

RDRRMC MIMAROPA 1ST Quarterly Meeting
23 March 2023

CLIMATE OUTLOOK for MIMAROPA APRIL - SEPTEMBER 2023

Prepared by:

PAGASA-DOST

Climatology & Agrometeorology Division (CAD)

Climate Monitoring and Prediction Section
(CLIMPS)

Presented by:

ANA LIZA S. SOLIS

Chief, CLIMPS



CONTENT



01 ▶ Weather /Climate Update

02 ▶ **Climate Outlook**
(April - September 2023)

03 ▶ **Summary**

PAGASA ISSUANCES

Goodbye, Taglamig! Hello, Tag-init!



Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and
Astronomical Services Administration (PAGASA)

PRESS STATEMENT

DOST-PAGASA S & T Media Service
Quezon City, 21 March 2023

TERMINATION OF THE NORTHEAST MONSOON

Recent analyses indicate a retreat of the High-Pressure Area over Siberia, which resulted in the weakening of northeasterly winds and an increase in the air temperature over most parts of the country. Furthermore, the strengthening of the North Pacific High has led to a gradual shift in the wind pattern from northeasterly to easterly. These signify the end of the Northeast Monsoon (Amihan) and the beginning of the warm and dry season, which is expected to last until May.

In the coming months, warmer temperatures are expected, and rainfall across the country will be influenced mostly by easterlies and localized thunderstorms. The public is advised to take precautionary measures to minimize heat stress and optimize the daily use of water for personal and domestic consumption.

PAGASA will continue to monitor the weather and climate situation of the country. For more information, you may reach us by phone at (02) 8284-0800 local 4801 (Weather Forecasting Section) and 4920 (Climate Monitoring and Prediction Section) or through email at information@pagasa.dost.gov.ph; pagasa.climps@gmail.com.

Original Signed:

VICENTE B. MALANO, Ph.D.
Administrator

"tracking the sky...helping the country"

Science Garden Compound, BIR Road, Brgy. Central, Quezon City,
Metro Manila, Philippines 1100

Tel. No. : (02) 8284-08-00
Website: <http://tagong.pagasa.dost.gov.ph>



Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and Astronomical Services
Administration (PAGASA)

Press Statement

DOST-PAGASA
S&T Media Service
23 March 2022, Quezon City

Preparation for Warm and Dry Season

After the termination of the Northeast Monsoon and the start of the dry season, recent observations from several DOST-PAGASA stations showed a gradual increase in daily temperature over many parts of the country and the strengthening of the North Pacific High. Furthermore, the number of dry and warm days across the country will continue to increase, though isolated thunderstorms are also likely to occur, especially in the afternoon or evening hours.

The public and all concerned government agencies are advised to take precautionary measures to minimize heat stress, optimize the daily use of water for personal and domestic consumption, and prevent any accompanying health risks associated with this climate condition.

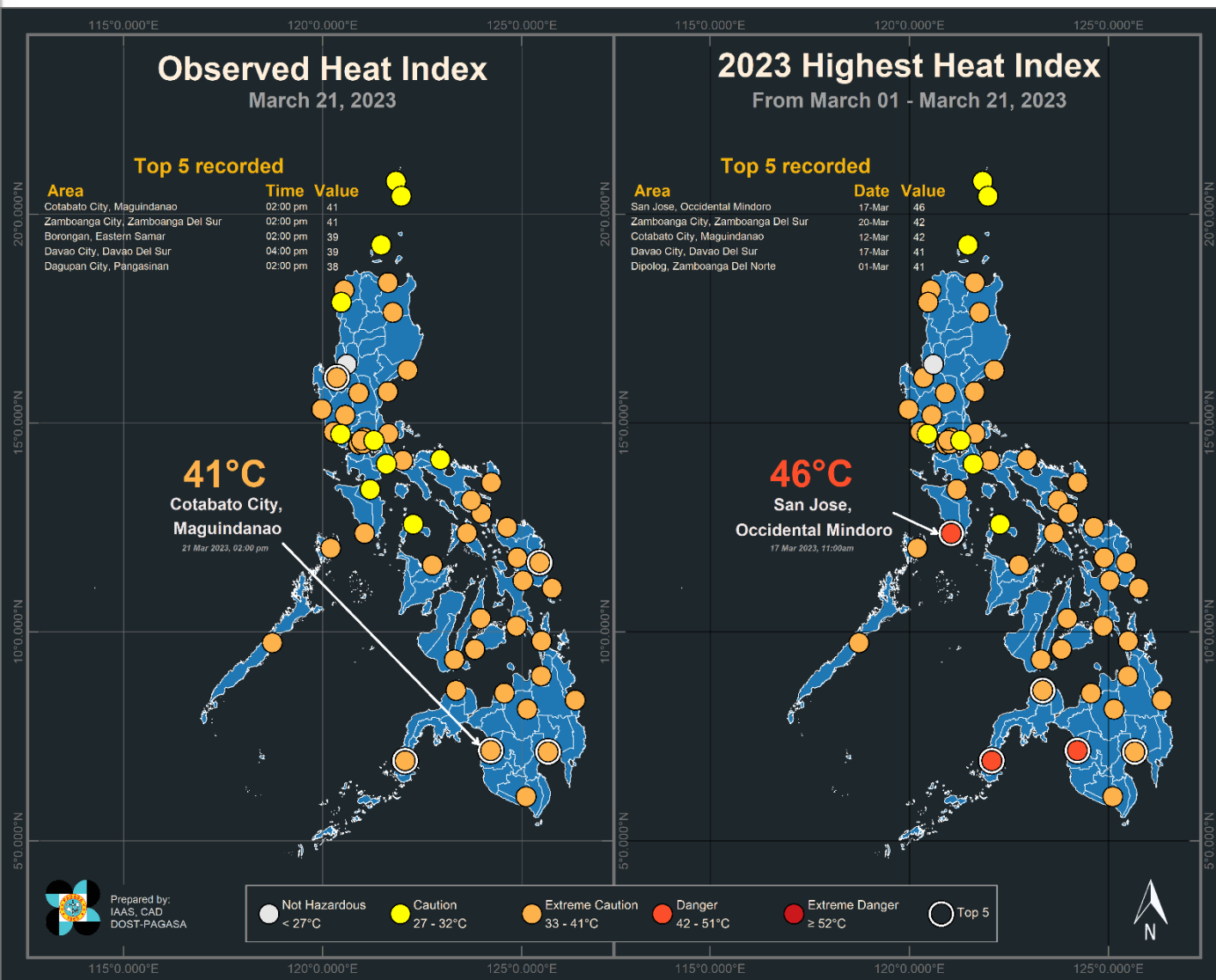
PAGASA will continue to monitor the weather and climate situation of the country. For more information, you may reach us by phone at (02) 8284-0800 local 4801 (Weather Forecasting Section) and 4920 (Climate Monitoring and Prediction Section) or through email at information@pagasa.dost.gov.ph; pagasa.climps@gmail.com.

Original Signed:

VICENTE B. MALANO, Ph.D.
Administrator

Payong
PAGASA





Payong PAGASA
sa tag-init



Effect-based classification

27-32°C
Caution

33-41°C
Extreme Caution

42-51°C
Danger

52°C and beyond
Extreme Danger

Effect on the body

Fatigue is possible with prolonged exposure and activity. Continuing activity could lead to heat cramps.

Heat cramps and heat exhaustion are possible. Continuing activity could lead to heat stroke.

Heat cramps and heat exhaustion are likely; heat stroke is probable with continued exposure.

Heat stroke is imminent.

Note: heat index values adapted from Steadman, 1979; classification threshold adapted from National Weather Services, National Oceanic and Atmospheric Administration (NWS-NOAA).

Gaano ba kainit ang panahon?

Ang init na nararamdaman ng katawan ng tao (*apparent temperature*) ay hindi akmang nasusukat gamit lamang ang temperatura ng hangin (*air temperature*). Ito ay mas tamang naitataya kung isasama ang datos ng alinsangan o halumigmig (*relative humidity*). Ang impormasyon na ito ay tinatawag na **Heat Index** at ito ay matutukoy gamit ang Heat Index Chart na nasa kanan.

Mula Marso hanggang Mayo, ang DOST-PAGASA ay nagbibigay ng *Heat Index monitoring and forecast information* na makikita online sa sumusunod na URL:

<http://bagong.pagasa.dost.gov.ph/climate/climate-heat-index>

Important survival information about heat-related illnesses*:

Causes :

- Prolonged exposure to hot temperatures
- Exhausting activities in a warm weather
- Age (the elderly and infants)
- Weak immune system
- High humidity
- Obesity
- Chronic alcoholism

Symptoms :

- Sweating heavily
- Exhaustion or fatigue
- Dizziness or light headedness
- Blacking out or feeling dizzy when standing
- Weak but fast pulse
- Feeling of nausea
- Vomiting

Prevention :

- Limit the time spent outdoors
- Drink plenty of water
- Avoid tea, coffee, soda and liquor
- Wear umbrellas, hats, and sleeved clothing outdoors
- Schedule heavy-duty activities for the beginning or end of the day, when it's cooler

Emergency response:

- Move the person to a shady spot and lie him/her down with legs elevated. If conscious have them sip cool water.
- Remove clothing, apply cool water to the skin and provide ventilation.
- Apply ice packs to the armpits, wrists, ankles, and groin.
- Bring to a hospital immediately

Heat Index Chart

| Temperature (°C) | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|------------------|----|----|----|----|----|----|----|----|----|-----|-----|
| 50 | 42 | 48 | 55 | 62 | 69 | 76 | 82 | 88 | 94 | 100 | 106 |
| 49 | 42 | 47 | 54 | 61 | 68 | 75 | 81 | 87 | 93 | 99 | 105 |
| 48 | 41 | 46 | 53 | 60 | 67 | 74 | 80 | 86 | 92 | 98 | 104 |
| 47 | 40 | 45 | 52 | 59 | 66 | 73 | 79 | 85 | 91 | 97 | 103 |
| 46 | 39 | 44 | 51 | 58 | 65 | 72 | 78 | 84 | 90 | 96 | 102 |
| 45 | 38 | 43 | 50 | 57 | 64 | 71 | 77 | 83 | 89 | 95 | 101 |
| 44 | 38 | 41 | 48 | 55 | 62 | 69 | 75 | 81 | 87 | 93 | 99 |
| 43 | 37 | 40 | 47 | 54 | 61 | 68 | 74 | 80 | 86 | 92 | 98 |
| 42 | 36 | 39 | 46 | 53 | 60 | 67 | 73 | 79 | 85 | 91 | 97 |
| 41 | 35 | 38 | 45 | 52 | 59 | 66 | 72 | 78 | 84 | 90 | 96 |
| 40 | 35 | 37 | 44 | 51 | 58 | 65 | 71 | 77 | 83 | 89 | 95 |
| 39 | 34 | 36 | 43 | 50 | 57 | 64 | 70 | 76 | 82 | 88 | 94 |
| 38 | 33 | 35 | 42 | 49 | 56 | 63 | 69 | 75 | 81 | 87 | 93 |
| 37 | 32 | 34 | 41 | 48 | 55 | 62 | 68 | 74 | 80 | 86 | 92 |
| 36 | 32 | 33 | 40 | 47 | 54 | 61 | 67 | 73 | 79 | 85 | 91 |
| 35 | 31 | 32 | 39 | 46 | 53 | 60 | 66 | 72 | 78 | 84 | 90 |
| 34 | 30 | 31 | 38 | 45 | 52 | 59 | 65 | 71 | 77 | 83 | 89 |
| 33 | 29 | 30 | 37 | 44 | 51 | 58 | 64 | 70 | 76 | 82 | 88 |
| 32 | 29 | 29 | 36 | 43 | 50 | 57 | 63 | 69 | 75 | 81 | 87 |
| 31 | 28 | 29 | 36 | 43 | 50 | 57 | 63 | 69 | 75 | 81 | 87 |
| 30 | 27 | 28 | 35 | 42 | 49 | 56 | 62 | 68 | 74 | 80 | 86 |
| 29 | 26 | 27 | 34 | 41 | 48 | 55 | 61 | 67 | 73 | 79 | 85 |
| 28 | 26 | 26 | 33 | 40 | 47 | 54 | 60 | 66 | 72 | 78 | 84 |
| 27 | 25 | 25 | 32 | 39 | 46 | 53 | 59 | 65 | 71 | 77 | 83 |
| 26 | 24 | 24 | 31 | 38 | 45 | 52 | 58 | 64 | 70 | 76 | 82 |
| 25 | 22 | 23 | 30 | 37 | 44 | 51 | 57 | 63 | 69 | 75 | 81 |
| 24 | 21 | 22 | 29 | 36 | 43 | 50 | 56 | 62 | 68 | 74 | 80 |
| 23 | 20 | 21 | 28 | 35 | 42 | 49 | 55 | 61 | 67 | 73 | 79 |
| 22 | 19 | 20 | 27 | 34 | 41 | 48 | 54 | 60 | 66 | 72 | 78 |
| 21 | 18 | 19 | 26 | 33 | 40 | 47 | 53 | 59 | 65 | 71 | 77 |
| 20 | 16 | 17 | 24 | 31 | 38 | 45 | 51 | 57 | 63 | 69 | 75 |

Effect-based classification

27–32°C
Caution

33–41°C
Extreme Caution

42–51°C
Danger

52°C and beyond
Extreme Danger

Effect on the body

Fatigue is possible with prolonged exposure and activity. Continuing activity could lead to heat cramps.

