DSWD

Department of Social Welfare and Development

BAGONG PILIPINAS

THE MARCH OF SEASONS IN THE PHILIPPINES

WET SEASON

DRY SEASON

#BawatBuhayMahalagaSaDSWD

Disaster Response Management Bureau

ACKNOWLEDGEMENT

Our deepest gratitude is extended to the Honorable **Secretary Rex Gatchalian,** Secretary of the Department of Social Welfare and Development (DSWD), for his steadfast commitment and active engagement in addressing the challenges posed by weather and climate-related hazards. His unwavering support has been instrumental in bringing this initiative to fruition. Under his leadership and directive to promote a sustained and agile disaster response through an adaptive, shock-responsive framework, this study aims to equip Field Offices, partner Local Government Units (LGUs), and our beneficiaries with the necessary knowledge to strengthen their preparedness and response capacities.

Furthermore, in line with Secretary Gatchalian's vision to enhance public awareness of DSWD's programs, projects, and services, he has consistently championed the use of platforms like the March of Seasons to effectively inform and engage communities across the country. His emphasis on proactive communication and public education underscores the critical importance of building resilience and advancing inclusive social protection.

Our heartfelt acknowledgment is also due to the Department of Science and Technology - Philippine Atmospheric, Geophysical, and Astronomical Services Administration (DOST-PAGASA) for providing the critical data and figures that underpinned this study. We express our profound appreciation to the Administrator, Dr. Nathaniel T. Servando, and the entire DOST-PAGASA staff for their steadfast commitment and invaluable support throughout the research process.

We are profoundly grateful to Dr. Esperanza O. Cayanan, whose unparalleled meteorological expertise was vital to the success of our disaster response study. Her passion for the field and her insightful guidance not only shaped the direction of our research but also empowered individuals within the department, enhancing their ability to respond to weather-related disasters with greater efficacy, thereby safeguarding lives and property.

A special and heartfelt acknowledgment is due to Dr. Maria Isabel D. Lanada, Director of the Disaster Response Management Bureau at DSWD, for her profound insights and inspirational wisdom during the conceptualization and completion of this study. Her contributions were pivotal in shaping the framework of our research and ensuring its relevance to the department's mission.

Department of Social Welfare and Development (DSWD)

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LIST OF ABBREVIATIONS

DOST – Department of Science and Technology

ENSO – El Niño – Southern Oscillation

ITCZ – Intertropical Convergence Zone

NEM – Northeast Monsoon

ONI – Oceanic Niño Index

PAGASA – Philippine Atmospheric, Geophysical and Astronomical Services Administration

PAR – Philippine Area of Responsibility

STS – Severe Tropical Storm

STY – Super Typhoon

SWM – Southwest Monsoon

TC – Tropical Cyclone

TD – Tropical Depression

TS – Tropical Storm

TY – Typhoon

IMPORTANCE OF THE STUDY

It may not be noticeable but everyone's daily activities are affected by weather condition and preparation of long-range important events are dependent on seasonal climate. Household activities like washing clothes, watering the garden, what food to prepare, clothes to wear are all affected by weather. School classes are often suspended due to heavy rains and approaching tropical cyclones and recently due to rising temperature revealed by high heat index. For safety in navigation and transportation, mariners and airplane pilots cannot leave the ports without knowing the weather enroute and at destination prior to their arrival. And for Farmers, Fisherfolks, Informal Sector, and beneficiaries of Pantawid Pamilyang Pilipino Program (4Ps) who are the main target user of this study, they must have a good knowledge of the rainy and dry seasons, the time of usual occurrence and indicators of severe weather and climate hazards for their calendar of agricultural activities and to reduce risk if not lessen impact of climate change and avoid loss in food production.

This study emphasizes the crucial importance of preparedness, which is deeply tied to an anticipatory shock-responsive approach to climate hazards. Such an approach ensures that vulnerable communities are not only prepared for but can actively respond to potential climate-induced shocks before they escalate. This anticipatory strategy is vital in safeguarding both human lives and economic activities, fostering resilience in the face of an ever-changing climate landscape.

This endeavor describes the geographical and topographical setting of the Philippines, and its climate. The severe weather-causing systems: tropical cyclones, monsoons, intertropical convergence zone (ITCZ), shearline and easterlies, their usual period of occurrence, frequency and effects are illustrated and discussed. The El Niño – Southern Oscillation (ENSO), a climatological phenomenon which affects the rainfall pattern of the Philippines is likewise included in the study. The monthly rainfall distribution all over the country is properly illustrated in a map and discussed fully. Historical extreme events from 2011 to 2021 are mapped out to show the areas affected and the extent of damage are indicated. Finally, the monthly description of the average weather conditions and phenomena that define the march of seasons in the Philippines is summarized.

GEOGRAPHICAL AND TOPOGRAPHICAL BACKGROUND OF THE PHILIPPINES

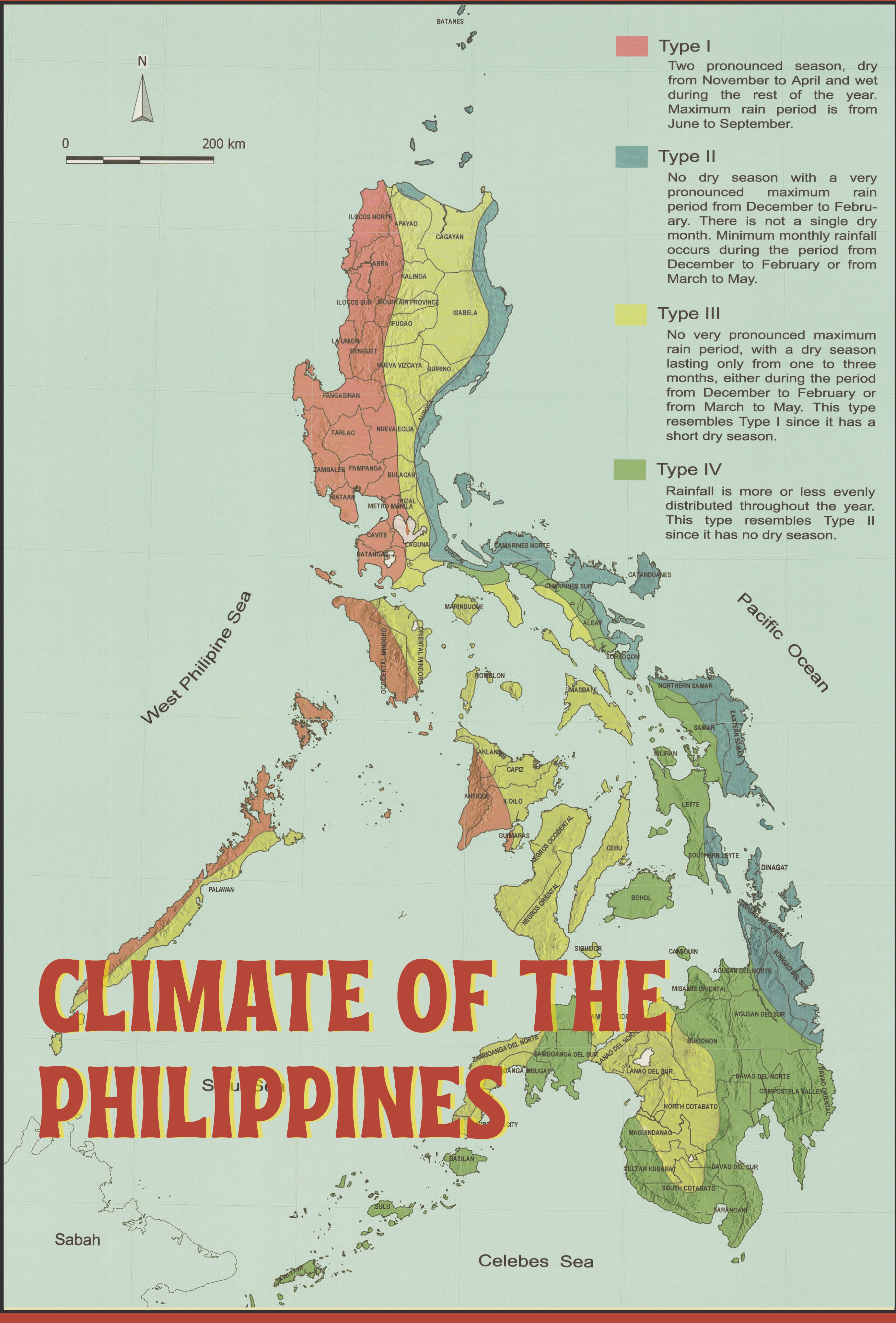
Figure 1. Topographical map of the Philippines

GEOGRAPHICAL AND TOPOGRAPHICAL BACKGROUND OF THE PHILIPPINES

Knowledge on the geographical and topographical features of a country contributes in the understanding of its weather and climate, as well as other atmospheric processes. The Philippines is an archipelagic country lying in a vast water surface over the north western Pacific, about 805 km off the southeastern portion of the Asian continent. Lying in a near north to south orientation, the 7,107 islands extend from about 4.7°N to 21.5°N and 117°E to 127°E. It is bounded on the west by the West Philippines Sea, on the north by the Luzon Strait separating the Philippine Islands from Taiwan, on the east by the Philippine Sea and the Pacific Ocean, on the south by the Celebes Sea, and on the southwest by the Sulu Sea separating the Philippine islands from Borneo (Figure 1.). There are mountains and mountain ranges in the country that enhance cloud formation. Some of them are Sierra Madre and Cordillera Mountain ranges in Luzon, Central Panay Mountain Range and Mount Kanlaon in Visayas, Mount Apo (the highest peak) and Mount Kitanglad in Mindanao.

