



Thai Meteorological Department  
Ministry of Digital Economy and Society

## Three-month Climate Outlook For December 2017 – February 2018

Issued on 30 November 2017

### Climate Outlook:

1. During the next 3 months, the total rain of the Upper Thailand (northern, northeastern, central and eastern parts) is expected to be 5-10% below normal or about 22 millimeters (Normal: 23 millimeters), 24 millimeters (Normal: 27 millimeters), 23 millimeters (Normal: 24 millimeters) and 50 millimeters (Normal: 54 millimeters) consecutively.

On the other hand, the total rain of the eastern side of the Southern Thailand will be 20% above normal or 400 millimeters (Normal: 330 millimeters) while that of the western side is going to be 10% below normal or about 140 millimeters (Normal: 128 millimeters) consecutively.

Furthermore, the mean temperature of the Upper Thailand will be 0.5 – 1.0 °C slightly above normal while that of the Southern Thailand will be near normal.

2. In December, the total rain of the whole country is slightly below normal.

However, the mean temperature of the Upper Thailand will be above normal (1.0 °C) while that of the Southern Thailand (east coast) will be near normal.

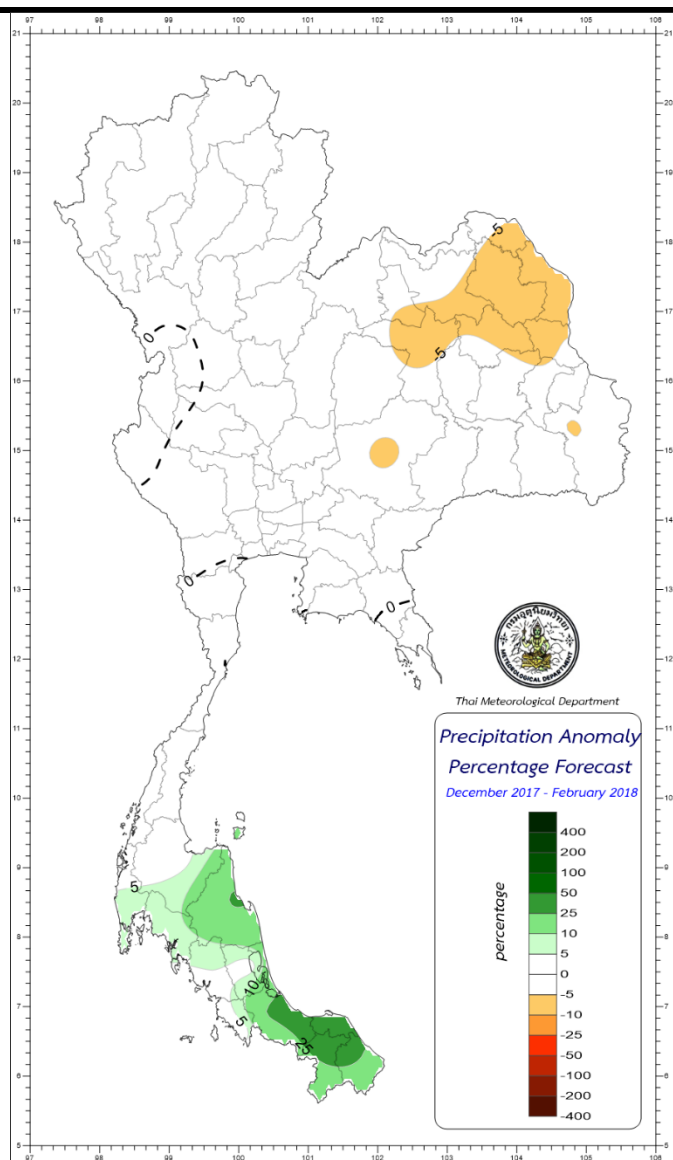
3. Later in January, the total rain of the northern, northeastern, central and eastern parts will be below normal while that of the Southern Thailand (east coast) will be above normal.

Moreover, the mean temperature of the Upper Thailand will be above normal (0.5 – 1.0 °C) while that of the Lower Thailand will be near normal.