Heat cramps and heat exhaustion are possible. Continuing activity could lead to heat stroke.

Heat cramps and heat exhaustion are likely; heat stroke is probable with continued exposure.

Heat stroke is imminent.

Note: heat index values adapted from Steadman, 1979; classification threshold adapted from National Weather Services, National Oceanic and Atmospheric Administration (NWS-NOAA).

Sources:

* 1) Health Advisory on Heat Stroke. Department of Health; 2) <https://www.webmd.com/first-aid/understanding-heat-related-illness-basics>;

Steadman, R. G. (1979). The Assessment of Sultriness. Part I: A Temperature-Humidity Index Based on Human Physiology and Clothing Science, *Journal of Applied Meteorology and Climatology*, 18(7), 861-873. Retrieved Mar 2, 2022, from https://journals.ametsoc.org/view/journals/apme/18/7/1520-0450_1979_018_0861_taospi_2_0_co_2.xml

HEAT STROKE

Causes or risk factors

- **Hot and humid weather**
- Too much direct exposure to the sun
- Vigorous exercise in hot weather
- Dehydration

Prevention

- During very **hot and humid weather**
 - ✓ Limit the amount of time you spend outdoors
 - ✓ Drink plenty of water
 - ✓ Avoid tea, coffee, soda, and alcohol
 - ✓ Wear a wide-brimmed hat & long-sleeved clothing when outdoors.
 - ✓ Schedule heavy-duty activities for the beginning or end of the day, when it's cooler

Heat Stroke



It is the most severe form of heat illness wherein the body overheats and can't cool down by sweating because of dehydration.

CAUSES

The risk of heat stroke raises in hot and humid weather coupled with:



Vigorous exercise;



Dehydration;



Too much direct exposure to the sun.

SIGNS

Watch out for the following signs of heat exhaustion:



Intense thirst, dehydration;



Weakness or discomfort;



Dizziness or fainting;



Anxiety;



Headache.

They may progress to a heat stroke:



Very high core body temperature of 40°C or more;



Hot, dry skin;



Rapid heartbeat;



Convulsion;



Delirium;



Unconsciousness or coma.

PREVENTION



Limit the amount of time you spend outdoors.



Drink plenty of water. Avoid tea, coffee, soda, and alcohol.



Wear a wide-brimmed hat and long-sleeved clothing outdoors.



Schedule heavy-duty activities for the beginning or end of the day, when it's cooler.

EMERGENCY MEASURES



Move the person to a shady spot or indoors and have him or her lie down with the legs elevated. If still conscious, have them sip cool water.



Remove clothing, apply cool water to the skin and fan them.



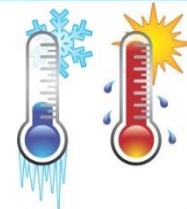
Apply ice packs to the armpits, wrists, ankles, and groin.



Bring to a hospital immediately.

FORECAST RANGES OF EXTREME TEMPERATURE (APRIL-SEPTEMBER)

Updated : 22 March 2023



| TM AX Summary | Apr-23 | | May-23 | | Jun-23 | | Jul-23 | | Aug-23 | | Sep-23 | |
|----------------------|------------|------|------------|------|------------|------|------------|------|------------|------|------------|------|
| | Tmax-Range | | Tmax-Range | | Tmax-Range | | Tmax-Range | | Tmax-Range | | Tmax-Range | |
| Northern Luzon | 30.2 | 39.4 | 31.3 | 40.0 | 31.7 | 39.3 | 31.1 | 38.2 | 30.7 | 37.5 | 30.2 | 36.6 |
| Lowlands Luzon | 30.4 | 39.2 | 31.5 | 39.2 | 30.3 | 38.0 | 29.5 | 38.8 | 28.3 | 38.2 | 28.6 | 37.0 |
| Mountainous Luzon | 26.8 | 29.0 | 26.1 | 28.3 | 26.4 | 28.4 | 25.0 | 26.8 | 23.7 | 26.6 | 25.3 | 26.5 |
| Metro Manila | 35.6 | 37.8 | 35.9 | 37.9 | 34.5 | 37.3 | 33.5 | 36.4 | 32.4 | 36.2 | 33.1 | 35.4 |
| Lowlands Visayas | 32.0 | 36.8 | 32.6 | 37.1 | 32.8 | 37.0 | 32.0 | 36.5 | 31.9 | 36.6 | 32.1 | 36.1 |
| Lowlands Mindanao | 32.6 | 38.3 | 33.5 | 38.1 | 33.9 | 37.4 | 33.4 | 38.5 | 33.5 | 38.6 | 33.8 | 38.7 |
| Mountainous Mindanao | 33.3 | 35.0 | 33.0 | 35.0 | 31.9 | 33.4 | 31.1 | 33.0 | 32.0 | 33.4 | 32.0 | 33.5 |

| TM IN Summary | Apr-23 | | May-23 | | Jun-23 | | Jul-23 | | Aug-23 | | Sep-23 | |
|----------------------|------------|------|------------|------|------------|------|------------|------|------------|------|------------|------|
| | Tmin-Range | | Tmin-Range | | Tmin-Range | | Tmin-Range | | Tmin-Range | | Tmin-Range | |
| Northern Luzon | 15.8 | 24.2 | 20.5 | 24.8 | 19.3 | 25.0 | 19.1 | 24.8 | 20.6 | 24.7 | 16.4 | 24.5 |
| Lowlands Luzon | 17.3 | 26.1 | 18.8 | 26.8 | 18.0 | 25.9 | 17.0 | 25.0 | 17.5 | 25.0 | 18.0 | 25.1 |
| Mountainous Luzon | 12.2 | 15.2 | 15.0 | 16.0 | 14.6 | 16.0 | 14.4 | 15.4 | 14.4 | 15.6 | 14.0 | 15.5 |
| Metro Manila | 20.4 | 25.7 | 23.0 | 25.4 | 23.0 | 24.8 | 22.6 | 24.5 | 22.6 | 24.3 | 22.2 | 24.7 |
| Lowlands Visayas | 21.2 | 25.6 | 21.7 | 25.5 | 20.5 | 26.0 | 20.6 | 25.0 | 20.1 | 25.0 | 20.8 | 25.0 |
| Lowlands Mindanao | 20.4 | 24.0 | 21.4 | 24.9 | 20.9 | 24.3 | 20.8 | 24.2 | 20.5 | 24.7 | 20.3 | 24.4 |
| Mountainous Mindanao | 15.0 | 17.2 | 16.0 | 18.5 | 16.7 | 19.2 | 16.0 | 18.2 | 15.0 | 18.8 | 16.5 | 18.9 |





Water conservation tips



**USE A GLASS OF WATER
WHEN BRUSHING YOUR
TEETH.**



**TAKE A BATH
IN FIVE MINUTES
TOPS.**



**USE WATER BASINS
WHEN WASHING DISHES
BY HAND**



**WATER PLANTS
EARLY IN THE MORNING
OR IN THE EVENING.**



**USE A BUCKET OF
WATER AND A RAG
TO WASH YOUR CAR/BIKE.**



**CHECK FOR LEAKS
IN YOUR WATER
PIPES, TOILETS.**



**DON'T FLUSH THE TOILET
JUST TO DISPOSE
OF SMALL TRASH.**



**ONLY USE THE WASHING
MACHINE WHEN IT'S
FULLY-LOADED.**



**COLLECT RAINWATER
AND USE FOR WATERING
PLANTS OR WASHING YOUR
CAR.**

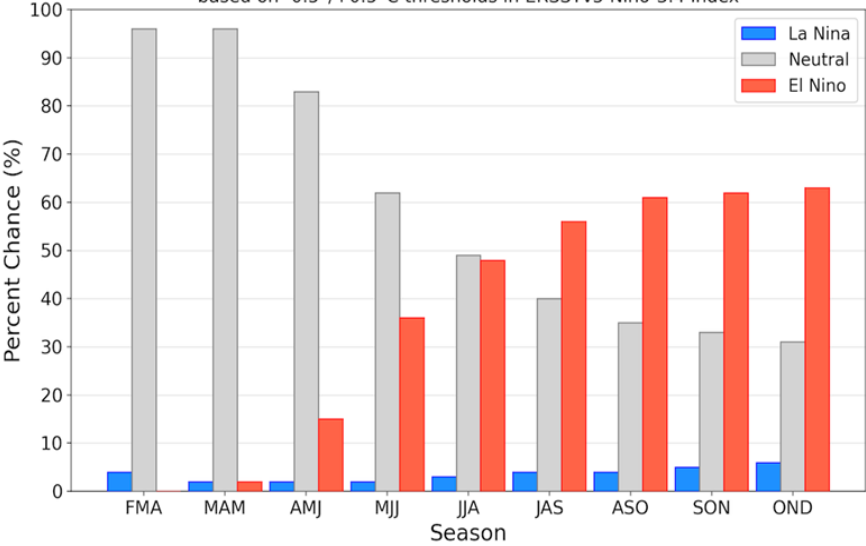
HELP SAVE WATER EVERYDAY.

EL NINO WATCH

What are the chances?

Official NOAA CPC ENSO Probabilities (issued Mar. 2023)

based on -0.5°/+0.5°C thresholds in ERSSTv5 Niño-3.4 index

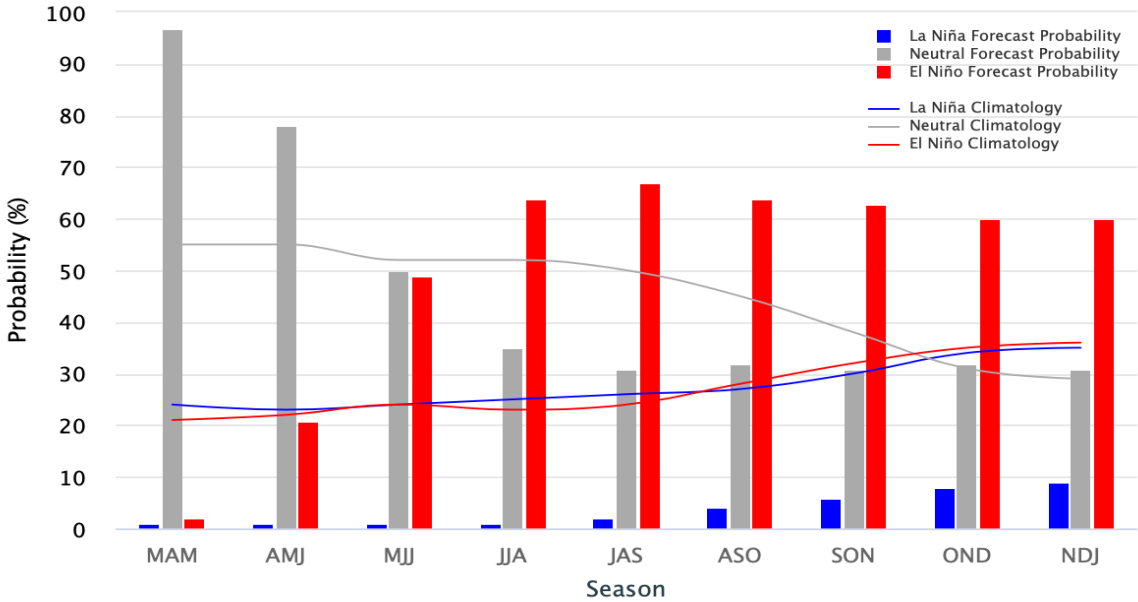


Model output + Expert judgment
ENSO probability forecast

| Season | La Niña | Neutral | El Niño |
|--------|---------|---------|---------|
| FMA | 4 | 96 | 0 |
| MAM | 2 | 96 | 2 |
| AMJ | 2 | 83 | 15 |
| MJJ | 2 | 62 | 36 |
| JJA | 3 | 49 | 48 |
| JAS | 4 | 40 | 56 |
| ASO | 4 | 35 | 61 |
| SON | 5 | 33 | 62 |
| OND | 6 | 31 | 63 |

Mid-March 2023 IRI Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly Neutral ENSO: -0.5 °C to 0.5 °C



Model output (*Purely objective*)
ENSO probability forecast

ENSO-neutral is expected to persist through the Northern Hemisphere early summer 2023. A transition to El Niño is favored by July-September 2023, with chances of El Niño increasing through the fall.

