



# Common Alerting Protocol in the Philippines

Rome, Italy – September 22-24, 2015

# What is PAGASA?

- + **PAGASA** stands for **P**hilippine **A**tmospheric **G**eophysical **A**stronomical **S**ervices **A**dministration.
- + PAGASA as the National Meteorological and Hydrological Services (NMHS) of the Philippines shall be the “**authoritative**” voice in providing warnings to the public.
- + The Philippines, through the PAGASA is a member of the World Meteorological Organization (WMO), a specialized body of the United Nations



# PAGASA on WMO Alert Hub

## WMO Register of Alerting Authorities [ home ]

OID: 2.49.0.0.608.0 WMO Member: Philippines ISO 3166: PH PHL 608

Issuing Organization: Philippine Atmospheric Geophysical and Astronomical Services Administration

Hazard Categories: Met

Authorization Basis: As a matter of policy, the agency provides typhoon alerts and warnings which is provided to Disaster Risk Reduction Offices and the public through media and web portals and related warning institution.

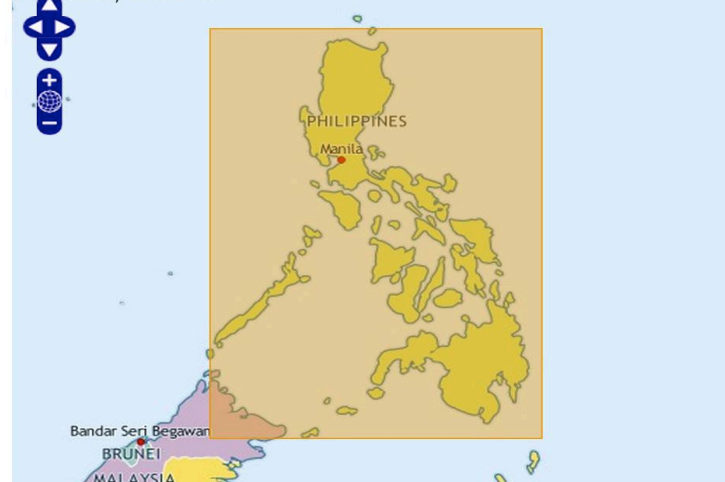
CAP Feed URL: <http://publicalert.pagasa.dost.gov.ph/feeds/>

Forecasts URL: <http://www.worldweather.org/021/m021.htm>

Alerting Area (NWSE): 19 117 5 127

### Map view of the typical area for this alerting authority.

125.19336, 17.90405



### Hazard Categories

**Geo:** Geophysical (earthquakes, volcanoes, tsunami, etc., includes landslide)

**Met:** Meteorological (weather, storms, etc. includes flood)

**Safety:** General emergency and public safety

**Security:** Law enforcement, military, homeland and local/private security

**Rescue:** Rescue and recovery

**Fire:** Fire suppression and rescue

**Health:** Medical and public health

**Env:** Pollution and other environmental

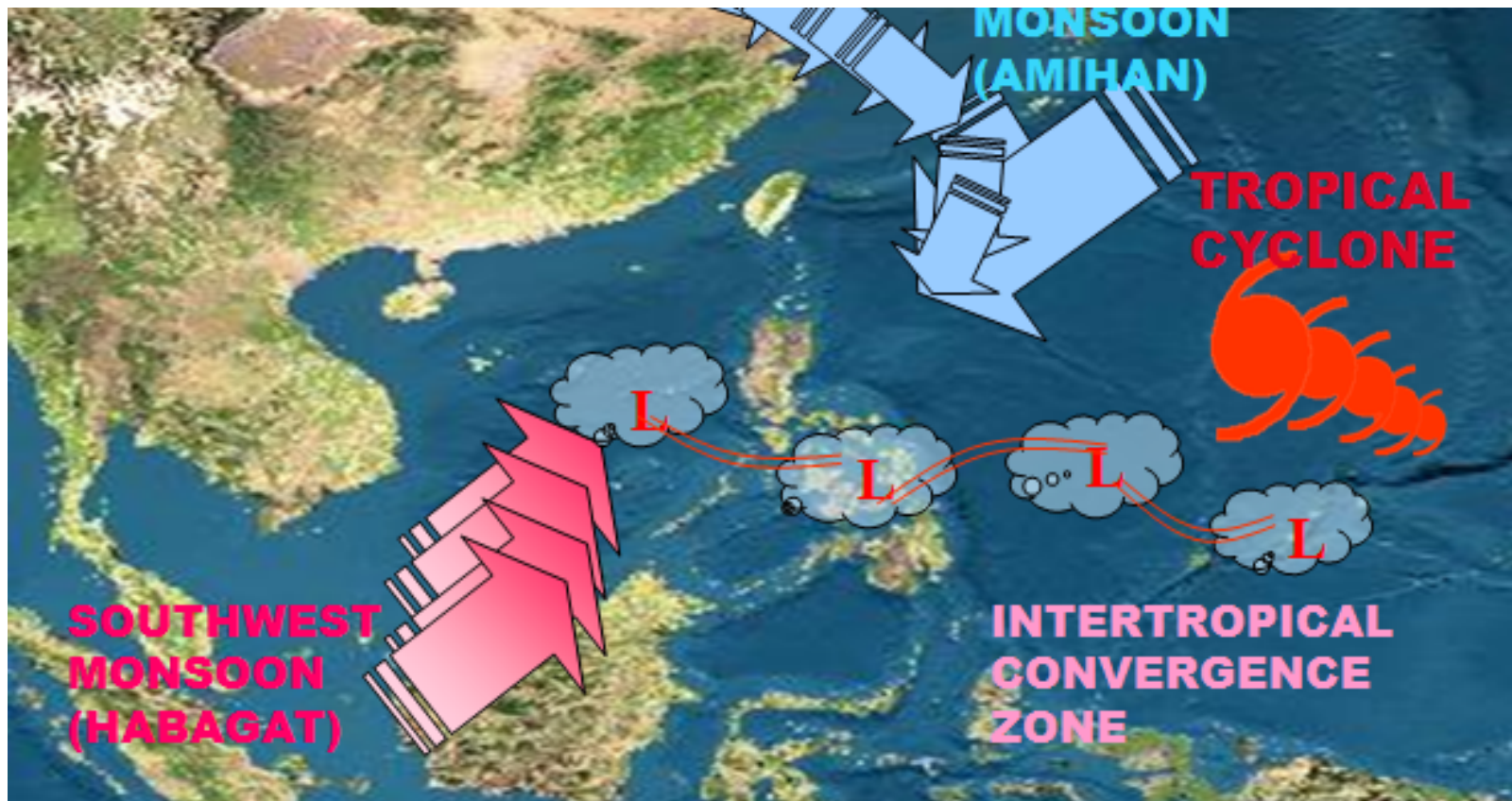
**Transport:** Public and private transportation