4. Then during February, the total rain of the Upper Thailand will be slightly above normal while that of the Southern Thailand (both coasts) will be near normal.

Furthermore, the mean temperature of the Upper Thailand will be slightly below normal (0.5 °C) while that of other parts of Thailand will be near normal.

**Notes:** The Upper Thailand includes with the northern, northeastern, central and eastern parts.  
The lower Thailand includes with the Southern Thailand (east and west coasts).



\* For the information supporting this 3-month climate outlook are at the following pages.

### Thailand Climate for December-January-February from baseline: 1981 – 2010

**December:** Usually, high-pressure or cold air mass areas from China will prevail over Thailand for this whole month and be active periodically. As a result, the temperature of the Upper Thailand will lessen and become cold or cool commonly, especially at the upper portions of the northern and northeastern parts. Also, very cold weather at mountainous areas and mount tops can occur. Nevertheless, the Southern Thailand still experiences abundant rain mostly during the 1<sup>st</sup> half of this month, especially around the eastern coast. The reason is that the influential northeastern monsoon prevails over the Southern Thailand and the Gulf of Thailand. However, for this month, some tropical cyclones possibly move near or toward Thailand, specifically around the lower portion of the Southern Thailand.

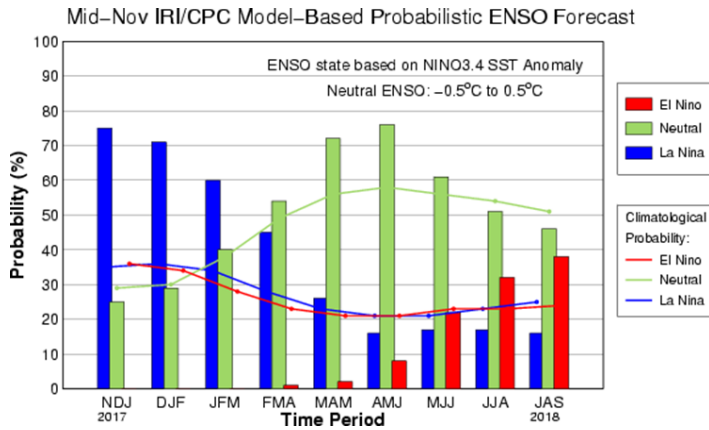
**January:** Cold weather occurs due to the influential high-pressure air mass areas prevailing over Thailand for the whole month. Actually, most temperature of the country will become lowest at this month. In other words, cool or cold weather with morning fog appears commonly, especially for the northern and northeastern parts together with high mountainous areas. While the central and eastern parts will experience cool weather whereas the Southern Thailand is going to experience not too cool or cold weather due to surrounding seas at both sides, except for the upper portion.

**February:** Mostly during the 1<sup>st</sup> half of this month as the transition month from winter to summer, high pressure air-mass areas prevailing over Thailand start to weaken. General weather conditions are still cool with morning fog, except that the northern and northeastern parts are still cold to very cold at some areas. Afterward, temperature rises due to warm southerly wind prevailing instead of the northeastern monsoon. Thus, the summer season starts since the middle of this month onward whereas the monthly rain of the Southern Thailand lessens than that of past months, specifically at the eastern coast.

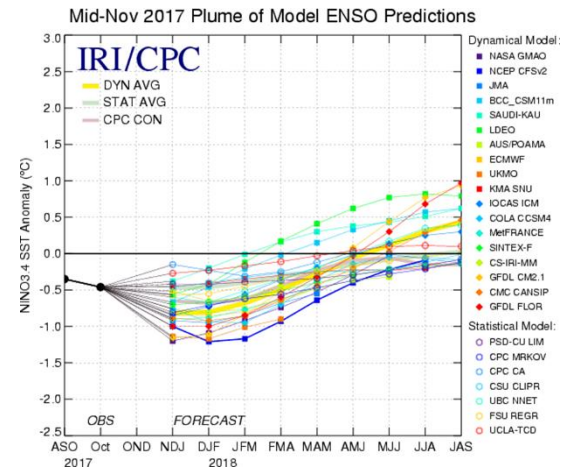
## Outlook of the phenomena that influence climate of Thailand

### 1. El Niño Southern Oscillation (ENSO)

During October till November 2017, ENSO was still neutral (Nino 3.4 = -0.5). And from El Niño/Southern Oscillation (ENSO) Diagnostic Discussion <sup>(1)</sup>, ENSO probability forecast <sup>(2)</sup>, and sea surface temperature prediction at the Northwest Pacific <sup>(3)</sup>, ENSO is during monitoring and expected to become weak La Niña during January – February 2018 while ENSO is expected to become normal in March. In other words, ENSO will influence the total rain and mean temperature of Thailand slightly during January till February 2018.