Sierra Madre, Mount Kanlaon in Visayas, Mount Apo and Mount Kitanglad in Mindanao

CLIMATE OF THE PHILIPPINES



The climate of the Philippines is classified as tropical and maritime considering its geographical location around 5° - 20° N of the equator and surrounded by big bodies of water in the Pacific. It is characterized by relatively high temperature, high humidity and abundant rainfall. Based on temperature and rainfall, the general climate of the entire country can be divided into two (2) major seasons: (1) the rainy season, from June to November; and (2) the dry season, from December to May. The dry season may be subdivided further into (a) the cool dry season, from December to February; and (b) the hot dry season, from March to May.

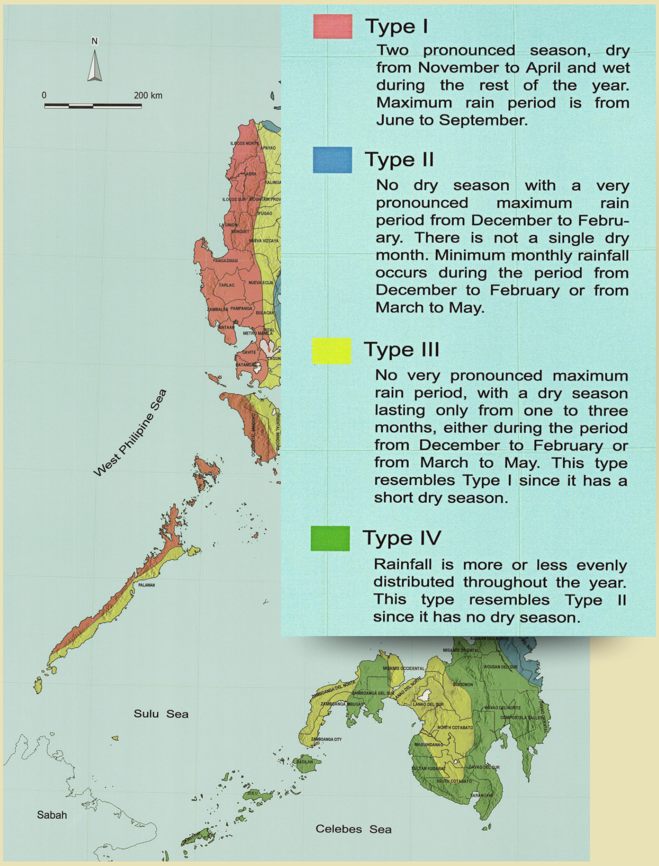
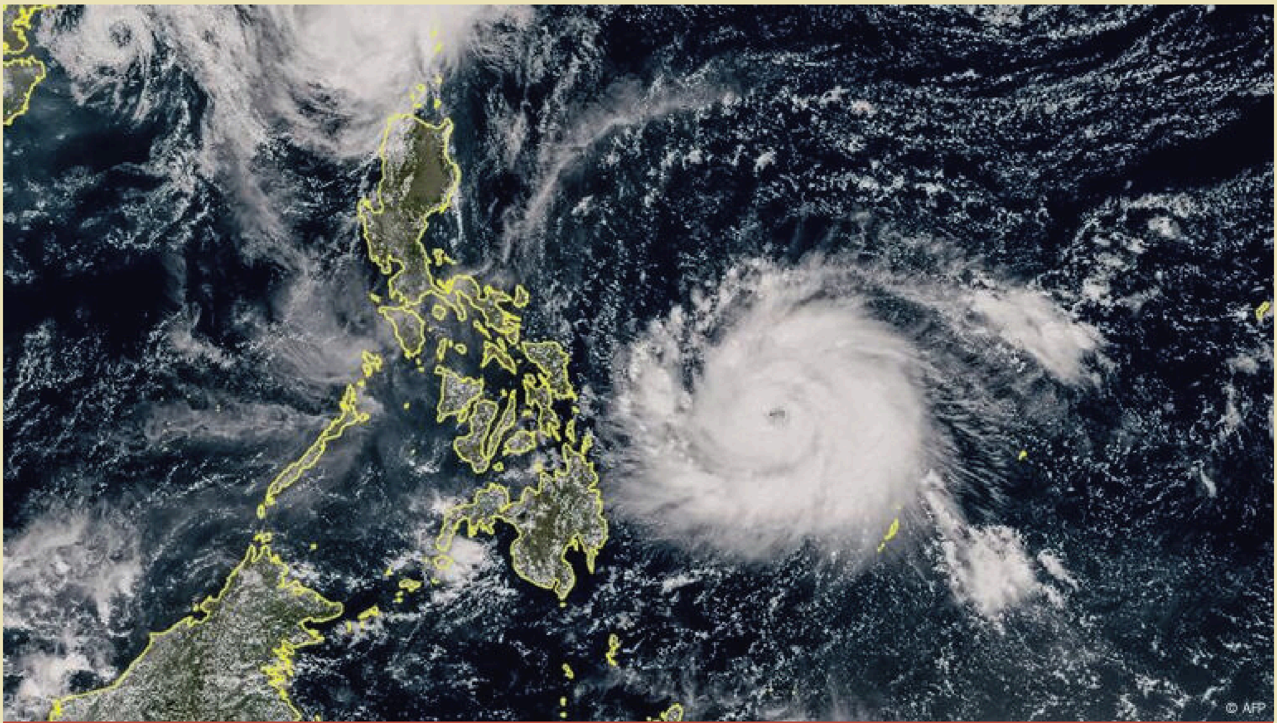


Figure 2. Climate Map of the Philippines based on the Modified Coronas' Climate Classification (Source: DOST-PAGASA)

However, using the modified Corona's climate classification and rainfall distribution, there are four (4) different types of climate as illustrated and described in Figure 2. Areas under Type I Climate (Red) are located on the western part of the country. They have pronounced dry season from November to April and wet the rest of the year. The maximum rain period is June to September which is the Southwest Monsoon season in the country and the period with the highest number of tropical cyclone occurrences. Areas under Type II Climate (Blue) are located along the eastern sections of the country with maximum rain period from December to February and not a single dry month. The maximum rains are brought about by the occurrence of Northeast Monsoon which affects the eastern part of the country. Type III Climate (Yellow) areas are located close to Type I resemble the same climate except that they do not have very pronounced maximum rain period with a dry season lasting only from one to three months either during the period from December to February or from March to May. Type IV Climate (Green) areas are situated close to Type II hence they have similar climate with no dry period. Its rainfall is evenly distributed throughout the year.



SEVERE WEATHER-CAUSING SYSTEMS IN THE PHILIPPINES

Due to geographical features and location, the Philippines is vulnerable to hydrometeorological hazards like strong winds, storm surges, floods and landslides brought about by weather systems, such as tropical cyclones (TCs) and monsoons.

TROPICAL CYCLONES

Tropical cyclones (TCs) are warm-core low-pressure systems characterized by organized circulation of spirally rotating strong winds, heavy rainfall and even tornadoes that develop over warm tropical oceans. They form over relatively warm (27°C deep down to 46 meters below the surface) large bodies of water as their energy source when heat is released after evaporation and condensation. They form about 5° away from the equator where Coriolis effect due to Earth's rotation is present to support the circular motion. Low values (less than 35 km/hr) of wind speed change with height (Vertical wind shear) between the surface and upper troposphere is also required.

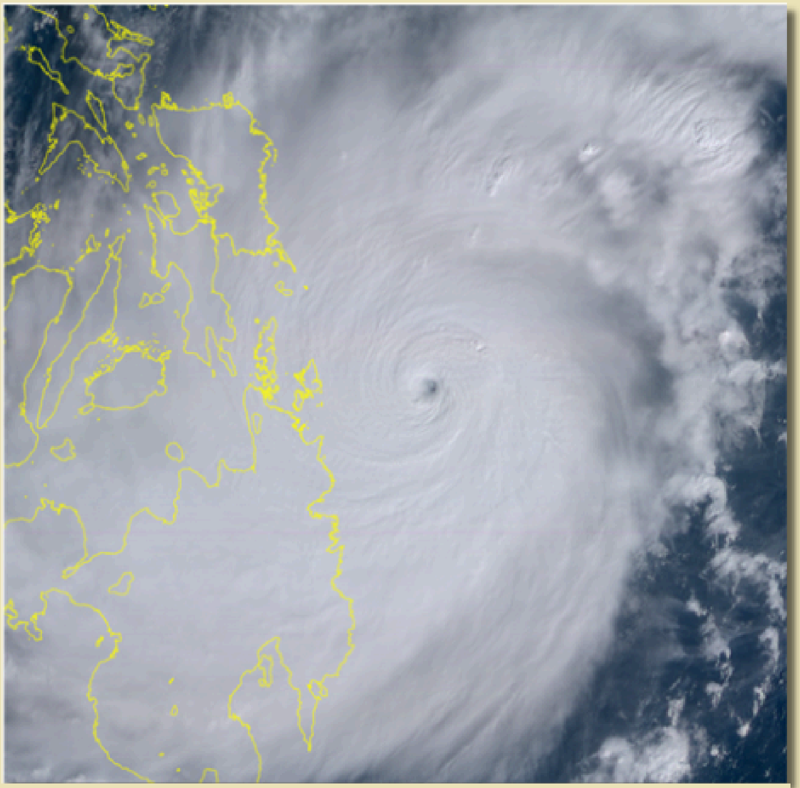


Figure 3. STY Odette (Rai), within PAR on 14 – 18 December 2021, crossed northern Mindanao, Visayas and Palawan (Photo: PAGASA 2021 TC Annual Report)

TCs can cause a range of hazards, including strong winds, heavy rainfall, storm surge, flooding and landslides.