**Infra:** Utility, telecommunication, other non-transport infrastructure

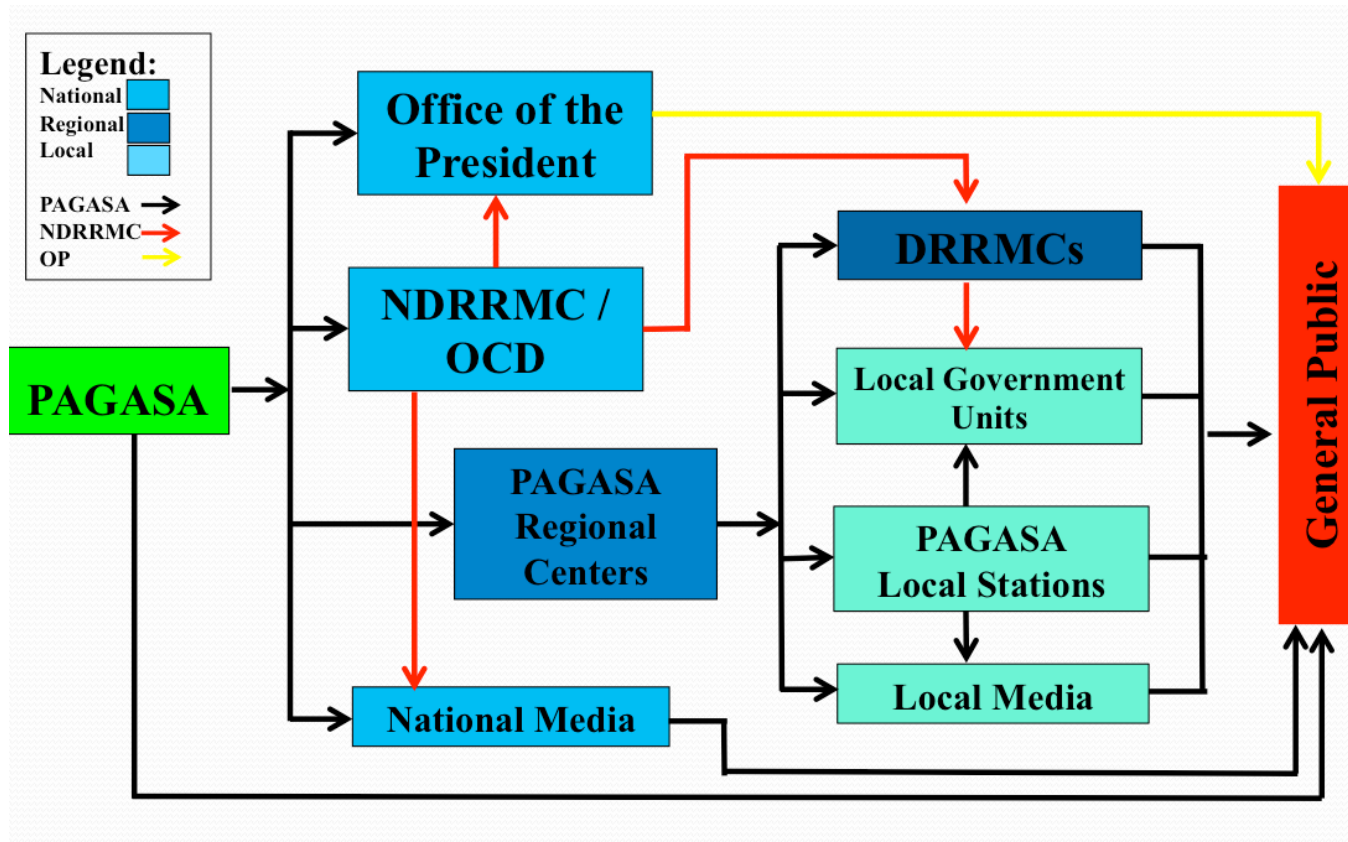
**CBRNE:** Chemical, Biological, Radiological, Nuclear or High-Yield Explosive threat or attack

**Other:** Other events

# Weather Systems Affecting the Philippines



# Information Dissemination Flow



# PAGASA CAP Development

- + Initiated by Google on May 2014
- + PAGASA Created a Team for CAP





# Development of Tool

Outputs:

1. PDF (Existing)
2. CAP Alert

Using the ff:



CAPv.1 BETA Home Create CAP ▾ More.. ▾

References

c839bc31-eae2-4f4c-b58c-9de91d1a91ab

Signal no. 1Signal no. 2Signal no. 3Signal no. 4

Headline

Tropical Cyclone Warning : Tropical Storm Glenda "RAMMASUN" Signal #2

Select Province(s) - Signal No. 2

CAMARINES NORTE × CAMARINES SUR × MASBATE × SORSOGON × ALBAY ×

MARINDUQUE × QUEZON × NORTHERN SAMAR ×

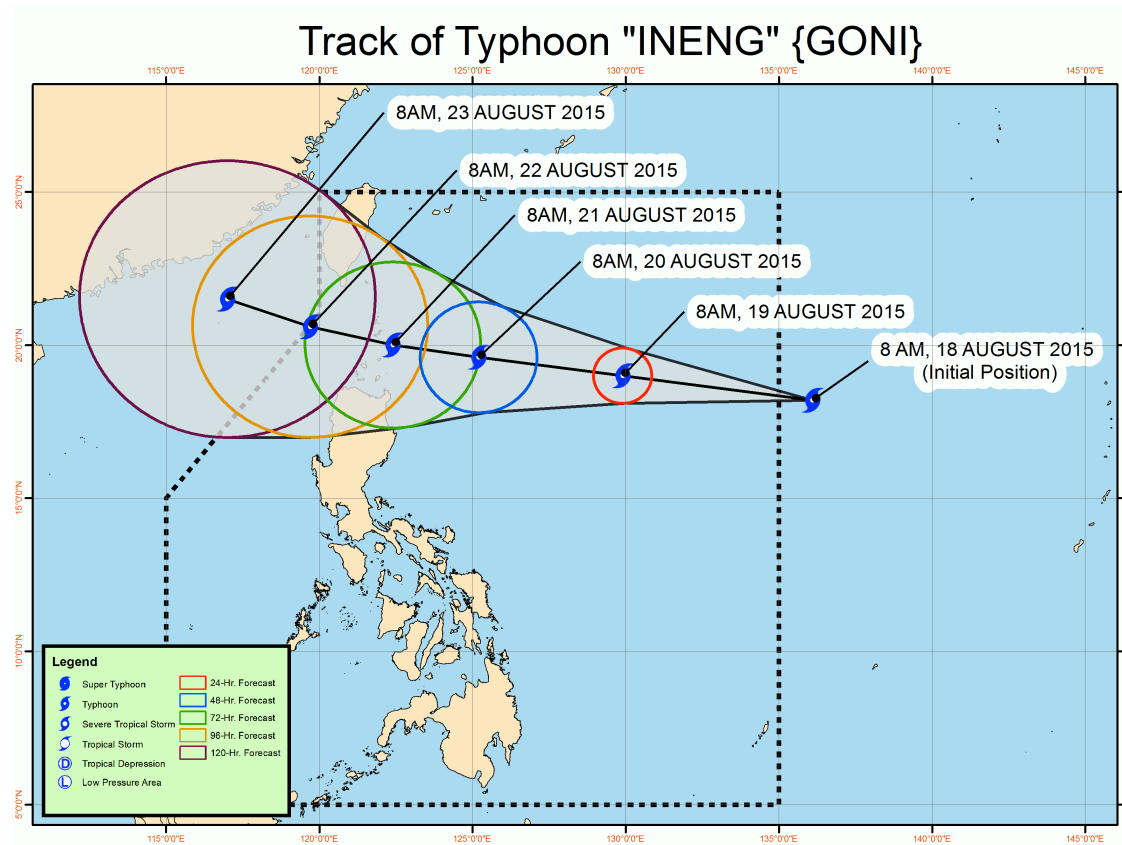
Description

Location of eye/center: At 4:00 PM today, Tropical Storm "GLENDA" was estimated based on all available data at 470 East Southeast of Virac, Catanduanes or 500 km East of Legazpi City, Albay (12.7°N, 128.9°E).