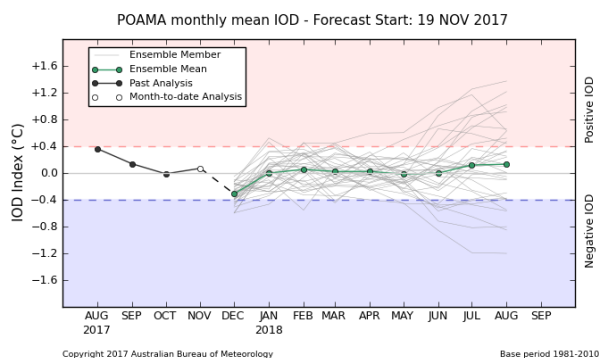
ENSO probability forecast (IRI/CPC)



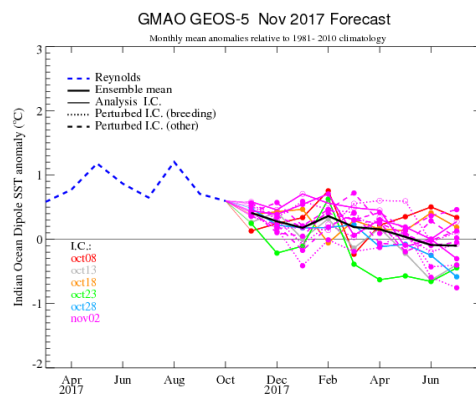
Mean Nino 3.4 index forecast from global climate centers (IRI/CPC)

### 2. Indian Ocean Dipole (IOD)

During the past October until November, IOD was still neutral even though IOD is expected to become negative. However, from IOD forecast models, IOD probability forecast and the sea surface temperature forecast at the Indian Ocean, they predict that IOD will still become neutral for the whole period from December 2017 until February 2018. For this reason, IOD will not influence on the total rain and mean temperature of Thailand.



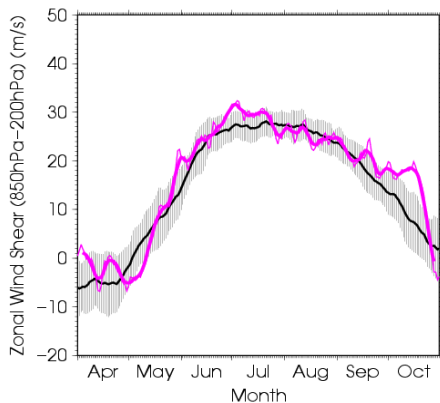
IOD index forecast model (BOM)



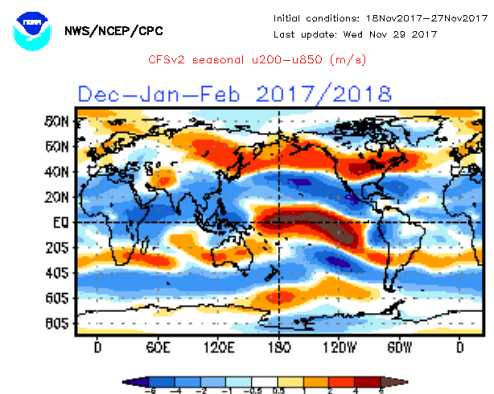
IOD index forecast (NASA)

### 3. Asian Monsoon (Southwest and Northeast monsoon)

During the past October till November, the southwestern monsoon started to weaken. And during the last week of November, the northeastern monsoon has prevailed over Thailand. Together with wind forecast analyses at the 850-hPa and 200-hPa levels with Outgoing Long Wave Radiation (OLR) during December 2017 till February 2018, the northeastern monsoon is expected to be slightly-above-normal active. Consequently, the total rain of the Upper Thailand will be below normal while that of the Southern Thailand (both coasts) is above normal in January. Furthermore, the mean temperature of the Upper Thailand will be slightly above normal while that of the Southern Thailand is going to be near normal.