El Niño Watch - issued when conditions are favorable for the development of El Niño within the next six months and probability is 55% or more.



ENSO Alert System Status: ENSO-Neutral

ENSO Alert System Status:

La Niña Advisory (FINAL)



La Niña has ended and ENSO-neutral conditions are expected to continue until May-June-July (MJJ) 2023 season; an increased likelihood of a transition to El Niño phase thereafter.

(updated: 22 March 2023)



PAYONG PAGASA
LA NIÑA ADVISORY NO. 18A (FINAL)

CLIMPS-09 Rev.0/06-01-22
Issued: 10 March 2023

OVERVIEW
La Niña (cold phase) condition has ended. Most of the climate models predict that ENSO-neutral (neither La Niña nor El Niño) is favored from March through June this year with an increased likelihood of a transition to El Niño (warm phase) thereafter.

Although La Niña has already ended, its lag effect may still influence the probability of above-normal rainfall conditions in the coming months, potentially leading to adverse impacts (such as heavy rainfall, floods, flash floods, and rain-induced landslides) in some highly vulnerable areas.

Assessment in February 2023

WEATHER SYSTEMS THAT AFFECTED THE COUNTRY

NE NORTH-EAST MONSOON (HABAGAT)
Cold and drier winds from the northeast bring rains over the eastern side of the country.

LOW PRESSURE AREA (LPA)
Areas of lowest pressure characterized by cloudiness and rainshowers; areas where a tropical cyclone can form.

INTERTROPICAL CONVERGENCE ZONE (ITCZ)
Series of low pressure areas brought about by converging Northeast (NE) and Southeast (SE) winds that cause thunderstorms and rainshowers.

SHEAR LINE
Zone of converging winds associated with the extension of a frontal system that often brings thunderstorms and rainshowers.

LOCALIZED THUNDERSTORM
Warm isolated heavy and dense dark clouds with one or more sudden electric discharges manifested by lightning and thunder often accompanied by showers of rains.

ZERO TROPICAL CYCLONE
"Bagyo"; may refer to a tropical depression, tropical storm, severe tropical storm, typhoon, or super typhoon.

RIDGE OF HIGH PRESSURE AREA (HPA)
An extension of a high pressure area characterized by a very light wind and clear skies.

RAINFALL CONDITION

BELOW NORMAL
20%-60% reduction from the normal

Abra, Ilocos provinces, Quirino, Aurora, Occidental Mindoro, Davao del Sur, Davao Occidental, South Cotabato, Sarangani and Metro Manila

NEAR NORMAL
±20% or -20% from the normal

Apayao, Batanes, Bataan, Nueva Ecija, Zambales, Batangas, Cavite, Laguna, Rizal, Oriental Mindoro, Palawan, Davao City, Cotabato, Sultan Kudarat, Basilan, Maguindanao

ABOVE NORMAL
120% greater than the normal

54 provinces

A map of the Philippines with color-coded regions indicating rainfall conditions: blue for below normal, green for near normal, and yellow for above normal.

TEMPERATURE

Generally, near-average to slightly above-average mean surface air temperatures were observed in most parts of the country except for Tayabas, Coron, Romblon, Guluan, and General Santos City where slightly below-average temperatures were experienced. Moreover, based on these observations, February daytime environments were generally cooler than average while the night-time was mostly warmer than average.

Mountainous Luzon
10.2°C – 25.4°C

Metro Manila
20.2°C – 34.1°C

Mountainous Mindanao
16.0°C – 33.0°C

Lowlands Luzon
15.4°C – 36.6°C

Visayas
21.5°C – 34.4°C

Lowlands Mindanao
21.0°C – 35.7°C

For further information, please contact the Climatology and Agrometeorology Division (CAD) at Tel No. (02) 8284-0859 loc 906



<https://bagong.pagasa.dost.gov.ph/climate/el-nino-la-nina/advisories>





ENSO-neutral conditions are expected to continue until June-July-August (JJA) 2023 season; However, an increased likelihood of a transition to El Niño in Jul-Aug-Sept (JAS) 2023 season and may persist until 2024. (updated: 23 March 2023)



Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and Astronomical Services
Administration (PAGASA)

PRESS STATEMENT

DOST-PAGASA S & T Media Service
Quezon City, 23 March 2023

EL NIÑO WATCH

PAGASA has been continuously monitoring the El Niño Southern Oscillation (ENSO) conditions in the tropical Pacific. The final La Niña advisory was issued last March 10, 2023 with ENSO - neutral conditions now present. However, based on recent conditions and model forecasts, El Niño will likely develop in Jul-Aug-Sept (JAS) 2023 season and may persist until 2024. With this development, the PAGASA ENSO Alert and Warning System is now raised to **El Niño Watch**.

El Niño (warm phase of ENSO) is characterized by unusually warmer than average sea surface temperatures (SSTs) in the central and eastern equatorial Pacific (CEEP). When conditions are favorable for the development of El Niño within the next six months and the probability is 55% or more, an **El Niño Watch** is issued.

El Niño increases the likelihood of below-normal rainfall conditions, which could bring negative impacts (such as dry spells and droughts) in some areas of the country. However, over the western part of the country, above-normal rainfall conditions during the Southwest monsoon season (Habagat) may also be expected.

PAGASA will continue to closely monitor the development of this ENSO phenomenon. All concerned government agencies and the general public are encouraged to keep on monitoring and take precautionary measures against the impending impacts of El Niño.

For more information, please call the Climate Monitoring and Prediction Section (CLIMPS), Climatology and Agrometeorology Division (CAD) at telephone number (02) 8284-0800 local 4920 or through email: pagasa.climps@gmail.com.

Original Signed:

VICENTE B. MALANO, Ph.D.
Administrator

El Niño Watch - issued when conditions are favorable for the development of El Niño within the next six months and the probability is 55% or more.

Weather systems that may affect the country

April - September 2023



RIDGE OF HIGH
PRESSURE AREA
(HPA)



LOCALIZED
THUNDERSTORMS

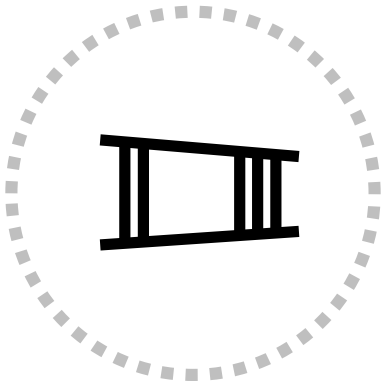


EASTERLIES



SOUTHWEST
MONSOON

In transition towards
SW Monsoon



INTER-TROPICAL
CONVERGENCE ZONE (ITCZ)



SHEAR LINE



LOW PRESSURE
AREAS (LPAs)



TROPICAL CYCLONES

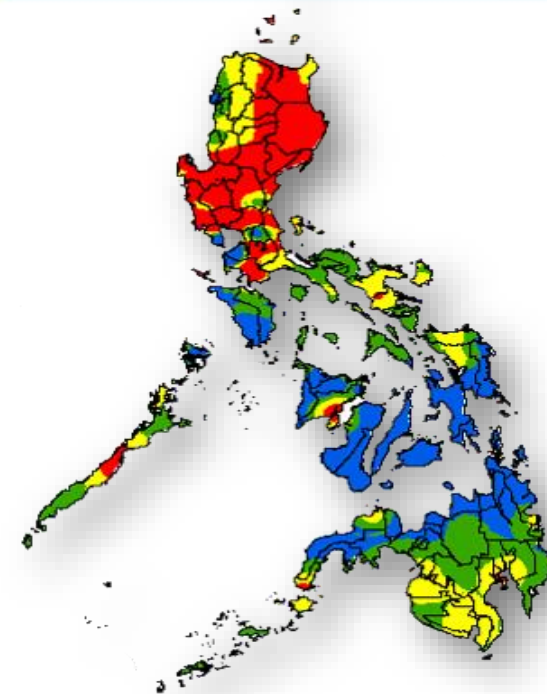
ABOUT OUR RAINFALL MAPS



SCAN ME

For more details
and updates

| PERCENTAGE (%) | RAINFALL CONDITION |
|-------------------|--------------------|
| Less than or = 40 | way below normal |
| 41 – 80 | below normal |
| 81 – 120 | near normal |
| Greater than 120 | above normal |



$$\text{Percent of Normal} = \frac{\text{Forecast Rainfall}}{\text{Normal Rainfall}} \times 100\%$$

Rainfall Surplus or Reduction



to



to



**WAY BELOW
NORMAL**

*Greater
than 60%
reduction
from the
normal**

**BELOW
NORMAL**

*20%-60%
reduction
from the
normal*

**NEAR
NORMAL**

*+20% or -20%
from the
normal*

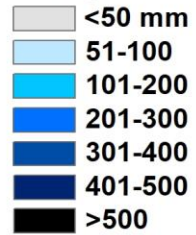
**ABOVE
NORMAL**

*120%
greater
than the
normal*

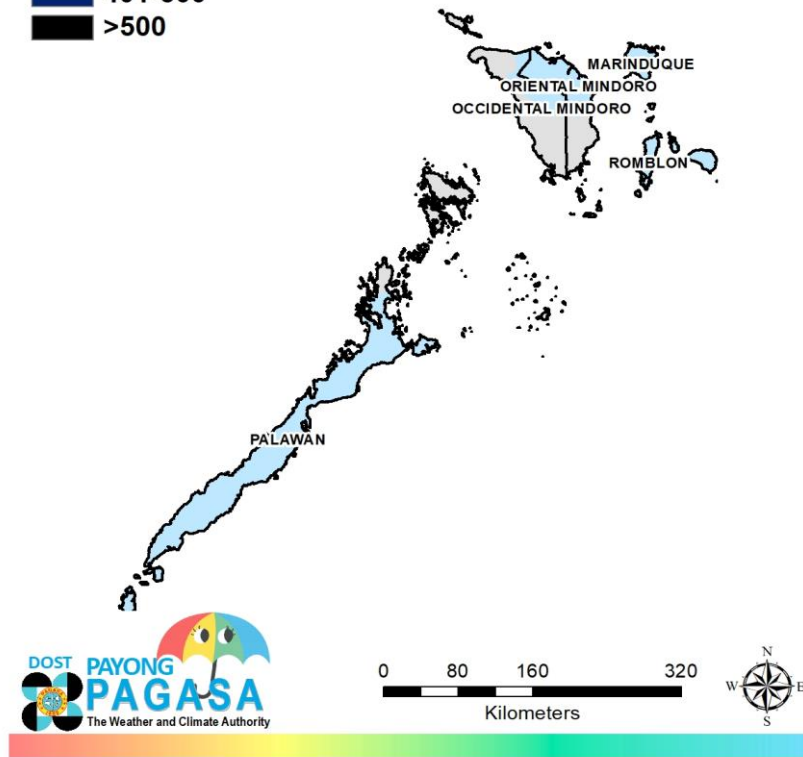
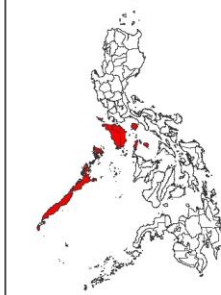
**Normal - Refers to 30-year average rainfall*