google.org Common Alerting Protocol Validator

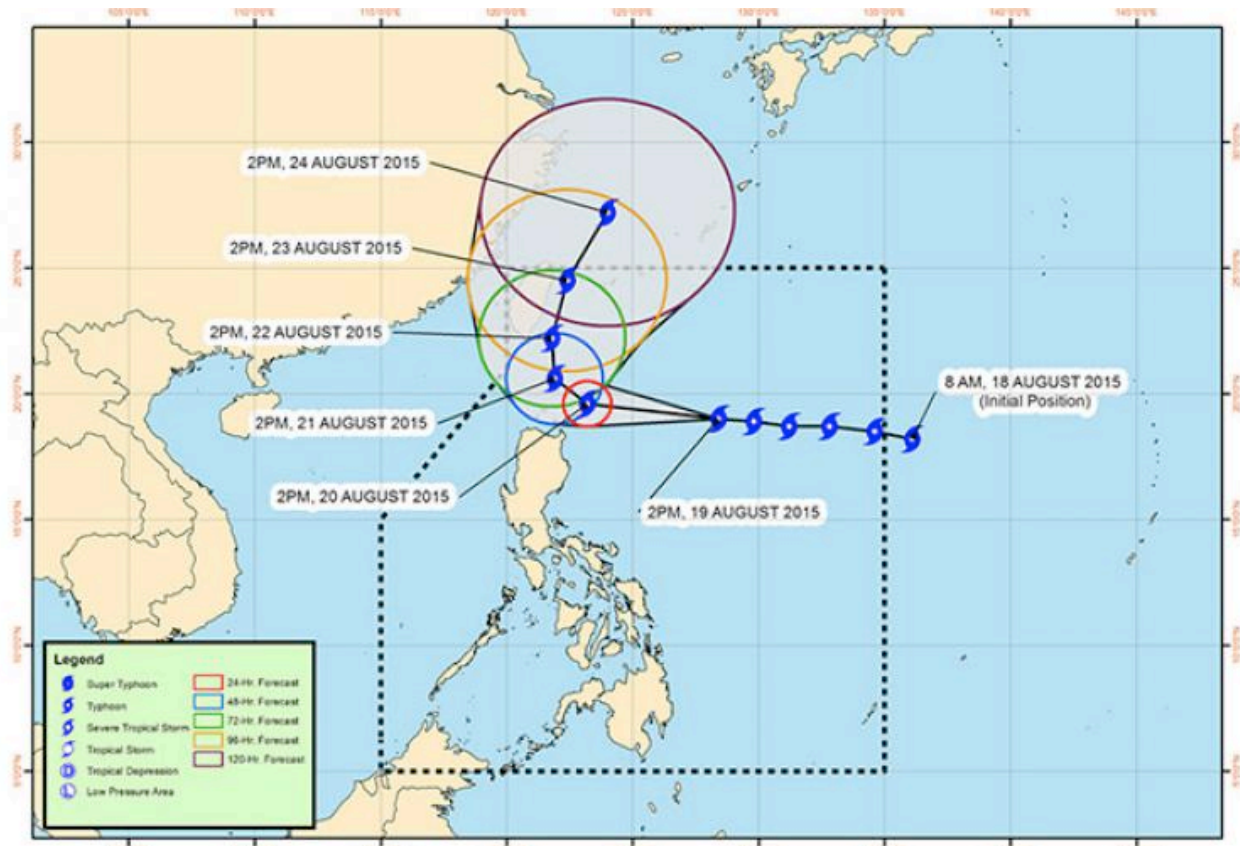


# CAP: Tropical Cyclone Alert





# CAP: Tropical Cyclone Warning

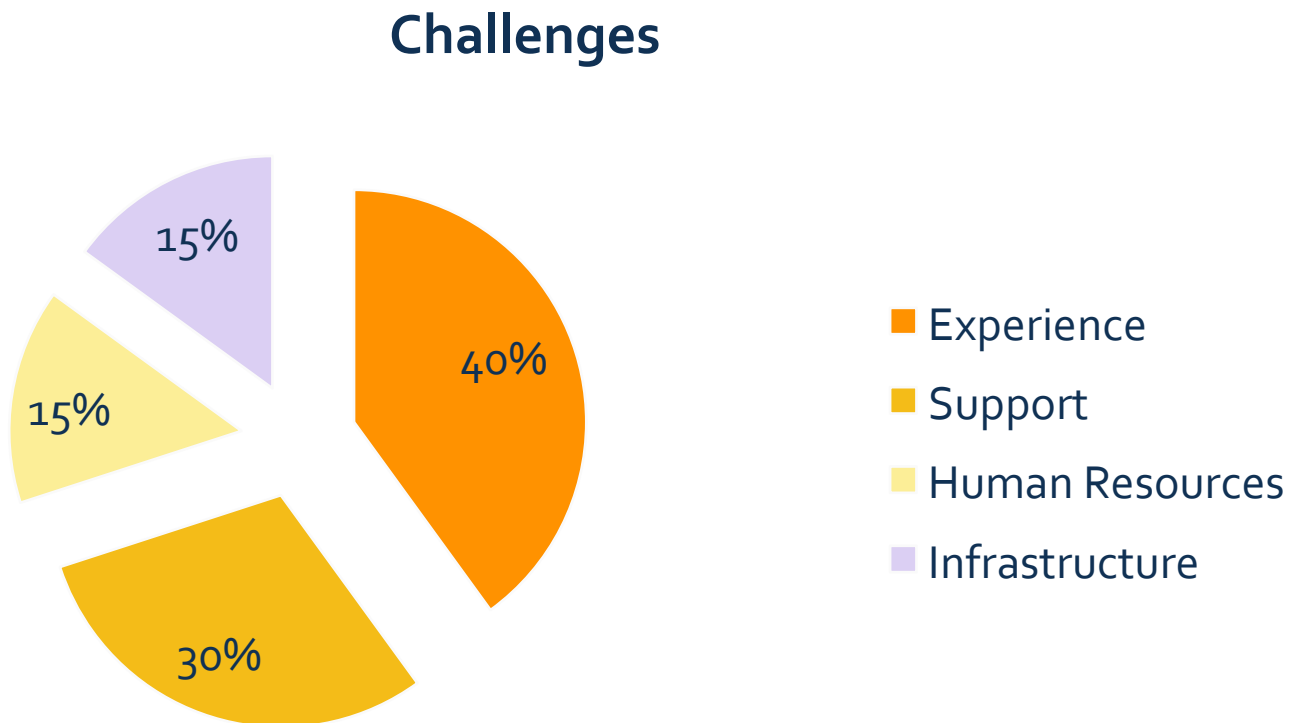


# Next Steps..

- + Defining Static and Dynamic Content
- + Testing CAP Alerts with Google
- + Implementation
- + Launching of PAGASA CAP with Google in the Philippines on November 12, 2014



# Challenges!



# Birth of CAP in the Philippines

Public Storm Warning Signal 1 for Visayas, Mindanao

Active for next 5 hours, 3 minutes  
Location: Bulacan; Laguna; Manila; Cavite; Negros Oriental; Negros Occidental; Surigao del Norte; Surigao del Sur; Davao Oriental; Compostela Valley; Agusan del Sur; Davao Islands; Cagayan; Misamis Occidental

Posted 1 hour, 53 minutes ago - PAGASA

How likely: ■ How soon: ■ How severe: ■

Location of epicenter: At 10:00 AM today, the center of Tropical Depression "QUEENIE" was estimated based on available data at 215 km East of Hatanan, Surigao del Sur (8°N, 123.2°E).  
Strength: Maximum winds of 45 kph near the center.  
Movement: Forecast to move West at 24 kph.  
Forecast Path:

Tropical Depression "QUEENIE" is expected to make landfall over Surigao del Sur this afternoon and traverse the Northern Mindanao area tonight. By tomorrow morning, it is expected to be at 25 km North of Dapitan City, and at 105 km West of Puerto Princesa by Friday morning. It is expected to be outside the Philippine Area of Responsibility (PAR) by Friday evening and at 710 km West of Puerto Princesa or over the West Philippine Sea by Saturday morning.

