



Three-month Climate Prediction of Thailand

During December 2019 – February 2020

MINISTRY OF DIGITAL ECONOMY AND SOCIETY,
THAI METEOROLOGICAL DEPARTMENT

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Climate Outlook

1. During the next three months, the total rain of northern and central part including with Bangkok Metropolitan and Vicinity would be about 40% below normal, while the total rain of eastern and southeastern part would be about 20% below normal.

In detail, the total rain of the northern part and central part including with Bangkok Metropolitan and Vicinity are to be about 10 - 20 mm (normal: 23 mm for northern part, 21 mm for central part and 33 mm for Bangkok Metropolitan and Vicinity), eastern and southeastern part is to be about 30 - 60 mm (normal: 53 mm) and 240 - 360 mm (normal: 368 mm) consecutively.

Furthermore, the total rain of northeastern and southwestern part of Thailand would be near normal with 20 - 40 mm (normal: 27 mm) and 100 - 165 mm (normal: 129 mm) consecutively.

Meanwhile, the mean temperature of the Upper Thailand would be about 1 °C above normal while that of the Southern Thailand is to be near normal. For the whole country, the mean maximum temperature is to be 32 - 34 °C (normal: 31.9 °C) while the mean minimum temperature is to be 20 - 22 °C (normal: 20.6 °C).

2. In December 2019, the total rain around the Upper Thailand would be less than 10 mm each parts while that of the Southern Thailand (both east and west coasts) would be about 20% below normal. In detail for the Southern Thailand (east coast) the total rain around 185 - 250 mm and the Southern Thailand (west coast) around 50 - 70 mm

Meanwhile, the mean temperature of Thailand would be mostly about 1 °C above normal for the whole country. In detail, the mean maximum and minimum temperature of Thailand is to be 31 - 33 °C and 20 - 22 °C accordingly.

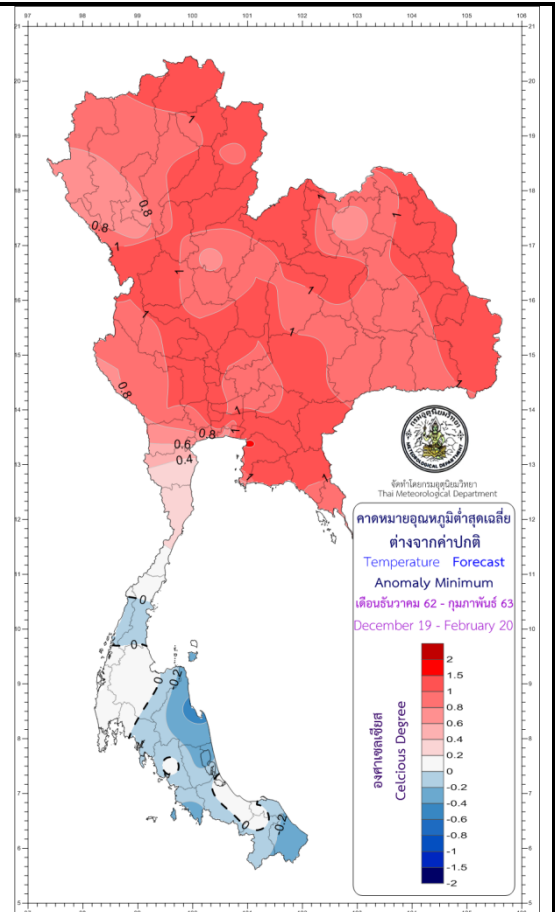
3. In January 2020, the total rain around the Upper Thailand would be less than 10 mm each parts except the eastern part with total rain would be around 10 - 20 mm. For the Southern Thailand (both east and west coasts) the total rain would be near normal around 40 - 70 mm and 20 - 40 mm consecutively.

Meanwhile, the mean temperature of the Upper Thailand would be mostly about 1 °C above normal while the Southern Thailand (east & west coasts) is to be near normal. In detail, the mean maximum and minimum temperature of Thailand is to be 31 - 33 °C and 20 - 22 °C accordingly.

4. In February 2020, the total rain around the Upper Thailand would be less than 20 mm each parts except the eastern part with total rain would be around 20 - 40 mm. For the Southern Thailand (both east and west coasts) the total rain would be about 20% below normal. In detail for the Southern Thailand (east coast) the total rain around 25 - 40 mm and the Southern Thailand (west coast) around 15 - 35 mm

Meanwhile, the mean temperature of the Upper Thailand would be mostly about 1 °C above normal while the Southern Thailand (east & west coasts) is to be near normal. In detail, the mean maximum and minimum temperature of Thailand is to be 32 - 34 °C and 21 - 23 °C accordingly.

