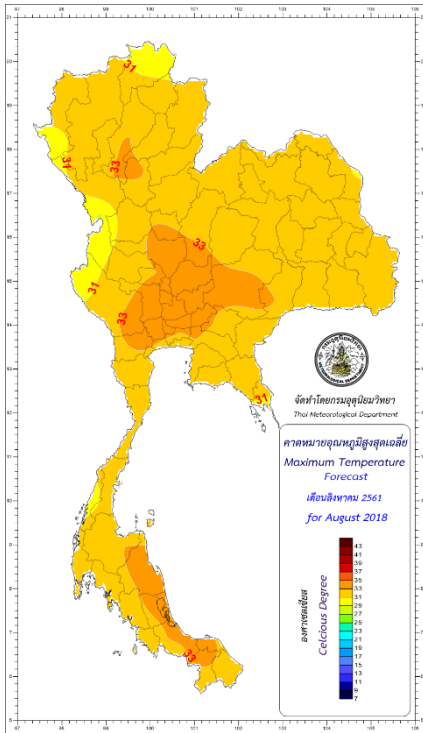
** For further information, please visit www.tmd.go.th/en and www.climate.tmd.go.th **

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

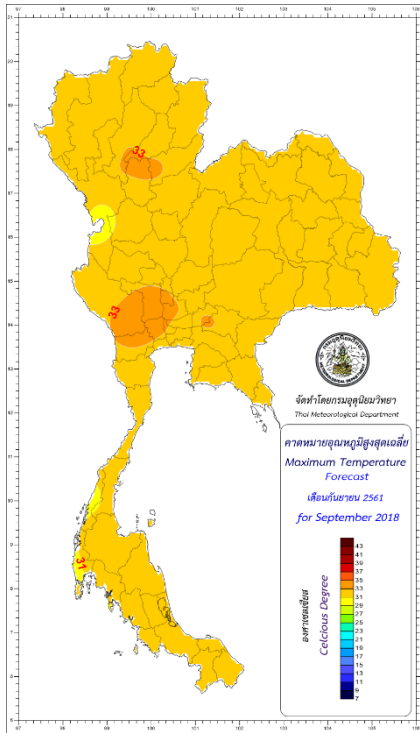


Mean Maximum Temperature (°C) and Anomaly (°C) Forecast:

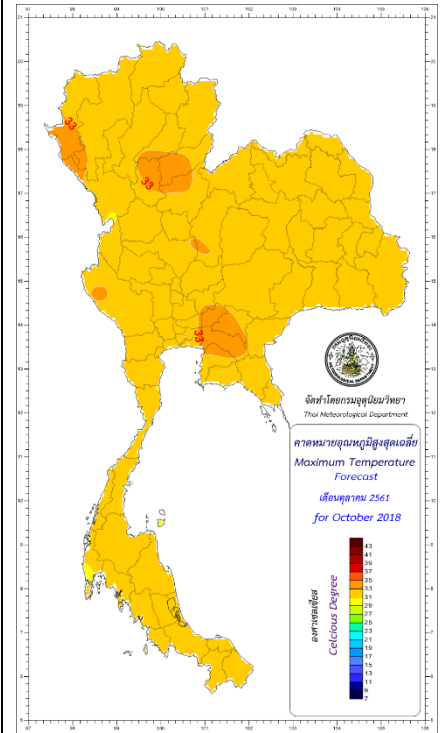
Mean maximum temperature forecast for August 2018



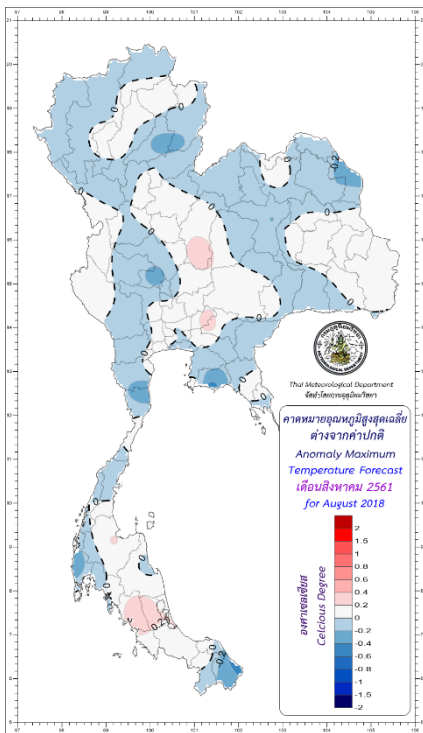
Mean maximum temperature forecast for September 2018