**Recommended actions:**

- Estimated rainfall amount is from 7 - 15 mm per hour (moderate - heavy) within the 300 km diameter of the Tropical Depression.
- Residents in low lying and mountainous areas of the provinces with PISOAT as well as the rest of Mindanao are alerted against possible flashfloods and landslides.
- Fishermen and those with small sea crafts are advised not to venture out over the western seaboard of Visayas and Mindanao.
- The public and the disaster risk reduction and management council concerned are advised to take appropriate actions and watch for the next bulletin to be issued at 5 PM today.

**What to do:**

- Inspect your house to see if repairs are needed
- Clean up drainage systems
- Harvest crops that can be yielded

**Precautionary measures:**

- Monitor the latest Severe Weather Bulletin issued by PAGASA every six hours and hourly updates
- In the meantime, business may be carried out as usual except when floods occur

**What is a Public Storm Warning Signal #1?**

A tropical cyclone will affect the locality. Winds of 30-60 kph may be expected in at least 36 hours or intermittent rains may be expected within 36.

Other alerts in this area

Public Storm Warning Signal 1 for Visayas, Mindanao  
PAGASA - updated 2 hours 49 mins ago



# CAP alert on HAGUPIT(Ruby)

Google search results for "pagasa weather".

Search results include:

- Philippine Weather**  
www.rappler.com/Weather-PH  
Get The Latest Weather Result Today Stay Informed about PH Weather!  
Rappler has 6,847 followers on Google+
- Public Storm Warning Signal 3**  
Southern Luzon  
5 hours ago - PAGASA  
A tropical cyclone will affect the locality. Winds of greater than 100 kph up to 185 kph may be expected in at least 18 hours. Location of eye/center At 10:00 PM today, the ...  
[More info](#)
- In the news**
  - Weather Bulletin Update**  
Pagasa - 4 hours ago  
PAGASA Track as of 8 p.m., 07 December 2014, Satellite Image ... SEVERE WEATHER BULLETIN NUMBER SIXTEEN TROPICAL CYCLONE WARNING: ...
  - Daily Weather Forecast**  
Pagasa - 3 hours ago
  - Lagmay: PAGASA was spot on in Ruby forecast**  
ABS CBN News - 10 hours ago
- More news for pagasa weather**
- PAGASA | Philippine Atmospheric Geophysical and ...**  
pagasa.dost.gov.ph/  
Government agency for weather forecasting, flood control, astronomical observations, and time service.
  - Weather Bulletin Update**  
Tropical Cyclone Update. PAGASA Track as of 2 p.m., ...
  - Forecast Symbols and Terms**  
Home Weather Forecast Symbols and Terms. Transparency Seal ...

Public Alerts

**6 Public Storm Warning Signal 3 for Southern Luzon**  
Active for next 2 hours, 27 minutes - PAGASA

Posted 4 hours, 22 minutes ago

A tropical cyclone will affect the locality.  
Winds of greater than 100 kph up to 185 kph may be expected in at least 18 hours.

Location of eye/center At 4:00 PM today, the eye of Typhoon "RUBY" was located based on all available data at 20 km West of Masbate City, Masbate or in the vicinity of Aroroy, Masbate (12.4°N, 123.4°E).

Strength Maximum sustained winds of 140 kph near the center and gustiness of up to 170 kph.  
Forecast Movement: Forecast to move West Northwest at 10 kph.

Forecast Positions

- 24 hour (tomorrow afternoon): 60 km East of Calapan City, Oriental Mindoro or at 160 km South of Science Garden, Quezon City.
- 48 hour (Tuesday afternoon): 170 km Southwest of Science Garden, Quezon City.
- 72 hour (Wednesday afternoon): 400 km West of Science Garden, Quezon City.

**Recommended actions**

These areas will have stormy weather. Residents in low-lying and mountainous areas are alerted against flashfloods and landslides. Likewise, those living along the coast are warned on the occurrence of big waves associated with Storm Surge which may reach up to 3 meters.

- Expected third landfall: Sibuyan Island between 2-4 AM tomorrow and it will be associated with strong winds, storm surge and heavy to torrential rainfall.
- Estimated rainfall amount is from 10 - >30 mm per hour (heavy - torrential) within the 500 km diameter of the typhoon.
- "RUBY" and the Northeast Monsoon will cause rough to very rough sea conditions over the seaboard of Luzon and Visayas and over the northern seaboard of Mindanao. Fisherfolks and those using small sea craft are advised not to venture out over the said seaboard.
- Expected to Exit PAR: Thursday morning.