The Philippines is geographically situated in the tropics surrounded by vast seas and ocean in the Northwestern Pacific. The warm bodies of water are the source of moisture necessary for TC genesis and development; hence the country is prone to TCs. An average of 19 – 20 TCs enter the Philippine Area of Responsibility (PAR) each year and about half of them (9-10) cross the landmass causing massive destructions and damages to life, properties and livelihood.

TCs in the Philippines is classified into five (5) categories (from weakest to strongest): 1) Tropical Depression (TD) - a tropical cyclone with maximum sustained winds of up to 62 kilometers per hour (kph) or less than 34 nautical miles per hour (knots); 2) Tropical Storm (TS) - a tropical cyclone with maximum wind speed of 62 to 88 kph or 34 - 47 knots; 3) Severe Tropical Storm (STS) - a tropical cyclone with maximum wind speed of 87 to 117 kph or 48 - 63 knots; 4) Typhoon (TY) - a tropical cyclone with maximum wind speed of 118 to 184 kph or 64 - 99 knots; and 5) Super Typhoon (STY) - a tropical cyclone with maximum wind speed exceeding 185 kph or more than 100 knots. An example of super typhoon is shown in Figure 3. STY Odette which crossed Mindanao on 16 December 2021, with peak intensity of 195 kph.

The monthly average frequency of tropical cyclones within the PAR from 1948 to 2024 in Figure 4 shows that February and March have the least number (0.3) of TCs while July, August and September have the greatest, 3.2, 3.0 and 3.1 respectively. It is noted that tropical cyclone can occur anytime of the year with low probability during the first quarter.

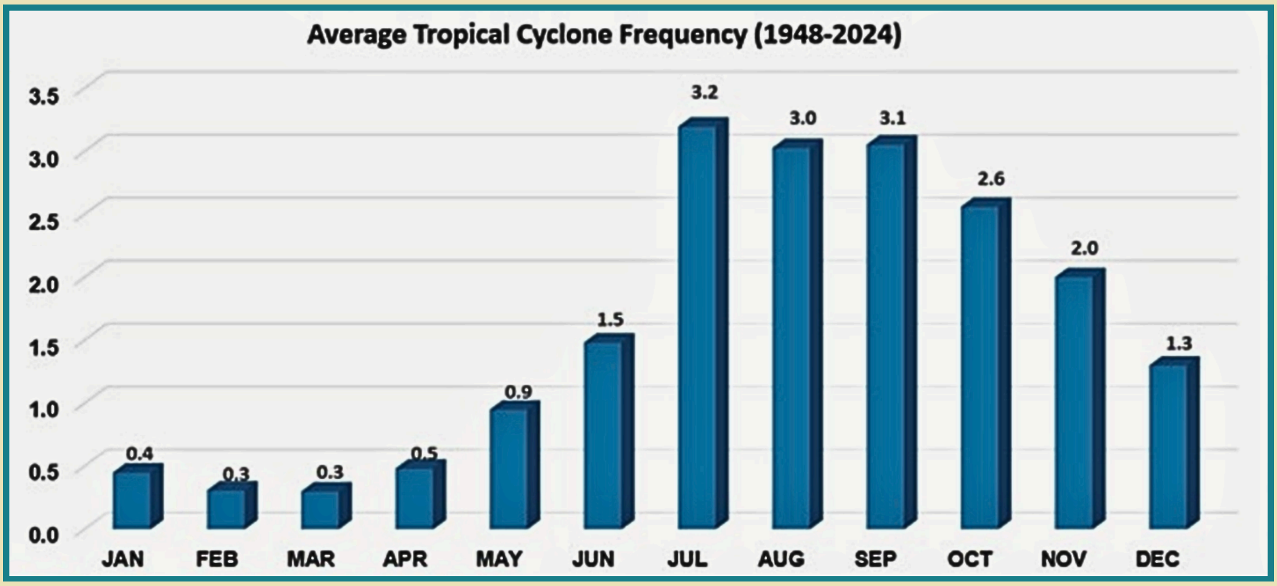


Figure 4. Monthly average tropical cyclone frequency in PAR for the period 1948-2024 (Source: DOST-PAGASA)

The monthly tracks of tropical cyclones for the period 1991-2020 are illustrated in Figures 5a (January-June) and Figure 5.b (July-December). Figure 4.a shows that there are less TCs during January to April and these occur in the southern part of the country passing over Visayas and a few in Mindanao. During March and April, some TCs recurve eastward without getting close to the landmass. In Figure 4b, it is seen that from July to September, the TCs are more to the north of the country affecting Luzon. During July, the TCs pass through Bicol Region, Southern and Central Luzon moving on a northwest direction up to Ilocos Region. There are more non-landfalling TCs northeast of Luzon moving towards Taiwan. For August, the TC tracks are more to the north over Cagayan province, Batanes Islands and Ilocos Norte. Likewise, more TCs do not cross the Philippine islands headed to Taiwan area. The TC tracks for September are similar to that of July but with more TCs far northeast recurving towards southern Japan. During October, the tracks extend southwards over Visayas-Palawan area. The TCs are more to the south for November and December, majority passing through Visayas and some over Mindanao. There are also some TCs that recurve to the northeast far from the islands.

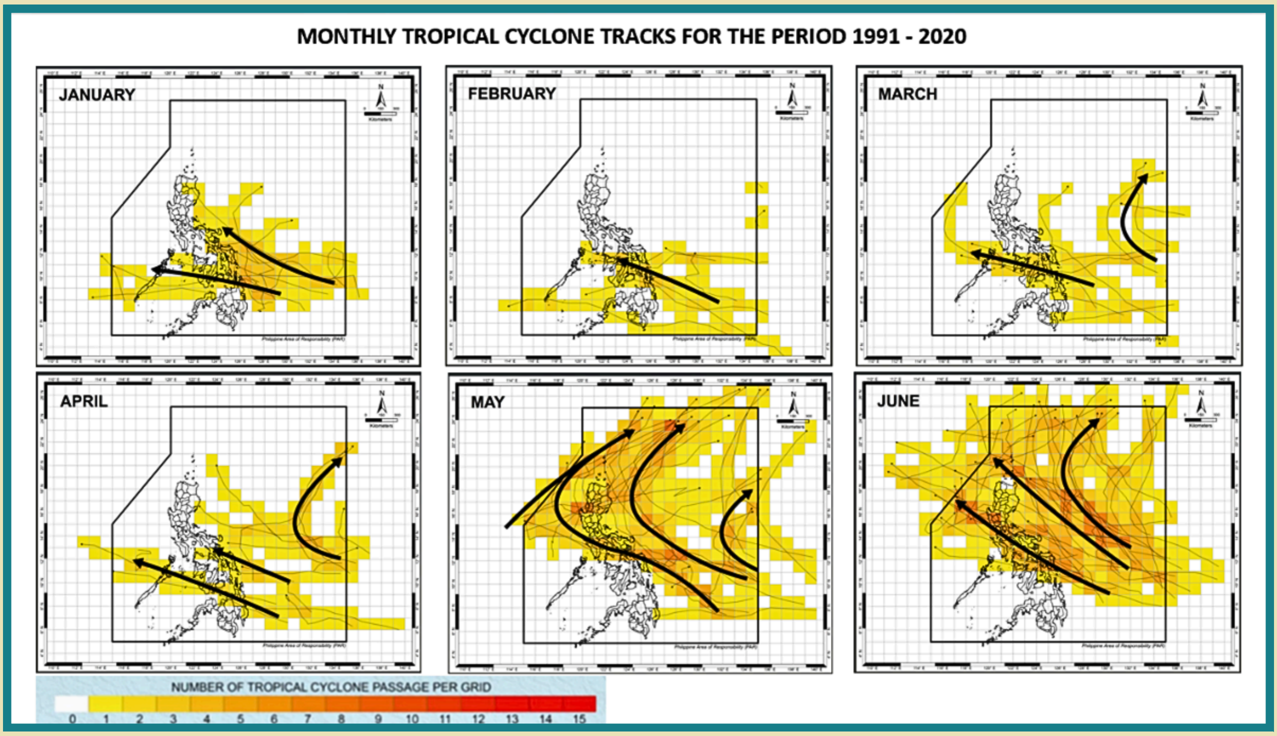


Figure 5a. Monthly (January-June) tracks of tropical cyclones from 1991-2020 (Source: DOST-PAGASA)