* The data supporting this 3-month climate outlook are at Tables 1 & 2 on below Pages 7 & 8:



Thailand climate for November – December - January from 30-year normal (A.D. 1981 - 2010 or B.E. 2524 - 2553 baseline average)

December 2018 Usually, the coldly high-pressure air mass areas from China will prevail over Thailand for the whole month actively and periodically. As a result, the temperature of the Upper Thailand will possibly reduce to become commonly chilly, especially around the upper portion of the northern and northeastern parts including with feasibly very cold weather (less than 8.0 C.) at mount tops or mountainous areas.

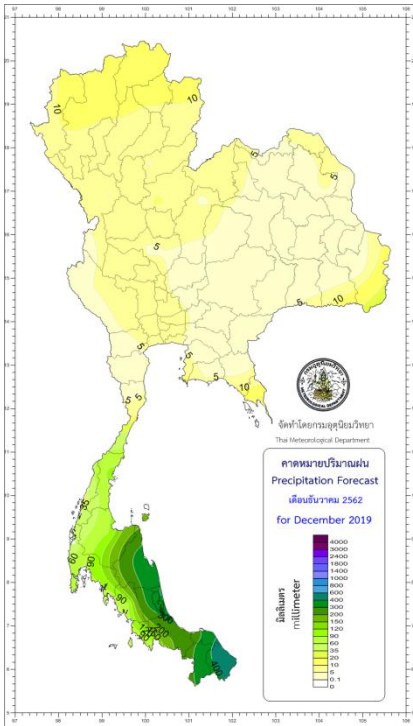
For the Southern Thailand, abundant rainfall still occurs mostly during the 1st half of this month, specifically at the East Coast due to the influentially northeast monsoon prevailing over the Southern Thailand and the Gulf of Thailand. Nevertheless, there may be some tropical cyclones moving near or toward Thailand further, commonly at the lower portion of the Southern Thailand.

January 2019 Cold weather appears because the influentially high-pressure air mass areas prevailing over Thailand for the whole month. In fact, most of Thailand will meet the lowest reducing temperature in this month appearing as commonly chilly weather, specifically at the northern and northeastern parts including with high mount tops. Additionally, morning fog occurs while the central and eastern parts will meet cool weather. Furthermore, the Southern Thailand will not meet much chilly weather except at the upper portion because of surrounding seas at both sides.

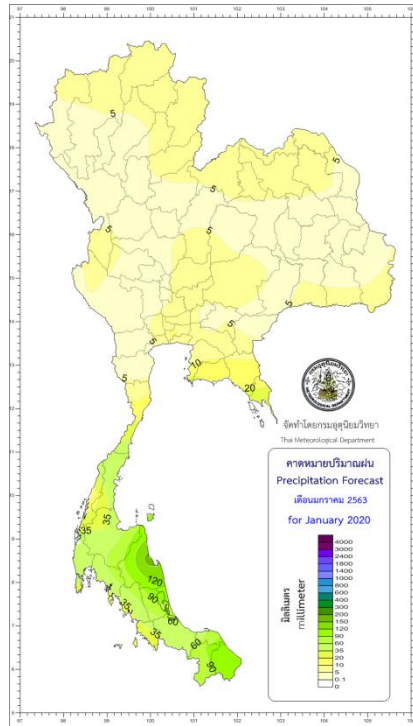
February 2019 Normally, this month is during the transition period from the winter to the summer. In other words, the high-pressure air mass areas prevailing over Thailand will start to weaken. Still, common weather of Thailand is still to be cool with morning fog whereas that of the northern and northeastern parts is still cold to very cold at some areas, mostly during the 1st half of this month. Afterward, rising temperature occurs due to prevailing hotly southerly wind replacing the northeastern monsoon. Thus, the start of the summer appears since the middle of this month onward. Furthermore, rain at the Southern Thailand will be less than that of the past month, especially at the East Coast.