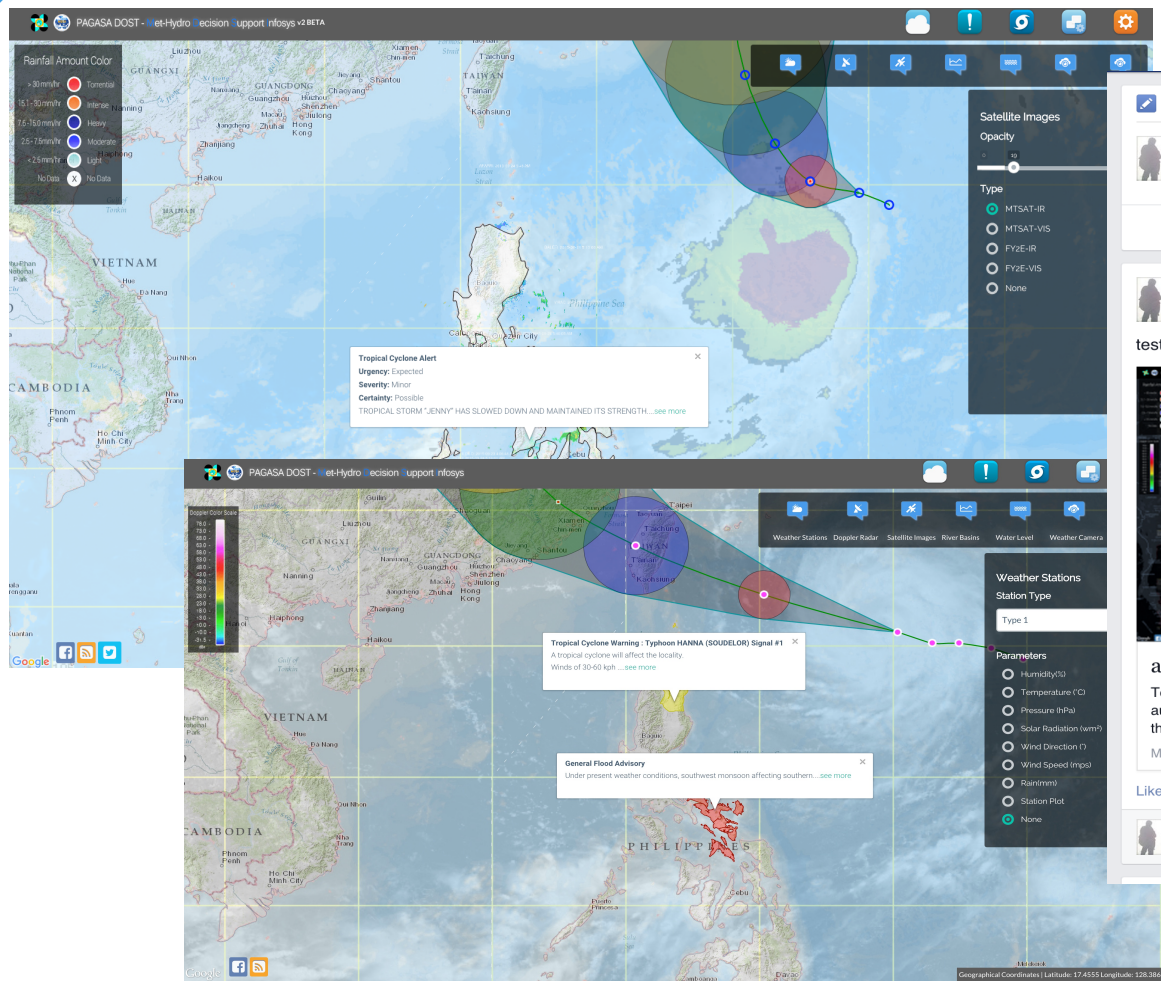
**Tweets related to this alert**

- The WorldPost** @TheWorldPost 7m  
1 million evacuated as typhoon churns across Philippines [huff to/1w2z9Ek](#)
- Official Gazette PH** @govph 23m  
The Official Gazette has made available a map of evacuation centers in #RubyPH-hit areas: [gov.ph/crisis/respons... pic.twitter.com/dckLs2bsgV](#)  
[Show image](#)
- Fox News** @foxnews 40m  
2 dead, 900,000 evacuate as #typhoon slams Philippines [fxn.ws/1AK9wUJ pic.twitter.com/8RRUk9DBz](#)  
[Show image](#)