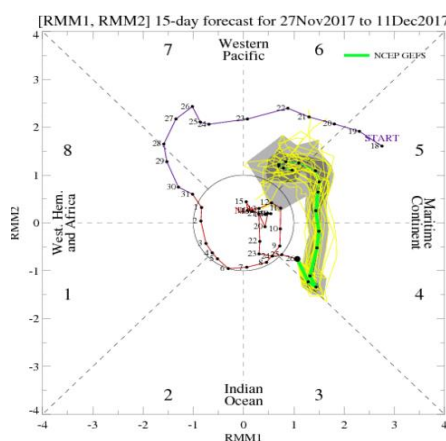
Mean zonal wind graph around the Indian Ocean and the Southeast Asia between the 850-hPa and 200-hPa levels



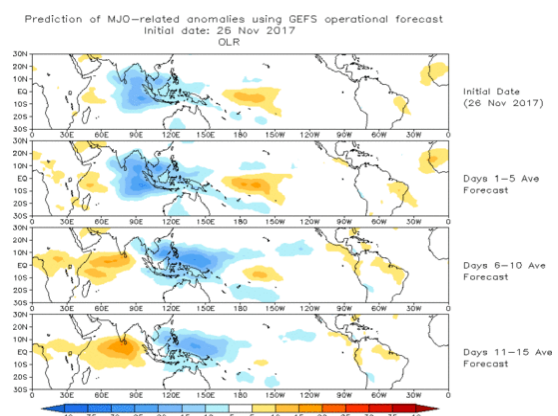
Mean OLR map around the Globe from November 2017 until January 2018 between the 850-hPa and 200-hPa levels

### 4. Madden Julian Oscillation (MJO)

During the beginning of the past November 2017, MJO became weakened. However, MJO developed to become active around the Southeast Asia and the Northwest Pacific, thus influencing on rain increasing of Thailand during middle November 2017. Together with the MJO and OLR forecast models, MJO is expected to become weakened during the beginning of December 2017 around the Northwest Pacific. In addition, positive OLR will influence on reducing rain of Thailand during middle December. Still, MJO is to be under monitoring during January and February further.



MJO Index and MJO Phase forecast graph from world climate centers (IRI/CPC)

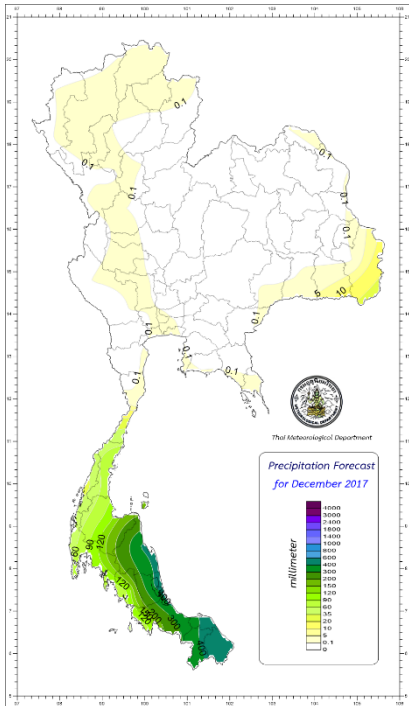


Mean OLR 3-phase forecast, each phase consisting of 5 days. (IRI/CPC)