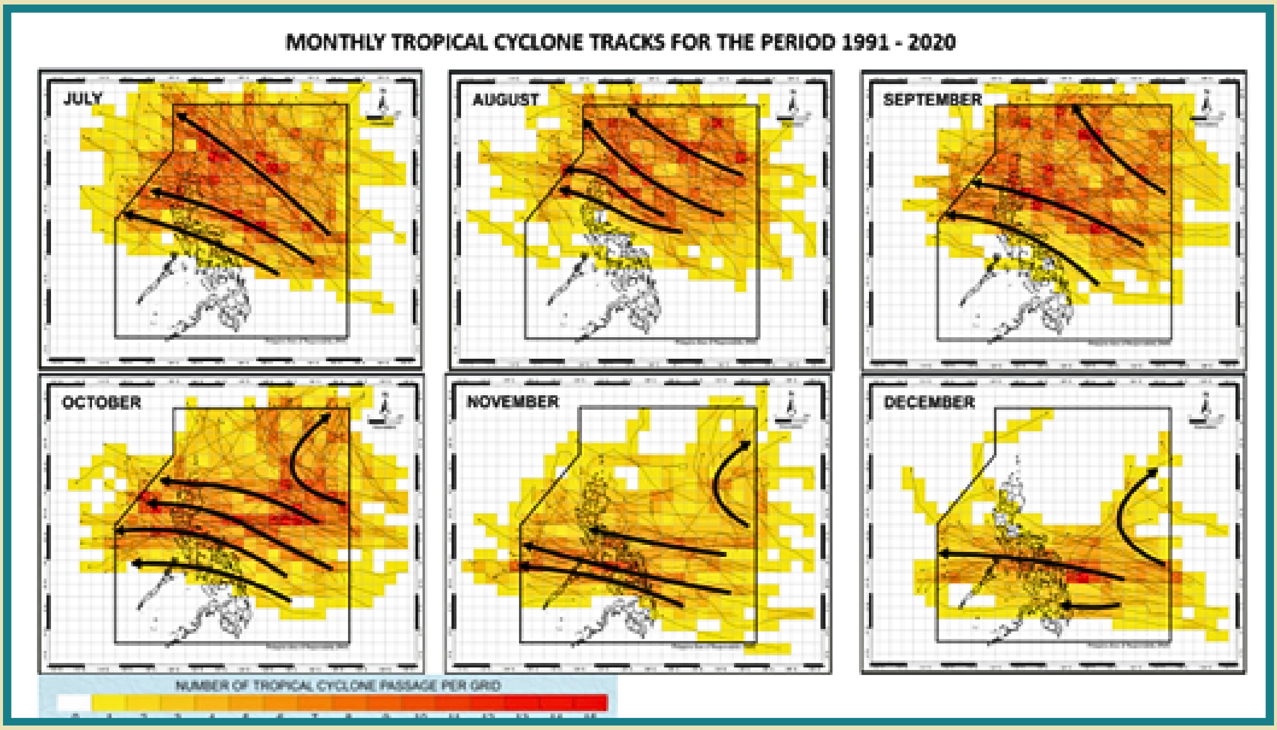


Figure 5b. Monthly (July-December) tracks of tropical cyclones from 1991-2020 (Source: DOST-PAGASA)

The frequency of tropical cyclone passage over the different parts of the country is summarized in Figure 6. This shows the number of TC passage over a 1° by 1° area for the period 1948-2019. It is well illustrated that Northern Luzon, Bicol Region and Eastern Visayas (Red areas) experienced the greatest number of TCs, with a frequency of five (5) TCs in four (4) years, during this 71-year period. This means they experienced more than one TC in a year.

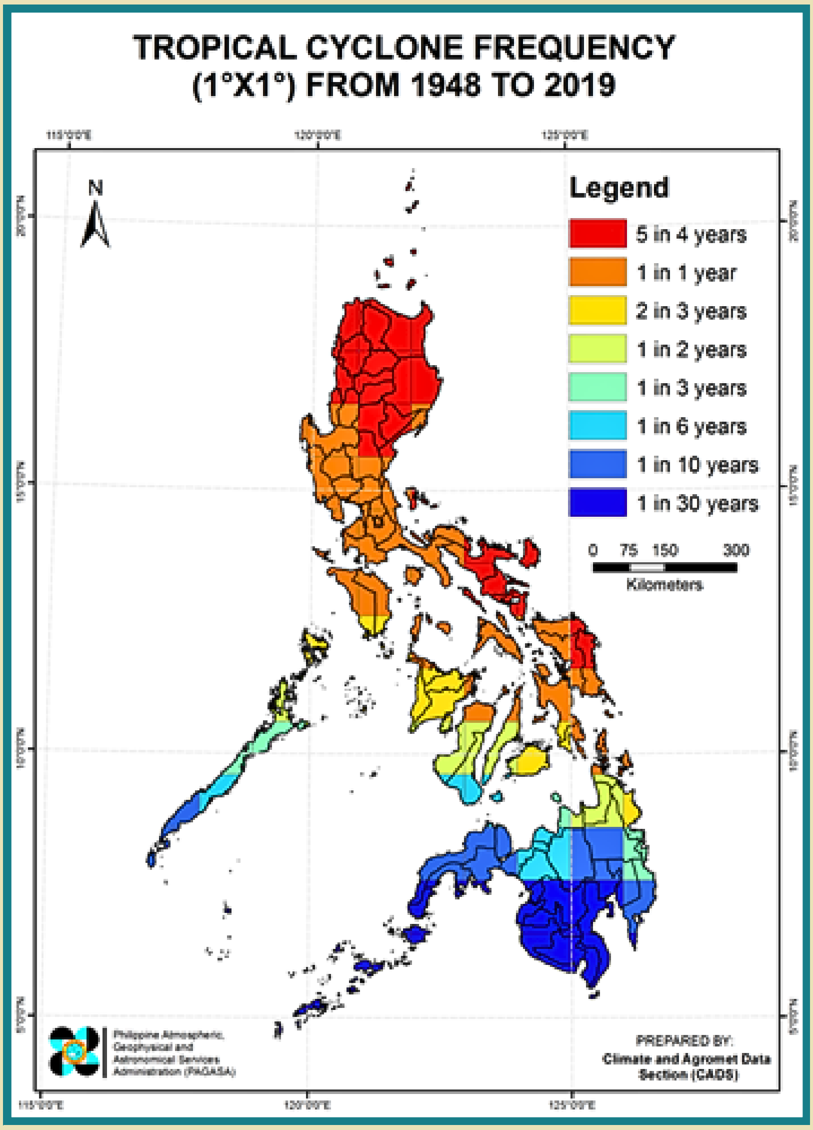


Figure 6. Map of tropical cyclone frequency in a one-degree grid for the period 1948-2019 (Source: DOST-PAGASA)

Those areas in orange color, Metro Manila, Central and Southern Luzon including Mindoro, and portions of Central Visayas, have a frequency of one (1) TC every year. Western Visayas and Palawan have less TCs about one (1) in 2-3 years as well as Northern Mindanao. Regions IX and X have less frequency of one (1) TC in 10 years. The southern portion of Mindanao (Regions XI, XII, and BARMM) has the least threat from TC havoc because it has the lowest frequency of one (1) TC in 30 years. The scientific reason for this is that it is closer to the equator where the Coriolis parameter, needed for TC rotational or cyclonic motion, is zero. It is evident that the eastern sections of the country experience more TCs and the frequency increases northward farther from the equator.

MONSOONS

"WIND CIRCULATION AFFECTING A LARGE PORTION OF ASIA, PARTS OF AFRICA AND NORTHERN AUSTRALIA DEFINED BY THE REVERSAL OF THE STEADY WINDS DURING SUMMER AND WINTER MONTHS"

Globally, monsoon is described as the wind circulation affecting a large portion of Asia, parts of Africa and northern Australia defined by the reversal of the steady winds during summer and winter months. It is driven by the differential heating between the huge land mass of Asia (with Tibetan Plateau as a raised platform of heat source) and the huge water mass of Indian Ocean. During northern summer when the sun is over the Tropic of Cancer, land (Asian continent) is heated faster than the sea so the warmer air over land rises and spread towards the sea (Indian Ocean). To compensate for the ascending air, winds began to blow near the surface from the cooler sea towards the land (Das, 1986). The reverse is true for northern winter. Hence, there are two (2) types of monsoons: (a) the summer monsoon known as the southwest monsoon, which affects Asia from June to September; and (b) the winter monsoon known as the northeast monsoon (NEM), running from November to January. Although monsoons are identified by their reversal of winds, their importance largely arises on account of rainfall.

The Philippines is affected by the southwest monsoon (SWM) called Habagat in Filipino, from June to September and the western part of the country particularly Luzon experience heavy rainfall. During these months, the air stream coming from the Indian Ocean in the southern hemisphere are deflected to the east upon crossing the equator gathering moisture from the ocean before arriving the western coasts of Luzon (Figure 7.a). The interaction of the moist air stream with the Cordillera Mountain Range result to strong vertical upward motion favoring more cloud development and heavy rainfall over the western sections of Luzon (Cayanan, 2010). The rains during Habagat season are heavier compared to that of the Amihan because they come from convective or tall/thick clouds that form due to strong vertical motion.

During winter months, the direction of the wind near the surface is reversed. This time, the air stream originates from the cold (High Pressure) Asian landmass moving towards the warm seas (Figure 7b). Hence, the cold air stream of the NEM locally called Amihan blow towards the Philippines affecting the eastern sections of the country. Compared to Habagat, Amihan is drier and cooler. Rainfall during this season is weaker or less in amount but of longer duration because these come from stratified or flat clouds.