Other alerts in this area



# On-Going Activities within PAGASA

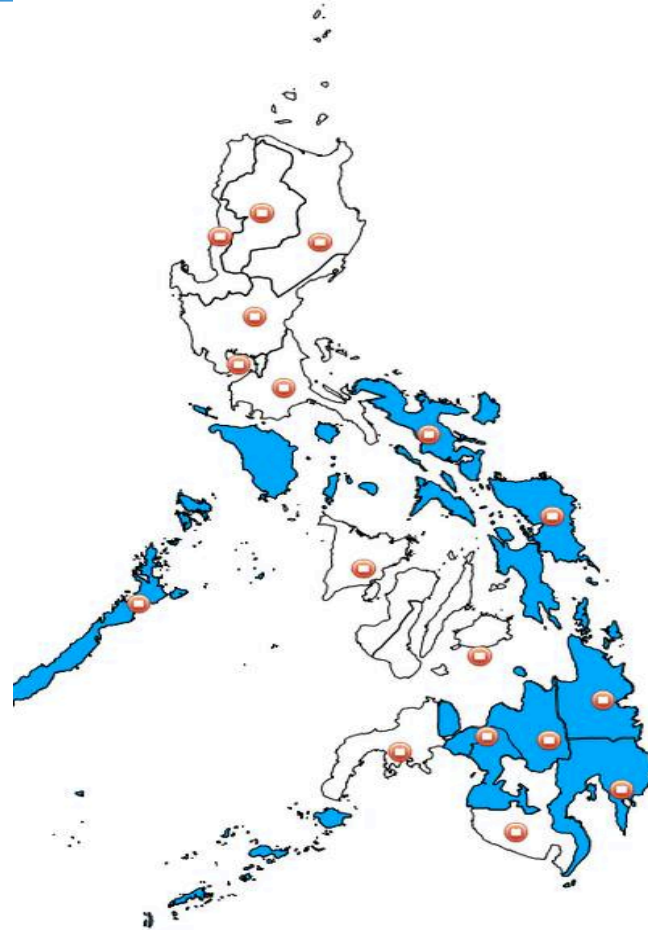


A screenshot of a Facebook post. The top navigation bar includes icons for updating status, adding photos/videos, and creating a photo album. The post itself features a profile picture of a person, a cover photo of a sunset over water, and a main image which is a dark-themed weather radar map of the Philippines. The map shows various weather patterns with color-coded overlays (green, yellow, red) indicating different levels of intensity or precipitation. A white box on the map contains the text "Pagasa Center Warning - Signal #1". Below the map, there is a caption in Tagalog starting with "PAGASA MRRAT YUG...". The post's text area contains the URL "api.meteopilipinas.gov.ph" followed by a paragraph explaining that PAGASA has installed automatic rain gauges (ARG) and automatic weather stations (AWS) throughout the country, which are automated versions of the MET-HYDRO DECISION SUPPORT INFOSYS. At the bottom of the post, there are buttons for "Like", "Comment", and "Share". The very bottom of the image shows the start of a comment section with a profile picture and the placeholder text "Write a comment...".




# On-Going Activities within PAGASA

- + General Flood Advisory (GFA)
- + General Flood Bulletin (GFB)



# General Flood Advisory Tool

PAGASA CAPHMDForecastingSettings



Republic of the Philippines  
Department of Science and Technology  
PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND  
ASTRONOMICAL SERVICES ADMINISTRATION (PAGASA)  
PAGASA Science Garden, Agham Road, Diliman, Quezon City 1109

General Flood Advisory

1

For

NCR (National Capital Region)

Issued at

6:00 pm, 24 September, 2015

Valid until the next issuance at

6:00 pm tomorrow

PRESENT WEATHER :

FORECAST 24 - HR RAINFALL :

WATERCOURSES LIKELY TO BE AFFECTED :

METRO MANILA remove

All rivers and streams in Metro Manila.

- Select Province -

PUBLIC WARNINGS :


People living near the mountain slopes and in the low lying areas of the above mentioned river systems and the Local Disaster Risk Reduction and Management Councils concerned

are advised to take necessary precautionary measures.

Prepared by :

Initials

Duty Hydrologists



REPUBLIC OF THE PHILIPPINES  
Department of Science and Technology  
Philippine Atmospheric, Geophysical and  
Astronomical Services Administration (PAGASA)  
PAGASA Science Garden, Agham Road, Diliman, Quezon City 1100

GENERAL FLOOD ADVISORY # 8

For REGION 6 (WESTERN VISAYAS)

Issued at 6:00 PM, 22 September 2015


(Valid until the next issuance at 6:00 pm tomorrow)

FORECAST WEATHER:

SOUTHWEST MONSOON AFFECTING VISAYAS AND MINDANAO.

FORECAST 24-HR RAINFALL:

RATE RAINS AND ISOLATED THUNDERSTORMS



TO BE AFFECTED:

AND ITS TRIBUTARIES PARTICULARLY PINANTAN, BAROTAC, AGAMAN, SIBALOM AND GUIMBAL.

• ANTIQUE RIVERS AND ITS TRIBUTARIES PARTICULARLY SIBALOM, IPAYO, CAGARANAN, PALAWAN, CAIRAUAN, DALANAS AND TIBIAO.

• CAPIZ RIVERS AND ITS TRIBUTARIES PARTICULARLY PANAY, MAMBUSAO, PANAY MALINAO, ALINGON AND BALANTIAN

• AKLAN RIVERS AND ITS TRIBUTARIES PARTICULARLY IBAYAY, AKLAN AND JALO.

• NEGROS OCCIDENTAL RIVERS AND ITS TRIBUTARIES PARTICULARLY MALOGO, SIGABA, GRANDE, HIMOCAAN, DANAOS, UPPER TYABANAN, SIPALAY, LOWER BILABANGAN, UPPER ILOG, BINALBAGAN

PEOPLE LIVING NEAR THE MOUNTAIN SLOPES AND IN THE LOW LYING AREAS OF THE ABOVE MENTIONED RIVER SYSTEMS AND THE LOCAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCILS CONCERNED ARE STILL ADVISED TO TAKE PRECAUTIONARY MEASURES

PREPARED BY:

RAB/EAC

Main Operation Center-Flood Forecasting and Warning Section (MOC-FFWS)


Hydrometeorology Division

Developed by ETSD-ICT © 2015

HMDGFA PAGASA-DOST Actual Public

# General Flood Bulletin

PHAGASA CAP - Home - Forecasting - Settings



Republic of the Philippines  
Department of Science and Technology  
PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND ASTRONOMICAL SERVICES ADMINISTRATION  
**PAGASA**  
FLOOD FORECASTING BRANCH  
Pampanga River Flood Forecasting and Warning Center, HMD NCR-PRSD  
DMGC, Brgy. Malimpis, San Fernando City, Pampanga

Flood Bulletin No. 1 Pampanga River Basin


Issued at 5:00 am, 20 September 2014

Valid until the next issuance at 5:00 am today

Average Basin Rainfall as of 5:00 am today:

PAST 24 HOURS 0 mm


FORECAST FOR THE NEXT 24 HOURS 0 mm



Pampanga\_River\_Basin.png [Browse](#)

Water Level Station / Location	River/Lake/Swamp Trend at Station	Flood Situation Message	Low-lying areas likely to be affected
San Isidro Station, Pampanga River	Now at 2.66m / slow increase to peak before noon today (3.20m Alert WL)	Flooding is possible	Jaen, San Isidro and Cabiao
Candaba Station, Candaba Swamp	Now at 5.87m still above 5.0m critical level / slow filling-up of swamp area but to level-off this afternoon	Flooding to persist and remain	Candaba(Pampanga); Portions of San Miguel & San Ildefonso (Bulacan) within the swamp area.
Arayat Station, Pampanga River	Now at 7.94m (Above 6.0m alarm WL) / to increase further (8.5m Critical WL)	Flooding to occur	Riverside areas of arayat, San Luis and San Simon
Sasmuan Station,	Now at 2.10m / to fluctuate (tide influenced)	Flooding is possible	Sasmuan, Lubao and Guagua