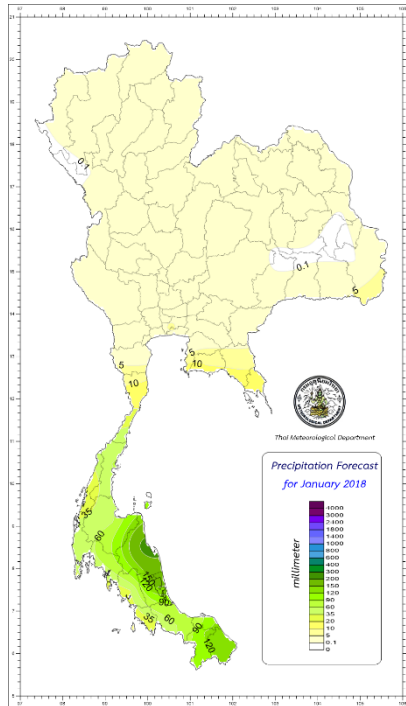
\*\* For further information, please visit [www.tmd.go.th/en](http://www.tmd.go.th/en) and [www.climate.tmd.go.th](http://www.climate.tmd.go.th) \*\*

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

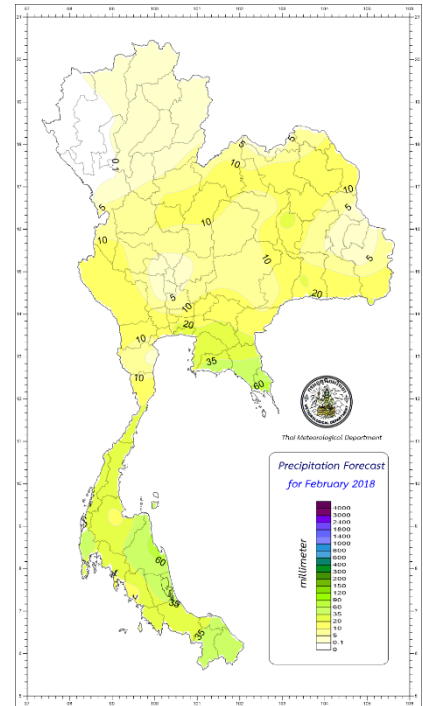
Precipitation forecast  
for December 2017



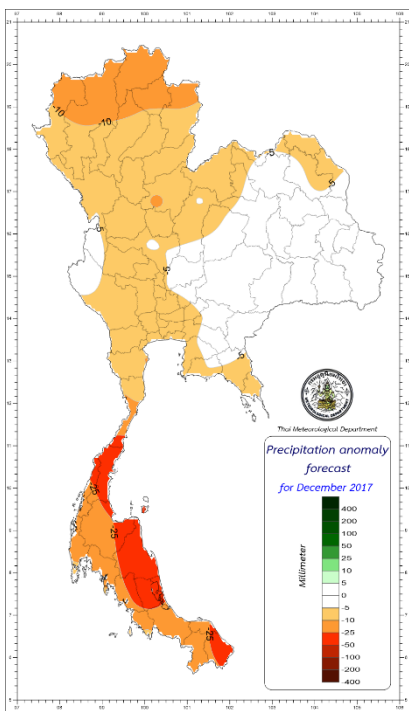
Precipitation forecast  
for January 2018



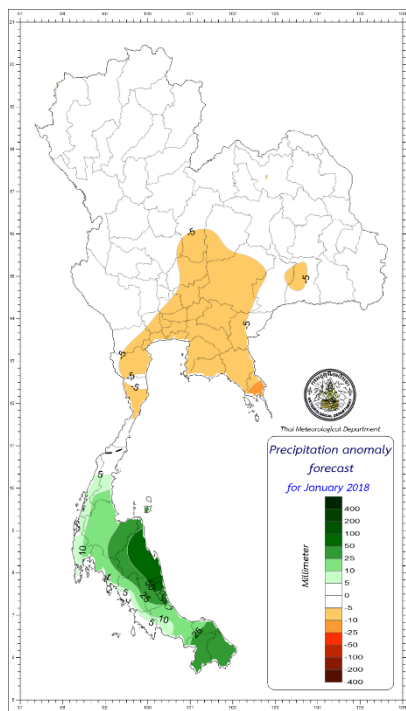
Precipitation forecast  
for February 2018