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

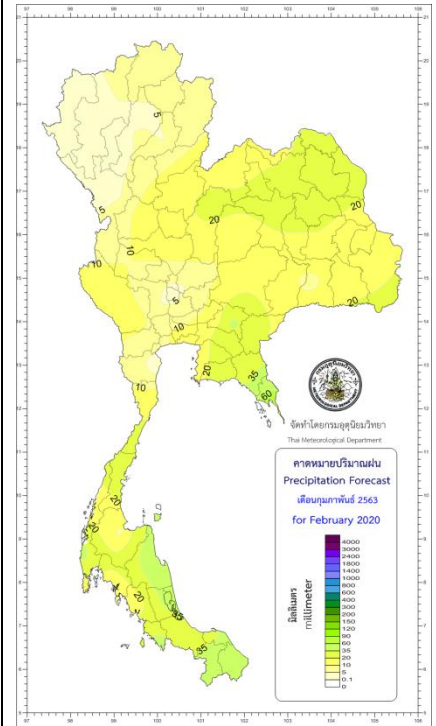
Precipitation forecast for
December 2019



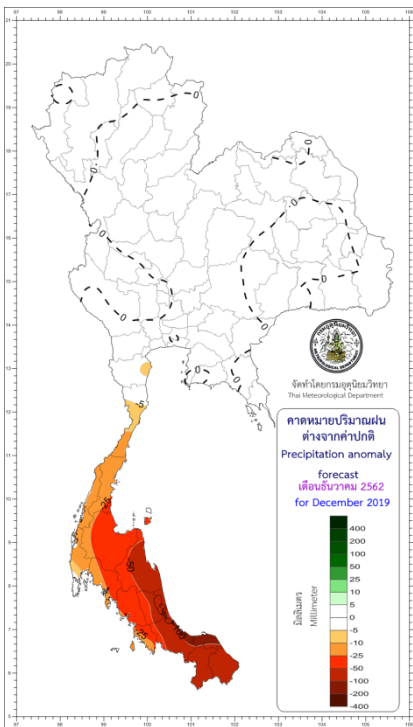
Precipitation forecast for
January 2020



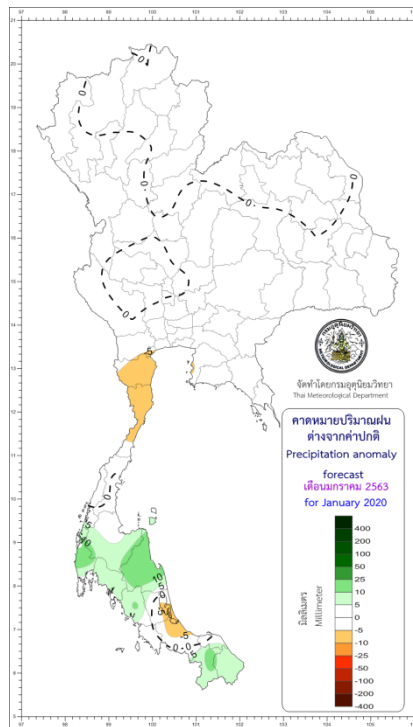
Precipitation forecast for
February 2020



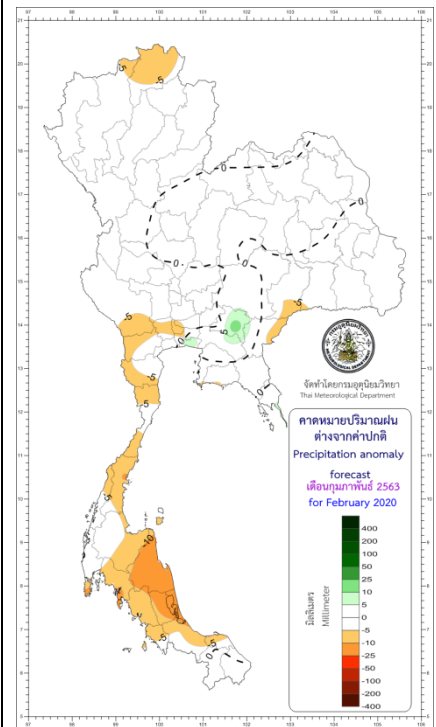
Precipitation anomaly forecast for
December 2019