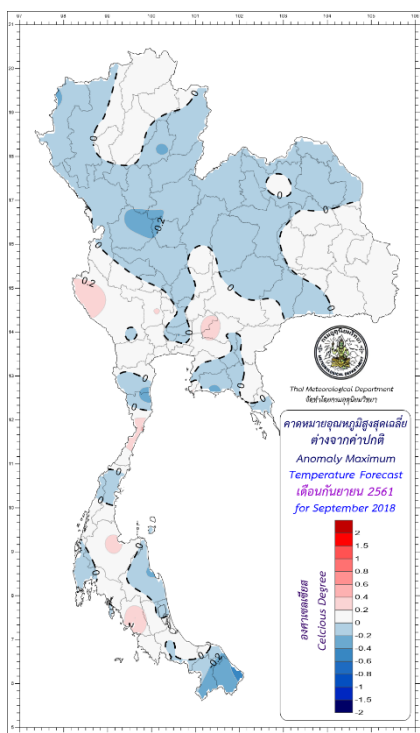
Mean maximum temperature forecast for October 2018



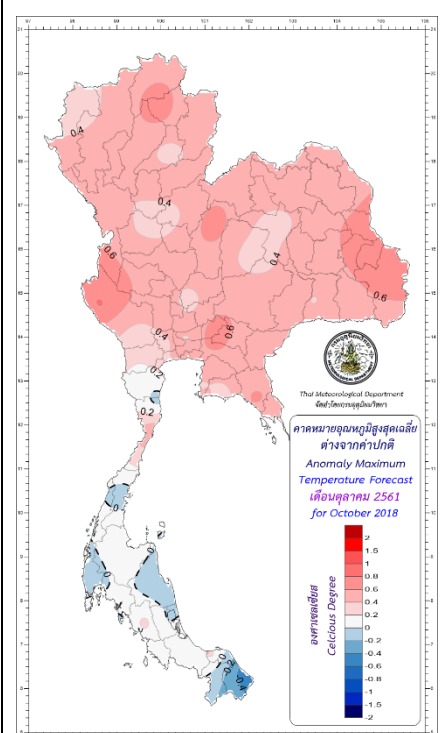
Mean maximum temperature anomaly forecast for August 2018



Mean maximum temperature anomaly forecast for September 2018

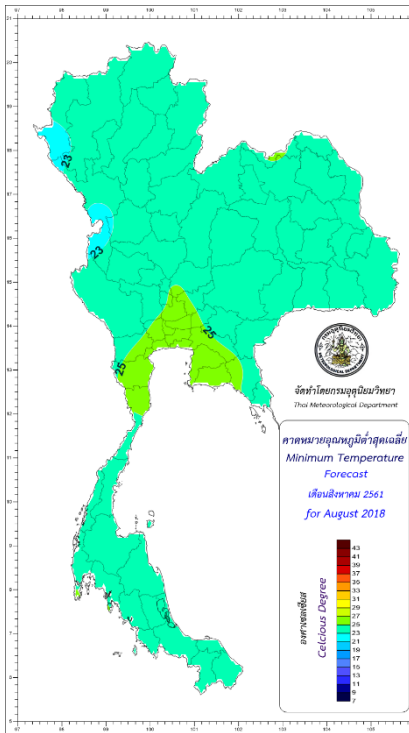


Mean maximum temperature anomaly forecast for October 2018

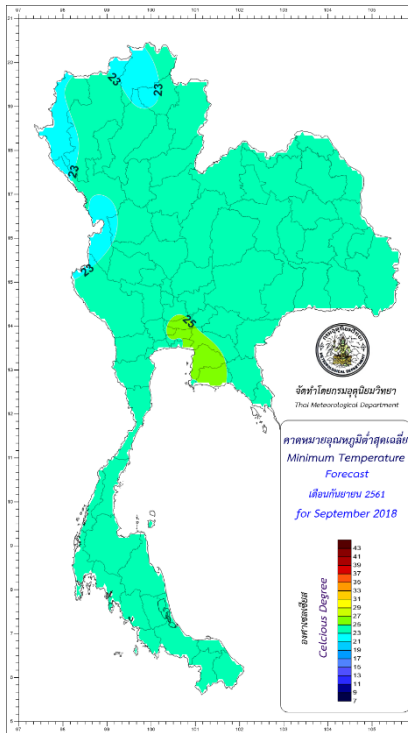


Mean Minimum Temperature (°C) and Anomaly (°C) Forecast:

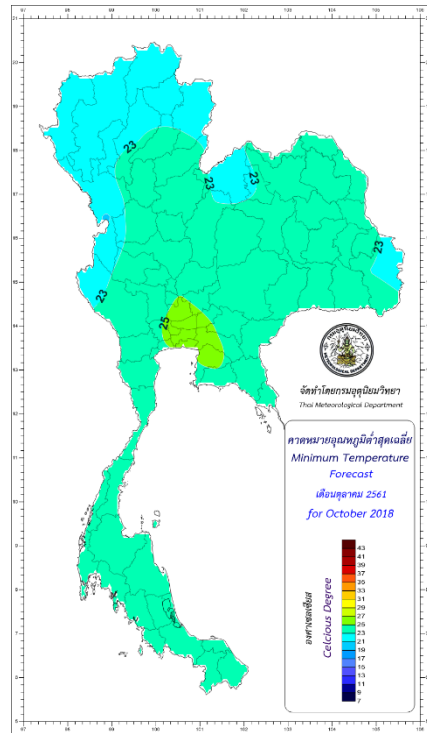
Mean minimum temperature forecast for August 2018



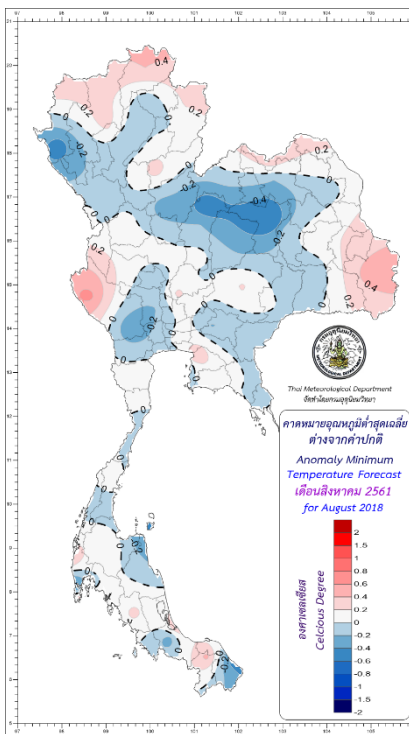
Mean minimum temperature forecast for September 2018



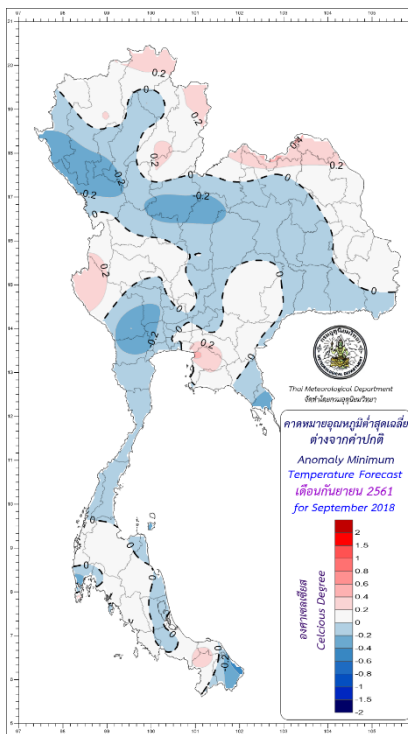
Mean minimum temperature forecast for October 2018



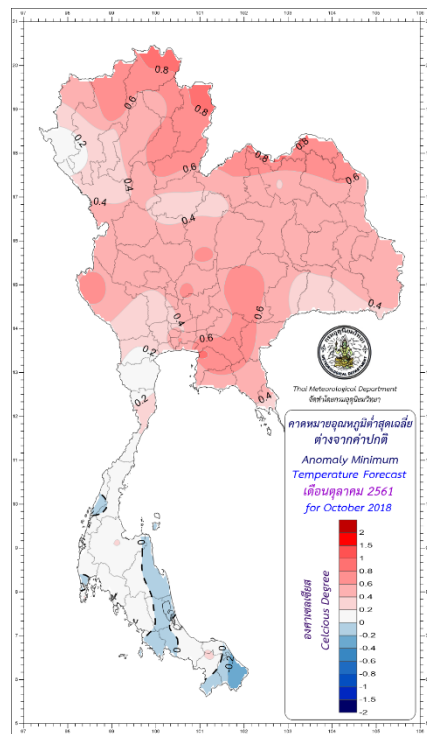
Mean minimum temperature anomaly forecast for August 2018



