



**WMO REGIONAL SEMINAR ON CLIMATE
SERVICES IN REGIONAL ASSOCIATION V
(SOUTH-WEST PACIFIC)
(Honiara, Solomon Islands, 1-4 November 2011)**

Climate Services in the Philippines

VB MALANO



Presentation Outline

1. Climate of the Philippines
2. PAGASA Climate Services
3. Climate Research Activities
4. Use of Regional/Global Products



The climate of the Philippines is influenced by the complex interactions of the various factors such as :



Philippine Geography and Topography



Semi-permanent cyclones and anti-cyclones



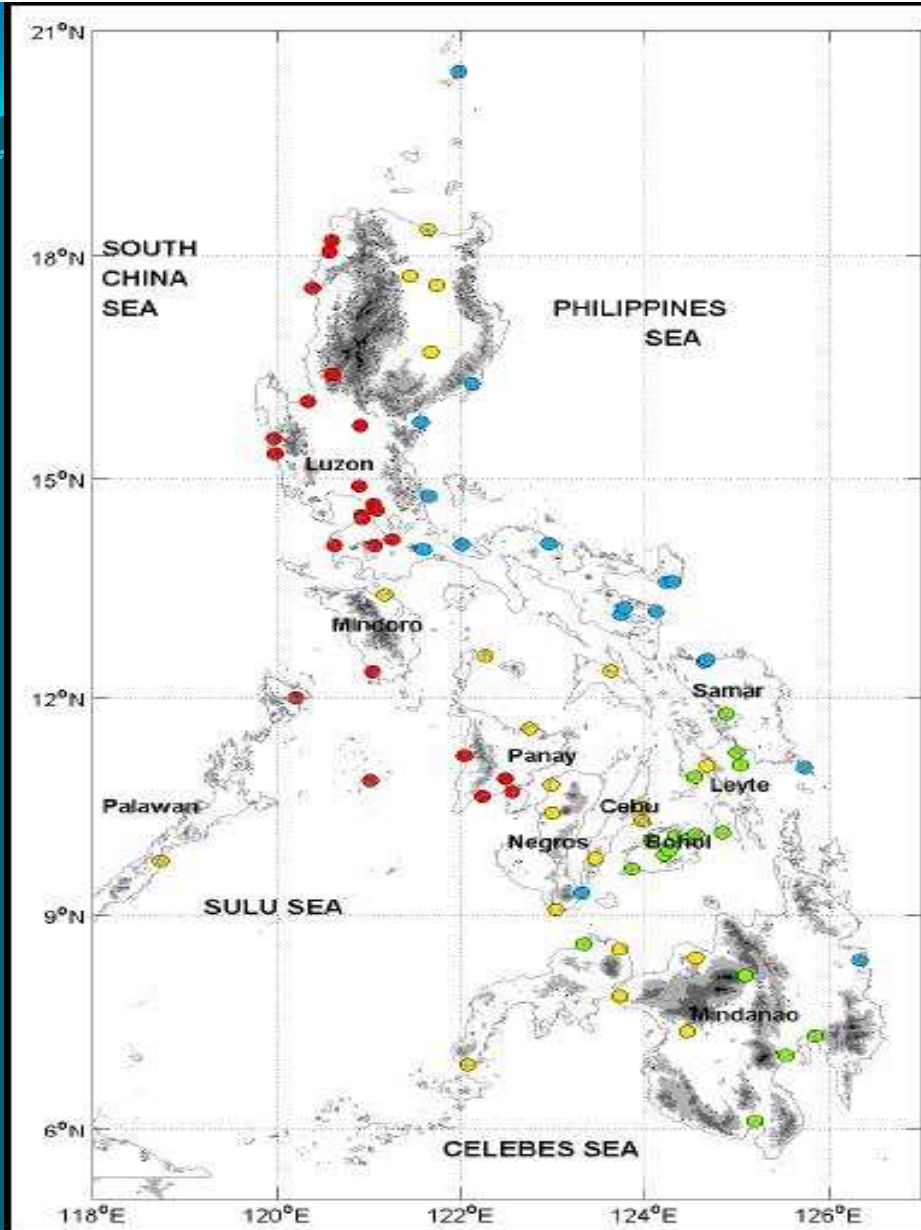
Principal Air Streams



Ocean currents

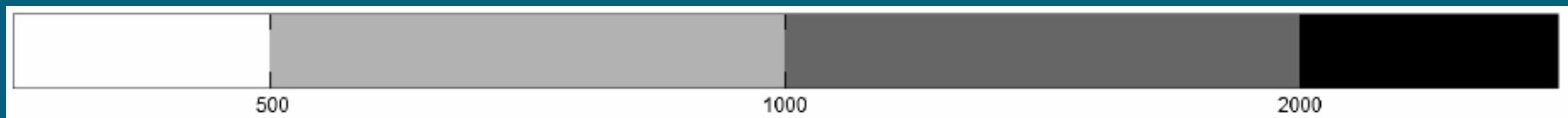


Tropical Cyclones



Topographic map of the Philippines

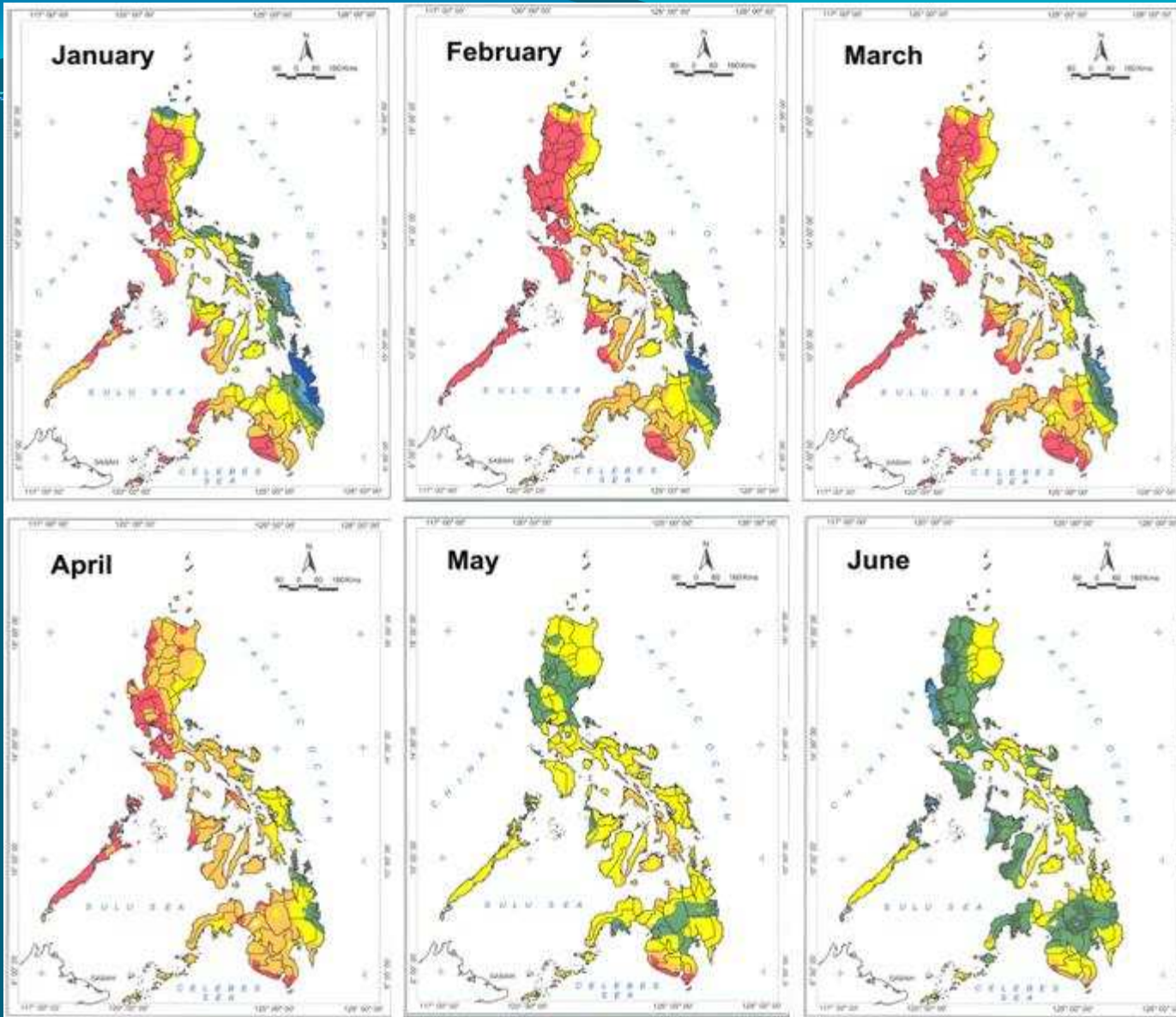
Height scale are in meters





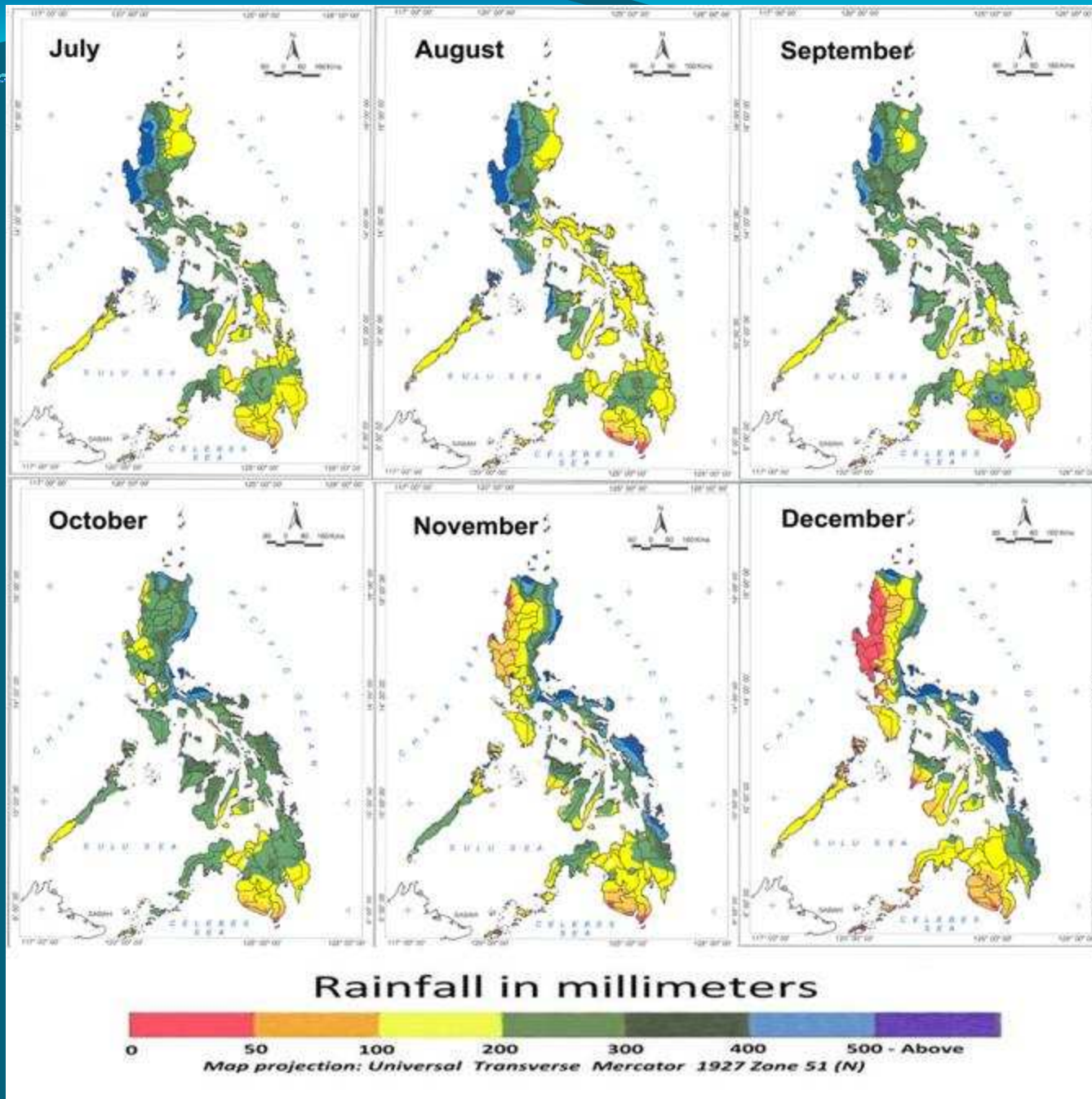
Climate of the Philippines

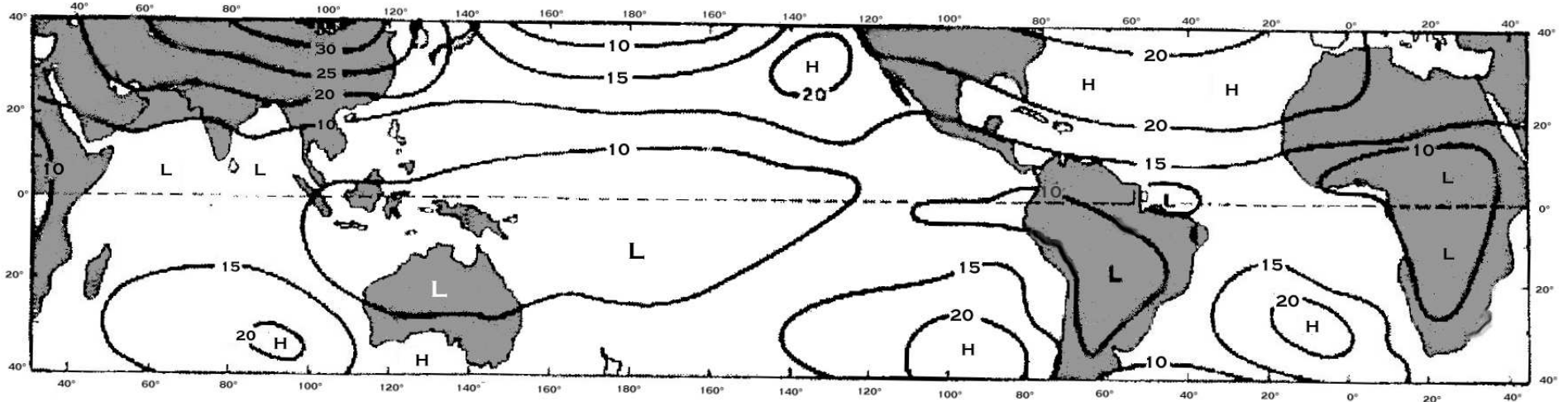
- Two seasons – Wet and Dry season
- Mean Annual Temperature – 26.6°C
 - coolest month is in January (mean 25.5°C)
 - warmest month is in May (mean 28.3°C)
- Mean Annual Rainfall range – 965 to 4064 mm
- Relative Humidity range – 71 % to 85 %