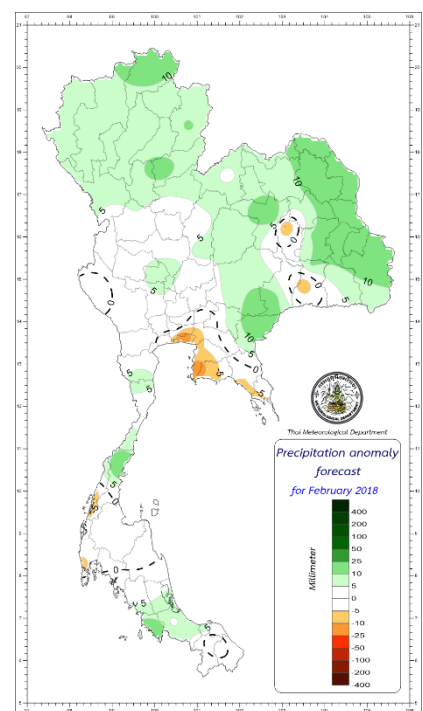
Precipitation anomaly forecast  
for December 2017



Precipitation anomaly forecast  
For January 2018

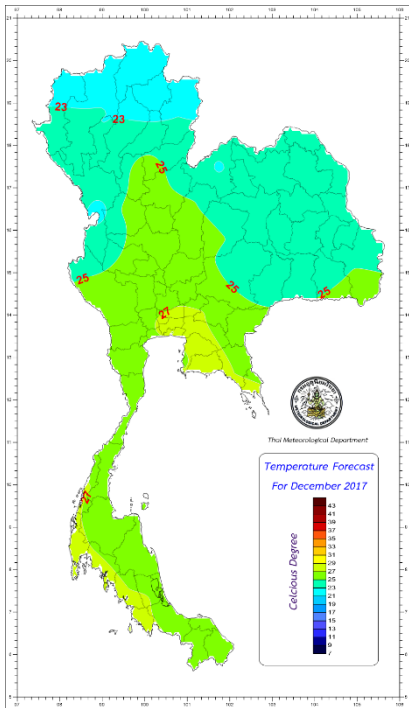


Precipitation anomaly forecast  
for February 2018

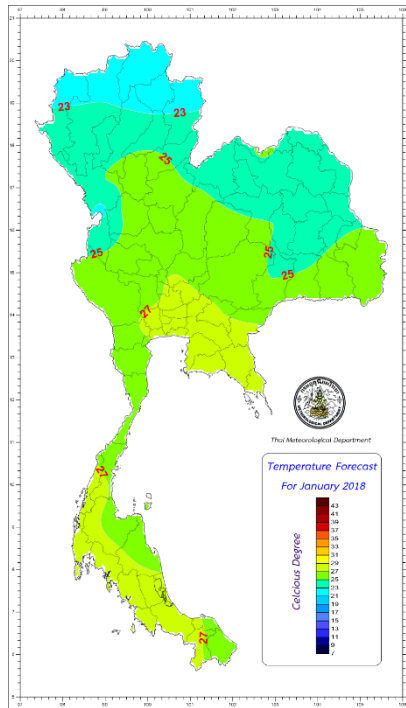


## Mean Temperature (°C) and Mean Temperature Anomaly (°C) Forecast:

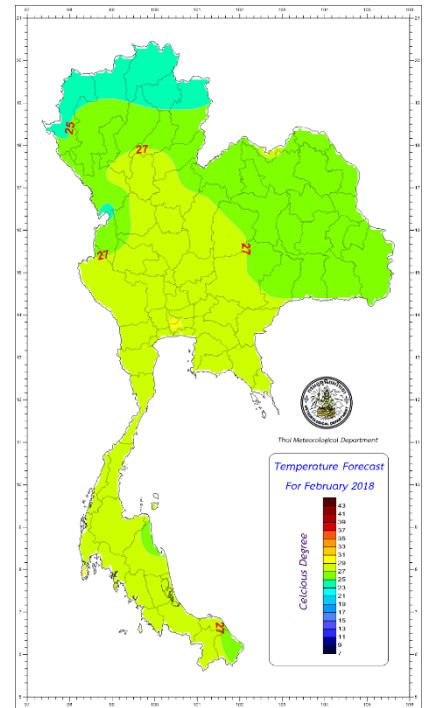
Mean Temperature forecast  
for December 2017