Mean minimum temperature anomaly forecast for September 2018



Mean minimum temperature anomaly forecast for October 2018



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

August & September 2018: Some tropical cyclones may develop at the western side of the North Pacific Ocean and move northwesterly through the South China Sea. They favor a high chance to move past the Upper Thailand. Consequently, Thailand will meet dense rainfall with heavy to very heavy rain amount at many areas, especially at areas where the tropical cyclones move past. Thus, flash or forest flood with overflow will inundate at many areas.

October 2018: Some tropical cyclones favor a high chance to move through the tip of the Indochina Peninsula and then move near or pass the Southern Thailand. As a result, the Southern Thailand will meet densely abundant rain with heavy to very heavy rain at some 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)					
	August 2018			September 2018			October 2018			August 2018		September 2018		October 2018	
	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	200-270	21-23	5 % Above Normal	200-260	18-20	5 % Above Normal	90-145	10-12	5 % Below Normal	223.0	21.0	218.3	18.3	124.1	12.0
Northeastern	250-330	19-21	5 % Above Normal	220-295	18-20	5 % Above Normal	85-145	8-10	5 % Below Normal	266.2	19.4	242.0	17.7	117.1	10.4
Central	140-190	16-18	5 % Below Normal	210-275	18-20	Near Normal	130-195	12-14	5 % Below Normal	181.1	18.2	257.3	19.2	187.1	14.4
Eastern	250-325	16-18	5 % Below Normal	285-380	19-21	Near Normal	175-255	15-17	5 % Below Normal	302.5	18.4	330.1	19.9	225.1	16.5
Southern Thailand (East Coast)	100-140	14-16	5 % Below Normal	120-170	15-17	5 % Below Normal	210-300	19-20	Near Normal	124.1	15.4	149.8	16.7	255.3	18.6
Southern Thailand (West Coast)	345-460	20-22	Near Normal	350-450	21-23	5 % Below Normal	325-415	22-24	Near Normal	398.5	20.5	423.7	22.4	366.5	22.8
Bangkok Metropolis and Vicinity	135-200	15-17	10 % Below Normal	290-345	20-22	Near Normal	200-275	16-18	5 % Below Normal	219.3	19.1	334.3	21.1	292.1	17.5

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

Part	Prediction									Normal (Baseline period 1980-2010)					
	August 2018			September 2018			October 2018			August		September		October	
	Mean Tmax	Mean Tmax	Comparing to Normal	Mean Tmax	Mean Tmax	Comparing to Normal	Mean Tmax	Mean Tmax	Comparing to Normal	Mean Tmax	Mean Tmin	Mean Tmax	Mean Tmin	Mean Tmax	Mean Tmin
Northern	31-33	23-25	Near Normal	31-33	23-25	Near Normal	31-34	22-24	Slightly Above Normal	31.8	23.8	32.2	23.5	31.9	22.5
Northeastern	31-33	24-26	Near Normal	31-33	23-25	Near Normal	31-33	22-24	Slightly Above Normal	32.2	24.4	31.9	24.0	31.4	22.8
Central	32-34	24-26	Near Normal	32-34	23-25	Near Normal	32-34	23-25	Slightly Above Normal	33.1	25.0	32.9	24.7	32.4	24.2
Eastern	31-33	24-26	Near Normal	31-33	24-26	Near Normal	31-34	24-26	Slightly Above Normal	32.0	25.3	31.9	24.7	32.0	24.1
Southern Thailand (East Coast)	32-34	23-25	Near Normal	31-33	23-25	Near Normal	31-33	23-25	Near Normal	32.7	24.4	32.3	24.1	31.4	23.8
Southern Thailand (West Coast)	31-33	23-25	Near Normal	30-32	23-25	Near Normal	30-32	23-25	Near Normal	31.5	24.4	31.1	23.9	31.2	23.7
Bangkok Metropolis and Vicinity	32-34	25-27	Near Normal	32-34	24-26	Near Normal	32-34	24-26	Slightly Above Normal	32.9	25.5	32.8	25.0	32.6	24.8

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 August 2018.
- Further enquiry of monthly climate, 3-month climate and seasonal forecasts can be preceded at Tel: (662)-398-9929 or Fax: (662)-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.