RAINFALL OUTLOOK (mm)
APRIL 2023
Region 4B

Legend



LOCATION INDEX

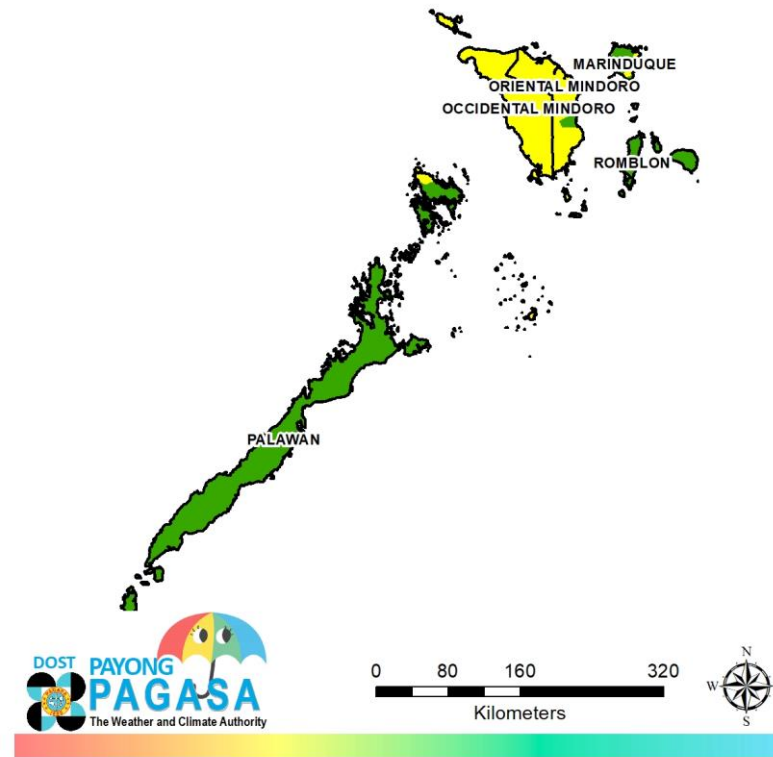
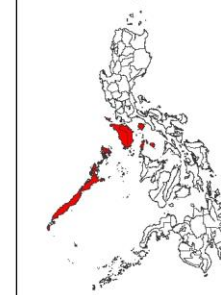


RAINFALL OUTLOOK (PN)
APRIL 2023
Region 4B

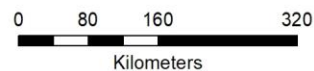
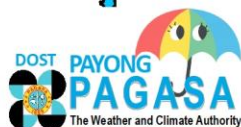
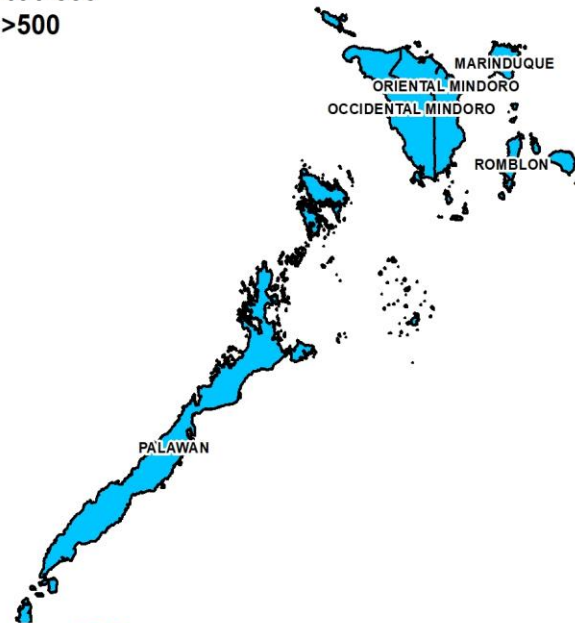
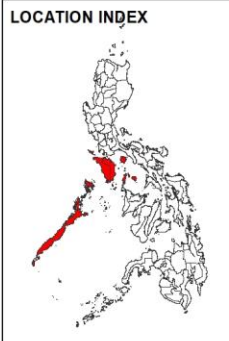
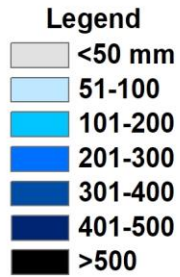
Legend



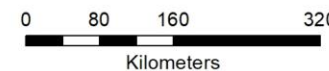
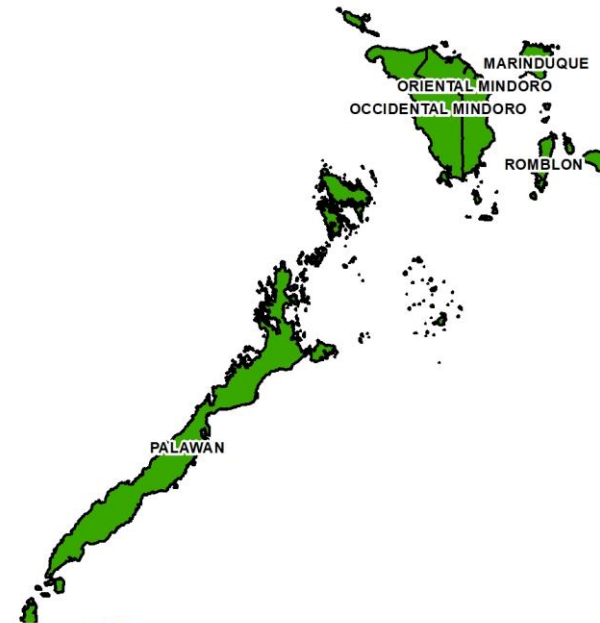
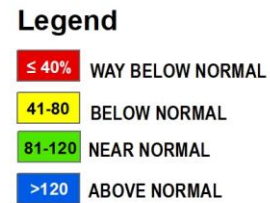
LOCATION INDEX



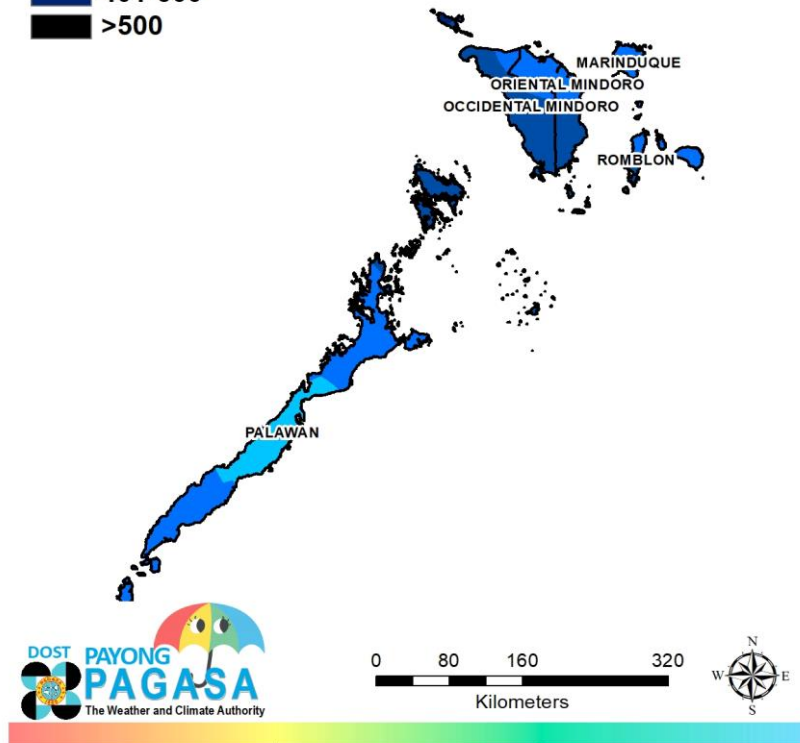
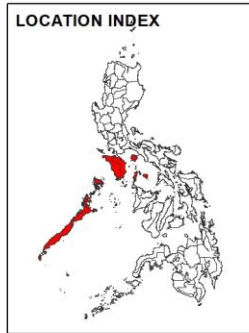
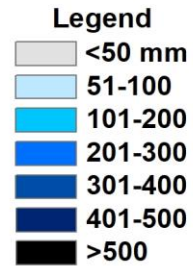
RAINFALL OUTLOOK (mm)
MAY 2023
Region 4B



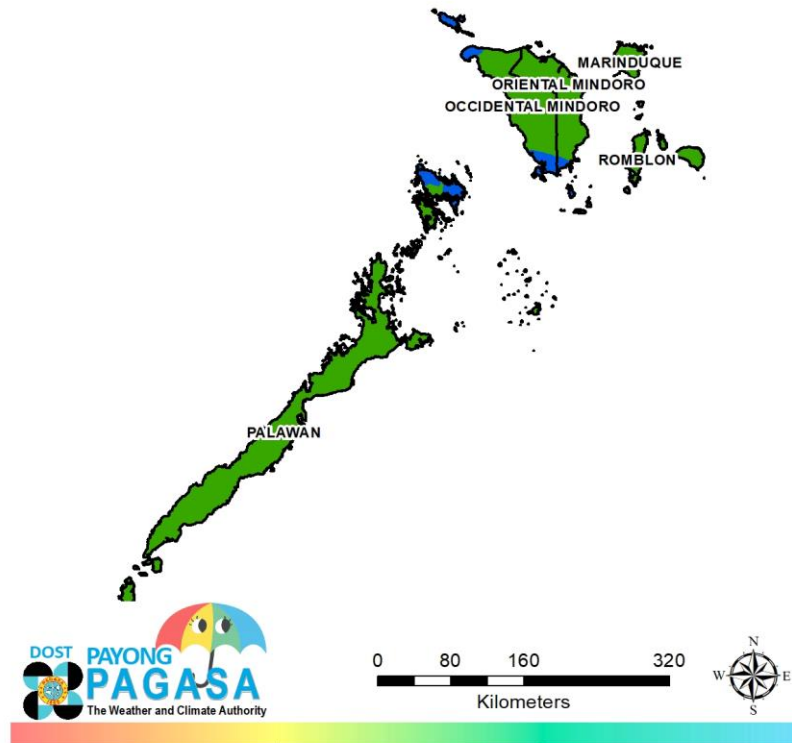
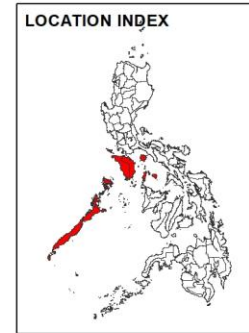
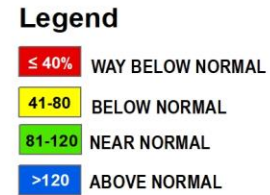
RAINFALL OUTLOOK (PN)
MAY 2023
Region 4B



RAINFALL OUTLOOK (mm)
JUNE 2023
Region 4B

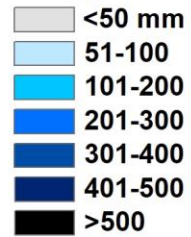


RAINFALL OUTLOOK (PN)
JUNE 2023
Region 4B

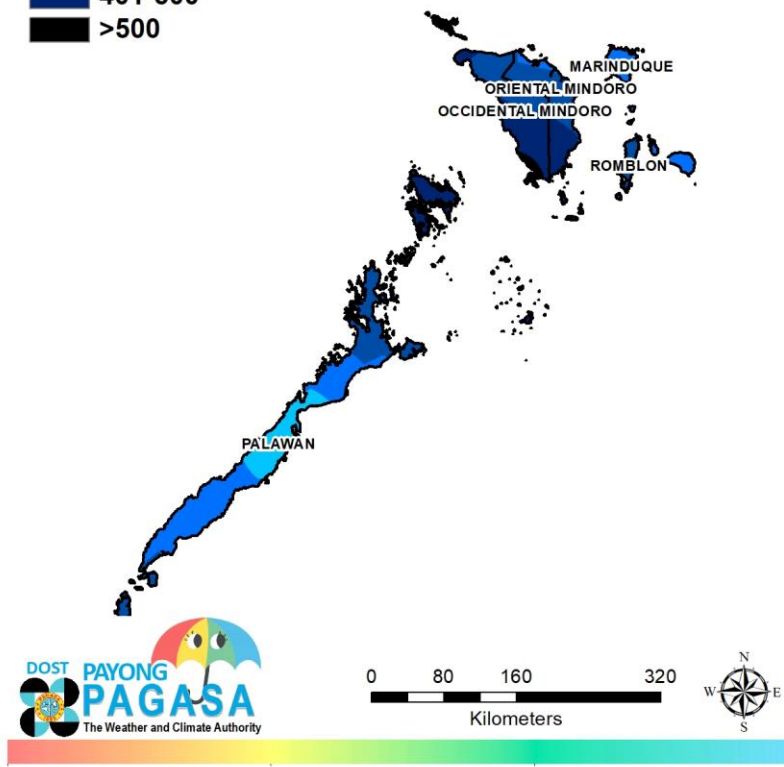
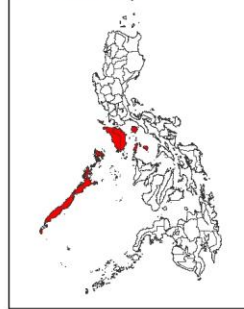