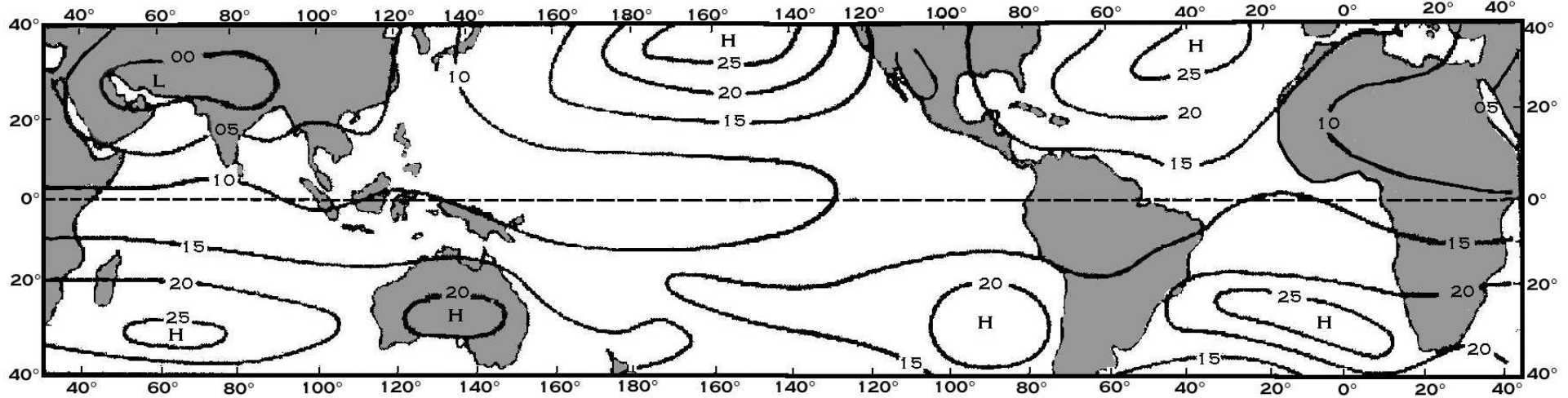
Rainfall in millimeters







January



July

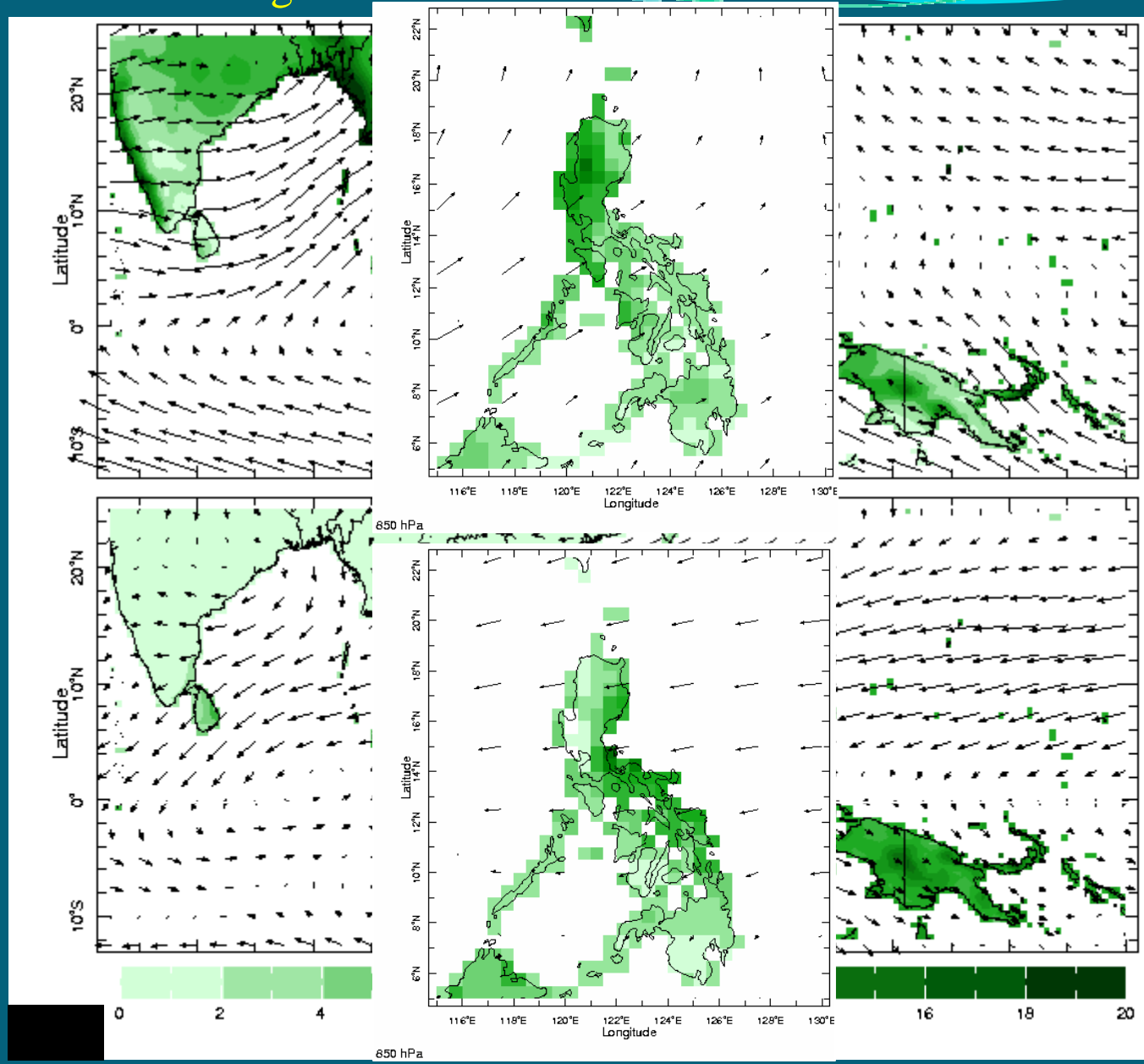


Winds and Seasonal Rainfall are Closely Linked

Related to the large scale monsoons and local air-land interactions

JJA

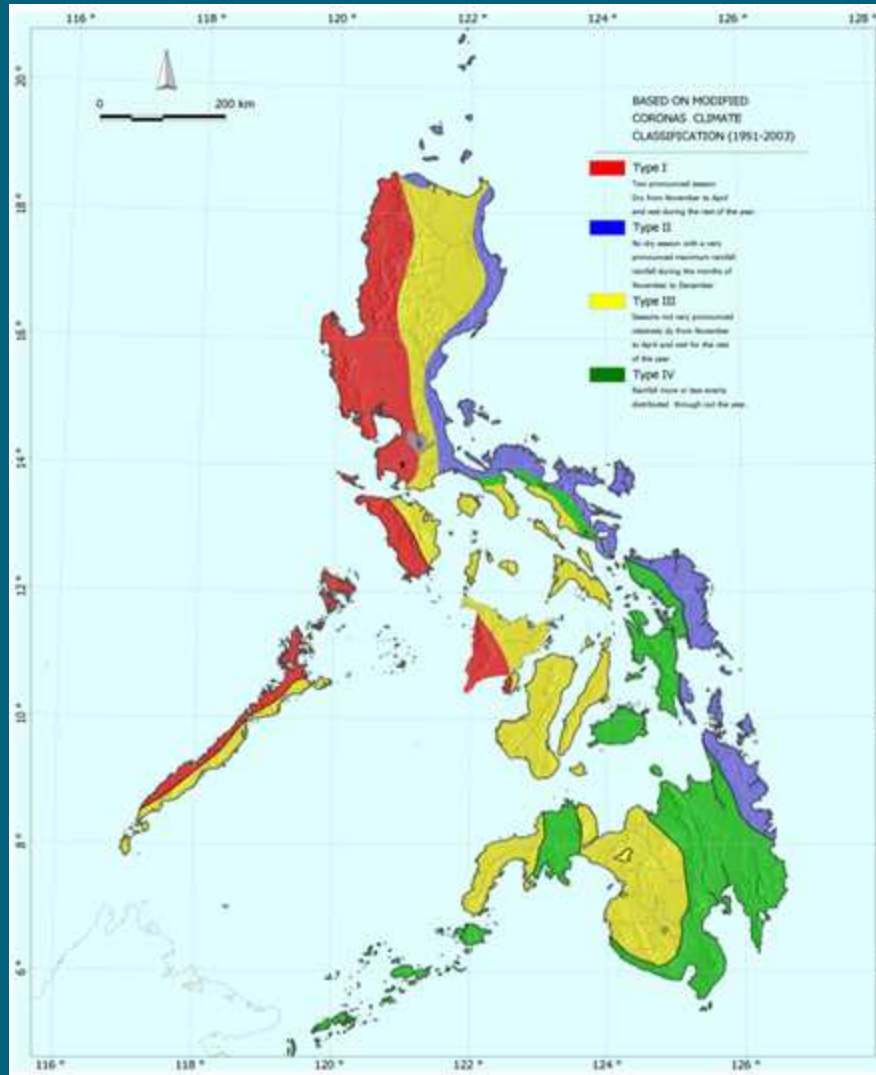
DJF



B.Lyon



Philippine Climate Type



Type I

Two pronounced seasons, dry from December to May, and wet from June to November.

Type II

No dry season with a very pronounced maximum rain period in December and January

Type III

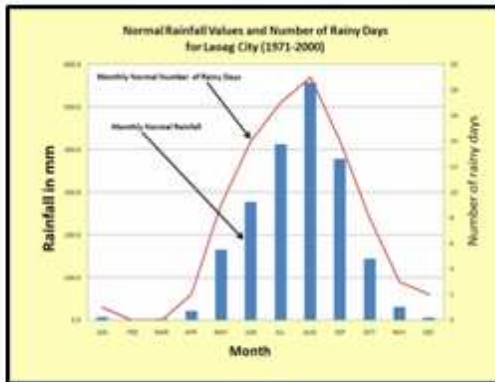
No very pronounced maximum rain period, with a short dry season lasting only from one to three months.

Type IV

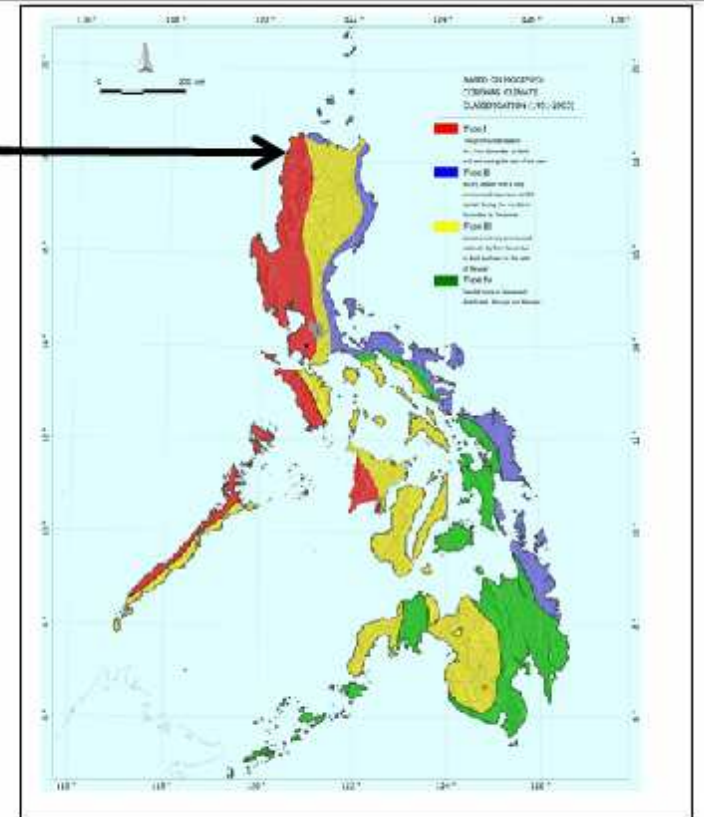
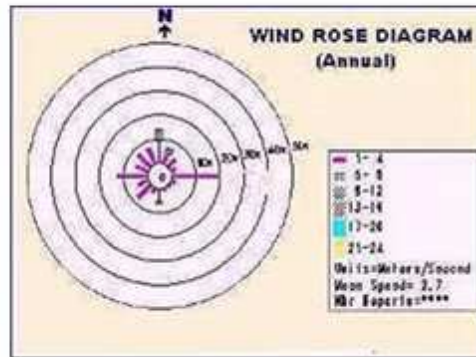
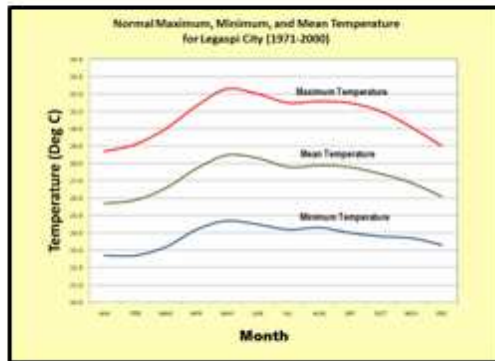
Rainfall is more or less evenly distributed throughout the year. This resembles the second type more closely since it has no dry season.



Climate Type I

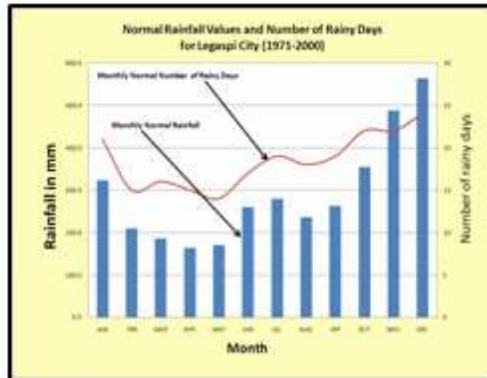


Climate Type I
Two pronounced season : dry from November to April wet during the rest of the year

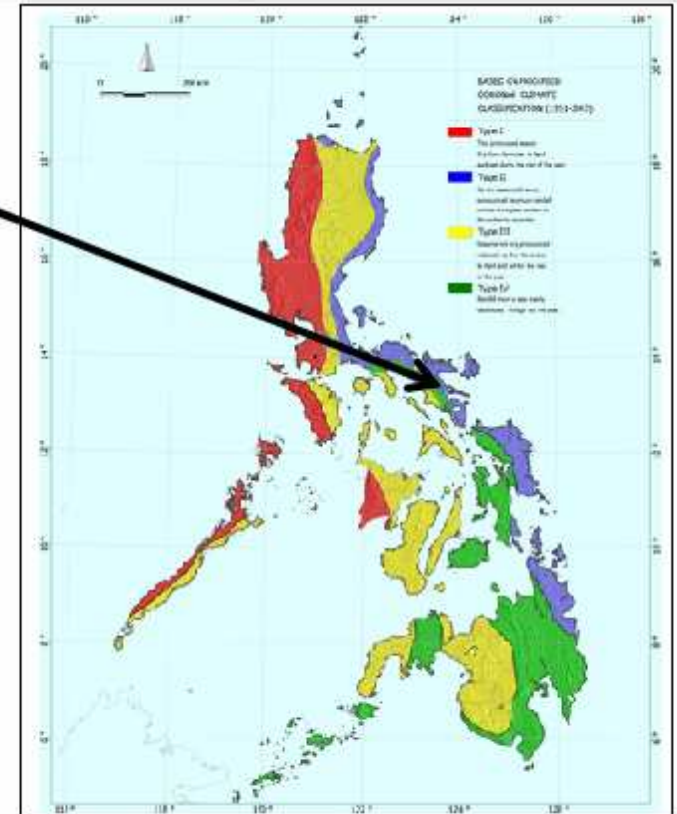
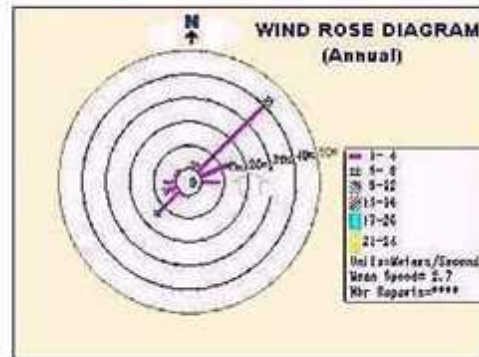
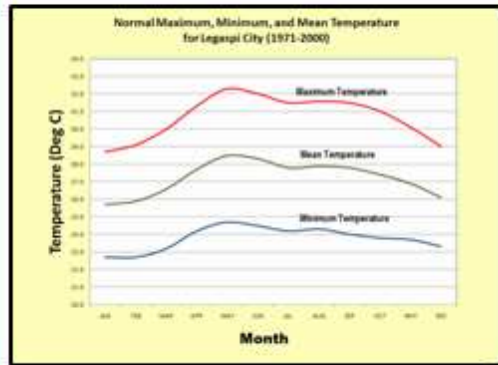




Climate Type II

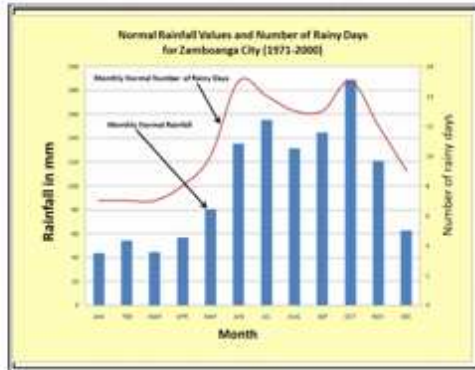


Climate Type II
No dry season with a very pronounced rainfall from November to January

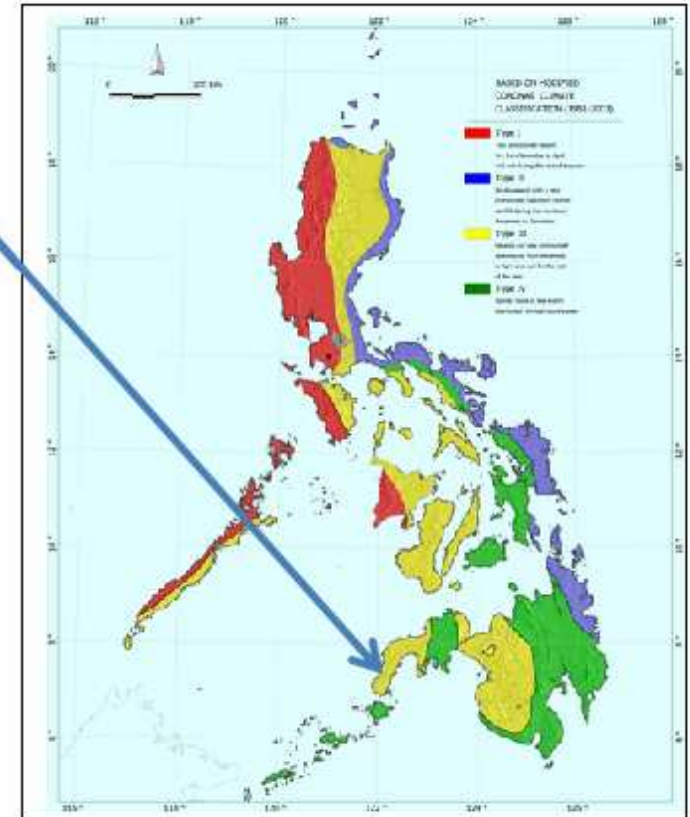
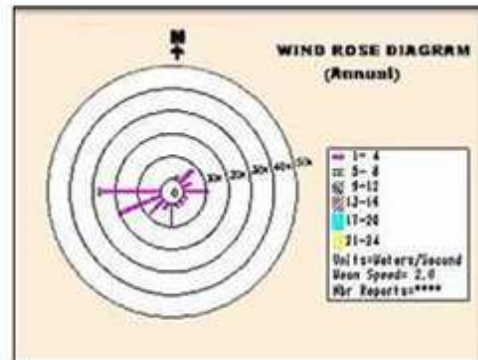
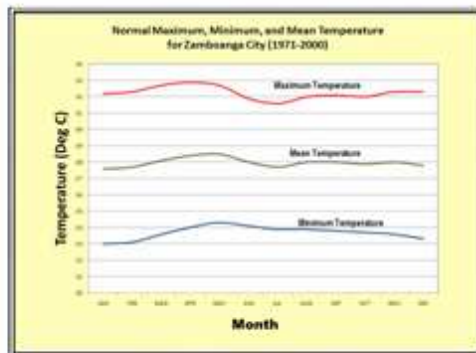




Climate Type III

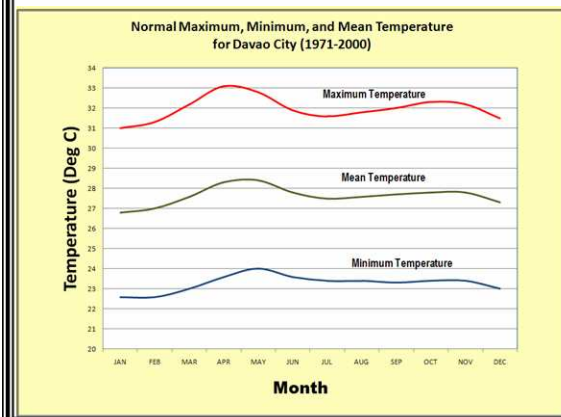
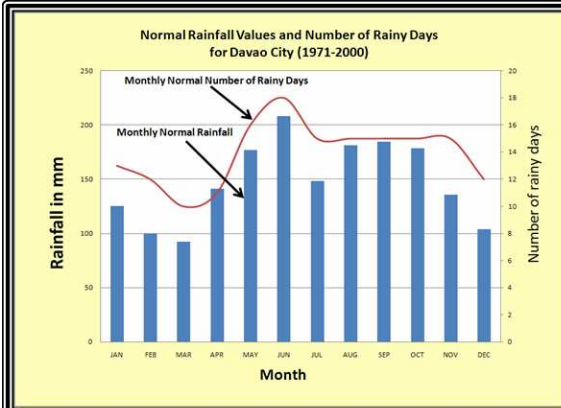


Climate Type III
Seasons are not very pronounced
relatively dry from December to
April and wet during the rest of
the year.