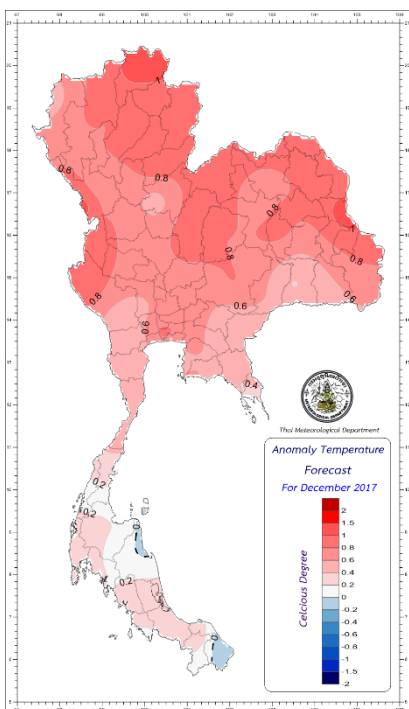
Mean Temperature forecast  
for January 2018



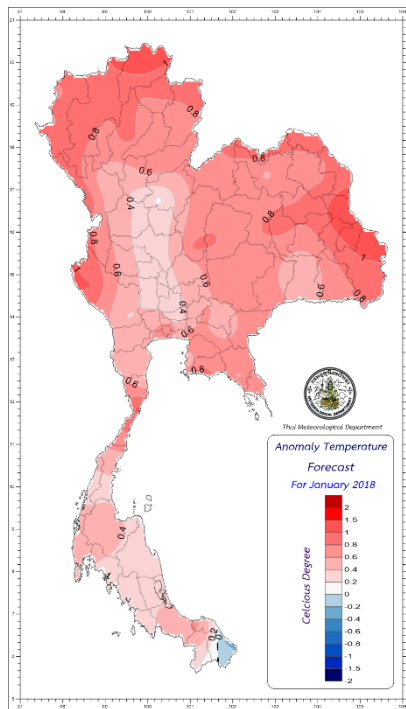
Mean Temperature forecast  
for February 2018



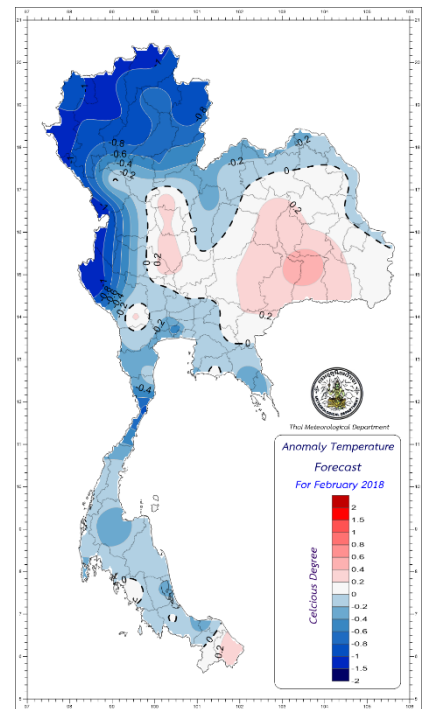
Temperature Anomaly forecast  
for December 2017



Temperature Anomaly forecast  
for January 2018



Temperature Anomaly forecast  
for February 2018





\*\*\* Cautions \*\*\*

December and January. chances are high that some tropical cyclones may move toward Thailand or pass the Southern Thailand. They may move pass the tip of the Indochina Peninsula toward the Gulf of Thailand. Consequently, the Southern Thailand (east coast) will face up with more rainfall influencing flash and forest flood to inundate at some areas.

February. the westerly “middle-to-high level” wind waves from Myanmar may move pass the Upper Thailand influencing thunder rain, gusty wind and hail to occur at some areas. The public then should follow the weather forecast news from the Thai Meteorological Department closely further.