RAINFALL OUTLOOK (mm)
JULY 2023
Region 4B

Legend

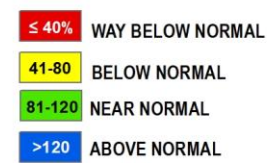


LOCATION INDEX

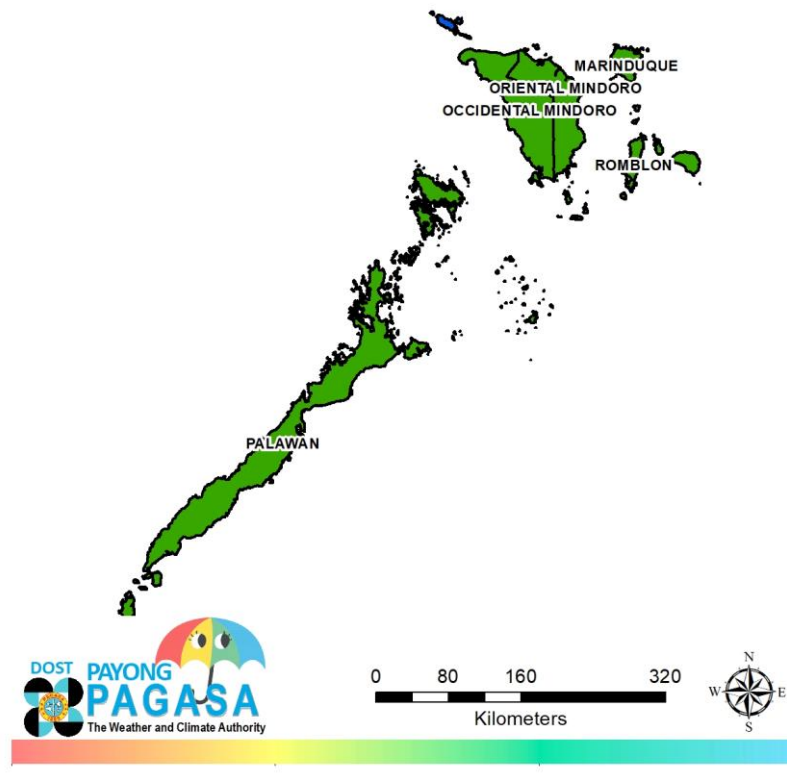
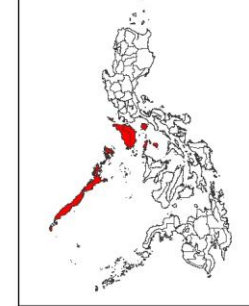


RAINFALL OUTLOOK (PN)
JULY 2023
Region 4B

Legend

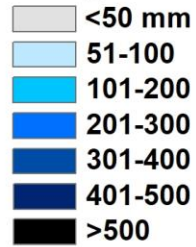


LOCATION INDEX

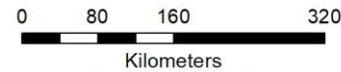
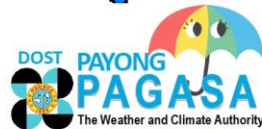
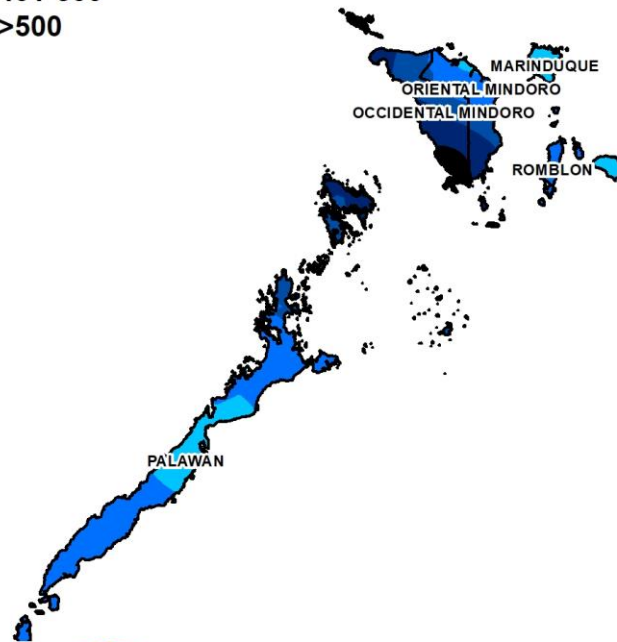
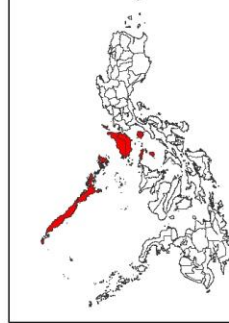


RAINFALL OUTLOOK (mm) **AUGUST 2023** **Region 4B**

Legend

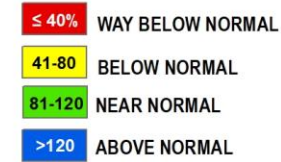


LOCATION INDEX

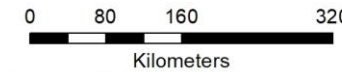
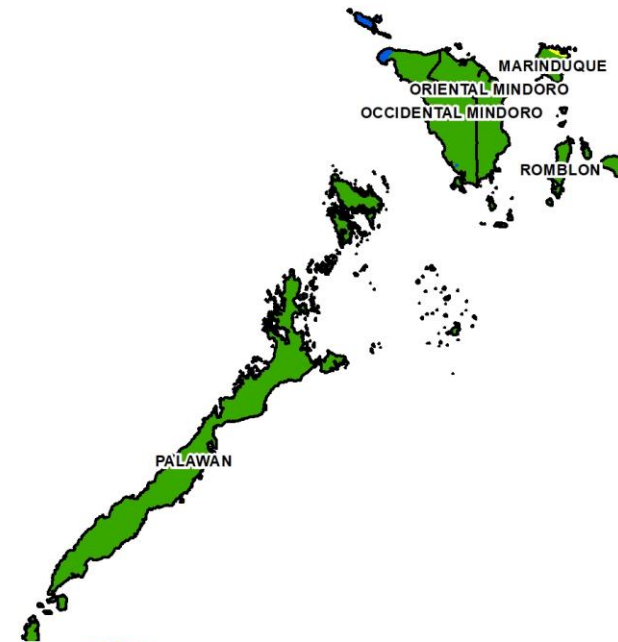
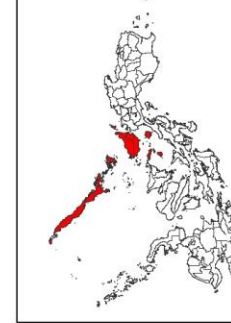


RAINFALL OUTLOOK (PN) **AUGUST 2023** **Region 4B**

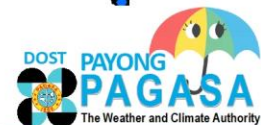
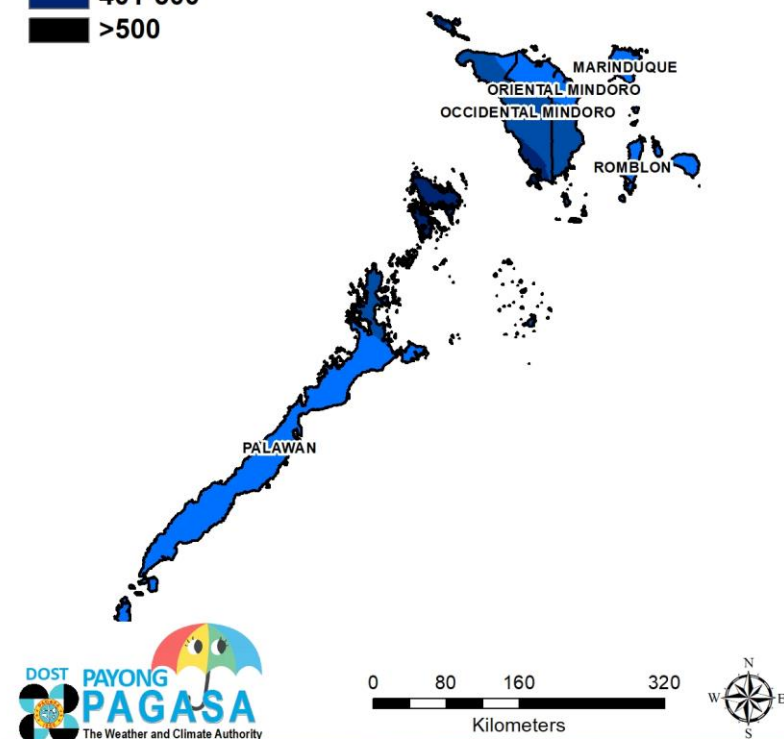
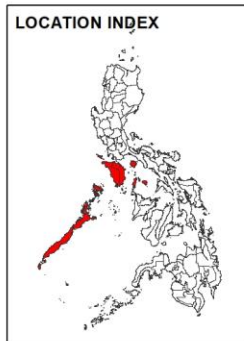
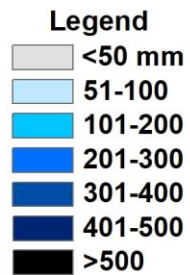
Legend



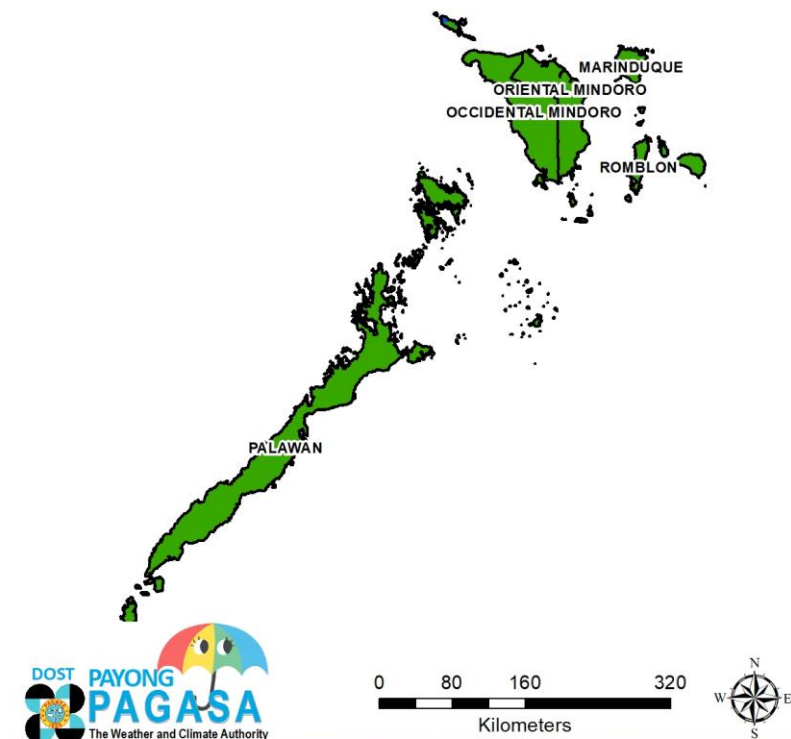
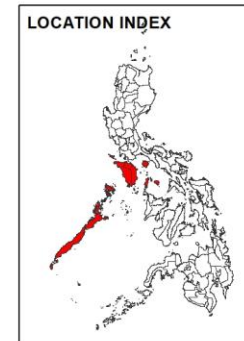
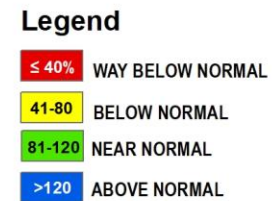
LOCATION INDEX



**RAINFALL OUTLOOK (mm)
SEPTEMBER 2023
Region 4B**



**RAINFALL OUTLOOK (PN)
SEPTEMBER 2023
Region 4B**



BACKGROUND:

The Climate Outlook Forum, a platform to disseminate climate information and outlook in the coming seasons provides opportunity for regular dialogue between the Philippine's national meteorological-hydrological service provider (PAGASA) and its stakeholder institutions to promote (a) enhanced understanding of forecast products and services, including their limitations and uncertainties, and (b) better appreciation by PAGASA of users' information requirements.