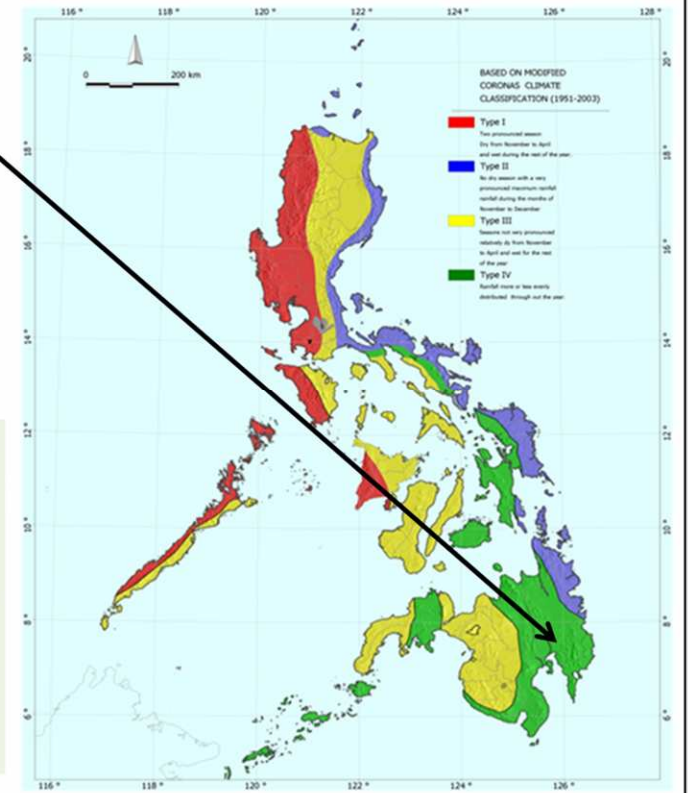
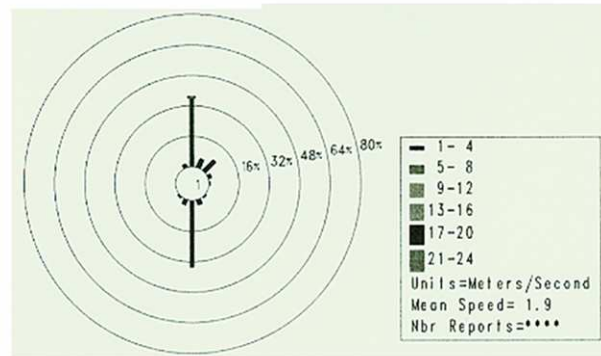




Climate Type IV



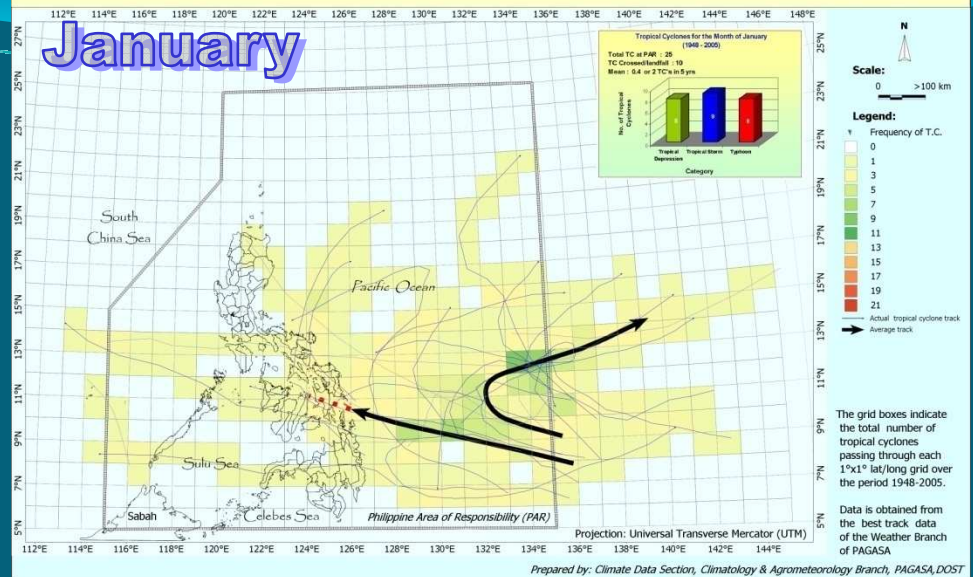
Climate Type IV
 Rainfall is more or less evenly distributed throughout the year.



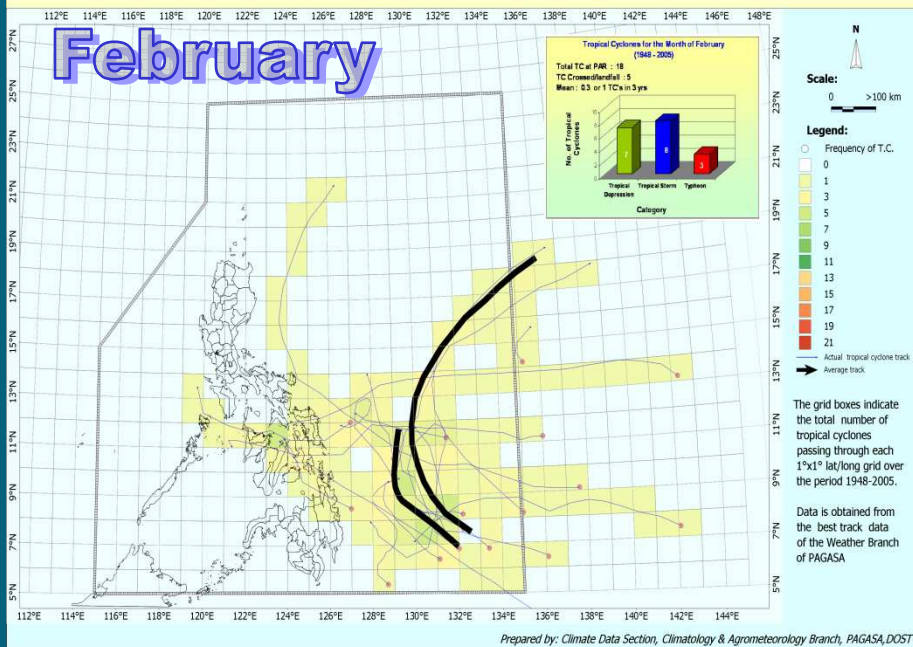


Average tropical cyclone tracks for 1st Qtr

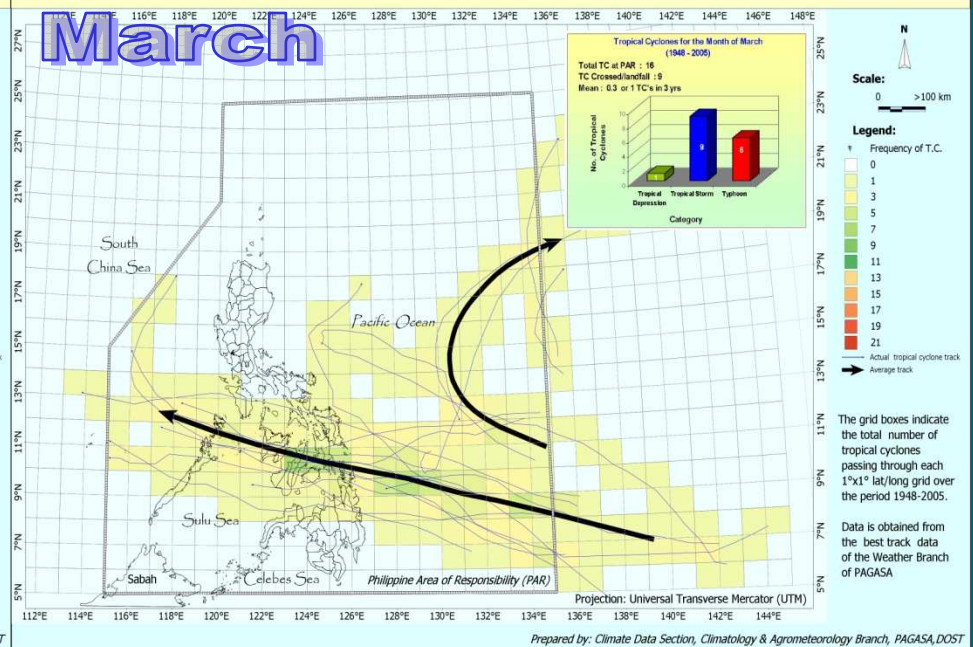
Average Tropical Cyclone Track for the month of January with actual tracks for the period 1948-2005



Average Tropical Cyclone Track for the month of February with actual tropical cyclone tracks for the period 1948-2005



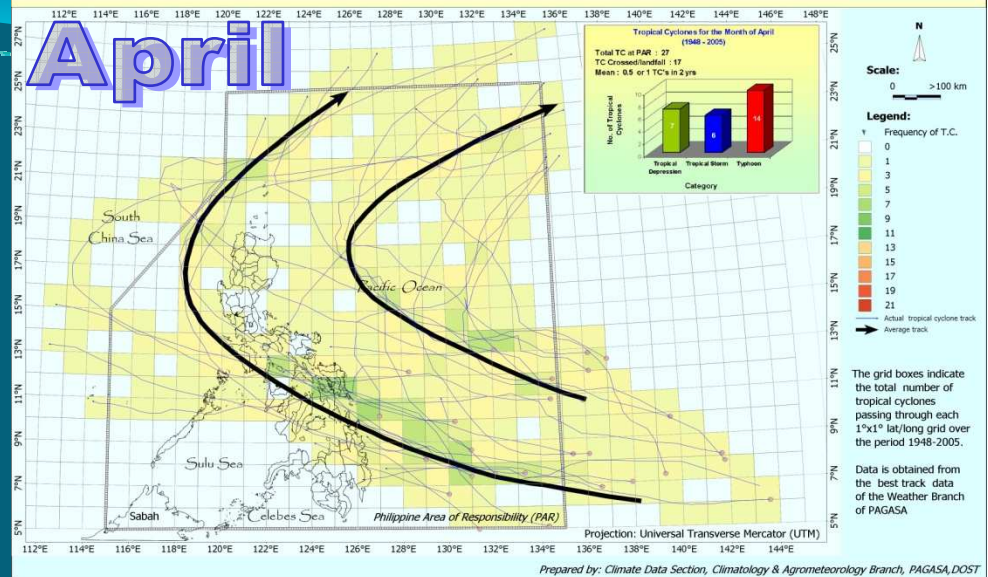
Average Tropical Cyclone Track for the month of March with actual tracks for the period 1948-2005



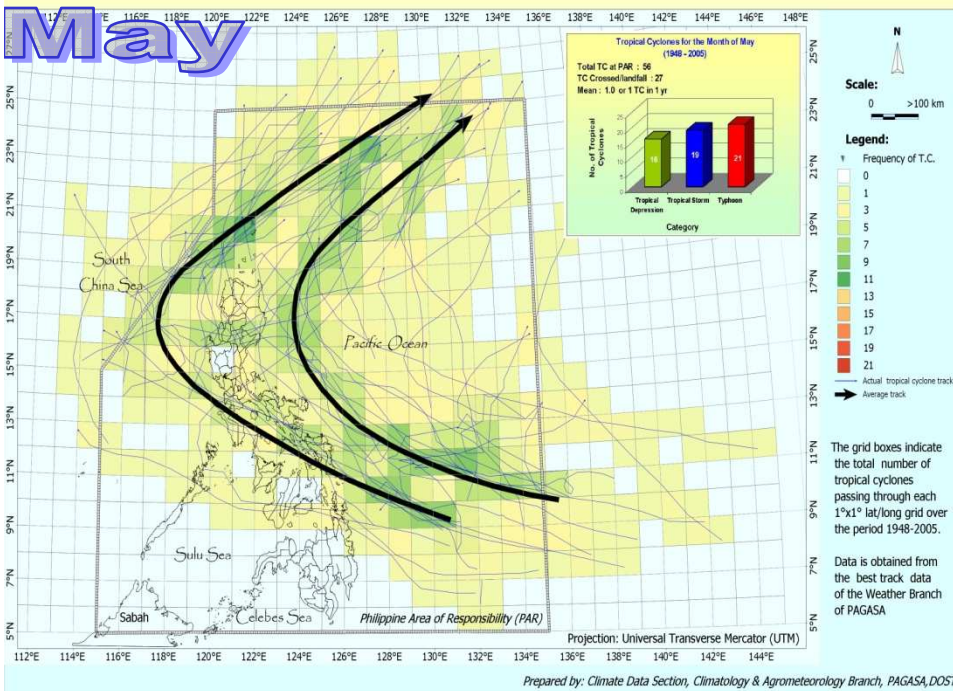


Average tropical cyclone tracks 2nd Qtr

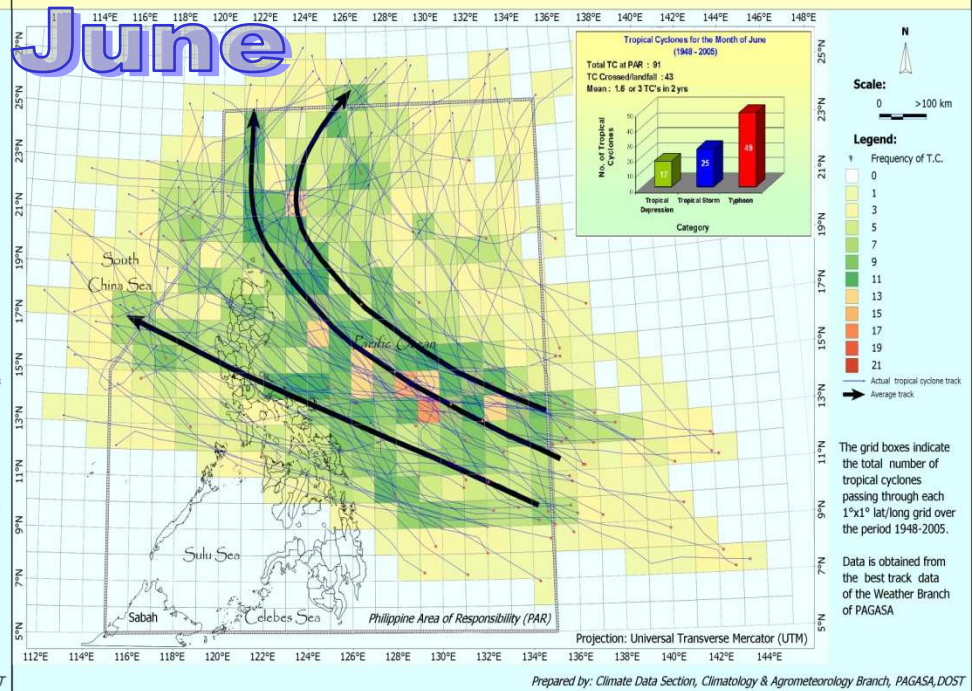
Average Tropical Cyclone Track for the month of April
with actual tracks for the period 1948-2005



Average Tropical Cyclone Track for the month of May
with actual tracks for the period 1948-2005



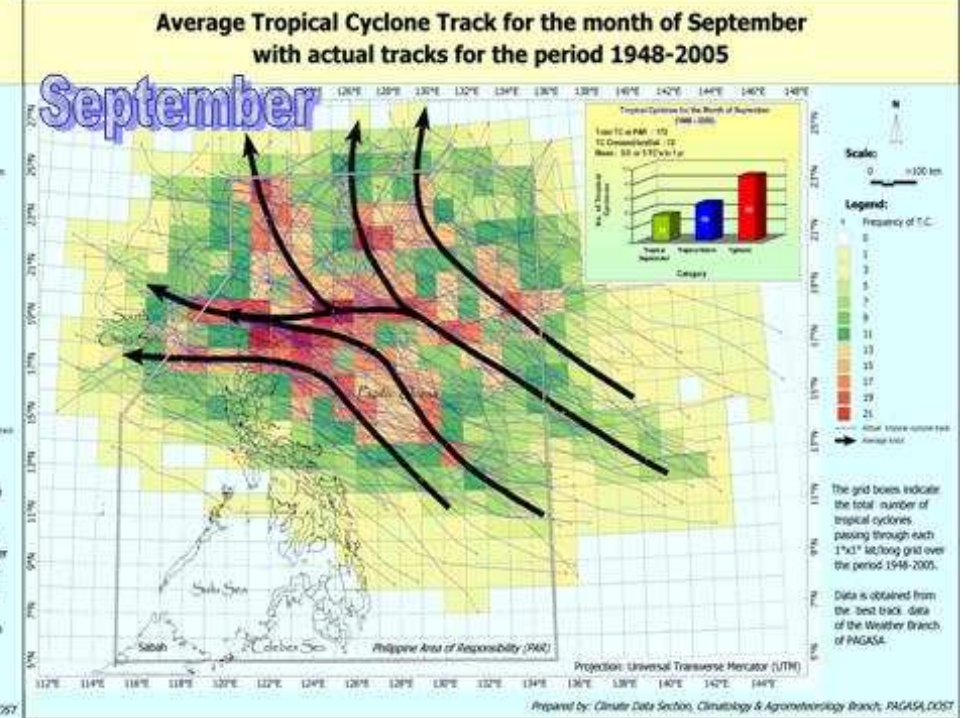
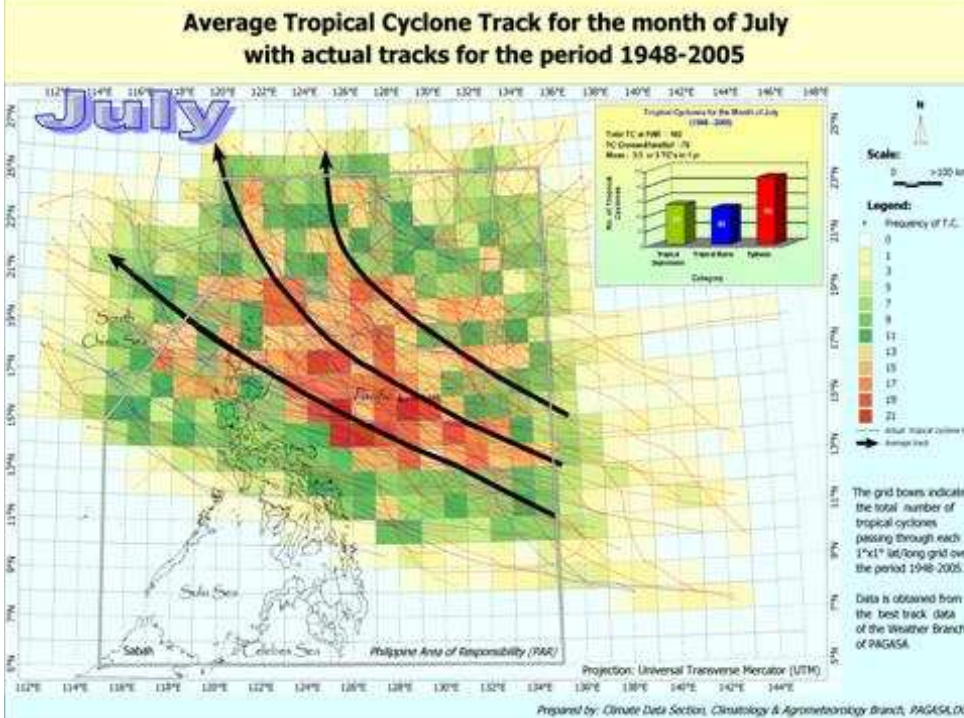
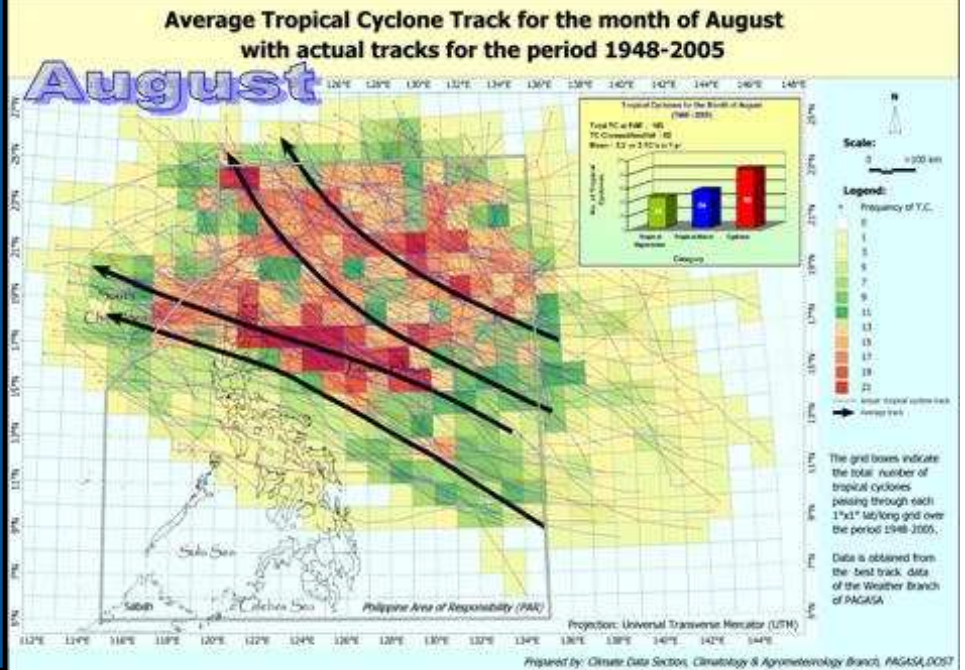
Average Tropical Cyclone Track for the month of June
with actual tracks for the period 1948-2005