Precipitation anomaly forecast for
January 2020

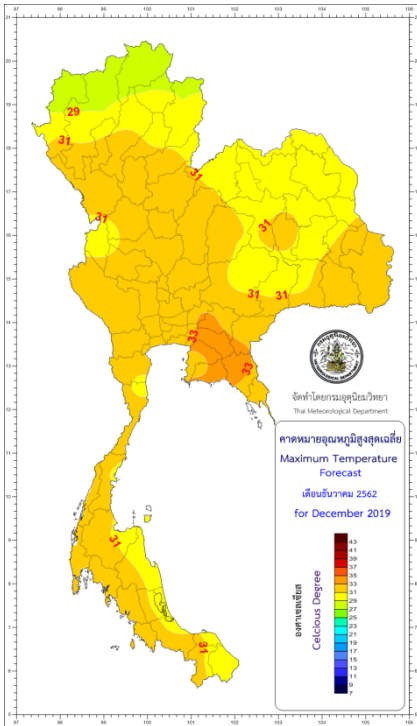


Precipitation anomaly forecast for
February 2020

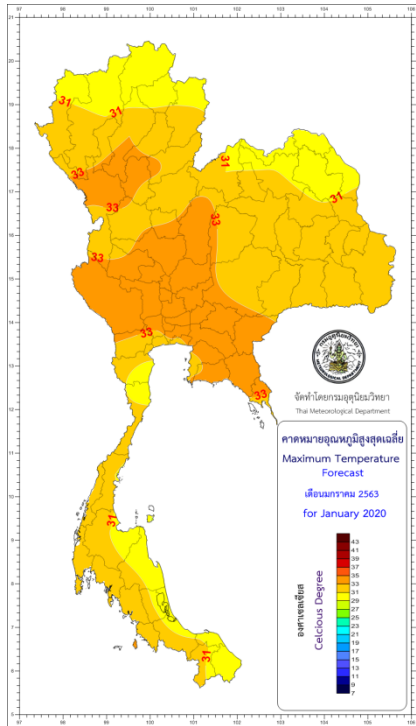


Mean Maximum Temperature (°C) and Anomaly (°C) Forecast:

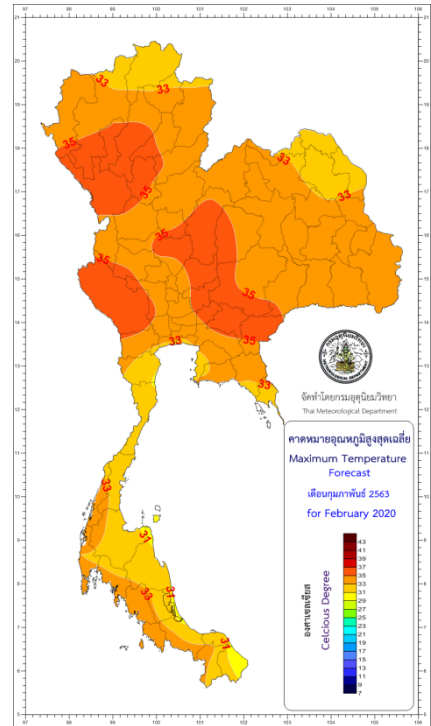
Mean maximum temperature forecast for December 2019



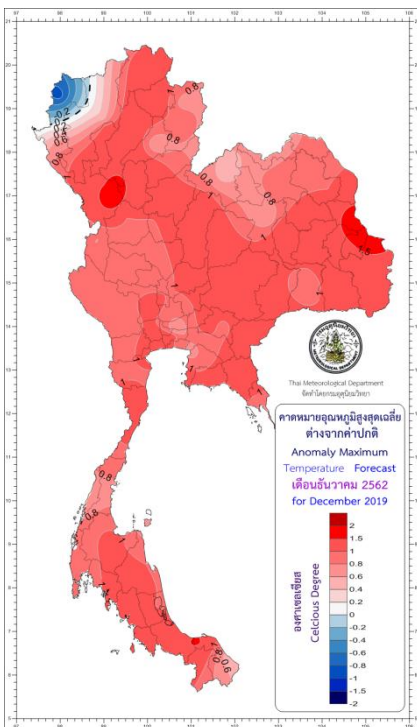
Mean maximum temperature forecast for January 2020



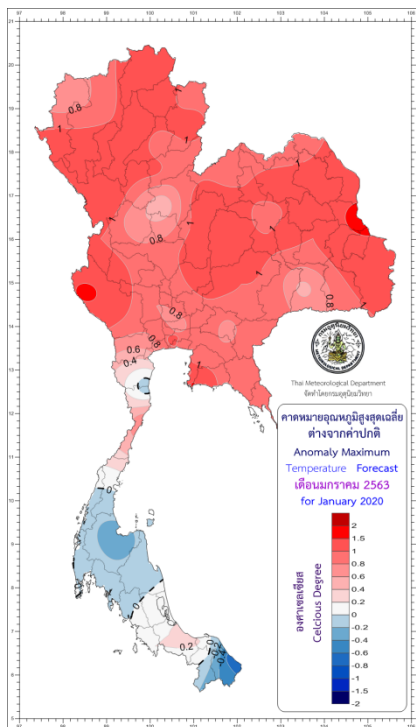
Mean maximum temperature forecast for February 2020