Department of Science and Technology  
PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND ASTRONOMICAL SERVICES ADMINISTRATION (PAGASA)  
Pampanga River Flood Forecasting and Warning Center, Hydro-Meteorology Division NCR-PRSD  
Brgy. Malimpis, San Fernando, Pampanga (Government Center) <http://www.pffwc.webs.com>

**FLOOD BULLETIN NO. SEVEN (7) - PAMPANGA RIVER BASIN AND ALLIED RIVERS**  
ISSUED AT: 5:00 AM, 14 OCTOBER 2013  
VALID UNTIL THE NEXT ISSUANCE AT 5:00 PM TODAY UNLESS THERE IS AN INTERMEDIATE BULLETIN

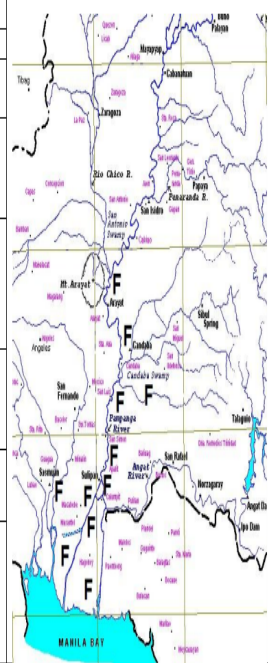
**BASIN RAINFALL AS OF 5:00 AM TODAY:**  
PAST 24-HR = 4.3 MM FORECAST 24-HR = < 10 MM

**BASIN EXPECTED RESPONSE:**

WATER LEVEL STATION (STN)	RIVER/ SWAMP WATER LEVEL (WL) TREND AT STATION	FLOOD SITUATION MESSAGE	PARTICULAR LOW-LYING AREAS
ARAYAT STN, PAMPANGA RIVER	NOW AT 6.46 M / HAD LEVELED-OFF LAST NIGHT; A VERY SLOW RECESSON IS IN PROGRESS (CRITICAL WL IS 5.0 M)	FLOODING TO PERSIST	RIVERSIDE AREAS OF ARAYAT, CANDABA, SAN LUIS, SAN SIMON
CANDABA STN, CANDABA SWAMP	NOW AT 5.87 M / HAD LEVELED-OFF LAST NIGHT; A VERY SLOW RECESSON IS IN PROGRESS (CRITICAL WL IS 5.0 M)	FLOODING TO PERSIST	CANDABA SWAMP AREA; PORTIONS OF SAN MIGUEL AND SAN ILDEFONSO (BULACAN), SAN LUIS, SAN SIMON, AND APALIT (PAMPANGA)
SULIPAN STN, PAMPANGA RIVER	NOW AT 7.94 M / TO INCREASE FURTHER (8.5 M CRITICAL WL)	FLOODING TO OCCUR	RIVERSIDE AREAS OF APALIT, MACABEBE, MASANTOL, CALUMPIT, HAGONAY
COASTAL FLOODING IN THE LOW-LYING AREAS (TIDE INFLUENCED AREAS) BY TOMORROW MORNING			
HAGONAY, PAOMBONG, MACABEBE, MASANTOL			
THE RESIDENTS AND THE LOCAL DISASTER RISK REDUCTION & MANAGEMENT COUNCILS (LDRRMCs) CONCERNED ARE ADVISED TO CONTINUE TO TAKE APPROPRIATE ACTIONS.			

PRFFWC - HTH / JRD

EXPECTED FLOOD SITUATION: P=POSSIBLE T=THREATENING O=OCCUR F=PERSIST



# CAP on a MAP: Kickoff Workshop





# CAP on a MAP: Implementers Training



**AIT**  
Asian Institute of Technology



# Future Development

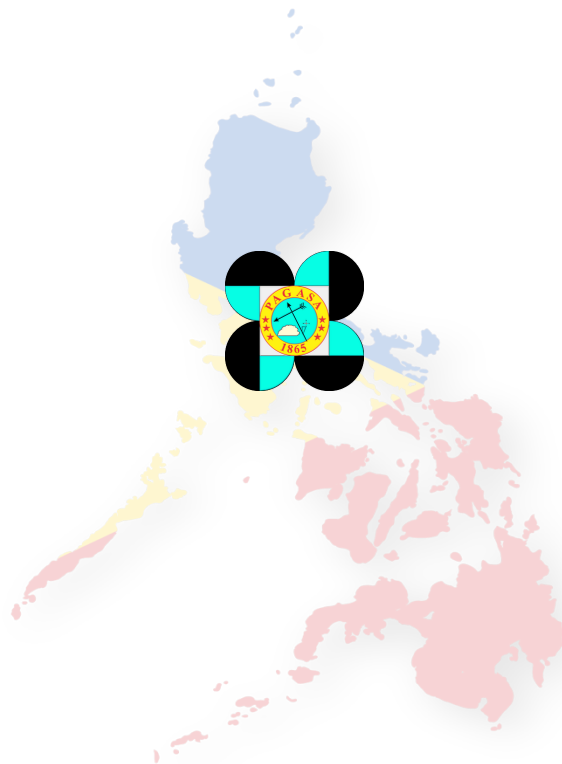
- + Additional CAP alerts
- + Improving existing alerts
- + Inter-agency collaboration



# CAP Development Team in Philippines



# Thank you!



*Tracking the sky...Helping the Country*