Average Tropical Cyclone Tracks for 3rd Qtr.

This period is the peak of the SW monsoon. Strong SW influence T.C. movement to the North West or over the Northern/ Extreme Northern Luzon.

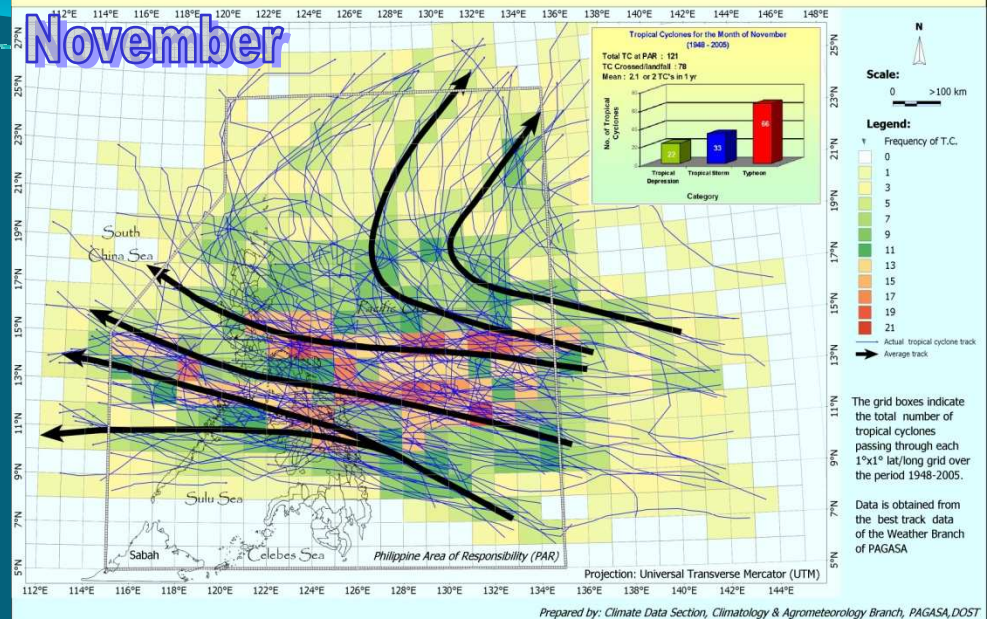




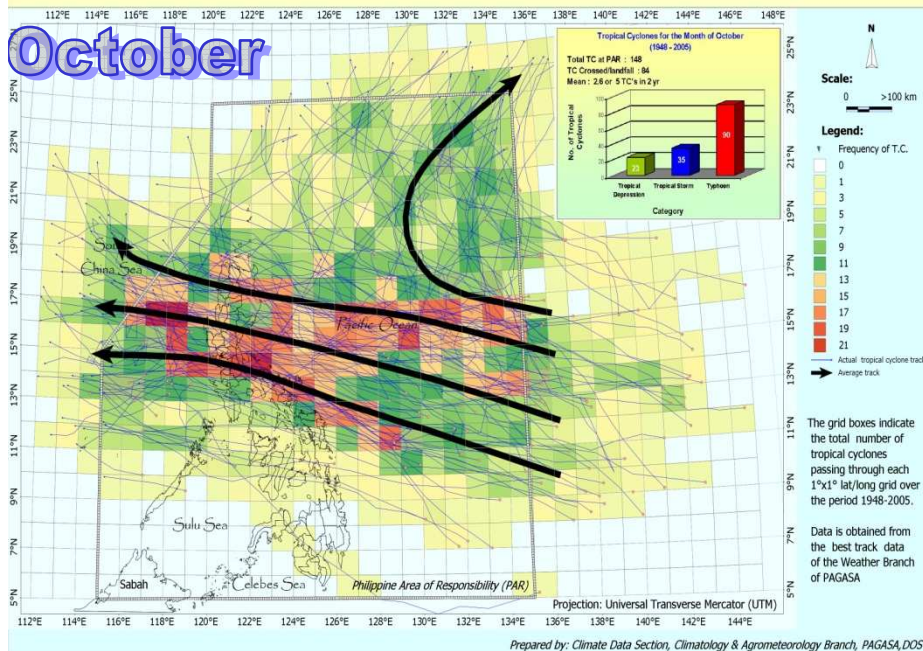
Average Tropical Cyclone Tracks for 4th Qtr.

The period covers the first half of the NE monsoon season. Tracks of tropical cyclone during this period are likely across central and southern parts of Luzon, and Visayas with secondary tracks over Northern Mindanao.

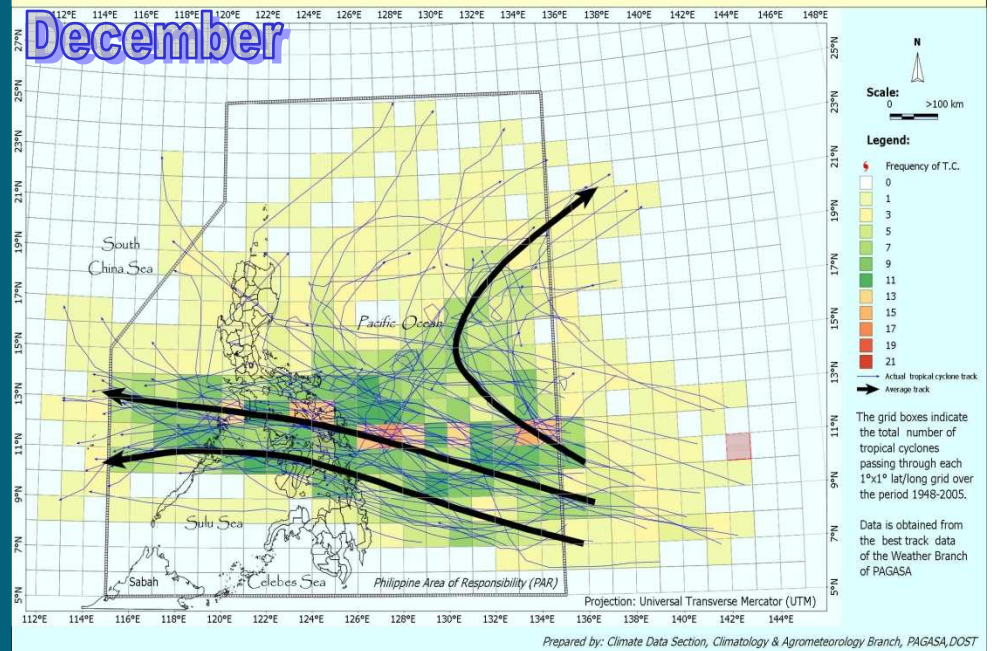
Average Tropical Cyclone Track for the month of November with actual tracks for the period 1948-2005



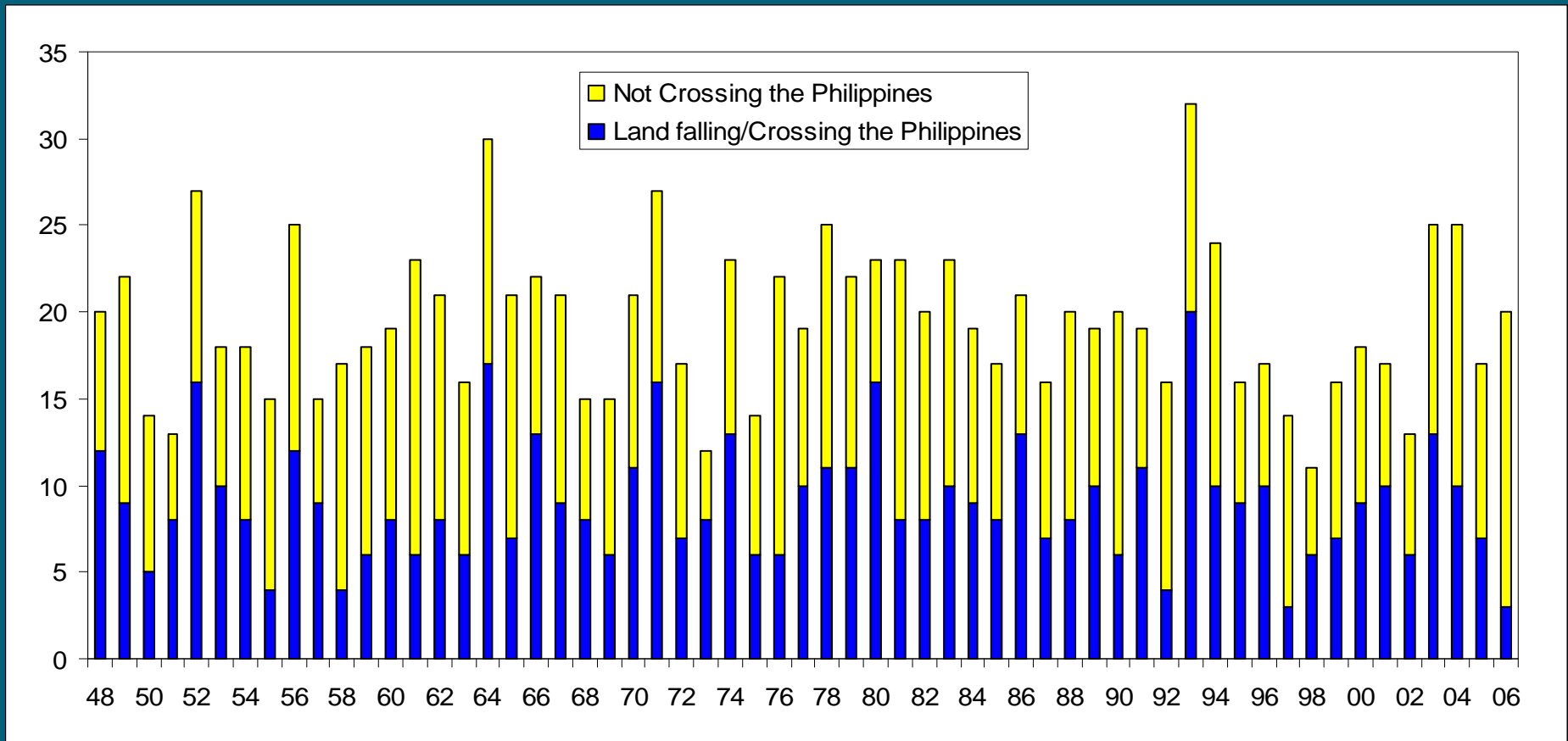
Average Tropical Cyclone Track for the month of October with actual tracks for the period 1948-2005



Average Tropical Cyclone Track for the month of December with actual tropical cyclone tracks for the period 1948-2005



Annual frequency of T.C. entering the PAR and crossing the Philippines (1948-2006)



Total = 1148, Mean = 19 to 20 , Std. Dev. = 4, Max = 32 , Min = 11
528 T.C. or 46% crossed /land fall in the Country
Average crossing = 9 T.C.

TWELVE MONTH PHILIPPINE RAINFALL (April to March) RELATIVE TO HISTORICAL RECORDS

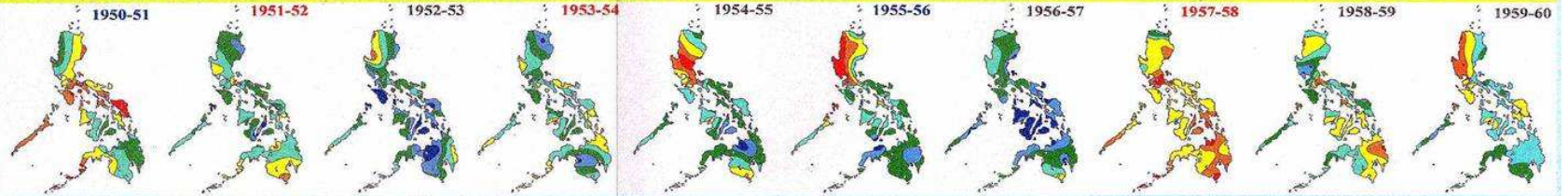


REPUBLIC OF THE PHILIPPINES
Department of Science and Technology
Philippines Atmospheric, Geophysical and Astronomical
Services Administration
Climatology and Agrometeorology Branch

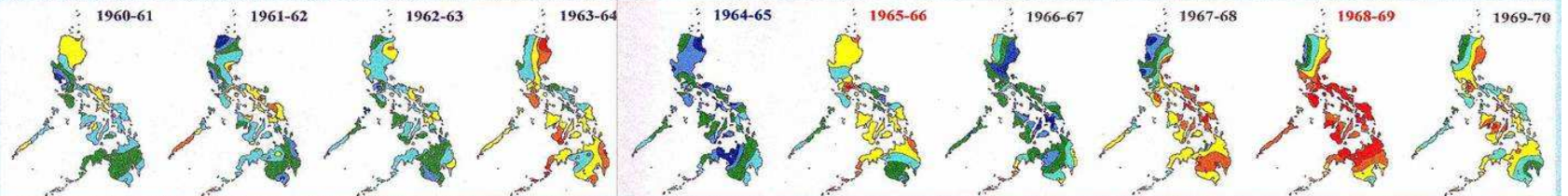
What is El Niño? – the unusual warming of the surface oceans in the central and eastern equatorial tropical Pacific. It is strongly linked to the negative phase of the Southern Oscillation Index (SOI). SOI are derived from the differences in atmospheric pressure over Tahiti and Darwin. (Maps with years marked in red are El Niño years)

What is La Niña? – the opposite of El Niño and sometimes referred to as 'El Viejo', 'cold event' or 'cold episode'. It is associated with the positive phase of SOI. (Maps with years marked in blue are La Niña years)

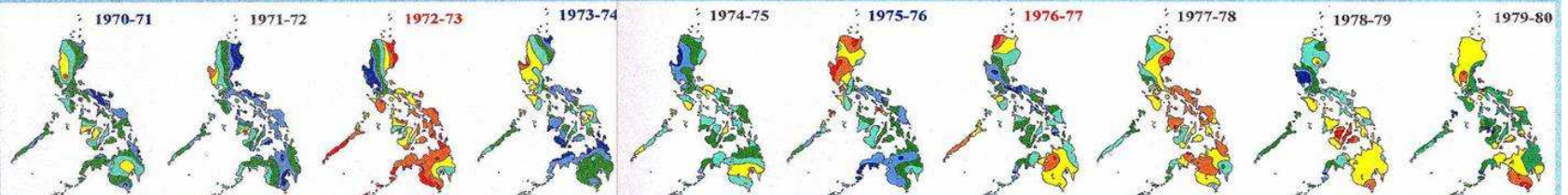
1951-60



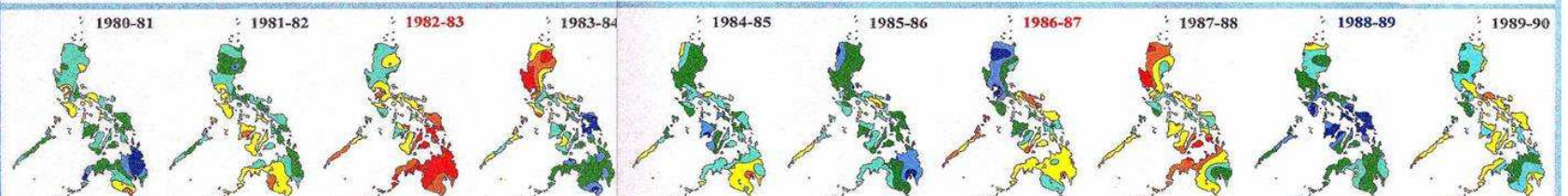
1961-70



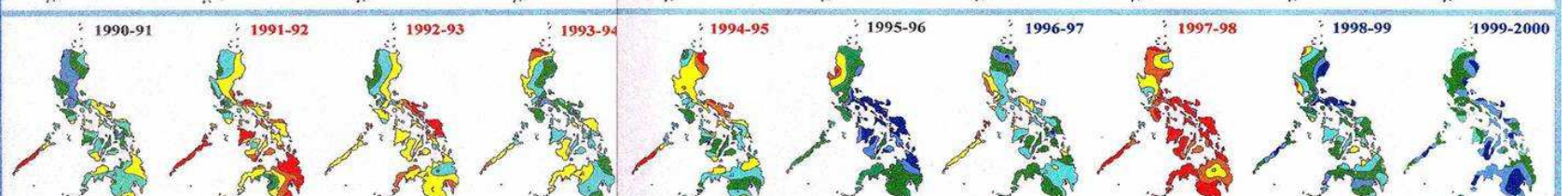
1971-80



1981-90



1991-00



Percentile rank



Percentile: a measure of rainfall variability. Particular values are assessed as indicators of drought / normal / flood conditions.