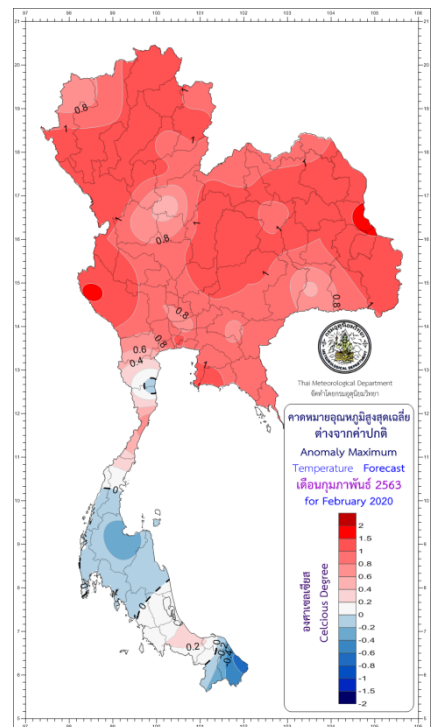
Mean maximum temperature anomaly forecast for December 2019



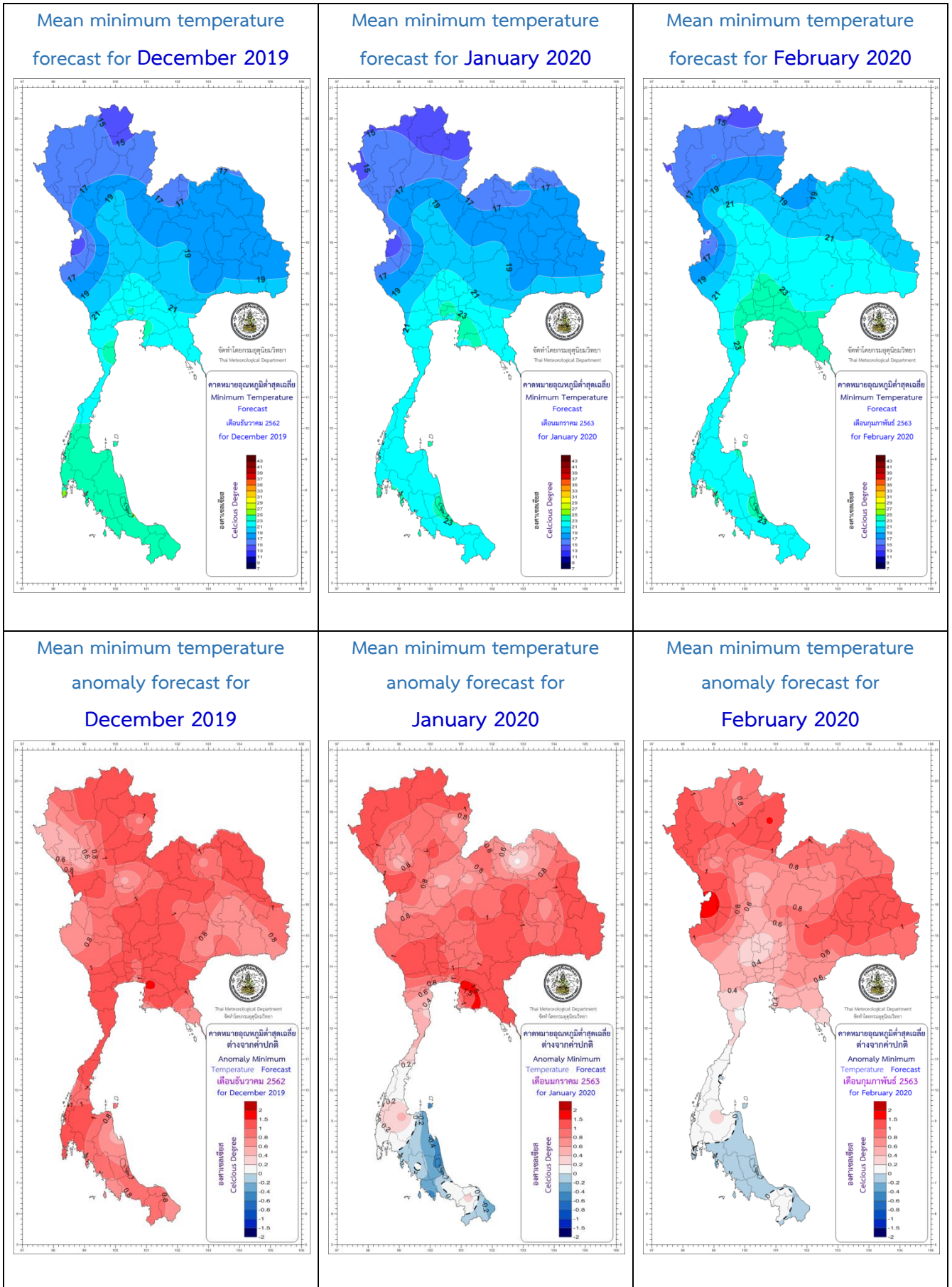
Mean maximum temperature anomaly forecast for January 2020