Overview:

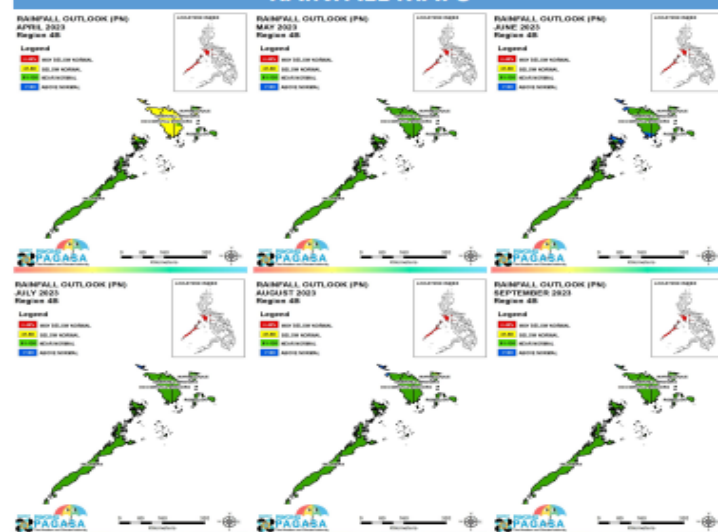
- ENSO Alert System Status: **INACTIVE**
- La Niña has ended and ENSO-neutral conditions are expected to continue until May-June-July (MJJ) 2023 season; an increased likelihood of a transition to El Niño phase thereafter.

(updated 22 MARCH)

MONTHLY FORECAST SUMMARY FOR REGION 4B

| PROVINCE | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
|------------------------|-------|------|-------|-------|-------|-------|-------|-------|--------|-------|-----------|-------|
| REGION IV-B (MIMAROPA) | mm | PN | mm | PN | mm | PN | mm | PN | mm | PN | mm | PN |
| MARINDUQUE | 67.5 | 82.2 | 167.4 | 106.0 | 210.8 | 94.9 | 281.1 | 100.3 | 146.4 | 81.7 | 258.6 | 96.9 |
| OCCIDENTAL MINDORO | 43.4 | 72.6 | 180.9 | 105.8 | 334.5 | 111.5 | 423.2 | 105.3 | 420.9 | 110.6 | 351.5 | 104.9 |
| ORIENTAL MINDORO | 56.9 | 76.1 | 182.0 | 106.0 | 297.9 | 102.3 | 368.4 | 101.4 | 317.6 | 100.2 | 304.6 | 101.7 |
| ROMBLON | 65.9 | 93.1 | 162.4 | 101.3 | 272.5 | 106.8 | 307.6 | 97.1 | 225.4 | 93.4 | 239.2 | 90.6 |
| PALAWAN | 52.2 | 86.9 | 156.2 | 106.2 | 245.0 | 105.9 | 285.6 | 95.9 | 255.5 | 89.8 | 279.6 | 105.5 |
| SPRATLY ISLANDS | 34.1 | 74.5 | 172.4 | 103.4 | 352.0 | 118.7 | 439.2 | 99.5 | 468.6 | 104.4 | 369.1 | 107.0 |

RAINFALL MAPS



FORECAST RAINFALL

- Generally, Region 4B will likely to experience near normal rainfall condition during the forecast period except for April where below to near normal rainfall condition is likely to experience.

MONSOON / TROPICAL CYCLONES / OTHER WEATHER SYSTEMS

April –September 2023

- Other weather systems: Thunderstorms, Ridge of High Pressure Area, Easterlies, Low Pressure Area, Tropical Cyclones, Intertropical Convergence Zone (ITCZ), Tail-end of Frontal system (Shear line), Transition to Southwest Monsoon, Southwest Monsoon.

way below normal < 40% below normal 41% - 80% near normal 81% - 120% above normal > 120%

Note: Outlook was based on forecasts made in March 2023

Prepared by: Climate Monitoring and Prediction Sections (CLIMPS)

Telephone #: (02) 8284-0800 local 906

Issued: 22 March 2023

Probabilistic RAINFALL Forecast (%)

Forecast Issuance date: 22 March 2023

Probabilistic Forecast for MIMAROPA

| | | % PROBABILITY OF HAVING: | | |
|-----------------|-----------------|--------------------------|-------------|--------------|
| Forecast Months | Station | Below Normal | Near Normal | Above Normal |
| APRIL | CALAPAN | 29 | 37 | 34 |
| | CORON | 20 | 39 | 41 |
| | CUYO | 18 | 38 | 44 |
| | PUERTO PRINCESA | 20 | 39 | 41 |
| | ROMBLON | 16 | 37 | 47 |
| | SAN JOSE | 20 | 36 | 44 |
| MAY | CALAPAN | 23 | 31 | 46 |
| | CORON | 26 | 33 | 41 |
| | CUYO | 22 | 34 | 44 |
| | PUERTO PRINCESA | 20 | 33 | 47 |
| | ROMBLON | 16 | 36 | 47 |
| | SAN JOSE | 22 | 33 | 45 |
| JUNE | CALAPAN | 39 | 32 | 29 |
| | CORON | 15 | 27 | 58 |
| | CUYO | 19 | 31 | 50 |
| | PUERTO PRINCESA | 26 | 31 | 43 |
| | ROMBLON | 27 | 31 | 41 |
| | SAN JOSE | 10 | 27 | 63 |

Probabilistic RAINFALL Forecast (%)

Forecast Issuance date: 22 March 2023

Probabilistic Forecast for MIMAROPA

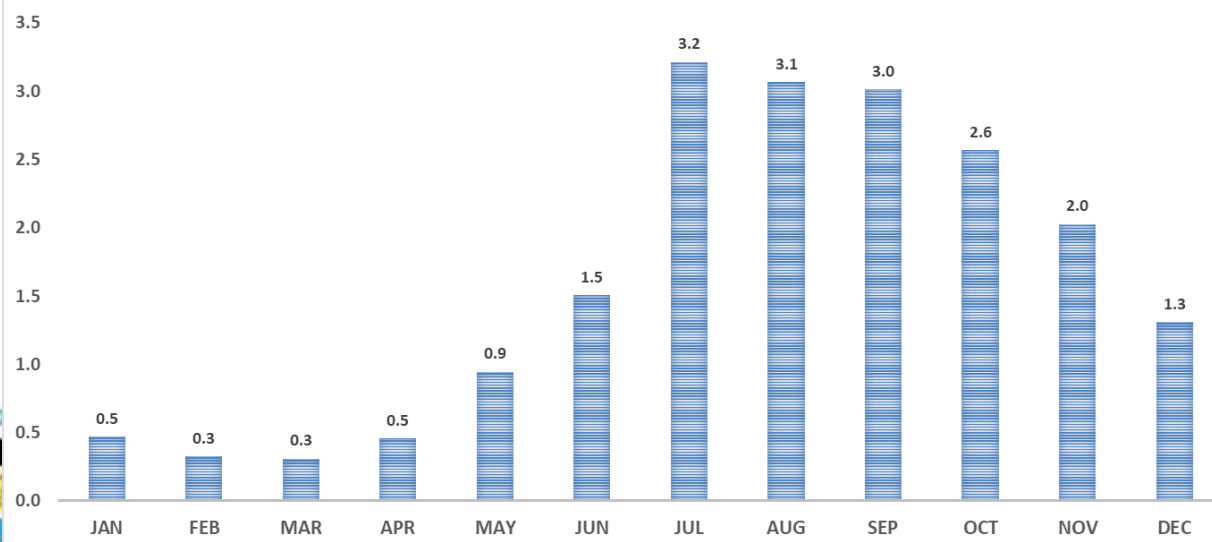
| | | % PROBABILITY OF HAVING: | | |
|-----------------|-----------------|--------------------------|-------------|--------------|
| Forecast Months | Station | Below Normal | Near Normal | Above Normal |
| JULY | CALAPAN | 29 | 34 | 37 |
| | CORON | 23 | 38 | 39 |
| | CUYO | 29 | 34 | 37 |
| | PUERTO PRINCESA | 33 | 32 | 35 |
| | ROMBLON | 31 | 33 | 35 |
| | SAN JOSE | 25 | 37 | 38 |
| AUGUST | CALAPAN | 37 | 31 | 32 |
| | CORON | 30 | 32 | 38 |
| | CUYO | 42 | 31 | 27 |
| | PUERTO PRINCESA | 36 | 34 | 30 |
| | ROMBLON | 39 | 32 | 29 |
| | SAN JOSE | 23 | 29 | 48 |
| SEPTEMBER | CALAPAN | 29 | 32 | 39 |
| | CORON | 26 | 35 | 39 |
| | CUYO | 27 | 33 | 40 |
| | PUERTO PRINCESA | 28 | 32 | 39 |
| | ROMBLON | 30 | 31 | 40 |
| | SAN JOSE | 27 | 33 | 40 |



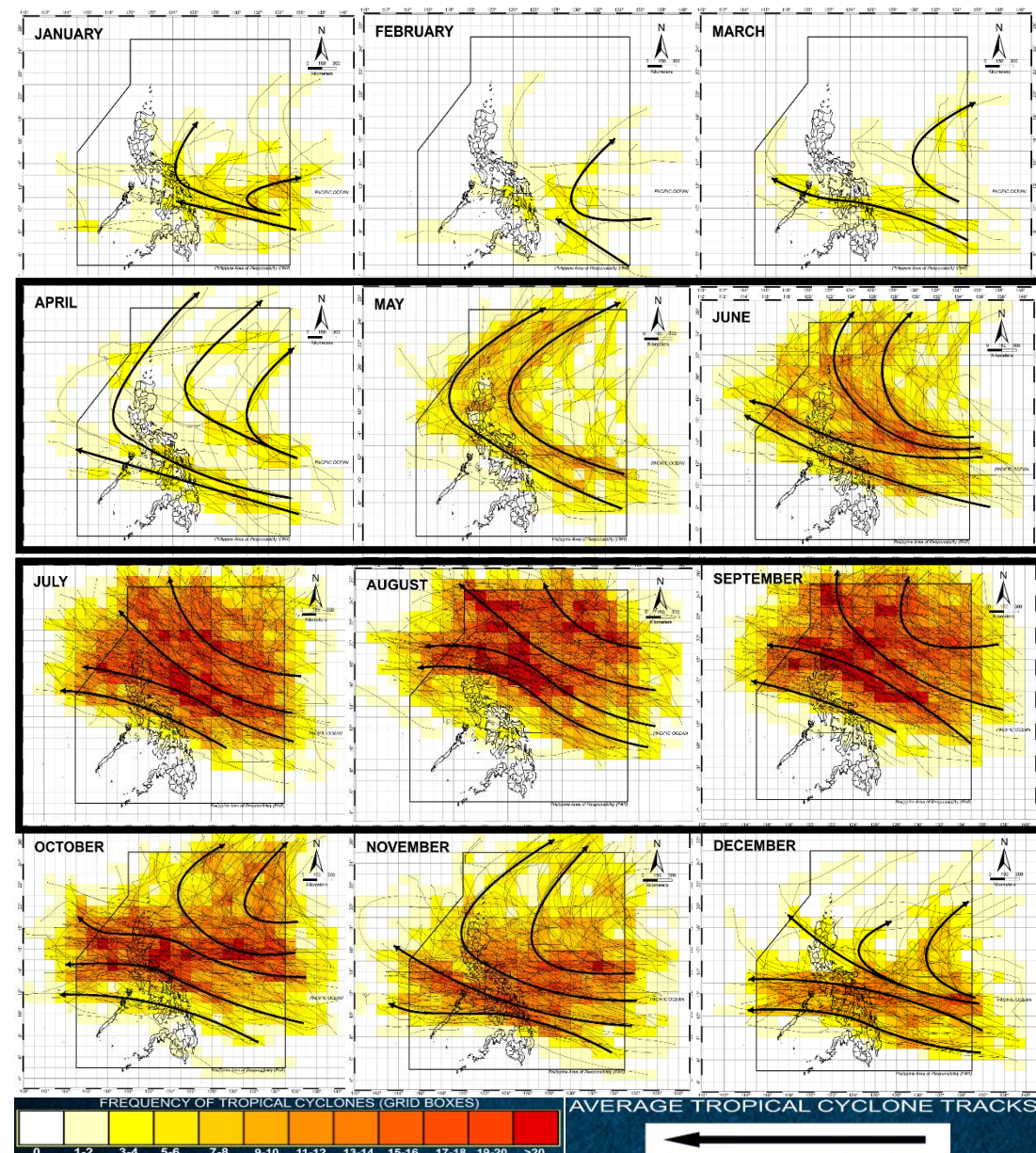
HOW MANY TROPICAL CYCLONES SHOULD YOU EXPECT?