PAGASA Climate Services

PAGASA Climate Services

1. Seasonal Climate Outlook →
2. Monthly weather review and outlook →
3. Climate Impact Assessment for Agriculture →
4. ENSO Advisory →
5. Agri Weather Services →
6. Farm Weather Forecast and Advisories →
7. Angat Dam monthly/seasonal forecast inflow →
8. Press releases →
9. Latest rainfall forecast →



Climate Information Users

(Demand for Climate Services is increasing)

1. Agriculture Sector
2. Water Sector
3. Power Sector
4. Local Government Unit
5. Transport Sector
6. Trade and Industry
7. Others





Climatology and Agrometeorology

Philippine Atmospheric Geophysical and Astronomical Services Administration

SEASONAL CLIMATE OUTLOOK

July to December 2010

Overview

Following the dissipation of the 2009/10 El Niño in early May 2010, a brief period of ENSO-neutral conditions was observed until mid-June, and presently La Niña conditions are developing across the equatorial Pacific. Sea surface temperature (SST) anomalies at the central and eastern equatorial Pacific (CEEP) decreased to values approaching La Niña levels. Zonal wind anomalies in the equatorial Pacific are stronger than average easterlies, and below average sea temperatures exist beneath the surface of the equatorial Pacific, strengthening and extending to the surface.

Most global climate models predict the CEEP will continue to cool over the coming months. The La Niña condition which showed its early stages during late July is expected to strengthen through the coming months.

July to September

The period is the peak of the Southwest (SW) monsoon season, locally known as "Habagat" and tropical cyclone activity is likewise at its maximum. During the period, thunderstorm activities associated with the SW monsoon, tropical cyclone activities characterized by heavy rainfall and strong winds, and inter-tropical convergence zone (ITCZ) that reaches the northernmost part of the country during August, will prevail. Seven (7) to ten (10) tropical cyclones are likely to develop/enter the Philippine Area of Responsibility (PAR). Monsoon breaks are likely to be expected during the period.

Rainfall conditions will likely to be near normal in the entire parts of the country, except in Camarines Sur, Catanduanes and Eastern Visayas that will likely receive above normal rainfall. Gradual recession of rains associated with the SW monsoon is expected during the later part of September up to early part of October.

October to December

The period covers the first half of the NE monsoon season and the weather systems likely to influence the country are the tail end of the cold front, intertropical convergence zone (ITCZ), easterly wave, ridge of high pressure area (HPA), the easterlies and about five (5) to eight (8) tropical cyclones. During the season, tropical cyclones move on a more westerly track across central and southern parts of Luzon and Visayas with secondary tracks over northern Mindanao.

For October to December season, rainfall conditions are expected to be above normal in most parts of Luzon, Northern Panay, Autonomous Region of Muslim Mindanao (ARMM) and Southern Mindanao. The rest of Luzon, major portions of Visayas and Mindanao area will likely experience near normal rainfall conditions.

PAGASA will continue to closely monitor these conditions and regular updates/advisories shall be issued as appropriate. Concerned agencies are advised to take precautionary measures to mitigate the potential adverse impacts of this La Niña episode.

For further information, please contact the Climatology and Agrometeorology Division (CAD) at telephone nos.  929-1953 or 434-0955.





Weather Situation in the Philippines July 2010

Cooling in the tropical Pacific Ocean continue to strengthen and are now more than 1°C cooler than average in some areas on the equator. Overall atmospheric and oceanic indicators suggest early stages of developing La Niña condition in the Equatorial Pacific. Statistical and dynamical models predict the central Pacific will continue to cool over the coming months, approaching levels of typical La Niña.

The weather systems that affected the country during the month were the Southwest (SW) monsoon, the Intertropical Convergence Zone (ITCZ), Low Pressure Area (LPA) and two (2) tropical cyclones, namely: TY "Basyang" (July13-15), and TD "Caloy" (July19-20). Passage of TY "Basyang" enhanced the SW monsoon and affected the CALABARZON, that brought flooding, flashflood and landslides in some areas. Surge of moderate to strong winds brought about sea mishap in coastal areas of the Bicol region as induced by TY "Basyang". Likewise, damages due to strong winds were reported over the CALABARZON, including Metro Manila and caused temporary power failures disrupting daily operational activities. TD "Caloy" developed from an LPA west of Zambales area, made its exit towards the South China sea but did not give significant effect to any part of the country. (View [TC Rainfall Charts](#))

Rainfall analysis showed that below normal rainfall condition was experienced over Western Luzon, Cordillera Administrative Region (CAR), most areas of Cagayan province, Palawan, some areas in Central Luzon, southern Panay island, and southern Leyte. Above normal rainfall was noted over most areas of eastern Philippines, Southern and Western Mindanao while the rest of the country experienced near normal to above normal rainfall condition. (View [Rainfall Charts](#))

Average temperature ranges over the archipelago were as follows; mountainous areas of Luzon, from 16.0°C to 24.5°C; the rest of Luzon, from 22.6°C to 34.3°C; over the Visayas, from 23.7°C to 33.2°C; the mountainous areas of Mindanao, from 17°C to 30.3°C and the rest of Mindanao, from 21.5°C to 33.4°C. Warmer than average air temperatures were noted in most parts of the country.

Weather Outlook for August 2010

Based on current atmospheric and oceanic conditions, recent trends, and model forecasts, early stages of La Niña is likely to continue during this month. It is expected to strengthen to a La Niña level through the coming months and likely to persist up to the early part of 2011.

Weather systems likely to affect the country are the SW monsoon, ITCZ, low pressure area and three (3) or four (4) tropical cyclones. Most areas of the country will likely experience near normal rainfall condition, except western Pangasinan, Zambales and Bataan provinces where below normal rainfall is expected. Above normal rainfall condition is however expected over most areas of the Bicol region. Flood, flash flood and landslides are likely to occur in areas affected by short duration maximum rainfall or frequent rains.

Predicted ranges of temperature for August will be 23°C to 34°C over the lowlands of Luzon, 16°C to 23°C over the mountainous areas of Luzon, 24°C to 34°C for Visayas, 23°C to 34°C over the lowlands of Mindanao and 19°C to 30°C over the mountainous areas of Mindanao.

PAGASA will continue to monitor the development of the La Niña and the day-to-day associated rainfall/weather conditions that will affect the country. Updates will be issued as necessary.





Climatology and Agrometeorology

Philippine Atmospheric Geophysical and Astronomical Services Administration
Climate Impact Assessment for Philippine Agriculture

July 2010

No. 7 / Volume 26

Overview

Crop condition in most part of the country are normal, sufficient moisture and yield indices indicate good harvest prospects except Vigan, Mindoro, Palawan, Legazpi, Maasin and Iloilo. The El Nino phenomenon has dissipated and neutral conditions were observed in Central and eastern equatorial Pacific. However, after a brief period of neutrality, some signs of La Nina condition were observed during the later part of the month. During the month, normal to above normal rainfall were registered in most parts of the country. Amount of 301-500 mm were registered in most parts of regions 3, 4A & B, 5 and 10. Other regions received 300 and below.

This situation favored rainfed palay and corn crops planted on the month of June, including other standing crops both for lowland and highland. However, newly planted crops in southern Luzon experienced severe damage from the onslaught of Tropical Storm "Basyang" affected areas need rehabilitation.

The weather systems that affected the country during the month were the Southwest (SW) monsoon, the Inter-tropical Convergence Zone (ITCZ), Low Pressure Area (LPA) and (2) tropical cyclones, namely: TY "Basyang" (July 13-15), and TD "Caloy" (July 19-20). Passage of TY "Basyang" enhanced the SW monsoon and affected the CALABAR Zone that brought flooding, flashfloods and landslides in some areas. Surge of moderate to strong winds brought about sea mishap in coastal areas of the Bicol region as induced by TY "Basyang". Likewise, damages due to strong winds were reported over the CALABAR Zone, including Metro Manila and caused temporary power failures, disrupting daily activities. TD "Caloy" developed from LPA west of Zambales area, made its exit towards the South China sea but did not give significant effect to any part of the country.

REGION I (Ilocos Region)

Late planted upland palay and wet season corn experienced normal crop condition as indicated by the Generalized Monsoon and Yield Moisture Indices. Good weather and sufficient moisture experience by the standing crops suggests normal yields.

CAR (Cordillera Autonomous Region)

Planting and transplanting of lowland palay just started due to ample rainfall experienced in the area. In some parts of the region late planted wet season now on its vegetative stage is faring well suggesting good yield, while upland palay planted in June anticipate good weather crops condition.

REGION II (Cagayan Valley)

Upland palay now on its maturing stage experienced sufficient moisture anticipating normal yield. On the other hand wet season corn planted in May suggests normal harvest.

REGION III (Central Luzon)

Normal to above normal rainfall received in most parts of the region favors good weather crop condition for upland palay now on its vegetative stage. Maturing wet season corn planted in May experienced favorable weather crop condition.





EL NIÑO ADVISORY No. 10 (Final)

The El Niño event that prevailed over the equatorial Pacific since June 2009 has ended. The sea surface temperatures throughout the central and eastern equatorial Pacific Ocean have gradually cooled during May, resulting in neutral conditions. Most climate models predict neutral conditions to persist, however some models indicate the possibility of a transition to La Niña conditions during the second half of 2010.

The weather systems that affected the country during the month of May were the tail-end of a cold front, Intertropical Convergence Zone (ITCZ), easterly wave and Low Pressure Area (LPA). Moreover, the effect of the ridge of High Pressure Area (HPA) resulted to below normal rainfall conditions in central and southern Luzon and Visayas. No tropical cyclone had entered or developed in the Philippine Area of Responsibility (PAR).

Rainfall assessment for the month of May showed that most parts of Luzon and Visayas experienced way below to below normal rainfall conditions except in the Cordillera Administrative Region (CAR), Ilocos Region, Batanes and Isabela where near to above normal rainfall conditions were observed. Most areas in Mindanao have above to near normal rainfall conditions except in the central part which received below normal rainfall. The prevalence of the ITCZ in southern Mindanao brought continuous heavy rains and flooded the low lying areas of Sultan Kudarat. ([View: Rainfall Charts](#))

Areas that still experienced rainfall deficiencies as of the end of May were Rizal, Quezon, Marinduque, Occidental and Oriental Mindoro, Romblon, Albay, Camarines Sur, Masbate, Sorsogon, Cebu, Negros Oriental, Siquijor, Leyte and Samar provinces, Aklan, Antique, Capiz, Guimaras, Iloilo, Negros Occidental and Bukidnon having four to five consecutive months (January – May) of below normal rainfall conditions.

Temperature was generally warmer than normal in most parts of the country during May. Average temperature ranges were as follows: 21°C to 37°C over the lowlands of Luzon, 15°C to 27°C for the mountainous areas of Luzon, 24°C to 35°C for Visayas, 22°C to 35°C over the lowlands of Mindanao, and 17°C to 32°C over the mountainous areas of Mindanao. Highest temperature observed for the whole country was 40.2°C (May 23) in Echague, Isabela but did not surpass the highest temperature on record. On the other hand, Metro Manila (NAIA Station), Daet, Camarines Norte, and Mactan Cebu stations surpassed their highest temperatures on record for the month having 38.3°C, 38.3°C and 36.4°C, respectively.

Weather systems likely to affect the country for the month of June are the southwest monsoon, ridge of HPA, ITCZ, and occurrence of one (1) or two (2) tropical cyclones. Air temperatures are expected to be slightly warmer than normal in most parts of the country. The expected ranges of temperature are as follows: 23°C to 35°C over the lowlands of Luzon, 17°C to 25°C for the mountainous areas of Luzon, 23°C to 33°C for Visayas, 23°C to 34°C over the lowlands of Mindanao, and 19°C to 30°C over the mountainous areas of Mindanao.

The onset of the rainy season in areas under Type I climate which is associated with the southwest monsoon is expected during the early part or middle of June. Rainfall conditions will likely be near normal in most parts of the country with some areas in Visayas and Mindanao that may receive below normal rainfall.

PAGASA will continue to monitor the day-to-day weather conditions and the large-scale climatic patterns that will affect the country especially on the increasing probability of La Niña. Meanwhile, the public is advised to take precautionary measures against floods and rain-induced landslides in hazard prone areas. Updates or advisories shall be issued as appropriate.





Climatology and Agrometeorology

Philippine Atmospheric Geophysical and Astronomical Services Administration

10-DAY REGIONAL AGRI-WEATHER INFORMATION

DEKAD 23

AUGUST 01-10, 2010

PHILIPPINE AGRI-WEATHER FORECAST

The intertropical convergence zone is likely to affect Visayas and Mindanao. Mostly cloudy skies with scattered rainshowers and thunderstorms will be experienced over southern Luzon, Visayas and Mindanao. The rest of Luzon will have partly cloudy to at times cloudy with isolated rainshowers and thunderstorms.

Moderate to strong winds coming from the southwest will prevail over northern Luzon. Elsewhere, light to moderate winds from southeast and south will prevail.

One (1) tropical cyclone is expected to occur during the forecast period.

REGIONAL AGROMETEOROLOGICAL SITUATION AND PROGNOSIS

| | |
|--|--|
| REGION 1 - Ilocos Region (Ilocos Norte, Ilocos Sur, La Union, Pangasinan) | <p>Decade 22: Rainfall amounts from 77.50mm up to 220.40mm was recorded over the region. Actual minimum and maximum temperature range was recorded at 24.5°C to 32.2°C. Soil moisture condition was wet in most parts of the region. Transplanting of rice on going. Rice is in vegetative stage in some farm areas</p> <p>Decade 23: Forecast rainfall is from 25mm to 85mm. The average relative humidity range is from 78% - 87% and the average temperature range is from 24C to 32.4°C.</p> |
| REGION 2 - Cagayan Valley (Basco, Cagayan, Isabela, Nueva Viscaya, Quirino) | <p>Decade 22: Rainfall amounts ranging from 13.0mm in Calayan up to 280.00mm and 359.70mm in Itbayat and Basco respectively, was reported over the region. Actual minimum and maximum temperature range was recorded at 22.7°C to 34.2°C. Soil moisture condition was wet in most parts of the region but dry in some parts of Cagayan. Planting and transplanting of rice in most part of the region on going.</p> <p>Decade 23: Rainfall forecast is from 25mm to 75mm. Average relative humidity range is from 74% - 87% and the average temperature range is from 23.6°C-34.1°C.</p> |
| CAR-(Cordillera Administrative Region) Mt. Province, Kalinga, Apayao, Abra, Ifugao, Benguet) | <p>Decade 22: Rains ranging from 45.4mm to 285.50mm was recorded over Benguet. Actual minimum and maximum temperature range was recorded at 16.2°C to 23.2°C. Soil moisture condition was wet in most parts of the region. Transplanting of rice on going.</p> <p>Decade 23: Forecast rainfall is from 25mm to 100mm. The average relative humidity range this decade is from 88% - 93% and the average temperature range is from 16.2°C - 23.4°C.</p> |
| REGION 3 - Central LuzON (Tarlac, Nueva Ecija, Zambales, Bulacan, Aurora, Pampanga, Bataan) | <p>Decade 22: Rains ranging from 43.8mm to 302.20mm was recorded over the different provinces in the region. Actual minimum and maximum temperature range was recorded at 23.4°C to 33.4°C. Soil moisture condition was wet over the region. Rice is in vegetative and flowering stages in different parts of the region. Harvesting of rootcrops on going.</p> <p>Decade 23: The expected rainfall range is from 20mm to 65mm. Average relative humidity range is from 80% - 87% and the average temperature range is from 23.6°C - 32.6°C.</p> |





FARM WEATHER FORECAST AND ADVISORIES (FWFA)

ISSUED: 8AM, MONDAY, AUGUST 16, 2010
 VALID: 8:00AM, TUESDAY, AUGUST 17, 2010 FWFA: No. 10-228

| FORECAST AREA | CENTRAL AND SOUTHERN LUZON, VISAYAS AND MINDANAO | REST OF THE COUNTRY |
|-------------------|--|--|
| AGRI-WEATHER | MOSTLY CLOUDY SKIES WITH SCATTERED RAINSHOWERS AND THUNDERSTORMS | PARTLY CLOUDY SKIES TO AT TIMES CLOUDY WITH ISOLATED RAINSHOWERS AND THUNDERSTORMS |
| WINDS | LIGHT TO MODERATE TO STRONG FROM SOUTHEAST TO NORTHEAST | LIGHT TO MODERATE FROM SOUTHEAST TO NORTHEAST |
| TEMPERATURE | 20 - 30°C - UPLAND FARMS 24 - 35°C - LOWLAND FARMS | 17 - 25°C - UPLAND FARMS 23 - 34°C - LOWLAND FARMS |
| RELATIVE HUMIDITY | 70 - 100 % | 65 - 98 % |
| LEAF WETNESS | 4 TO 8 HOURS | UP TO 4 HOURS |

SYNOPSIS: INTERTROPICAL CONVERGENCE ZONE (ITCZ) AFFECTING CENTRAL AND SOUTHERN LUZON, VISAYAS AND MINDANAO.