Mean maximum temperature anomaly forecast for February 2020



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



*** Caution: ***

December 2019 & January 2020: Some upper-air westerly wind waves moving easterly from the Myanmar direction may pass the Upper Thailand causing the area to meet thunder rain, gusty wind at some areas and possibly falling hail. The public then should follow weather forecast news from the Thai Meteorological Department closely.

February 2020: Some upper-air westerly wind waves moving easterly from the Myanmar direction may pass the Upper Thailand and the western portion of Thailand causing the area to meet thunder rain, gusty wind at some areas and possibly falling hail. The public then should follow weather forecast news from the Thai Meteorological Department closely further.

Below right Image source:

https://www.researchgate.net/figure/Study-area-the-Indochina-Peninsula-in-Monsoon-Southeast-Asia_fig5_296329477

The below Image illustrates 7 parts of Thailand with seasons and Monsoons or wind:

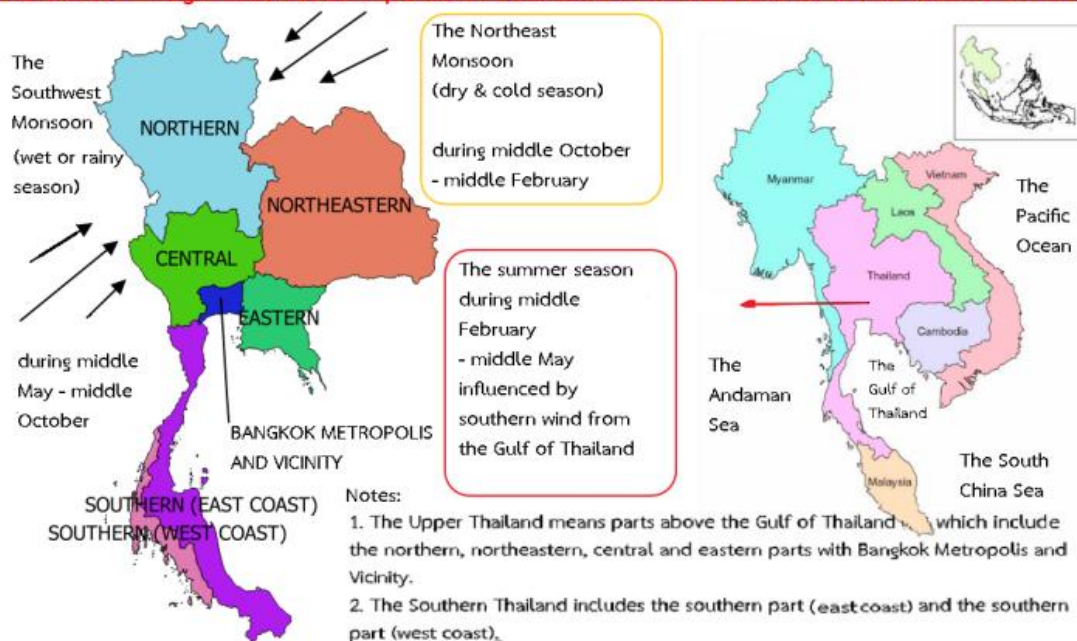


Table 1: Forecast of rain amount (millimeters: mm) comparing with normal, and rainy day (days):

