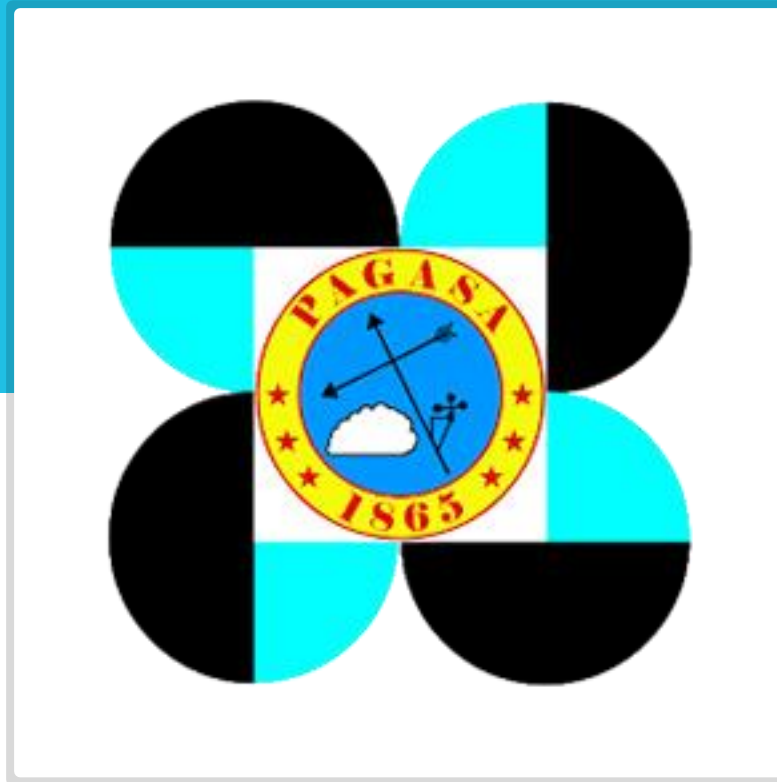


CAP in the Philippines

Philippine Atmospheric Geophysical and Astronomical Services
Administration (PAGASA),
Department of Science and Technology

Lester Kim M. Lagrimas
Rome, Italy | September 19-21, 2017



PAGASA

Philippine Atmospheric Geophysical and Astronomical
Services Administration

PAGASA as the National Meteorological and Hydrological Services (NMHS) of the Philippines shall be the **“authoritative”** voice in providing warnings to the public.

Mandated to provide protection against natural calamities and utilize scientific knowledge as an effective instrument.