SOIL MOISTURE CONDITIONS:

- WET** – NORTHERN LUZON, ILOCOS REGION, AURORA PROVINCE, METRO-MANILA, CAMARINES NORTE, BUKIDNON, EASTERN SECTIONS OF MINDANAO INCLUDING COTABATO CITY.
- MOIST** – REGION 3 EXCEPT AURORA, REST OF NATIONAL CAPITAL REGION, PALAWAN, ZAMBOANGA DEL NORTE, NORTHERN SECTIONS OF DAVAO PROVINCE, NORTHERN SECTION OF MINDANAO.
- DRY** – REST OF THE COUNTRY

FARM ADVISORIES:

- > SELECT VARIETIES THAT IS BEST ADAPTED TO THE CONDITION OF YOUR LOCAL AREA, WHETHER DROUGHT RESISTANT OR DROUGHT TOLERANT CULTIVARS, RESISTANT TO PESTS, NON-FERTILE OR SALINE PRONE, LATE OR EARLY MATURING VARIETIES
- > CHOOSE VARIETIES WHICH ADAPT TO THE SPECIFIC NEEDS AND PROBLEMS OF YOUR AREA.
- > MANAGE IRRIGATION SYSTEM PROPERLY
- > MAINTAIN THE GOOD CONDITION OF THE BARNs AND FARM HOUSES.
- > DELIVER GOODS IN MARKET PLACES USING COVERED VANS OR VEHICLES



FISHING ADVISORIES:

COASTAL WATERS AROUND THE WHOLE ARCHIPELAGO WILL BE MODERATE TO ROUGH. FISHERMEN ARE STILL ADVISED TO TAKE PRECAUTIONARY MEASURES IN GOING OUT FISHING SPECIALLY THOSE USING SMALL SEACRAFTS. ALWAYS LISTEN TO THE RADIO FOR THE LATEST WEATHER UPDATE AND FARM ADVISORIES.



Angat Multi-purpose Dam





PRESS RELEASE

Onset of the 2010 Rainy Season
06 June 2010

The development of a series of low pressure systems, also known as heat lows, in the southern part of mainland Asia that linked with the low pressure area near Northern Luzon has generated and sustained the southwesterly winds in the country which brought rains for several days especially in the western section of the country. This development signals the onset of the rainy season on the 1st week of June in areas under Type 1 climate, which covers the western parts of Luzon and Visayas.

The rainy season which is associated with the Southwest Monsoon is expected to last until end of September. However, monsoon breaks or periods of no rain for a few weeks are expected during the season.

With the increasing probability of the occurrence of La Niña beginning on the 3rd quarter of this year that can result to above normal rainfall, residents in low-lying areas and near mountain slopes are advised to take precautionary measures against possible flash floods and landslides during periods of heavy rains.

For more information, you may contact the Weather Division of PAGASA at telephone numbers: 927-1541, 926-4258, 927-1335 and 928-2031.



HOME
ABOUT US
REAL-TIME WEATHER
FLOOD FORECAST
CLIMATOLOGY
DISASTER REDUCTION
ASTRONOMY

Monday, August 16, 2010
Philippine Standard Time

WEB MAIL



Monthly Rainfall Forecast

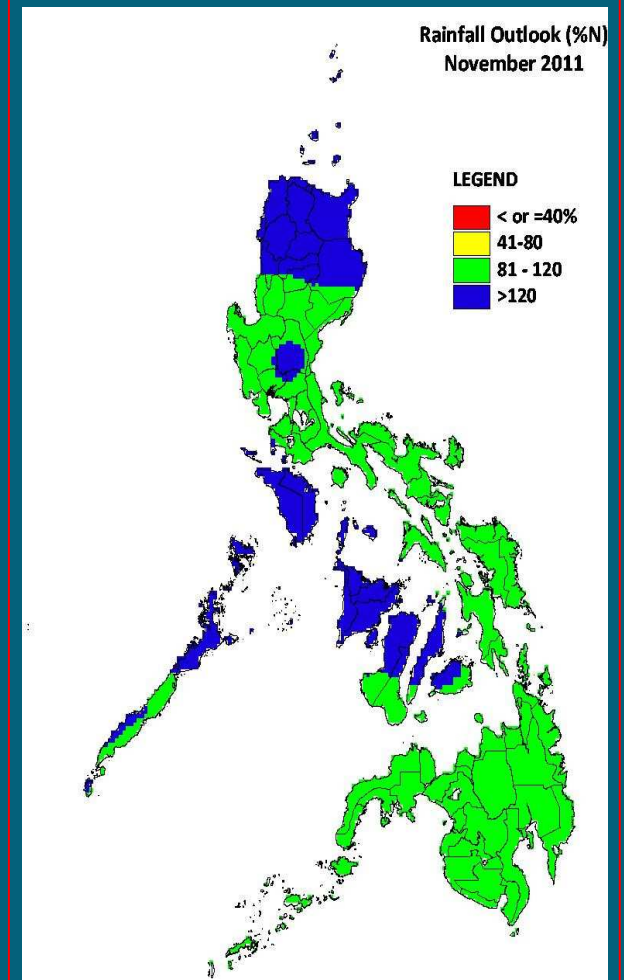
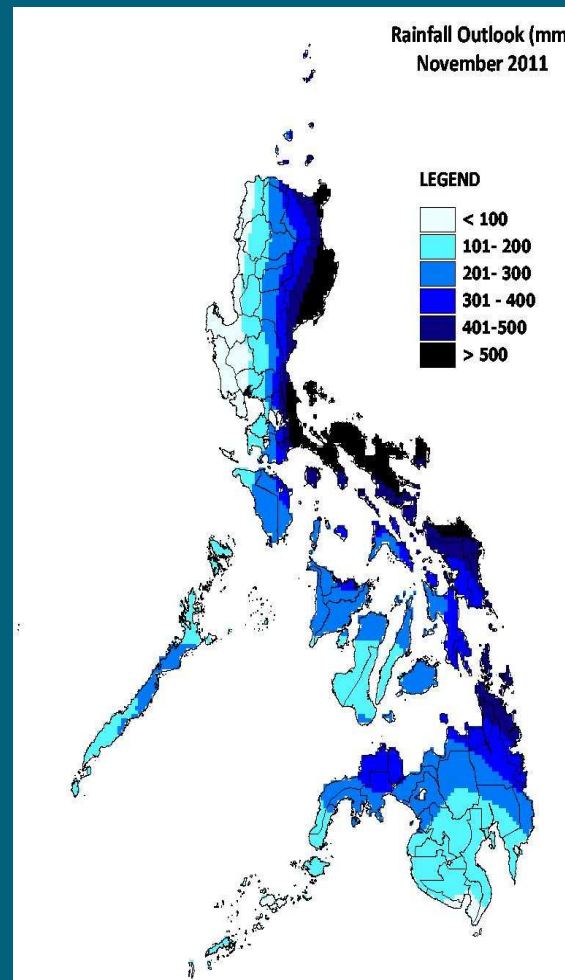
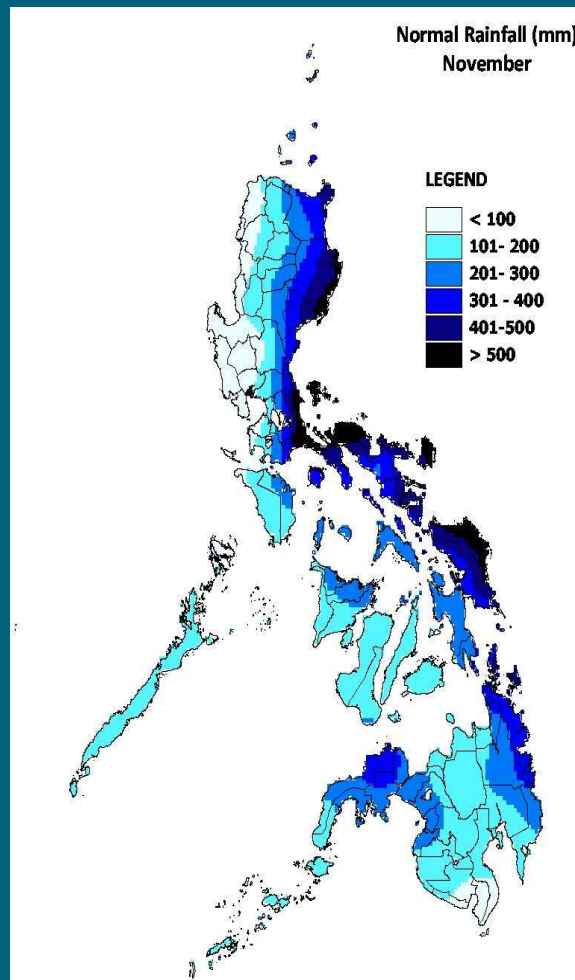
Updated: Oct. 7, 2011

**Normal (mm)
(1971-2000)**

November 2011

Forecast (mm)

% Normal





Monthly Rainfall Forecast

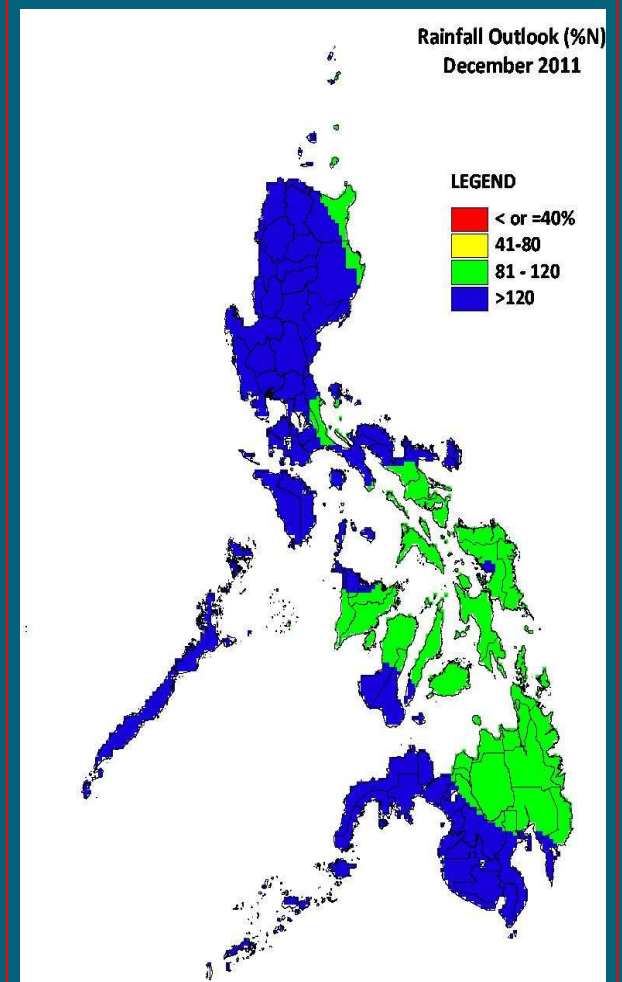
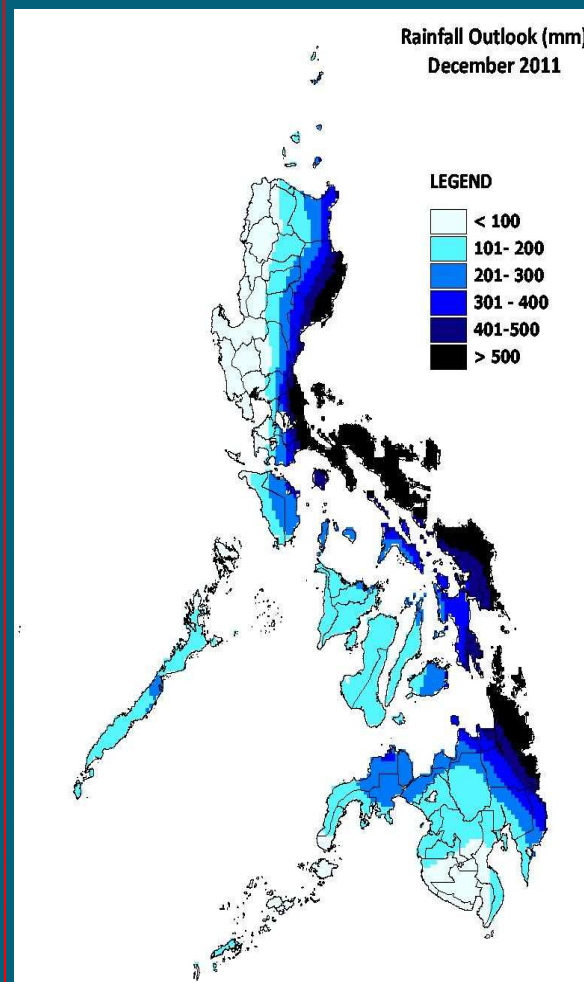
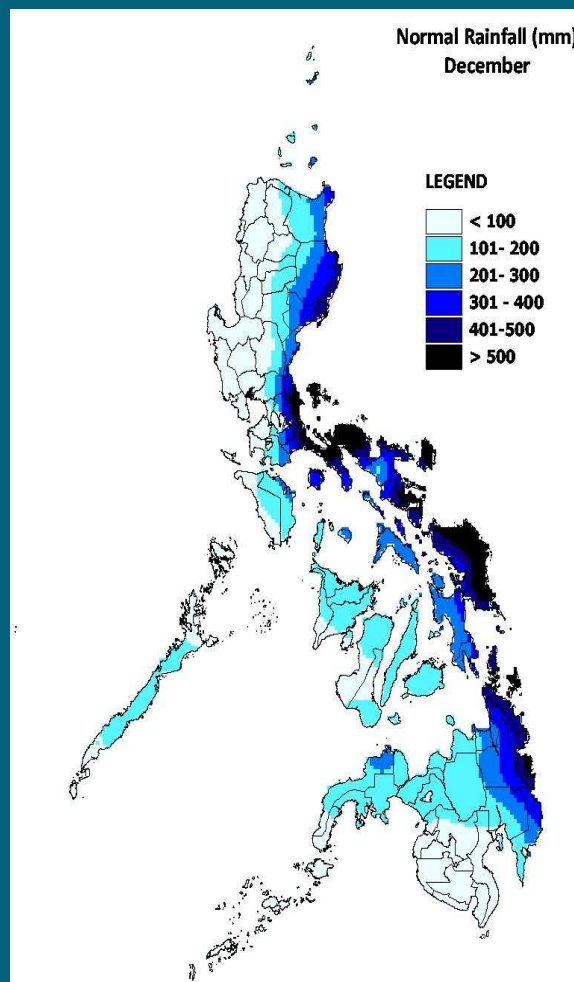
Updated: Oct. 7, 2011

**Normal (mm)
(1971-2000)**

December 2011

Forecast (mm)

% Normal





Monthly Rainfall Forecast

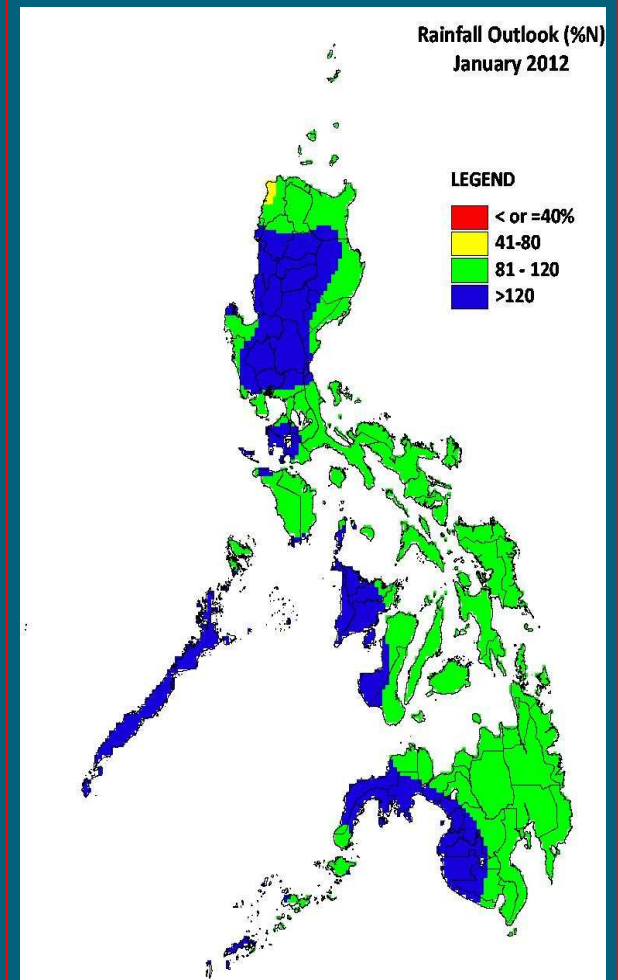
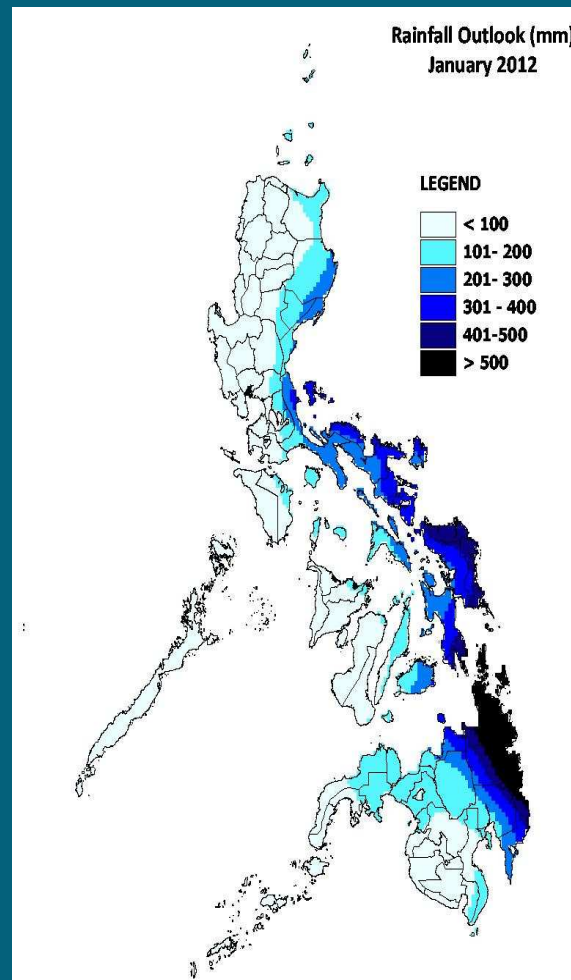
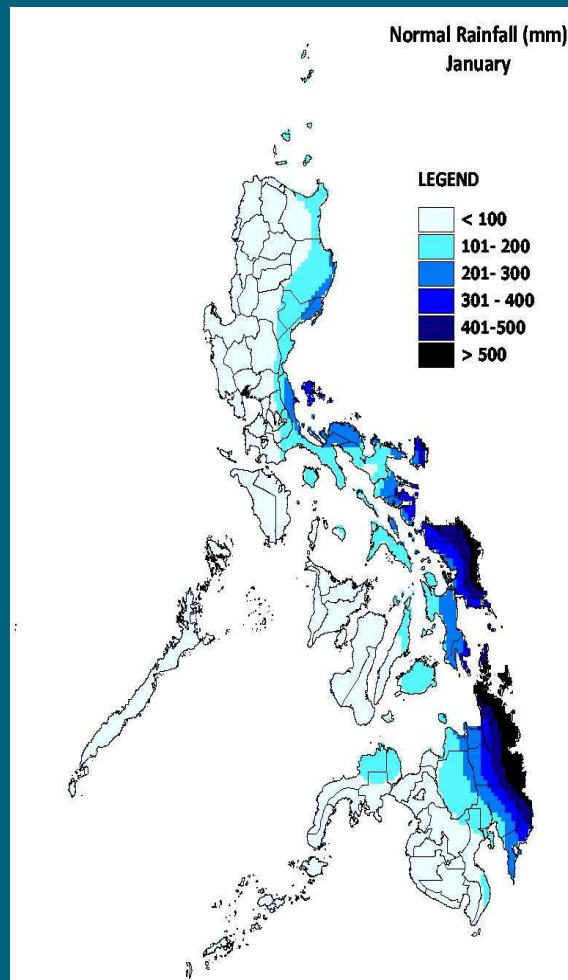
Updated: Oct. 7, 2011