PART	Forecast									Normal (Baseline period: 1981-2010)					
	December 2019			January 2020			February 2020			December		January		February	
	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	0-10	1-2	Near normal	0-10	1-2	Near normal	0-10	1-2	20 % Below normal	8.2	1.2	4.6	1.0	10.4	1.4
Northeastern	0-10	1-2	Near normal	0-10	1-2	Near normal	10-20	2-3	Near normal	3.5	0.8	4.9	1.1	18.8	2.5
Central	0-10	1-2	Near normal	0-10	1-2	Near normal	10-20	2-3	50 % Below normal	5.1	1.0	4.7	1.1	11.3	1.6
Eastern	0-10	1-2	Near normal	10-20	2-3	20 % Below normal	20-40	3-5	Near normal	8.1	1.4	16.1	1.8	29.1	3.1
Southern Thailand (east coast)	185-250	10-12	20 % Below normal	40-70	6-8	Near normal	25-45	3-5	20 % Below normal	266.9	12.1	64.5	7.2	36.5	3.7
Southern Thailand (west coast)	50-80	7-9	20 % Below normal	20-40	4-6	20 % Above normal	15-35	3-5	20 % Below normal	75.0	9.1	26.4	4.2	27.5	3.6
Bangkok	0-10	1-2	Near normal	0-10	1-2	20 % Below normal	10-20	2-3	Near normal	6.9	1.2	11.9	1.7	14.1	2.5

Table 2: Forecast of mean maximum temperature (Tmax) and mean minimum temperature (Tmin) and comparing (mean temperature) with normal °C :

PART	Forecast									Normal (Baseline period: 1981-2010)					
	December 2019			January 2020			February 2020			December		January		February	
	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	30-32	16-18	Above normal	31-33	16-18	Above normal	33-35	17-19	Above normal	29.8	15.9	31.1	15.6	33.7	17.2
Northeastern	30-32	17-19	Above normal	30-32	17-19	Above normal	32-34	20-22	Above normal	29.5	17.1	30.5	17.1	32.9	19.6
Central	32-34	18-21	Above normal	32-34	20-22	Above normal	34-36	21-23	Above normal	31.4	19.7	32.7	19.4	34.8	21.6
Eastern	32-34	21-23	Above normal	32-34	21-23	Above normal	32-34	23-25	Above normal	31.6	21.2	32.1	21.4	32.9	23.4
Southern Thailand (east coast)	30-32	23-25	Above normal	30-32	22-24	Near normal	30-32	22-24	Near normal	29.7	22.5	30.4	22.3	31.5	22.7
Southern Thailand (west coast)	31-33	23-25	Above normal	32-34	22-24	Near normal	33-35	22-24	Near normal	31.5	23.0	32.6	22.8	33.8	23.0
Bangkok	32-34	22-24	Above normal	32-34	22-24	Above normal	33-35	23-25	Above normal	31.7	22.0	32.2	22.3	33.3	24.1

Remarks: 1) Normal means average during the 30-year period (A.D. 1981 – 2010 or B.E. 2524 – 2553).

2) 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.

3) The next 3-month climate forecast will be published online before the end of next month.

4) Further enquiry of monthly climate, 3-month climate and seasonal forecasts can be preceded at Tel: (662)-398-9929 or Fax: (662)-383-8827.

5) Also, please follow monthly climate, 3-month climate and seasonal forecasts at www.tmd.go.th/en at the climate tab.

Climate Center, Meteorological Development Division, Thai Meteorological Department

www.climate.tmd.go.th

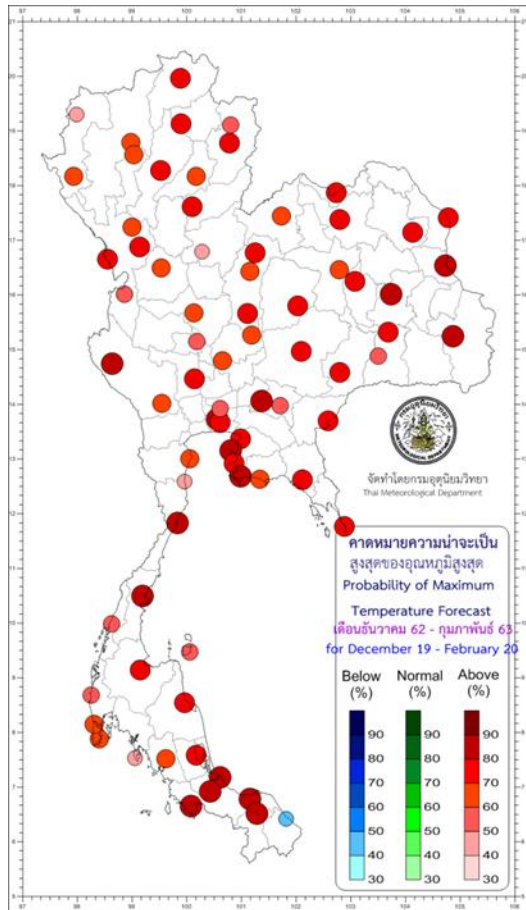
Climate Center, Meteorological Development Division,