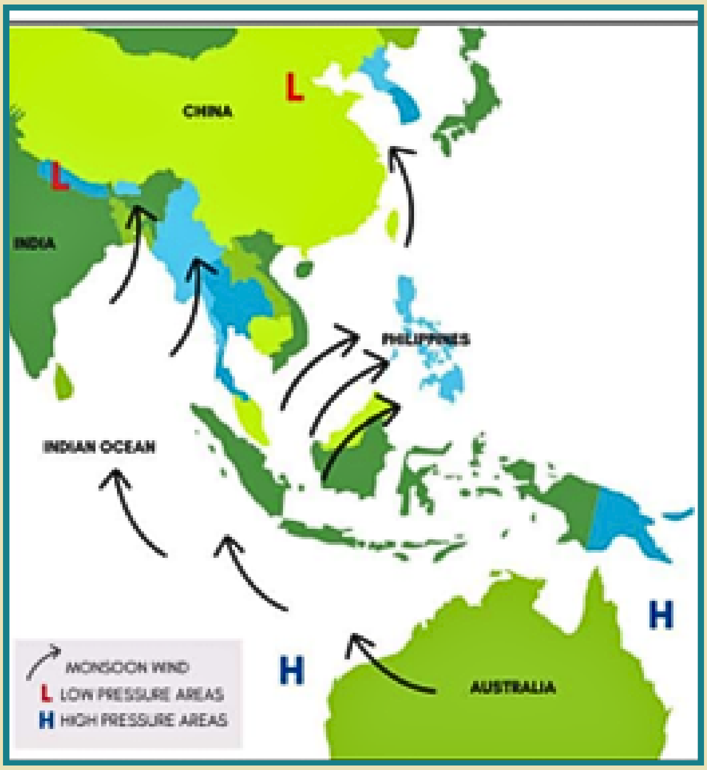


Figure 7a. Southwest Monsoon (Habagat)

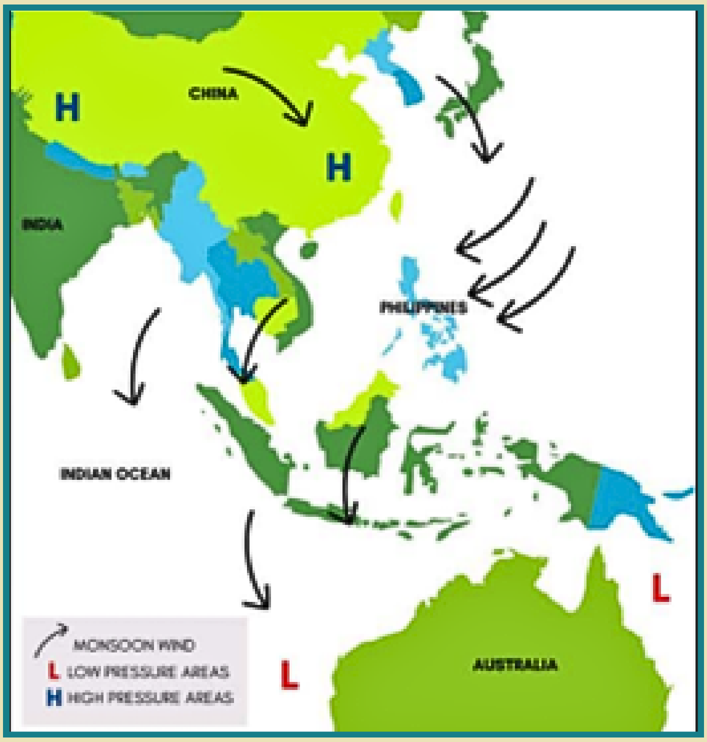


Figure 7b. Northeast Monsoon (Amihan)

OTHER RAIN-CAUSING PHENOMENA

Other weather systems that produce rainfall resulting to flash floods and landslides when intense include Intertropical Convergence Zone (ITCZ), shearline and easterly winds.

ITCZ is the area near the equator where the northeast trade winds from the northern hemisphere and the southeast trade winds from the southern hemisphere converge or meet (Figure 8). It is a belt of low pressure areas characterized by rising air, light variable winds and cloud formation that usually produce rain showers and thunderstorms. The ITCZ moves northward over the Philippines in May to October, over Luzon during July -August then retreat back to the south of Mindanao during winter months, November – February. Tropical cyclone usually forms along the ITCZ.

The shearline is also an area of converging winds but between air masses of different properties. Shearline forms over the eastern part of the Philippines when cold and dry air mass of the northeast monsoon come in contact with warm and moist airmass of the easterlies from the Pacific Ocean from November to March (Figure 9). The converging winds result to strong vertical motion leading to thunderstorms and heavy rainfall. This phenomenon was popularly known before as the tail-end of the cold front that affects the eastern sections from Luzon, Visayas and even Mindanao.

During transition period between monsoons, easterlies is the dominant weather system. These warm moist air from the vast Pacific Ocean favor the formation of afternoon thunderstorms which can result to flash floods.

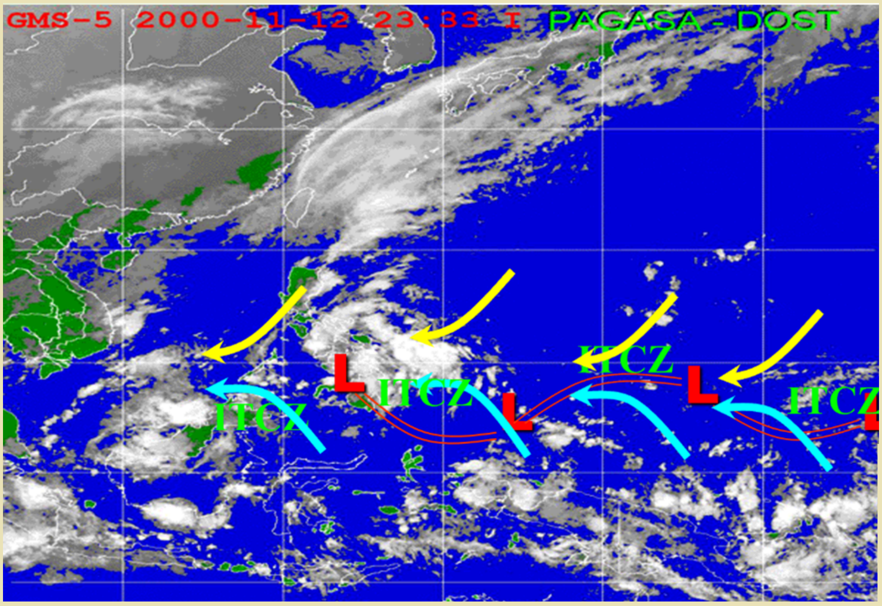


Figure 8. Illustration of ITCZ: Converging northeast trade winds (Yellow) and southeast trade winds (Blue) forming the Intertropical Convergence Zone

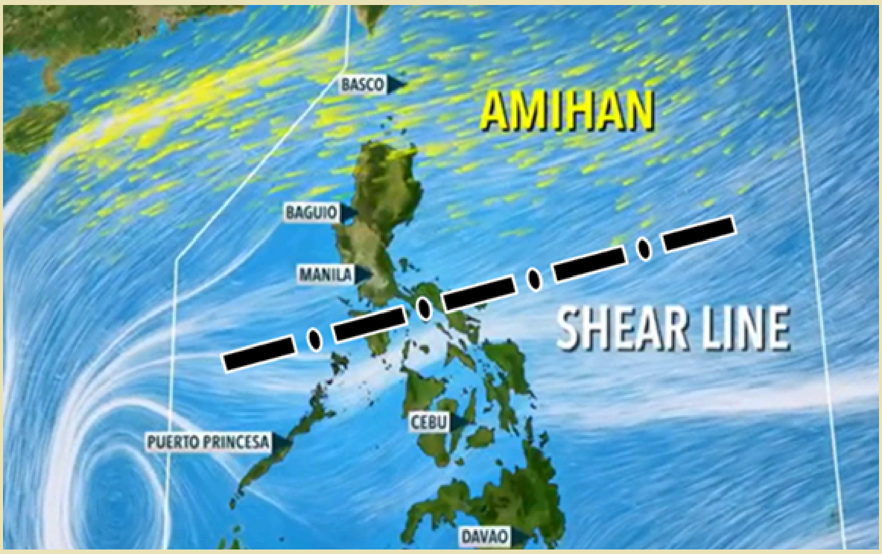


Figure 9. Shearline shown as the boundary between the northeast monsoon and the easterlies

EL NIÑO – SOUTHERN OSCILLATION (ENSO)

Another phenomenon which is climatological in nature that affects the rainfall distribution in the Philippines is the El Niño – Southern Oscillation (ENSO). It is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean. On periods ranging from about three (3) to seven (7) years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by about 1°C to 3°C, compared to normal. For the past recent years, the oscillation is observed to be shorter, about one to years. The warming phase of this oscillating pattern is called El Nino and the cooling phase is La Nina. During El Nino, the warm ocean where rising motion occurs favoring cloud formation and rainfall, is displaced to the east away from the Philippines (Figure 10a). Thus, the country experience less rainfall resulting to drought or dry spell. During La Nina, the cooler ocean in the central Pacific extends eastward making waters near the Philippines warmer than usual and rising motion occurs (Figure 10b). This favors more cloud and rainfall formation over the country resulting to floods. Between these two (2) phases is a third phase called ENSO-neutral.