**Normal (mm)
(1971-2000)**

January 2012

Forecast (mm)

% Normal





Monthly Rainfall Forecast

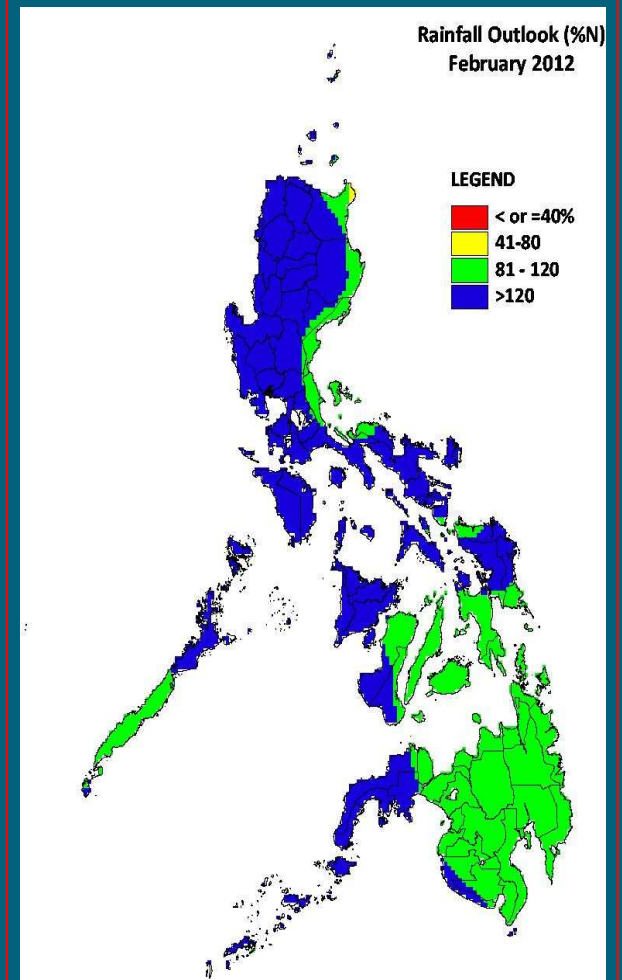
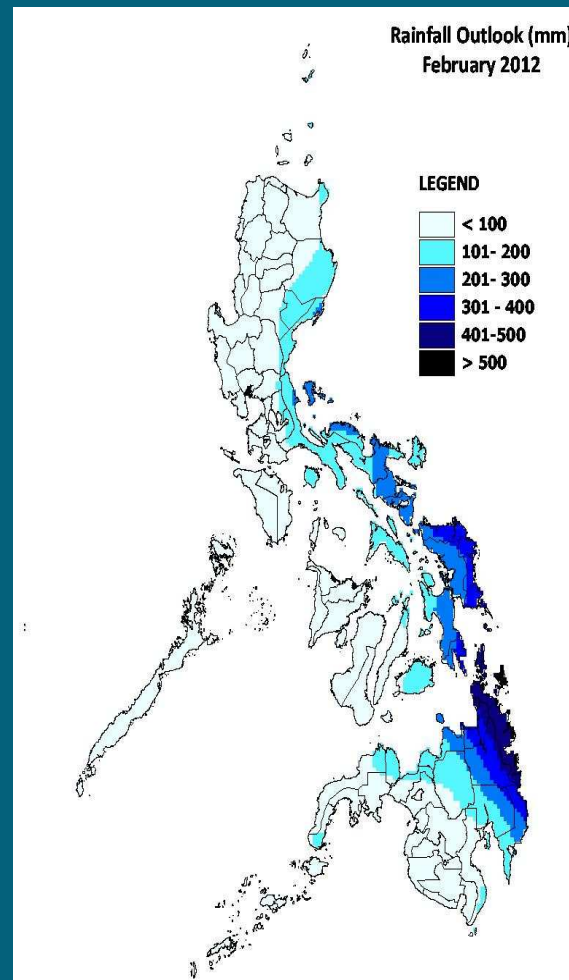
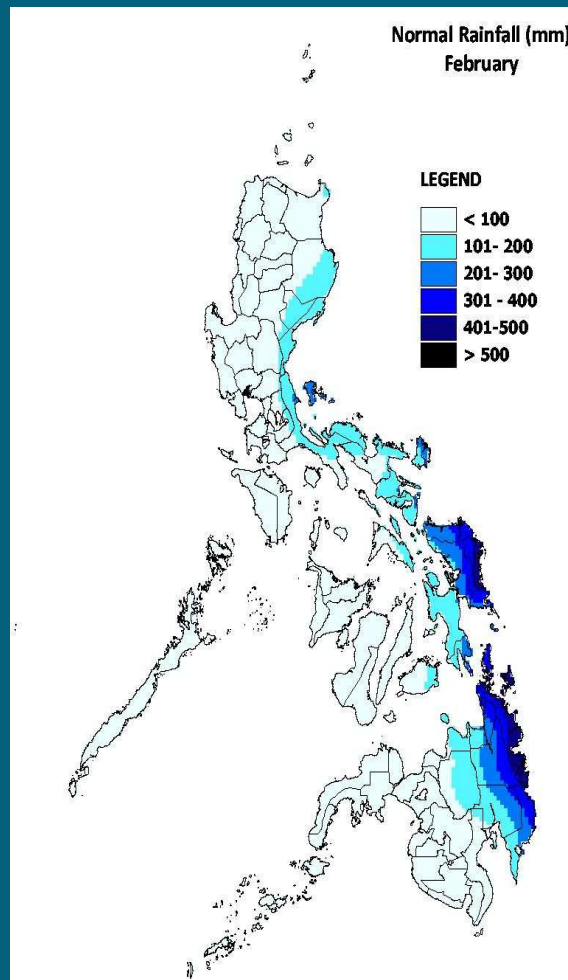
Updated: Oct. 7, 2011

**Normal (mm)
(1971-2000)**

February 2012

Forecast (mm)

% Normal





Monthly Rainfall Forecast

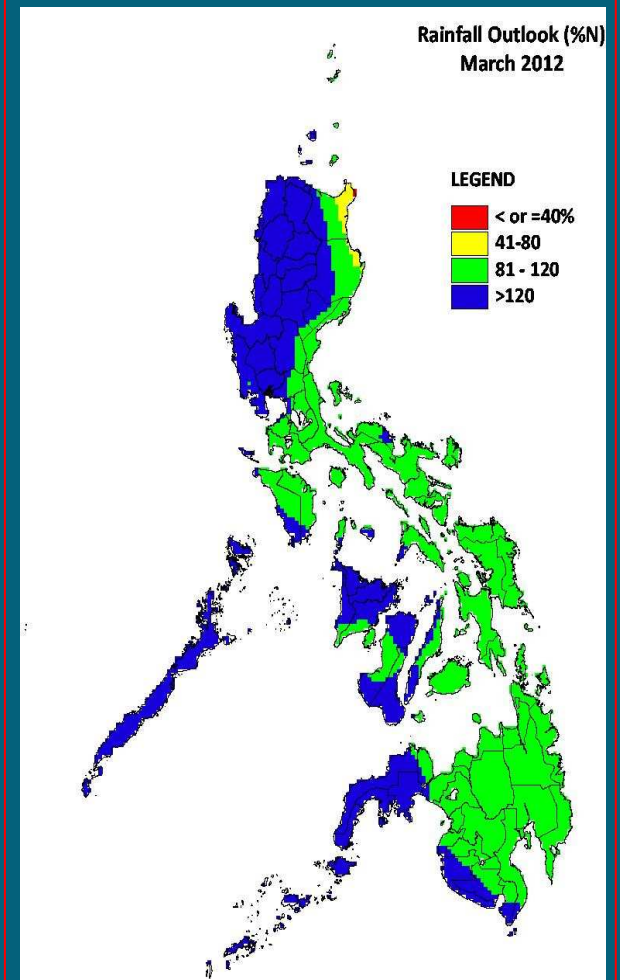
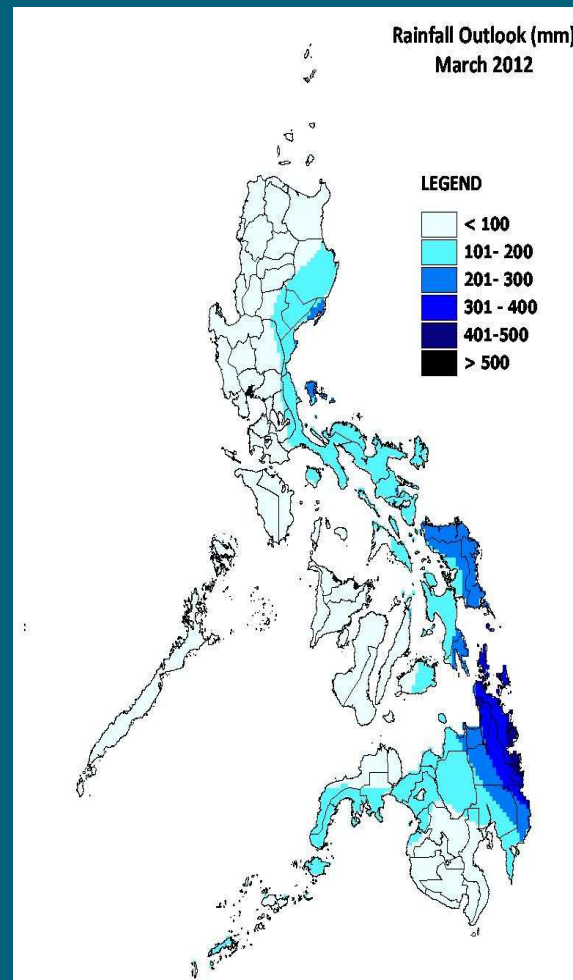
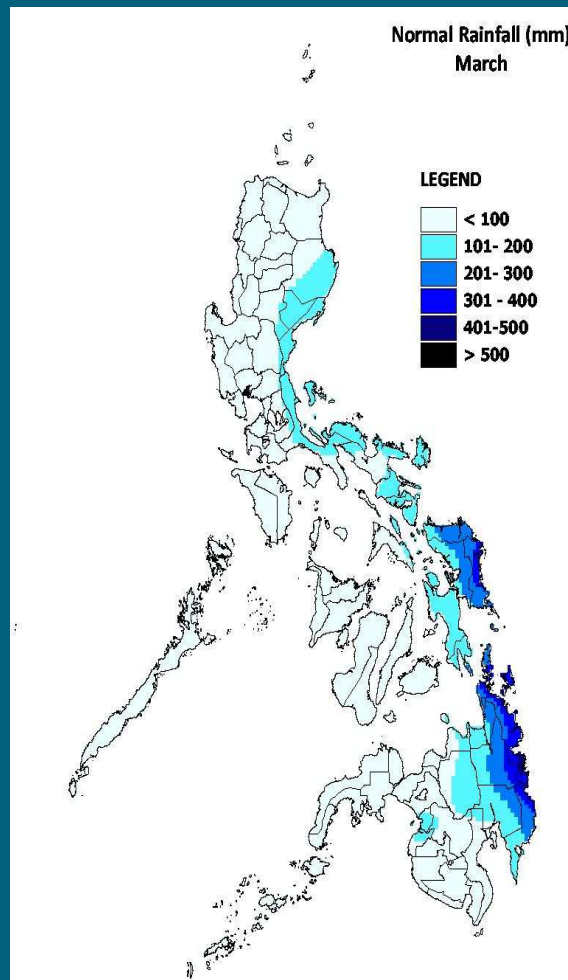
Updated: Oct. 7, 2011

**Normal (mm)
(1971-2000)**

March 2012

Forecast (mm)

% Normal



Forecast Rainfall Analysis in Percent of Normal (NOV 2011 - MAR 2012)

| PROVINCE | %N_NOV | %N_DEC | %N_JAN | %N_FEB | %N_MAR | PROVINCE | %N_NOV | %N_DEC | %N_JAN | %N_FEB | %N_MAR |
|---|--------|--------|--------|--------|--------|--|--------|--------|--------|--------|--------|
| CORDILLERA ADMINISTRATIVE REGION (CAR) | | | | | | REGION VI (WESTERN VISAYAS) | | | | | |
| ABRA | 136.2 | 180.3 | 126.1 | 209.6 | 324.6 | AKLAN | 131.2 | 123.0 | 127.3 | 196.8 | 142.3 |
| BENGUET | 114.2 | 160.9 | 143.8 | 163.9 | 177.8 | ANTIQUE | 128.4 | 121.2 | 132.8 | 225.2 | 129.0 |
| IFUGAO | 122.4 | 155.6 | 135.5 | 151.0 | 183.1 | CAPIZ | 129.7 | 121.5 | 124.2 | 164.6 | 149.7 |
| KALINGA | 125.5 | 133.1 | 121.5 | 131.2 | 115.2 | GUIMARAS | 123.4 | 120.2 | 126.8 | 139.9 | 114.7 |
| APAYAO | 138.7 | 163.4 | 106.0 | 243.5 | 235.5 | ILOILO | 126.6 | 120.2 | 126.4 | 159.9 | 131.0 |
| MOUNTAIN PROVINCE | 126.5 | 159.7 | 135.0 | 159.9 | 215.3 | NEGROS OCCIDENTAL | 124.3 | 121.3 | 122.3 | 130.9 | 126.6 |
| REGION I | | | | | | REGION VII (CENTRAL VISAYAS) | | | | | |
| ILOCOS NORTE | 144.8 | 201.4 | 89.3 | 361.3 | 354.5 | BOHOL | 122.4 | 114.6 | 111.5 | 97.5 | 115.2 |
| ILOCOS SUR | 129.1 | 182.0 | 139.1 | 173.1 | 326.8 | CEBU | 126.3 | 117.2 | 115.8 | 102.4 | 122.1 |
| LA UNION | 115.3 | 170.3 | 140.2 | 181.1 | 211.4 | NEGROS ORIENTAL | 119.5 | 126.7 | 120.5 | 127.6 | 129.6 |
| PANGASINAN | 115.1 | 175.1 | 127.7 | 207.9 | 156.0 | SIQUIJOR | 114.1 | 127.0 | 114.9 | 105.9 | 119.1 |
| REGION II | | | | | | REGION VIII (EASTERN VISAYAS) | | | | | |
| BATANES | 125.5 | 125.3 | 88.5 | 128.0 | 109.3 | BILIRAN | 112.7 | 116.8 | 113.7 | 125.1 | 117.5 |
| CAGAYAN | 133.0 | 128.1 | 115.7 | 146.7 | 119.1 | EASTERN SAMAR | 102.6 | 117.1 | 109.8 | 121.9 | 110.0 |
| ISABELA | 125.5 | 133.1 | 121.5 | 131.2 | 115.2 | LEYTE | 112.6 | 113.3 | 111.3 | 114.2 | 111.4 |
| NUEVA VIZCAYA | 117.1 | 154.1 | 134.7 | 140.7 | 141.3 | NORTHERN SAMAR | 103.5 | 113.1 | 112.5 | 122.7 | 117.6 |
| QUIRINO | 118.1 | 147.8 | 120.8 | 125.7 | 126.6 | SAMAR (WESTERN SAMAR) | 106.0 | 118.3 | 111.5 | 126.2 | 115.1 |
| REGION III (CENTRAL LUZON) | | | | | | REGION IX (ZAMBOANGA PENINSULA) | | | | | |
| BATAAN | 120.5 | 158.4 | 119.3 | 163.6 | 125.2 | ZAMBOANGA DEL NORTE | 106.9 | 132.8 | 122.9 | 161.0 | 195.4 |
| BULACAN | 120.6 | 137.4 | 125.1 | 138.0 | 120.5 | ZAMBOANGA DEL SUR | 104.8 | 134.4 | 123.8 | 151.3 | 199.7 |
| NUEVA ECIIJA | 122.3 | 152.4 | 147.8 | 140.7 | 124.8 | ZAMBOANGA SIBUGAY | | | | | |
| PAMPANGA | 120.6 | 157.2 | 130.4 | 158.0 | 123.7 | REGION X (NORTHERN MINDANAO) | | | | | |
| TARLAC | 118.8 | 170.9 | 137.1 | 175.1 | 125.6 | BUKIDNON | 108.1 | 99.7 | 98.1 | 95.9 | 97.4 |
| ZAMBALES | 115.7 | 188.8 | 123.1 | 183.6 | 131.2 | CAMIGUIN | 112.3 | 107.3 | 104.5 | 97.0 | 104.6 |
| AURORA | 118.1 | 144.8 | 117.2 | 115.2 | 113.2 | LANAO DEL NORTE | 99.7 | 128.0 | 118.1 | 108.6 | 110.5 |
| NATIONAL CAPITAL REGION | | | | | | MISAMIS OCCIDENTAL | 101.3 | 131.5 | 118.6 | 115.3 | 118.8 |
| METRO MANILA | 116.8 | 127.6 | 106.4 | 147.5 | 122.0 | MISAMIS ORIENTAL | 109.2 | 102.6 | 100.6 | 96.4 | 99.9 |
| REGION IV-A (CALABARZON) | | | | | | REGION XI (DAVAO REGION) | | | | | |
| BATANGAS | 117.2 | 136.6 | 125.0 | 139.6 | 114.1 | CAMPOSTELA VALLEY | | | | | |
| CAVITE | 117.7 | 137.5 | 123.1 | 152.0 | 119.9 | DAVAO | 105.3 | 113.2 | 104.2 | 103.5 | 109.4 |
| LAGUNA | 108.7 | 126.1 | 113.6 | 133.2 | 115.1 | DAVAO DEL SUR | 111.7 | 126.2 | 113.5 | 109.9 | 112.1 |
| RIZAL | 115.4 | 124.8 | 111.3 | 131.1 | 116.4 | DAVAO ORIENTAL | 105.7 | 118.9 | 107.8 | 104.0 | 104.5 |
| QUEZON | 110.7 | 123.6 | 108.6 | 121.2 | 113.8 | REGION XII (SOCCSKSARGEN) | | | | | |
| REGION IV-B (MIMAROPA) | | | | | | SOUTH COTABATO | 113.7 | 135.8 | 122.9 | 118.3 | 125.0 |
| MARINDUQUE | 115.4 | 125.4 | 108.1 | 129.1 | 113.2 | COTABATO | 101.1 | 130.5 | 119.8 | 103.5 | 99.6 |
| OCCIDENTAL MINDORO | 138.3 | 134.3 | 119.4 | 151.3 | 120.4 | SARANGANI | 118.7 | 132.4 | 119.0 | 119.4 | 128.0 |
| ORIENTAL MINDORO | 131.7 | 131.8 | 116.9 | 142.9 | 114.6 | SULTAN KUDARAT | 105.4 | 141.0 | 128.0 | 117.6 | 126.2 |
| ROMBLON | 126.9 | 125.6 | 122.4 | 153.8 | 121.5 | REGION XIII (CARAGA) | | | | | |
| PALAWAN | 130.9 | 147.1 | 133.1 | 149.6 | 175.9 | AGUSAN DEL NORTE | 107.1 | 102.5 | 101.7 | 96.1 | 97.7 |
| REGION V (BICOL) | | | | | | AGUSAN DEL SUR | 106.6 | 99.9 | 99.2 | 96.8 | 100.9 |
| ALBAY | 108.7 | 114.6 | 111.7 | 126.8 | 113.6 | SURIGAO DEL NORTE | 104.1 | 111.7 | 108.4 | 99.8 | 96.4 |
| CAMARINES NORTE | 112.9 | 125.1 | 113.0 | 123.2 | 120.4 | SURIGAO DEL SUR | 103.3 | 105.9 | 104.7 | 98.2 | 99.2 |
| CAMARINES SUR | 111.4 | 122.8 | 114.8 | 127.9 | 118.6 | ARM M | | | | | |
| CATANDUANES | 106.0 | 129.8 | 120.7 | 130.3 | 118.4 | BASILAN | 117.0 | 128.0 | 120.9 | 189.1 | 335.6 |
| MASBATE | 114.4 | 113.2 | 119.4 | 125.6 | 116.1 | MAGUINDANAO | 98.8 | 143.6 | 130.7 | 110.2 | 109.9 |
| SORSOGON | 107.0 | 111.1 | 113.4 | 123.8 | 112.0 | LANAO DEL SUR | 98.7 | 126.5 | 118.0 | 102.4 | 99.3 |
| | | | | | | SULU | 117.2 | 139.4 | 122.3 | 158.6 | 348.0 |