| | | | |
|------------|--------|----------------|--------|
| APRIL 2023 | 0 or 1 | JULY 2023 | 2 or 3 |
| MAY 2023 | 1 or 2 | AUGUST 2023 | 2 or 3 |
| JUNE 2023 | 1 or 2 | SEPTEMBER 2023 | 2 or 3 |

MONTHLY AVERAGE TROPICAL CYCLONE FREQUENCY IN THE PAR (1948-2022)



Tropical Cyclone Tracks Climatology with actual tracks from 1948-2015



SUMMARY

ENSO Alert System Status

Inactive

- ENSO-neutral conditions are now present in the tropical Pacific.
- La Niña has ended and ENSO-neutral condition is expected to continue until May-June-July (MJJ) 2023 season; an increased likelihood of a transition to El Niño phase thereafter.

Forecast Rainfall Conditions:

April 2023

- *below normal* in Mindoro
- near normal* in Marinduque, Romblon, Palawan
- *high probability of near to above normal rainfall conditions in most parts of the region*

May - September 2023

- generally *near normal* throughout the region;
- *high probability of near to above normal rainfall conditions in most parts of the region*

SUMMARY

Forecast Temperature

- Generally, surface air temperatures range from average to below average throughout the region during the forecast period.
- Warmer and humid weather conditions are expected in the coming months as NE monsoon season has ended.

Tropical Cyclones

- **8 – 11** tropical cyclones are expected to enter/develop in the Philippine Area of Responsibility (PAR) from **April – September 2023**.

Onset of Rainy Season

- Normal onset is expected (between the 2nd half of May to 1st half of June): for areas in the western part of the country (under Climate Type I).
 - Associated with the Southwest (SW) monsoon (Habagat).



<http://www.bagong.pagasa.dost.gov.ph/>



www.facebook.com/PAGASA.DOST.GOV.PH



@dost_pagasa



Phone

(02) 8-284-0800 loc. **4920**

Email: pagasa.climps@gmail.com



Sub-seasonal Climate (S2S) Forecast

Tropical Cyclone (TC)-Threat Potential

Initialization: 21 March 2023 (8 AM)

Date Issued: 22 March 2022

Validity: Valid within the forecast period, unless superseded by succeeding forecast.

Forecast Summary:

Week-1 (March 22 – 28, 2023)

- The formation of a TC-like vortex (TCLV) within the PMD is unlikely.
- As a result, there is **NO TC-THREAT** in week-1.

Week-2 (March 29 – April 04, 2023)

- Forecasts from models still point to a low likelihood of TCLV formation over the PMD.
- Therefore, the **NO TC-THREAT** forecast prevails within the forecast period.

However, any changes in the forecast pattern will be closely monitored, and updates will be issued as needed.

Note: The information contained here is based on the 6-hourly forecasts of the NCEP-GEFS issued in the past 24 hours where the Central Weather Bureau (CWB) TC Tracking algorithm was applied. This product was part of the collaboration between PAGASA and CWB through the MECO/TECO VOTE Project. This is for guidance purposes only.

For Weather Updates, kindly refer to: www.bagong.pagasa.dost.gov.ph/weather

PMD: PAGASA Monitoring Domain
Advisory Domain

TCAD: Tropical Cyclone

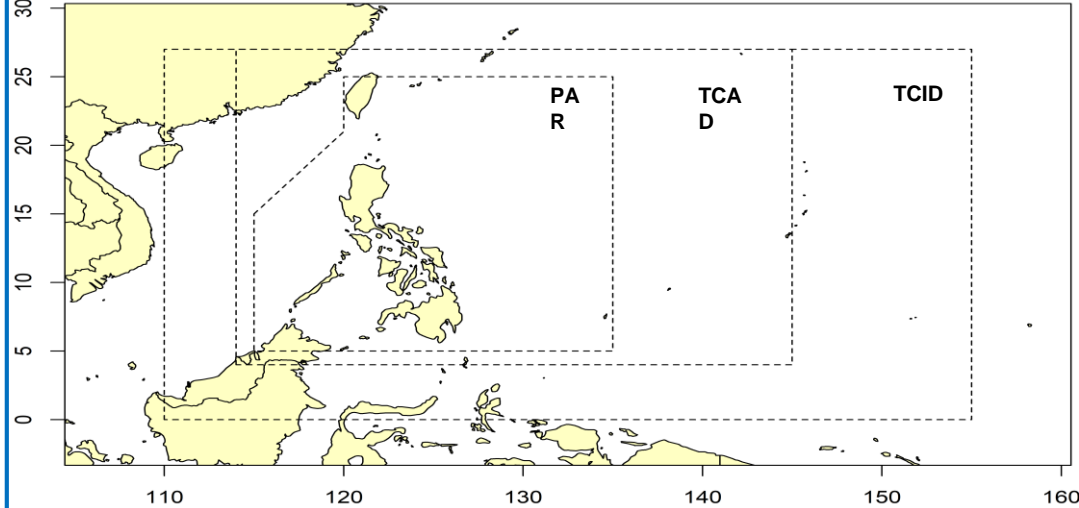
PAR: Philippine Area of Responsibility
Domain

TCID: Tropical Cyclone Information

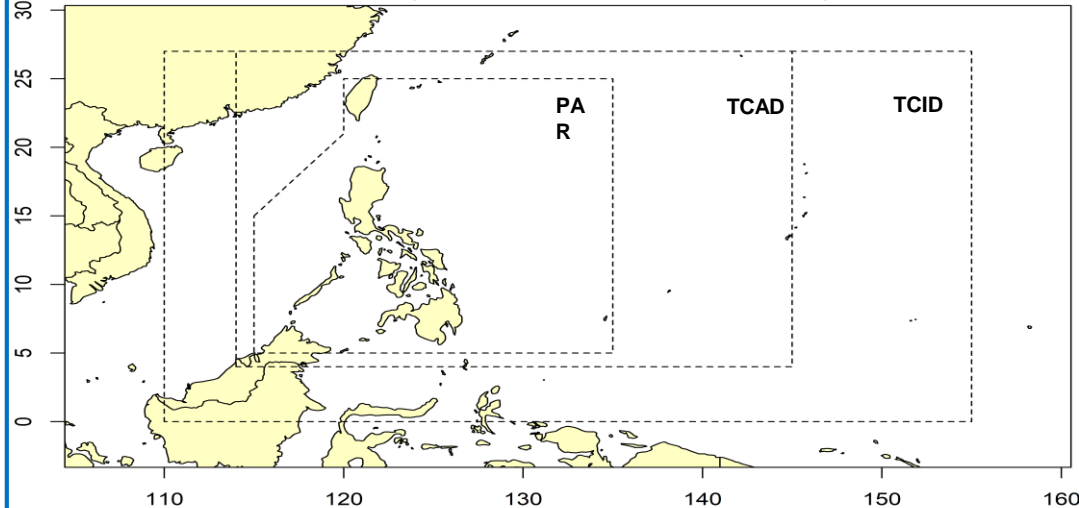
Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA)

Prepared by: CAD-CLIMPS-Contact us @Tel no:(02)8284-0800 loc. 906 or Email: pagasa.climps@gmail.com

Week 1 (March 22, 2022 - March 28, 2023)



Week 2 (March 29, 2022 - April 04, 2023)



Likelihood of TC Formation



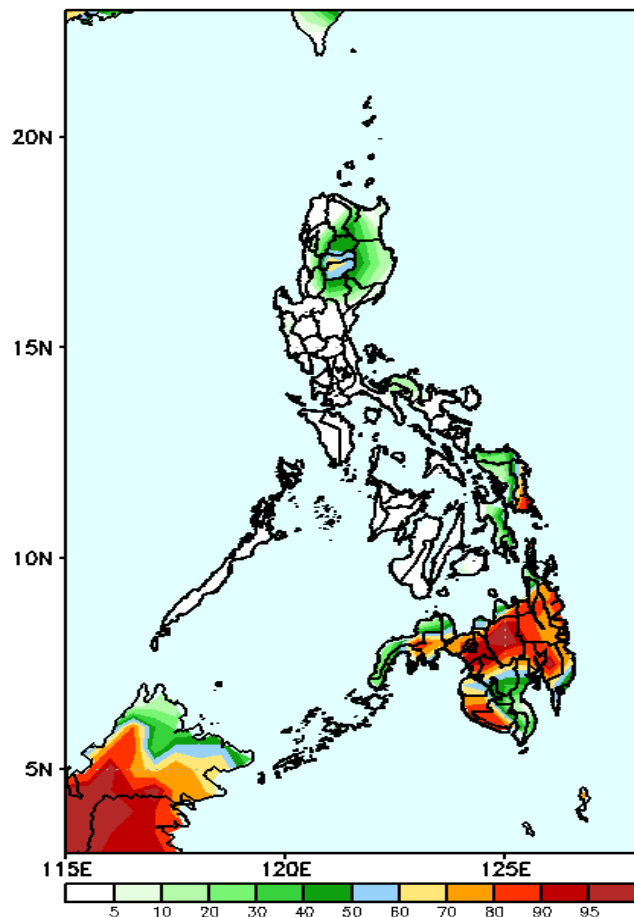
Low: Less chance of formation
Moderate: Has a chance of formation
High: Higher chance of formation
Active TC: Existing TC inside