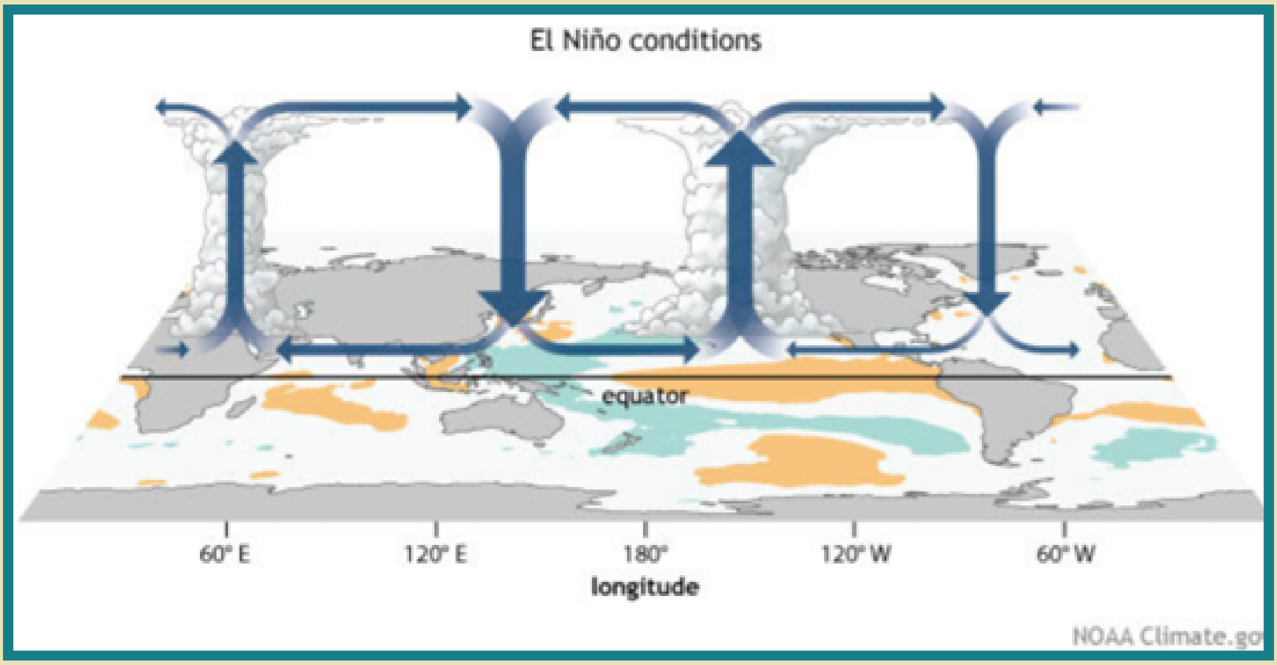


Figure 10a. El Niño condition where warmer ocean is far to the east of the Philippines

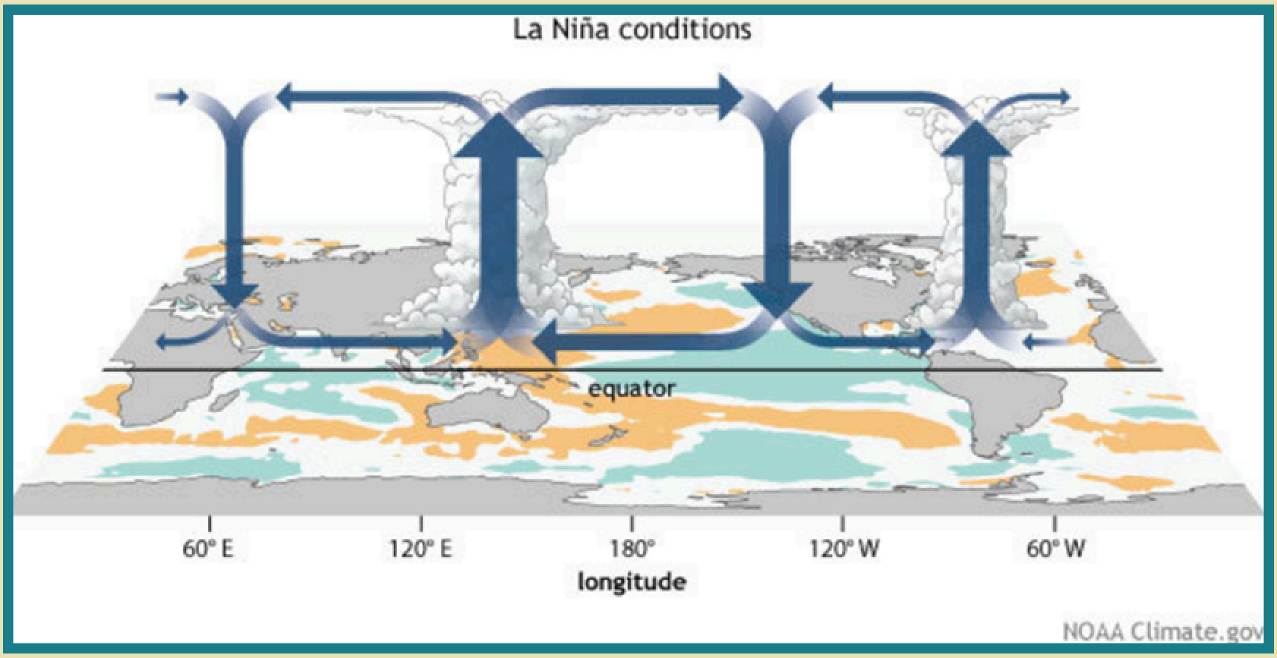


Figure 10b. La Niña condition where the cooler ocean is far to the east and warmer waters near the Philippines

EL NIÑO – SOUTHERN OSCILLATION (ENSO)

The Oceanic Niño Index (ONI) is used to track or measure ENSO events. The ONI is the rolling 3-month average temperature anomaly (difference from average) in the surface waters of the east-central tropical Pacific, near the International Date Line. Index values of +0.5 or higher indicate El Niño. Values of -0.5 or lower indicate La Niña. Figure 11 illustrates the occurrence of El Niño (Red) and La Niña (Blue) from year 2000 to present. Strong El Niño occurred in 2015-2016 and another episode in 2023-2024. A loss of Php 1.44 Billion in rice and corn production was experienced in the 2015-2016 episode. Meanwhile, strong La Niña occurred in 2007-2008, 2011-2012 and 2020-2022. Notable floods (i.e., Habagat 2012) happened during these events. This year, a weak La Niña is about to end transitioning to neutral condition.

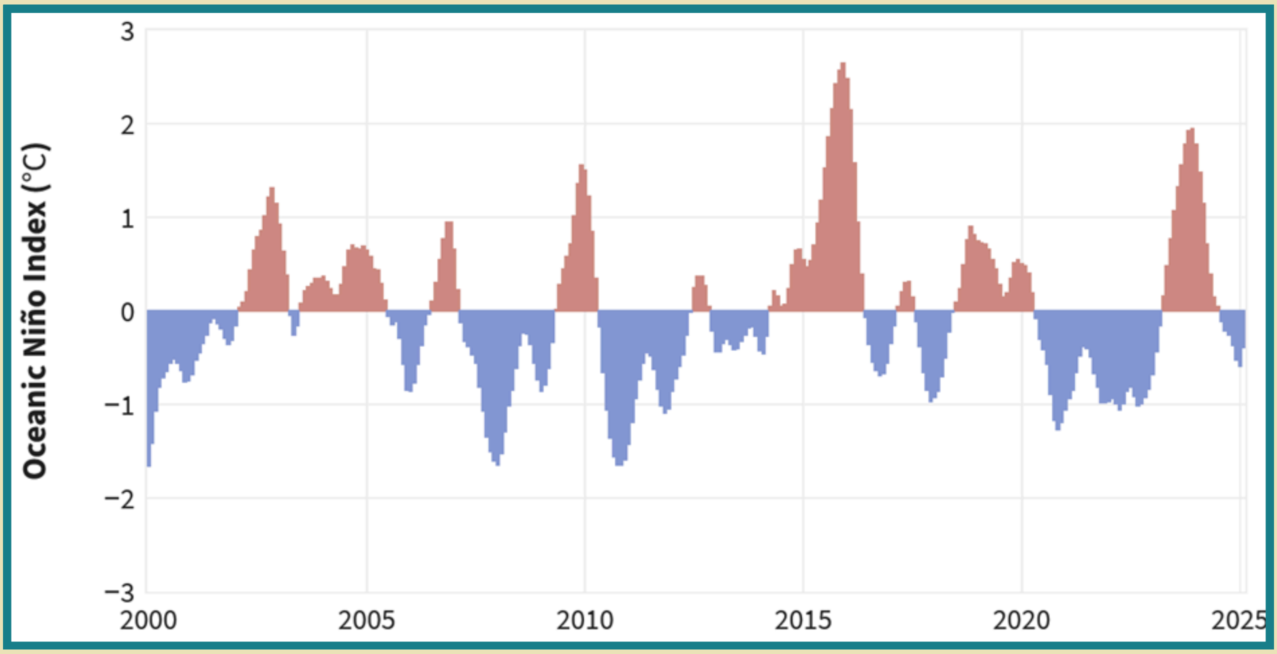
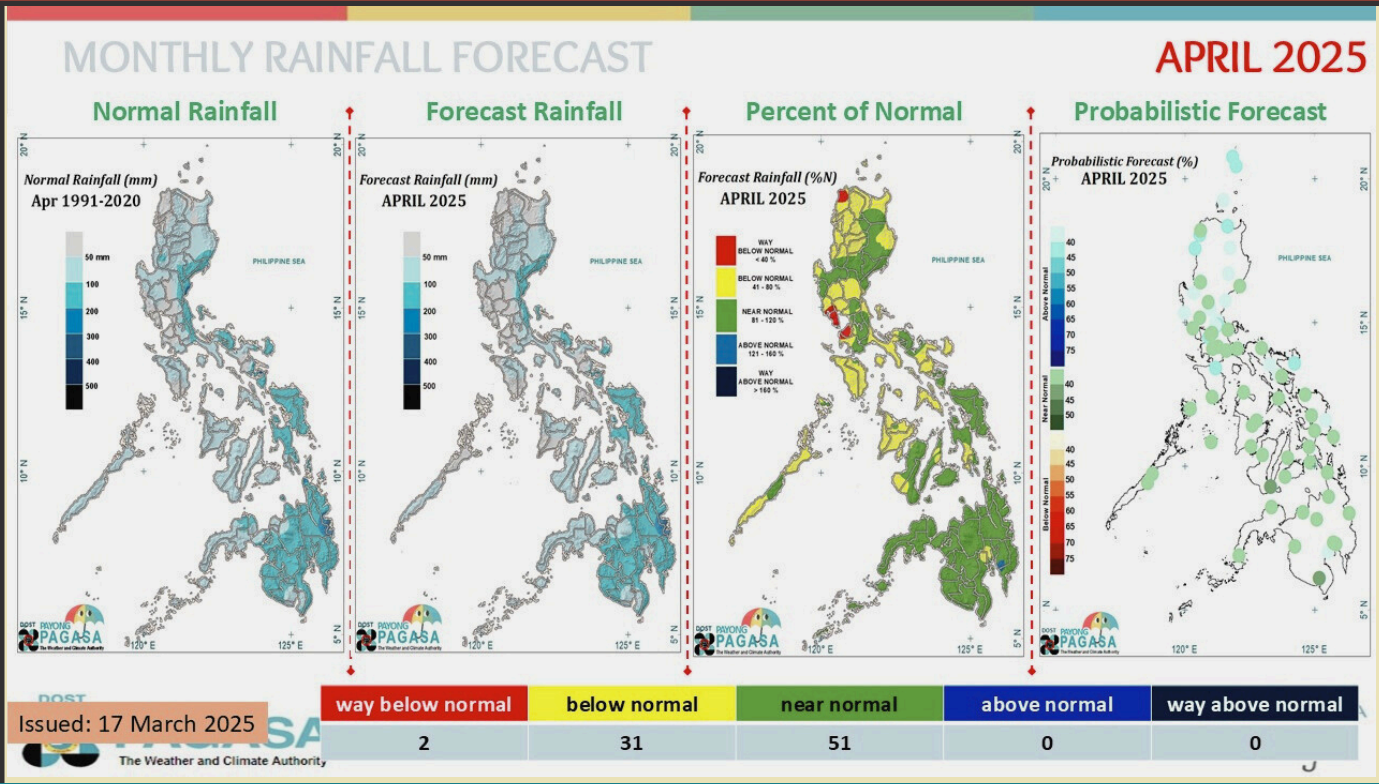