Prediction of Rain (millimeters), Rainy Days (days) and comparing to normal:

Part	Prediction									Normal (Baseline period 1980-2010)					
	December 2017			January 2018			February 2018			December		January		February	
	Rain (mm)	Rainy Days (days)	Comparing To Normal	Rain (mm)	Rainy Days (days)	Comparing To Normal	Rain (mm)	Rainy Days (days)	Comparing To Normal	Rain (mm)	Rainy Days (days)	Rain (mm)	Rainy Days (days)	Rain (mm)	Rainy Days (days)
Northern	< 5	1-2	Below normal 10%	< 5	1-2	Below normal 10%	< 5	1-2	Above normal 5%	8.2	1.2	4.6	1.0	10.4	1.4
Northeastern	< 5	1-2	Below normal 10%	< 5	1-2	Below normal 10%	< 5	2-4	Above normal 5%	3.5	0.8	4.8	1.1	18.5	2.5
Central	< 5	1-2	Below normal 5%	< 5	1-2	Below normal 5%	< 5	1-2	Above normal 5%	5.2	1.0	6.7	1.1	12.3	1.6
Eastern	< 5	1-3	Below normal 5%	< 5	2-4	Below normal 5%	< 10	2-4	Above normal 5%	8.1	1.4	16.1	1.8	29.1	3.1
Southern Thailand (East Coast)	200-310	11-14	Below normal 5%	60-135	7-10	Above normal 20%	20-60	4-6	Below normal 5%	236.9	12.1	59.7	7.2	34.5	3.7
Southern Thailand (West Coast)	45-90	7-10	Below normal 5%	20-50	4-6	Above normal 10%	20-45	4-6	Below normal 5%	75.0	9.1	26.4	4.2	27.5	3.6
Bangkok Metropolis and Vicinity	< 5	1-2	Below normal 10%	< 5	1-2	Below normal 10%	< 10	2-4	Above normal 5%	6.3	1.2	13.3	1.7	20.0	2.5



## Mean Maximum Temperature (Tmax) and Mean Minimum Temperature (Tmin) (°C) and comparing to normal:

Part	Prediction									Normal (Baseline period 1980-2010)					
	December 2017			January 2018			February 2018			December		January		February	
	Tmax mean	Tmin mean	Comparing to Normal	Tmax mean	Tmin mean	Comparing to Normal	Tmax mean	Tmin mean	Comparing to Normal	Tmax mean	Tmin mean	Tmax mean	Tmin mean	Tmax mean	Tmin mean
Northern	29-31	16-19	Above normal	30-32	15-18	Above normal	33-35	17-19	Above normal	29.8	15.9	31.1	15.6	33.7	17.2
Northeastern	29-31	17-19	Above normal	30-32	16-19	Above normal	32-36	18-20	Above normal	29.5	17.1	30.6	17.1	33.0	19.7
Central	30-33	20-22	Above normal	32-33	19-22	Above normal	34-36	22-24	Above normal	31.4	20.1	32.7	20.6	34.6	22.6
Eastern	31-33	21-23	Above normal	31-33	21-23	Above normal	32-34	22-24	Above normal	31.6	21.2	32.1	21.4	32.9	23.4
Southern Thailand (East Coast)	29-31	23-25	Near normal	30-32	22-24	Near normal	31-33	22-24	Near normal	29.7	22.5	30.3	22.2	31.4	22.7
Southern Thailand (West Coast)	31-32	23-25	Near normal	31-33	23-25	Near normal	33-34	22-25	Near normal	31.5	23.0	32.6	22.8	33.8	23.0
Bangkok Metropolis and Vicinity	31-33	22-24	Above normal	32-33	21-24	Above normal	33-34	23-25	Above normal	31.7	22.0	32.5	22.6	33.3	24.4

### Remarks:

- Normal means average during the 30-year period (A.D. 1981 – 2010 or B.E. 2524 – 2553)
- These long range climate expectation is created by applying some climate models and statistical methods, the public then should follow the daily weather news from the Thai Meteorological Department for more accuracy further.
- The next 3-month climate expectation will be at the last week of December 2017.
- Further enquiry of monthly climate, 3-month climate and seasonal forecasts can be preceded at Tel: 02-398-9929 or Fax: 02-383-8827.
- Please follow monthly climate, 3-month climate and seasonal forecasts at [www.tmd.go.th/en/](http://www.tmd.go.th/en/) at the climate tab.