Thai Meteorological Department,

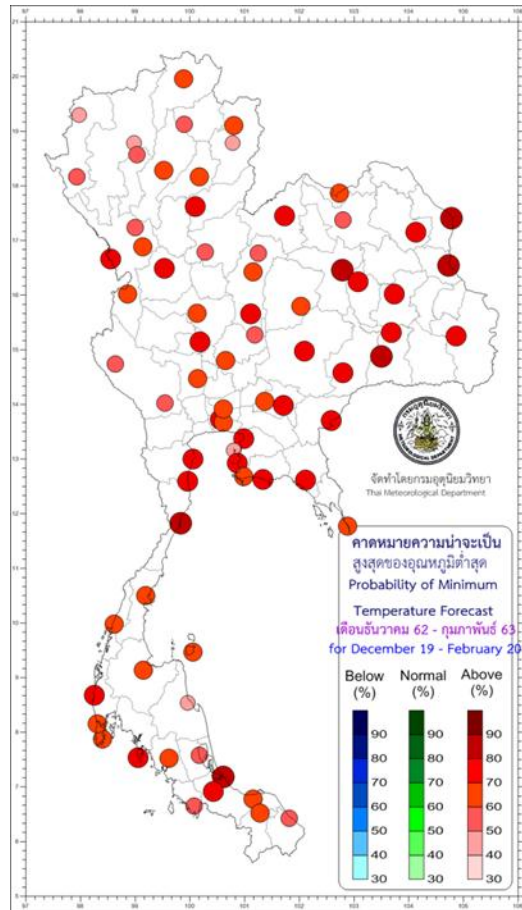
Ministry of Digital Economy and Society

Point probability forecast maps of **maximum** and **minimum** temperature, and **precipitation**
 (Point maps for probability percentage (%) of: below normal, near normal or above normal)

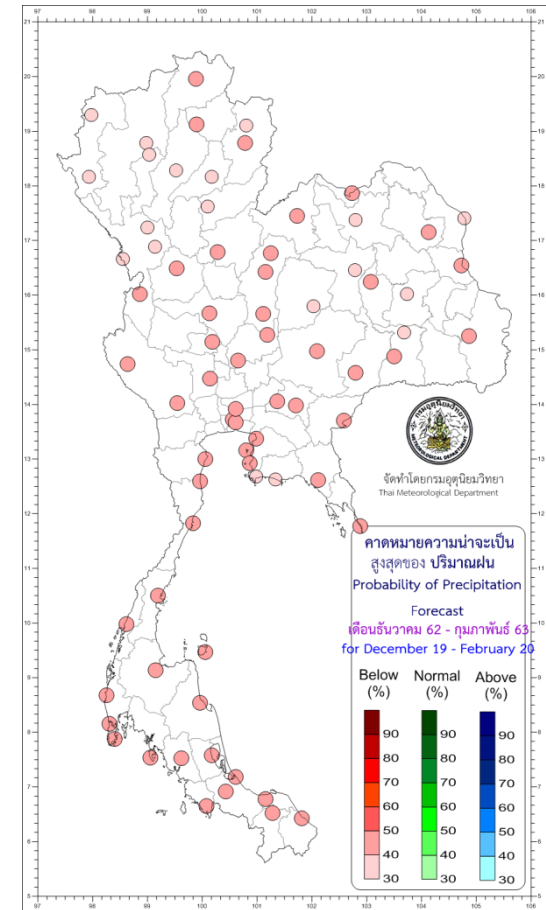
Forecast of
 maximum temperature probability
 during December 2019 – February 2020



Forecast of
 minimum temperature probability
 during December 2019 – February 2020



Forecast of
 precipitation probability
 during December 2019 – February 2020



Note: These maps are mean model forecasts for being included in this three-month climate forecast.