Figure 11. ENSO tracking using Oceanic Niño Index (ONI) from 2000 to 2025 (Source: NOAA Climate.gov)



RAINFALL DISTRIBUTION

The monthly rainfall distribution in the Philippines is clearly illustrated by the Normal Rainfall maps averaged for the last 30 years, 1991-2020 in Figure 12. It is seen that less rainfall is received from January to March and it is distributed mainly over the eastern portion of the country. During these months, the rains are still associated with northeast monsoon. The ITCZ which oscillates over Mindanao during this period also brings rains over the area.

The month of April is the driest month of the year. Only the Type II Climate areas particularly eastern Visayas and Mindanao experience rains of about 100 mm due to easterlies and localized thunderstorms. The month of May is the transition from dry to wet season, with increased rainfall due to frequent afternoon-evening thunderstorms. Normally, the onset of rainy season over the Type I Climate areas occurs on the second half of May to mid-June.

June to September are the wettest months of the year. This is the season with the highest number of tropical cyclone occurrences in the country. It is notable that the western sections of Luzon receive more rainfall during this period. The increased rainfall is associated with the occurrence of the Southwest Monsoon (SWM) or Habagat; the warm and moist airstream coming from the southwest that brings heavy monsoon rains with peak in July and August. The month of October is the transition period from SWM to Northeast Monsoon (NEM) (Habagat to Amihan). Generally, rainfall during this month is distributed all over the country.

During the months of November and December, the eastern sections of the country experience more rainfall. These rains are associated with the NEM and shearline which occur even up to the first quarter of the year. The shearline forms when cold air mass from the NEM and the warm humid maritime air mass from the Pacific Ocean converge leading to upward air motion favoring cloud development and precipitation.

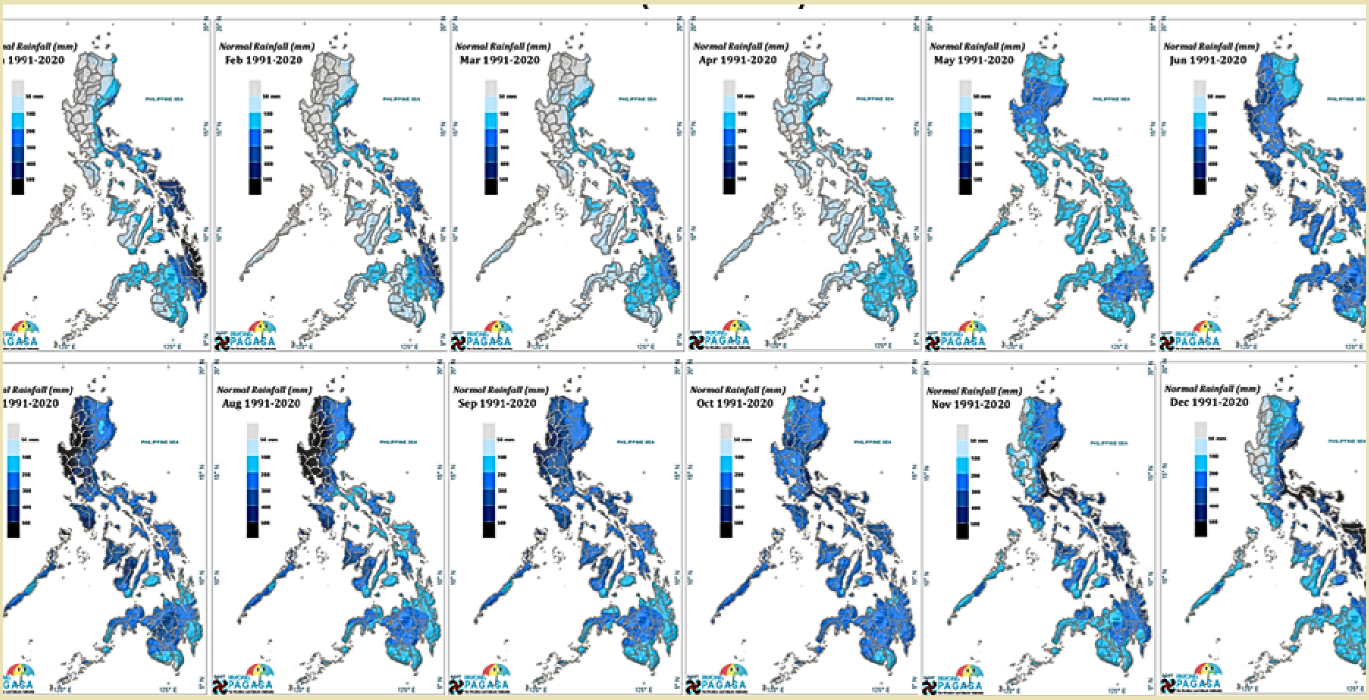


Figure 12. Monthly Normal Rainfall Maps of the Philippines for the period 1991 – 2020 (Source: DOST-PAGASA)

HISTORICAL EXTREME EVENTS

The extreme weather-related events from 2011 to 2021 are shown in Figure 13. The tropical cyclones (TCs) listed are all landfalling and crossed the landmass resulting to great damage to life, properties and livelihood. The arrows in the figure illustrate the point of landfall of the TCs.