WEEK - 1: RAINFALL EXCEEDANCE PROBABILITY FORECAST

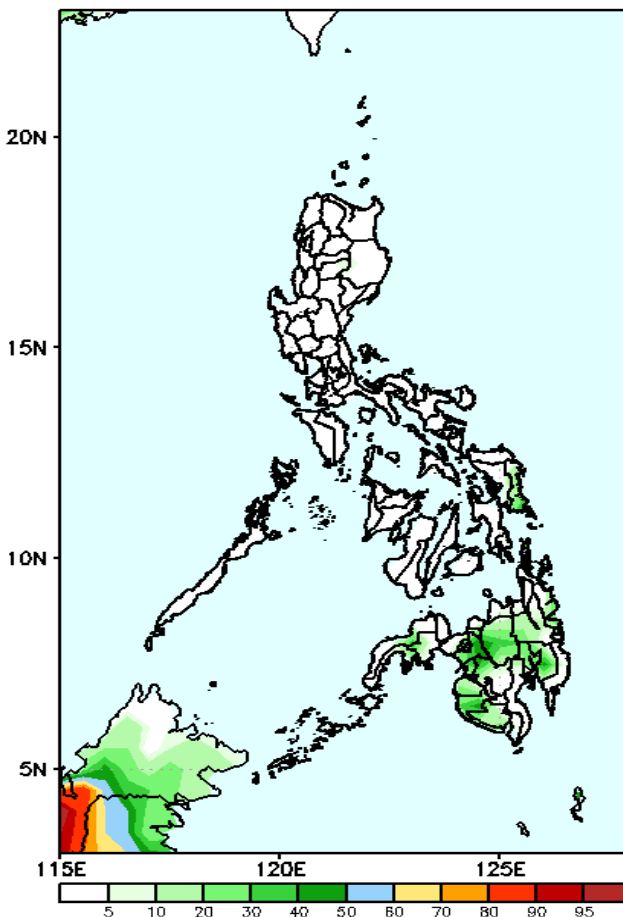
March 22-28, 2023

GEFS Week-1 Exceedance Prob. > 25mm
Valid: 20230322 - 20230328



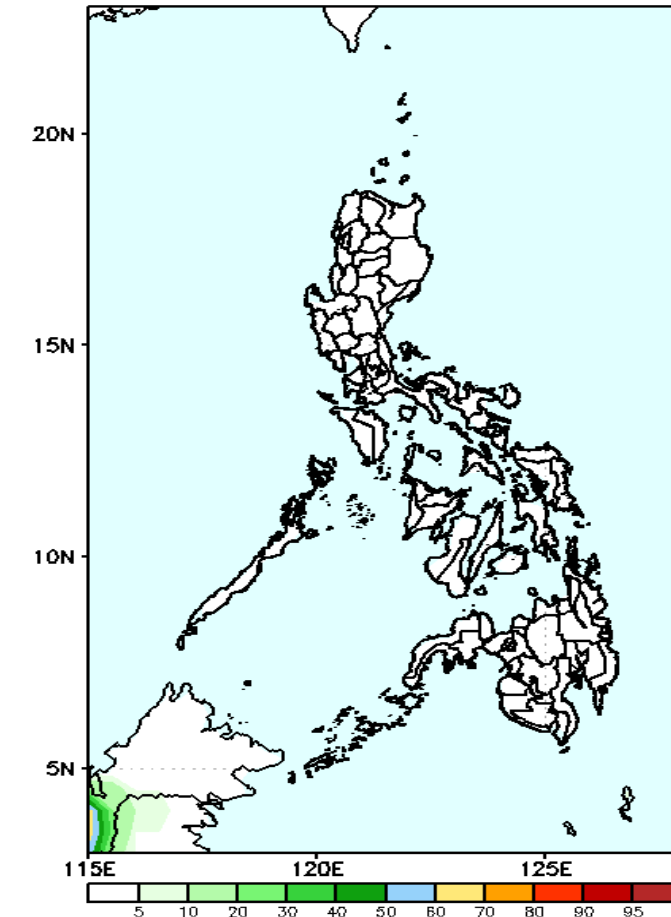
High to very high probability of rainfall to exceed 25mm in most parts of Mindanao and Eastern Samar and moderate probability in Cordillera Region while low chance over the rest of the country.

GEFS Week-1 Exceedance Prob. > 50mm
Valid: 20230322 - 20230328



Low probability of rainfall to exceed 50mm in most parts of the country.

GEFS Week-1 Exceedance Prob. > 100mm
Valid: 20230322 - 20230328



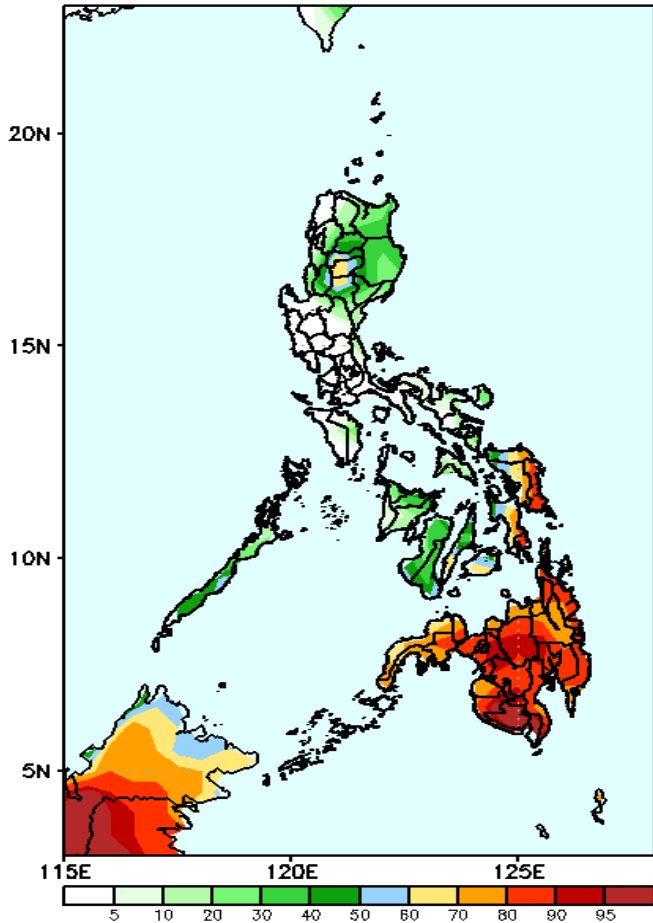
Low probability of rainfall to exceed 100mm in most parts of the country

WEEK - 2: RAINFALL EXCEEDANCE PROBABILITY FORECAST

March 29-April 04, 2023

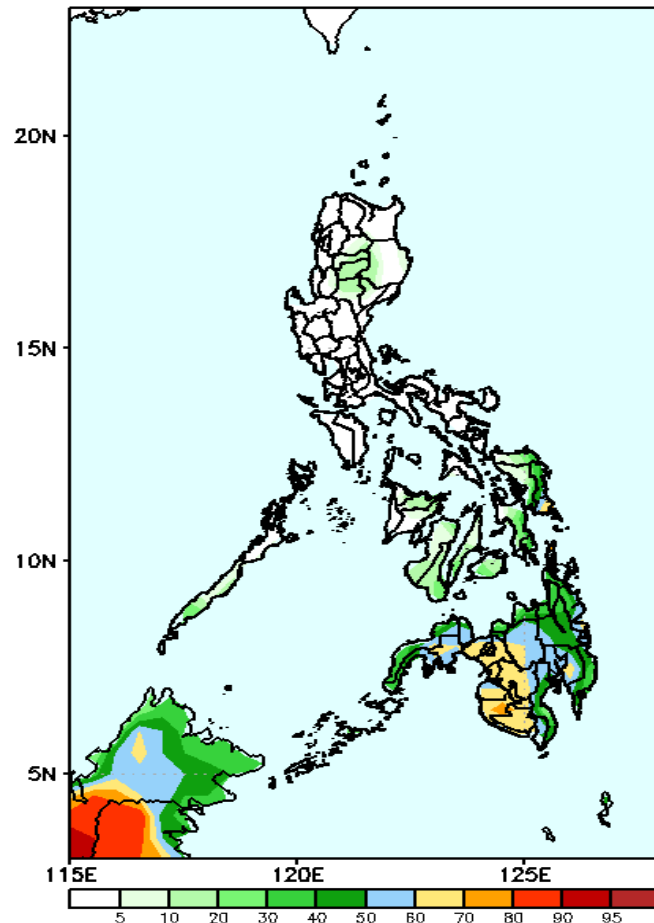
- Very high probability
- High Probability
- Moderate Probability
- Low Probability

GEFS Week-2 Exceedance Prob. > 25mm
Valid: 20230329 - 20230404



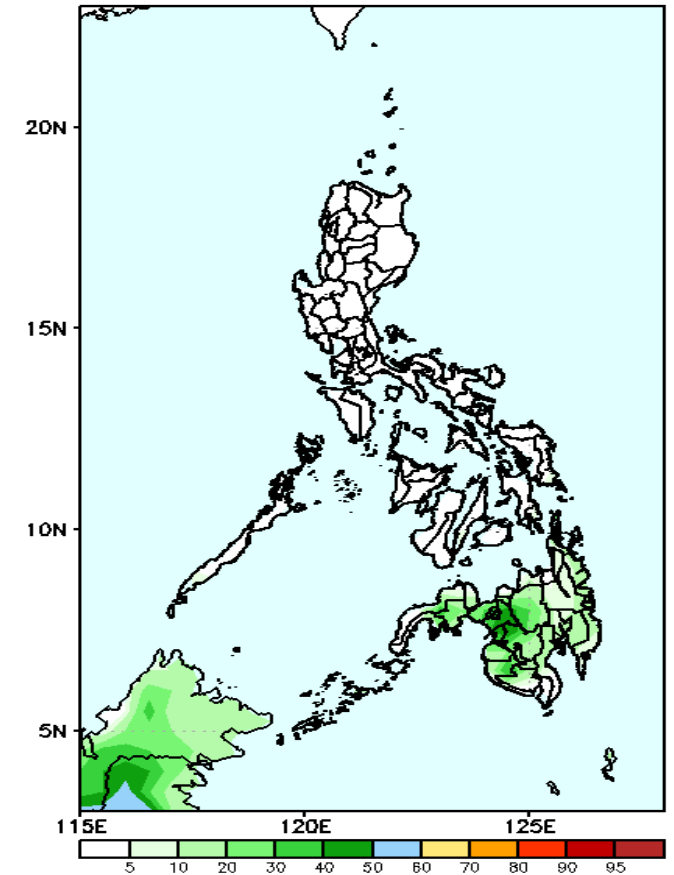
High to very high probability of rainfall to exceed 25mm in Mindanao and moderate to high probability in Eastern Visayas and northern Luzon while low chance over the rest of the country.

GEFS Week-2 Exceedance Prob. > 50mm
Valid: 20230329 - 20230404



Moderate to high probability of rainfall to exceed 50mm in most parts of Mindanao while low chance over the rest of the country.

GEFS Week-2 Exceedance Prob. > 100mm
Valid: 20230329 - 20230404



Low probability of rainfall to exceed 100mm in most parts of the country.

PAGASA will continue to closely monitor
the possible El Nino and
updates/advisories shall be issued as
appropriate.

Tentative schedule of
159th CF:

26 April 2023



PAGASA ENSO ALERT AND WARNING SYSTEM

Types of Alert

During an El Niño:

- **El Niño Watch** - issued when conditions are favorable for the development of El Niño within the **next six months** and **probability is 55% or more**.
- **El Niño Alert** – an **upgrade from El Niño Watch**; issued when ONI of $+0.5^{\circ}\text{C}$ or greater is forecasted to persist in the next 2 months or more and El Niño is likely/probable by **70% or more**** (to satisfy 5 ONI).
- **El Niño Advisory** - an **upgrade from El Niño Alert**. Issued whenever El Niño is currently on-going and the 3-month Oceanic Niño Index (ONI) threshold is expected to persist during the forecast period.
- **Final El Niño Advisory** - issued whenever an ONI value is between $< 0.5^{\circ}\text{C}$ to $> -0.5^{\circ}\text{C}$ or Neutral.

PAGASA ENSO ALERT AND WARNING SYSTEM

EL NIÑO WARNING SYSTEM AND RECOMMENDED ACTION/RESPONSE:

| Observed Sea Surface Temperature anomaly (SSTA) | Observed Oceanic Niño Index (ONI) | Forecast from CPC NOAA and other Int'l Prediction centers | Warning Type | Recommended Action/Response | Form of Issuance |
|--|---|--|----------------|---|---|
| | between $<0.5^{\circ}\text{C}$ and $> -0.5^{\circ}\text{C}$ or neutral | Neutral; No favourable development of <u>El Niño</u> conditions within the next six months. | N/A | Be aware | Monthly Climate Assessment and Outlook *** |
| 1 month 0.5°C^* or greater is observed | between $<0.5^{\circ}\text{C}$ and $> -0.5^{\circ}\text{C}$ or neutral | Issued when conditions are favorable for the development of El Niño within the next six months and probability is 55% or more. | Watch | READY! Be Aware/ Be Prepared | Press Statement |
| 5 consecutive months of 0.5°C^* or greater is observed | 3 consecutive ONI of $+0.5^{\circ}\text{C}$ or greater is already observed | Issued when ONI of $+0.5^{\circ}\text{C}$ or greater is forecasted to persist in the next 2 months or more and El Niño is likely/probable by 70% or more** (to satisfy 5 ONI). | Alert | SET! Early Action | Press Statement Issuance of Dry Spell/Drought Assessment to monitor early impacts. |
| 7 consecutive months of 0.5°C^* or greater is observed | 5 consecutive ONI of $+0.5^{\circ}\text{C}$ or greater is already observed | Issued when El Niño is observed and expected to continue. | Advisory | GO! Take Action | El Nino Advisories Press Statement Issuance of Dry Spell/Drought Assessment and Outlook for areas affected and likely to be affected. |
| | ONI is between $<0.5^{\circ}\text{C}$ and $> -0.5^{\circ}\text{C}$ or neutral | Issued after El Niño has ended. | Final Advisory | Assess and Take Action whenever necessary | Press Statement |