Forecast Rainfall Analysis in millimeter (NOV 2011 - MAR 2012)

| PROVINCE | NOV | DEC | JAN | FEB | MAR | PROVINCE | NOV | DEC | JAN | FEB | MAR |
|---|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|
| CORDILLERA ADMINISTRATIVE REGION (CAR) | | | | | | REGION VI (WESTERN VISAYAS) | | | | | |
| ABRA | 138.0 | 63.7 | 21.7 | 16.7 | 25.8 | AKLAN | 283.0 | 183.9 | 80.8 | 54.5 | 65.5 |
| BENGUET | 153.5 | 63.3 | 26.9 | 27.0 | 51.2 | ANTIQUÉ | 239.0 | 138.1 | 54.7 | 38.4 | 49.7 |
| IFUGAO | 269.9 | 179.3 | 67.7 | 57.6 | 77.2 | CAPIZ | 291.4 | 185.2 | 88.9 | 60.9 | 77.6 |
| KALINGA | 498.9 | 413.9 | 162.3 | 121.4 | 127.3 | GUIMARAS | 204.1 | 117.8 | 49.0 | 36.9 | 44.2 |
| APAYAO | 240.2 | 108.7 | 49.0 | 27.4 | 24.5 | ILOILO | 246.9 | 150.5 | 68.6 | 49.1 | 60.7 |
| MOUNTAIN PROVINCE | 232.6 | 138.6 | 47.2 | 40.0 | 56.0 | NEGROS OCCIDENTAL | 200.8 | 127.3 | 67.4 | 45.8 | 51.1 |
| REGION I | | | | | | REGION VII (CENTRAL VISAYAS) | | | | | |
| ILOCOS NORTE | 96.4 | 32.1 | 16.8 | 12.1 | 14.2 | BOHOL | 246.7 | 233.4 | 215.6 | 139.6 | 110.5 |
| ILOCOS SUR | 91.1 | 28.6 | 10.2 | 11.2 | 26.6 | CEBU | 208.7 | 162.6 | 122.1 | 79.3 | 71.6 |
| LA UNION | 86.3 | 9.8 | 5.0 | 9.7 | 31.1 | NEGROS ORIENTAL | 185.6 | 131.3 | 75.9 | 49.7 | 49.1 |
| PANGASINAN | 69.1 | 26.9 | 10.6 | 13.0 | 24.0 | SIQUIJOR | 223.2 | 188.7 | 131.7 | 82.8 | 69.2 |
| REGION II | | | | | | REGION VIII (EASTERN VISAYAS) | | | | | |
| BATANES | 334.8 | 233.6 | 161.5 | 109.4 | 77.7 | BILIRAN | 317.1 | 330.2 | 239.4 | 189.3 | 149.5 |
| CAGAYAN | 401.1 | 232.6 | 99.7 | 59.3 | 49.7 | EASTERN SAMAR | 427.4 | 531.1 | 434.5 | 327.2 | 250.4 |
| ISABELA | 498.9 | 413.9 | 162.3 | 121.4 | 127.3 | LEYTE | 307.9 | 357.6 | 300.8 | 229.4 | 170.8 |
| NUEVA VIZCAYA | 293.4 | 212.4 | 91.4 | 80.5 | 106.2 | NORTHERN SAMAR | 503.7 | 580.1 | 451.0 | 311.2 | 253.5 |
| QUIRINO | 456.5 | 399.4 | 171.9 | 141.3 | 163.7 | SAMAR (WESTERN SAMAR) | 403.0 | 460.1 | 349.8 | 269.2 | 210.6 |
| REGION III (CENTRAL LUZON) | | | | | | REGION IX (ZAMBOANGA PENINSULA) | | | | | |
| BATAAN | 70.4 | 4.0 | 0.0 | 0.0 | 0.2 | ZAMBOANGA DEL NORTE | 282.2 | 211.9 | 106.6 | 93.9 | 102.2 |
| BULACAN | 253.2 | 227.6 | 90.7 | 60.0 | 56.4 | ZAMBOANGA DEL SUR | 262.0 | 192.4 | 103.6 | 97.0 | 112.5 |
| NUEVA ECIJA | 213.5 | 150.1 | 61.0 | 51.5 | 65.5 | ZAMBOANGA SIBUGAY | | | | | |
| PAMPANGA | 111.0 | 50.5 | 9.4 | 7.2 | 12.7 | REGION X (NORTHERN MINDANAO) | | | | | |
| TARLAC | 90.9 | 29.2 | 3.3 | 7.3 | 16.9 | BUKIDNON | 220.8 | 173.3 | 172.1 | 129.0 | 129.8 |
| ZAMBALES | 59.8 | 8.5 | 0.2 | 2.3 | 9.6 | CAMIGUIN | 315.5 | 332.5 | 338.8 | 225.4 | 179.0 |
| AURORA | 505.9 | 477.5 | 211.4 | 166.9 | 183.7 | LANAO DEL NORTE | 278.3 | 212.5 | 139.6 | 100.4 | 105.2 |
| NATIONAL CAPITAL REGION | | | | | | MISAMIS OCCIDENTAL | | | | | |
| METRO MANILA | 213.3 | 175.6 | 55.9 | 35.8 | 34.1 | MISAMIS ORIENTAL | 293.3 | 281.0 | 281.2 | 192.4 | 166.5 |
| REGION IV-A (CALABARZON) | | | | | | REGION XI (DAVAO REGION) | | | | | |
| BATANGAS | 243.0 | 199.4 | 51.4 | 36.1 | 44.9 | CAMPOSTELA VALLEY | | | | | |
| CAVITE | 138.7 | 80.7 | 9.4 | 4.5 | 12.2 | DAVAO | 203.9 | 224.5 | 273.9 | 195.8 | 185.7 |
| LAGUNA | 405.6 | 401.9 | 131.4 | 93.2 | 87.7 | DAVAO DEL SUR | 127.5 | 107.7 | 106.4 | 88.6 | 81.7 |
| RIZAL | 383.0 | 400.2 | 163.0 | 104.2 | 88.5 | DAVAO ORIENTAL | 216.0 | 284.1 | 365.9 | 252.8 | 226.4 |
| QUEZON | 566.6 | 635.3 | 247.5 | 170.4 | 148.9 | REGION XII (SOCCSKSARGEN) | | | | | |
| REGION IV-B (MIMAROPA) | | | | | | SOUTH COTABATO | | | | | |
| MARINDUQUE | 448.7 | 464.8 | 167.9 | 121.7 | 106.9 | COTABATO | 169.6 | 115.2 | 91.3 | 75.3 | 89.4 |
| OCCIDENTAL MINDORO | 228.2 | 175.2 | 61.7 | 39.5 | 42.8 | SARANGANI | 102.6 | 88.7 | 85.6 | 77.2 | 63.2 |
| ORIENTAL MINDORO | 287.3 | 249.7 | 93.0 | 61.8 | 62.1 | SULTAN KUDARAT | 140.7 | 93.0 | 66.4 | 63.9 | 75.9 |
| ROMBLON | 298.1 | 256.4 | 116.8 | 77.1 | 63.0 | REGION XIII- CARAGA | | | | | |
| PALAWAN | 194.2 | 156.4 | 16.3 | 15.5 | 43.2 | AGUSAN DEL NORTE | 374.9 | 463.1 | 540.9 | 360.5 | 293.9 |
| REGION V (BICOL) | | | | | | AGUSAN DEL SUR | | | | | |
| ALBAY | 502.2 | 603.2 | 315.7 | 229.2 | 184.8 | SURIGAO DEL NORTE | 458.2 | 610.9 | 692.0 | 459.7 | 347.6 |
| CAMARINES NORTE | 621.8 | 775.0 | 305.0 | 203.1 | 180.8 | SURIGAO DEL SUR | 404.7 | 561.0 | 707.7 | 468.3 | 399.5 |
| CAMARINES SUR | 548.1 | 680.9 | 296.1 | 201.7 | 173.9 | ARM M | | | | | |
| CATANDUANES | 526.8 | 657.2 | 300.2 | 184.9 | 172.2 | BASILAN | 127.4 | 60.7 | 26.5 | 90.7 | 135.6 |
| MASBATE | 315.6 | 324.7 | 207.3 | 133.9 | 109.3 | MAGUINDANAO | 164.6 | 109.2 | 78.1 | 67.4 | 86.4 |
| SORSOGON | 462.7 | 540.9 | 336.7 | 234.1 | 188.1 | LANAO DEL SUR | 240.8 | 173.5 | 123.8 | 92.1 | 104.7 |
| | | | | | | SULU | 90.8 | 28.8 | 1.1 | 44.4 | 93.4 |

TC Forecast

| Month | Forecast |
|----------|-------------|
| October | 2 or 3 |
| November | 1 or 2 |
| December | 0 or 1 |
| January | 0 or 1 |
| February | Slim chance |
| March | 0 or 1 |



Current Research Activities:

PAGASA has collaborative climate research studies with the International Research Institute for Climate and Society.

Published -

Title: Spatio-temporal variability and predictability of summer monsoon onset over the Philippines. *Clim Dyn*, doi:10.1007/s00382-008-0520-5

Authored by:

Moron V, Lucero A, Hilario F, Robertson AW, Lyon B, De Witt D (2009)

Currently on press -

MWR-D-11-00177

Monthly Weather Review

Title: Downscaling of Seasonal Rainfall Over the Philippines: Dynamical vs. Statistical Approaches .

Authored by:

Andrew Robertson; Jian-Hua Qian; Michael K Tippett; Vincent Moron;
Anthony Lucero



Use of regional/global Products:

PAGASA uses the following global information for reference and/or input in preparing seasonal climate forecast:

CPC/NCEP - CFS Forecast of Seasonal Climate Anomalies on Sea Surface Temperature

**Monsoon Monitoring
ENSO Diagnostic Discussion**

International Research Institute for Climate and Society

**ECHAM4.5 – monthly rainfall forecast from IRI data library
IRI ENSO Update and Forecast**

Bureau of Meteorology's

**An All-season Real-time Multivariate MJO Index
Seasonal Outlook**

Japan Meteorological Agency's

**Climate System Monitoring
El Nino/La Nina Monitoring
NWP Model Prediction**



Logo of BAYAN NG IROSIN (1947) with text LGU-IROSIN below it.

Logo of PAGASA-DOST.

Logo of RICE WATCH & ACTION NETWORK (RWAN) with 'R1' text.

Logo of PROVINCE OF SORSOGON OFFICIAL SEAL with text PROVINCE OF SORSOGON below it.

Logo of INTEGRATED RURAL DEVELOPMENT FOUNDATION.

CLIMATE FORUM

LIKAS-RIDGE, SAN PEDRO, IROSIN, SORSOGON
AUGUST 10, 2011

2011/08/10 10:16:04AM





Welcome

45th Climate Outlook Forum

February 2, 2011
PAGASA Main Office, Amihan Conference Rm.,
Diliman, Quezon City







NGO initiated Climate Field School in the Philippines

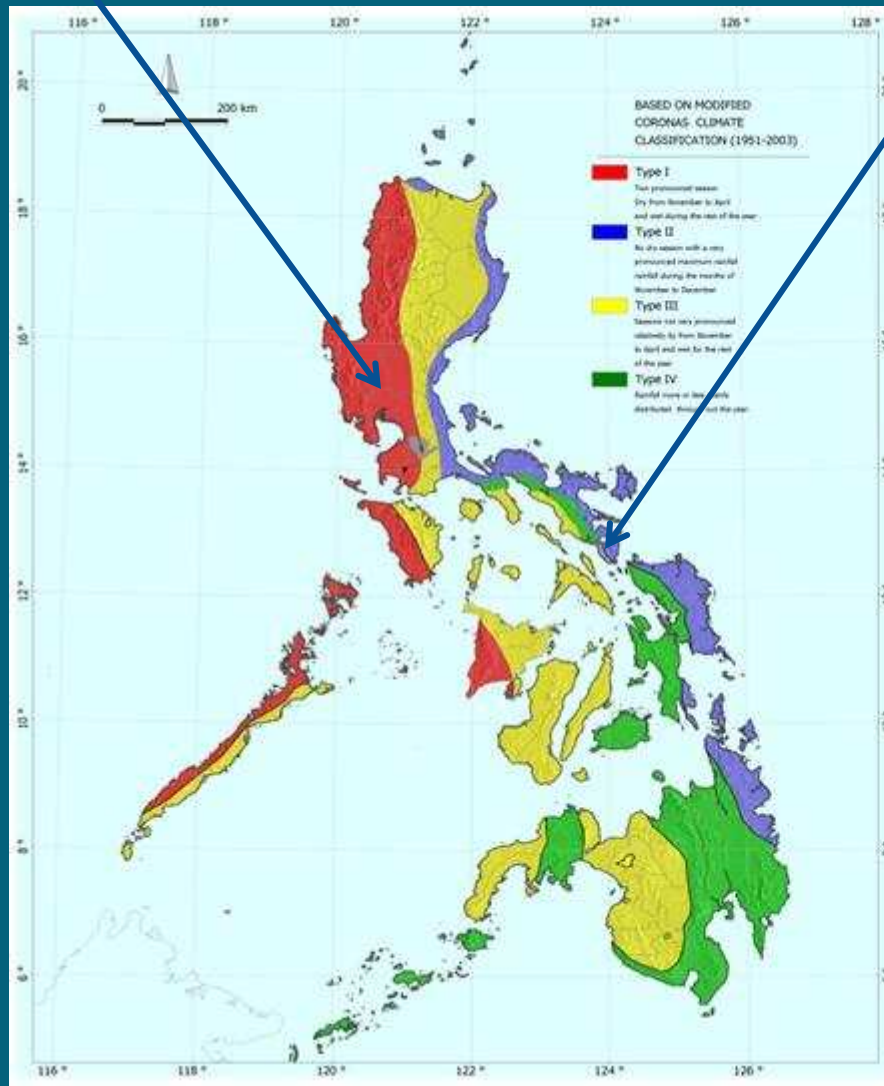
A replication of the Climate Field School model in the Province of Iloilo.

Two (2) Local Government Unit co-sponsored the CFS –

1. The Municipality of Irosin in the Province of Sorsogon and,
2. The Municipality of Gerona in the Province of Tarlac.

Gerona, Tarlac

Irosin, Sorsogon



Type I

Two pronounced seasons, dry from December to May, and wet from June to November.

Type II

No dry season with a very pronounced maximum rain period in December and January

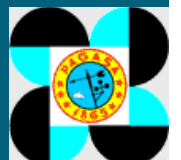
Type III

No very pronounced maximum rain period, with a short dry season lasting only from one to three months.

Type IV

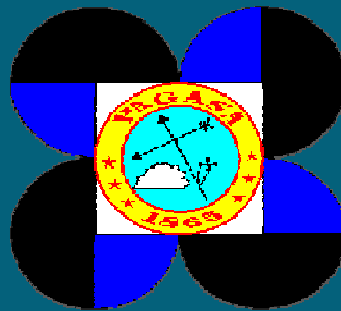
Rainfall is more or less evenly distributed throughout the year. This resembles the second type more closely since it has no dry season.

Site location of CFS project





For more information, VISIT us at
<http://www.pagasa.dost.gov.ph>



Thank you