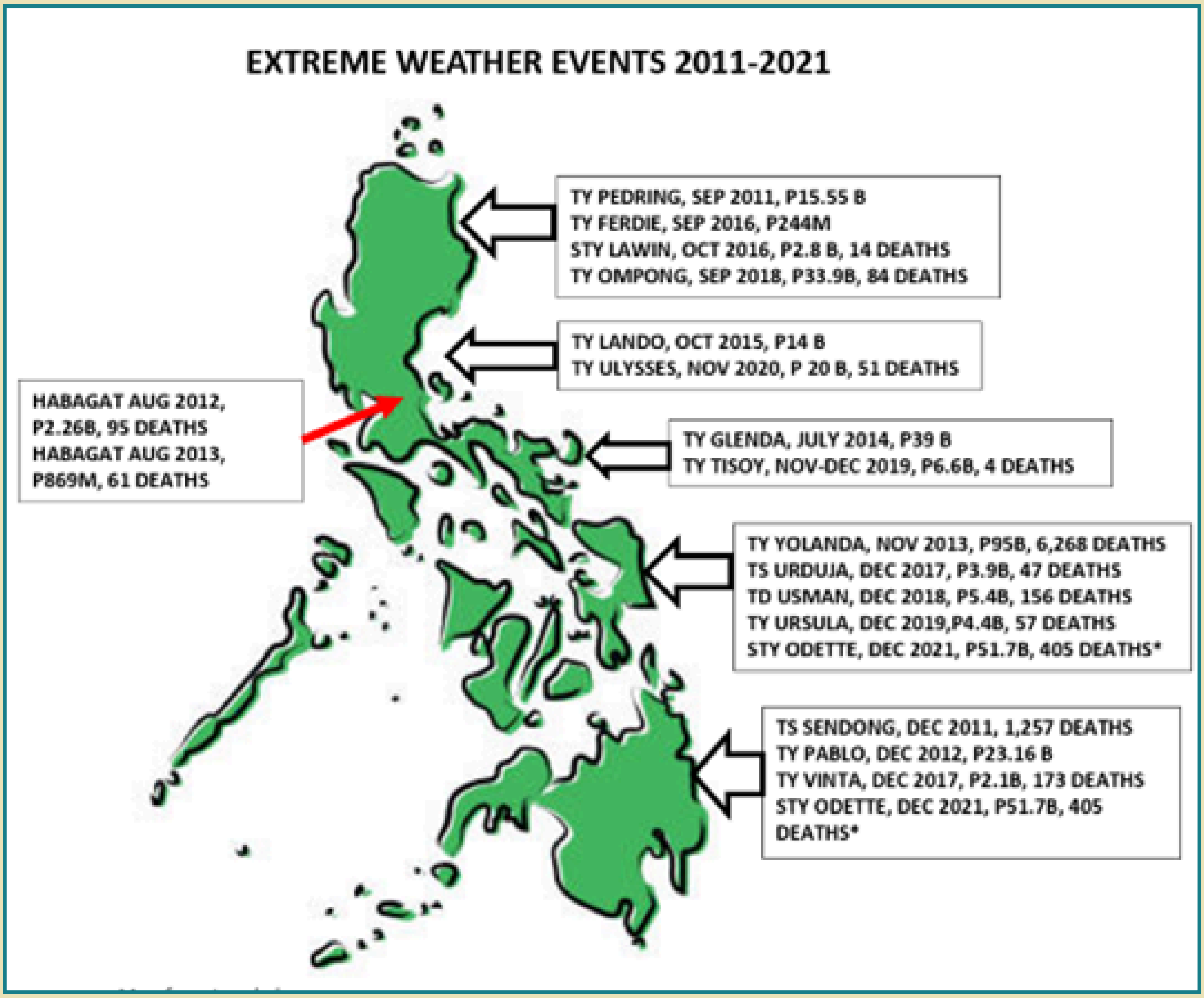


Figure 13. Extreme weather-related events in the Philippines in 2011 – 2021

For Northern Luzon, three (3) typhoons crossed during the month of September causing billion pesos of damages to structure and agriculture. Typhoon (TY) Ferdie in September 2016 damaged the weather radar in Basco, Batanes. Just after a month, Super Typhoon (STY) Lawin hit northern Luzon in October 2016 with 14 deaths and Php 2.44 Billion damages. Central Luzon was hit by two (2) typhoons during the 11-year period: TY Lando in October 2015 and TY Ulysses in November 2020. TY Ulysses dumped enormous rains resulting to widespread flooding not only in Region III but also in Metro Manila, Cagayan and Isabela. For Bicol Region, both typhoons that that made landfall over the area affected the National Capital Region (NCR). TY Glenda passed closer to NCR in July 2014 with more rains because it was southwest monsoon season. On the other hand, TY Tisoy happened on 30 November – 4 December 2019, traversing more to the south of NCR over Mindoro.

Visayas Region is usually affected by TCs during November and December. The strongest and most devastating TC that hit the country, Typhoon Yolanda, crossed Visayas in November 2013 resulting to more than six thousand deaths and PhP 95 B damages. Storm surges of 5-7 meters high inundated the coasts of Samar and Leyte. The other four (4) disastrous TCs crossed Visayas during the month of December. Both TS Ursula (22-28 December 2017) and Tropical Depression Usman (25-30 December 2018) happened during Christmas season causing massive floodings and landslides due to heavy rains.

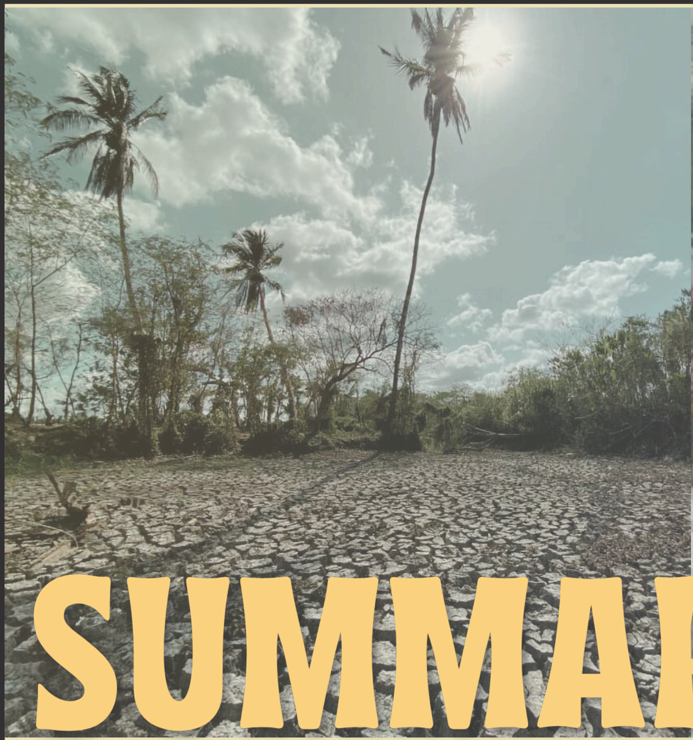
Tropical Storm Urduja occurred on 12-19 December 2017 passing through Eastern Samar towards Masbate, Romblon and Palawan dumping excessive rains that caused floods and landslides along its path. STY Odette (14-18 December 2021) that crossed Visayas after hitting Surigao del Norte headed northwest, devasted Bohol, Cebu, Negros Islands and Palawan resulting to 407 deaths and PhP 51.7 B damages.

Four (4) disastrous TCs affected Mindanao for the 11-year period (2011-2021), and all of these happened during the month of December. This is very alarming since the TC frequency map for the 71-year period (1948-2019) in Figure 5 showed the lowest count for Mindanao. This means that the few TCs that hit Mindanao are disastrous.

Two (2) major flooding events due to southwest monsoon surge are included in Figure 7. These happened in Metro Manila and nearby provinces of Regions III, IV-A and IV in consecutive years, 5-8 August 2012 and 18-20 August 2013. The highest daily rainfall recorded amounted were 391.4 mm in Science Garden on 7 August 2012 and 475.4 mm in Sangley on 19 August 2013.
Another extreme event not illustrated in the figure is the drought that happened during the February 2015 – June 2016 El Niño episode that resulted to rice and corn production loss of P14.44 billion putting 22 provinces in Regions II, MIMAROPA, VI, VII, IX, X, and XII under state of calamity.

The Department of Social Welfare and Development (DSWD) adopts a proactive and coordinated approach to disaster response through early preparedness, partnerships, and strategic frameworks. Key initiatives include Buong Bansa Handa (BBH) for multi-sectoral coordination, Project LAWA at BINHI for environmental protection, and the Shock Responsive Social Protection Framework to scale up aid during crises.

The Department strengthens its response through capacity building of its Quick Response Teams (QRTs) and implements an Actionable Response Plan for efficient operations. During emergencies, it activates the Regional Disaster Response Command Center (RDRCC) for centralized coordination. Recovery efforts begin early through livelihood support and psychosocial interventions, helping communities rebuild and regain stability.



SUMMARY

The marching season in the Philippines should appropriately begin from the month of November, the onset of the northeast monsoon (NEM) that ends in March at the latest. During this regime, the eastern sections of the country which are under Type II climate experience relatively more rainfall than the western side of the archipelago. The rainfall is greatest in December and January, gradually decreasing towards April. During November and December, around two (2) tropical cyclones (TCs) occur per month affecting Visayas and Mindanao. Most of them are landfalling and disastrous. January, February and March have low chance of TC occurrence. Transition period starts in April, the driest month of the year which also has slim chance of TC occurrence. Easterlies are the dominating weather system during this month wherein afternoon thunderstorms are probable. More frequent thunderstorms occur in May, and one (1) TC usually develop which may pass close or cross Luzon. This signals the onset of the rainy season which normally happen on the second half of May to first week of June.

In June comes the southwest monsoon season which last until September. During this season, the rainfall distribution is greater in amount compared to NEM, shifts to the western sections of the country particularly over western Luzon.

Regarding TCs, around one (1) or two (2) TCs occur in June, and these may cross Luzon via Bicol Region passing through Central Luzon or offshore heading on a northwest to north-northwest direction. Parallel to TC frequency, rains are greatest in July, August and September where three (3) to four (4) TCs per month usually occur.

During these peak months, the TCs tracks are more to the north over Cagayan province, Ilocos Norte, Batanes Islands and northeast offshore although some pass though Bicol and Central Luzon. During Southwest Monsoon (SWM), severe floodings occur especially during strong monsoon surges in July and August. Notable floods, Habagat 2012 and 2013 affected Metro Manila during the peak of SWM in August.

The month of October is the transition period from SWM to NEM. Rainfall is well distributed all over the country and there is an average of 2.6 TC frequency. Historical TC tracks show that still there are more TCs that crossed Luzon but some crossed Visayas and others recurved to the northeast.

More or less, El Niño and La Niña affect the country alternately every two (2) years. Drought during El Niño is a big threat to agricultural production and water supply for household use and power generation. On the other hand, La Niña causes floods and landslides affecting all sectors of the society.

In this climate of constant risk, the Department of Social Welfare and Development (DSWD) envisions proactive, anticipatory, and shock-responsive interventions to lessen the severity of potential disasters through early and strategic action.

By drawing from historical disaster data and cultivating a deep understanding of the climate patterns specific to the Philippines, the DSWD is better equipped to anticipate risks and identify vulnerable regions. This evidence-based approach enables the Department to plan ahead, aligning resources and responses with seasonal hazards.

Through anticipatory action, the DSWD can mobilize critical resources in advance—guided by accurate forecasts, risk assessments, and vulnerability mapping. This not only reduces the extent of loss and suffering but also preserves the dignity and safety of affected populations. **This approach includes targeted efforts to reduce clients' vulnerability by proactively addressing identified risks.**

With informed awareness of the country's climate cycle, localized risk information, and the authority to act early, communities are empowered to become frontliners—not just victims—of disaster resilience.

Thus, the DSWD's approach must mirror the rhythm of the marching seasons: ever-alert, ever-prepared, moving in synchrony with the seasons, not behind them. It is only through this anticipatory and integrated strategy—anchored in data, grounded in climate awareness, and driven by compassion—that the Department can truly reduce the impact of disasters and protect the most vulnerable Filipinos from the perennial threats that shape our national landscape.

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