facebook

facebook.com/PAGASA.DOST.GOV.PH



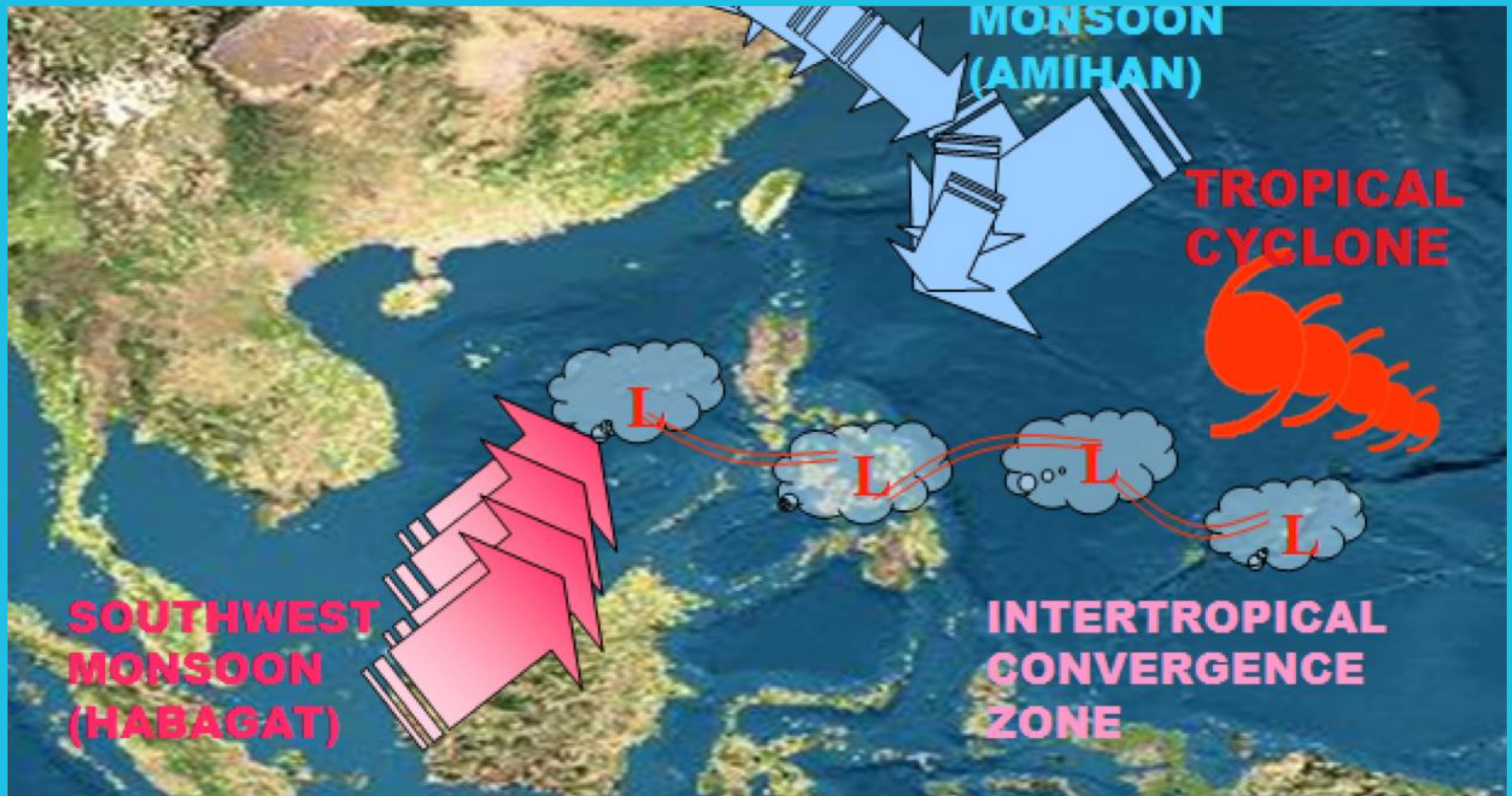
twitter

twitter.com/dost_pagasa

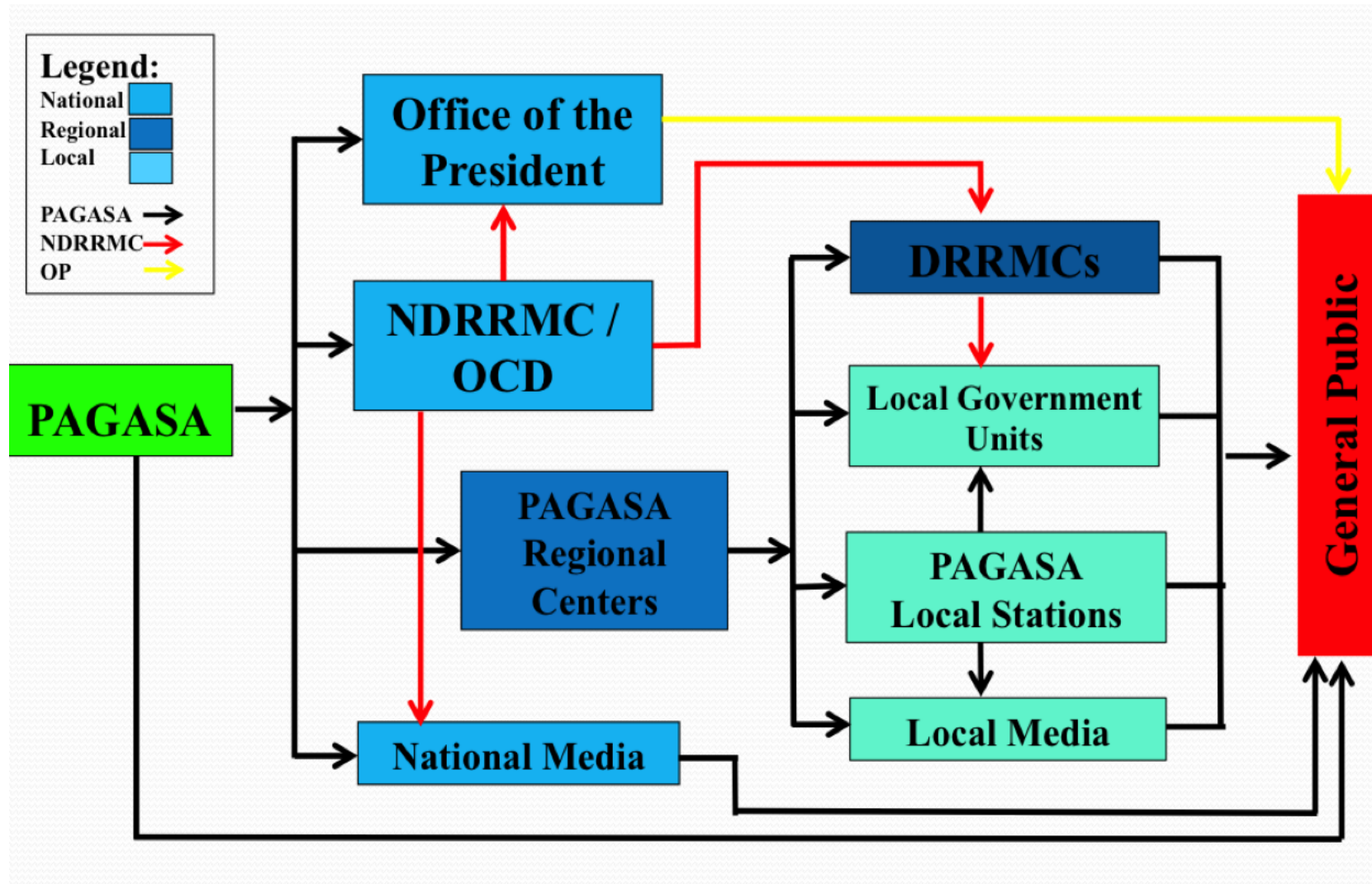


website

www.pagasa.dost.gov.ph



Information Dissemination



01

Office of the President

General Public

02

NDRRMC/OCD

DRRMC, National Media Office of the President

03

PAGASA Regional Centers

PAGASA Local stations, LGU

04

National Media

General Public.



CAP development and implementation

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

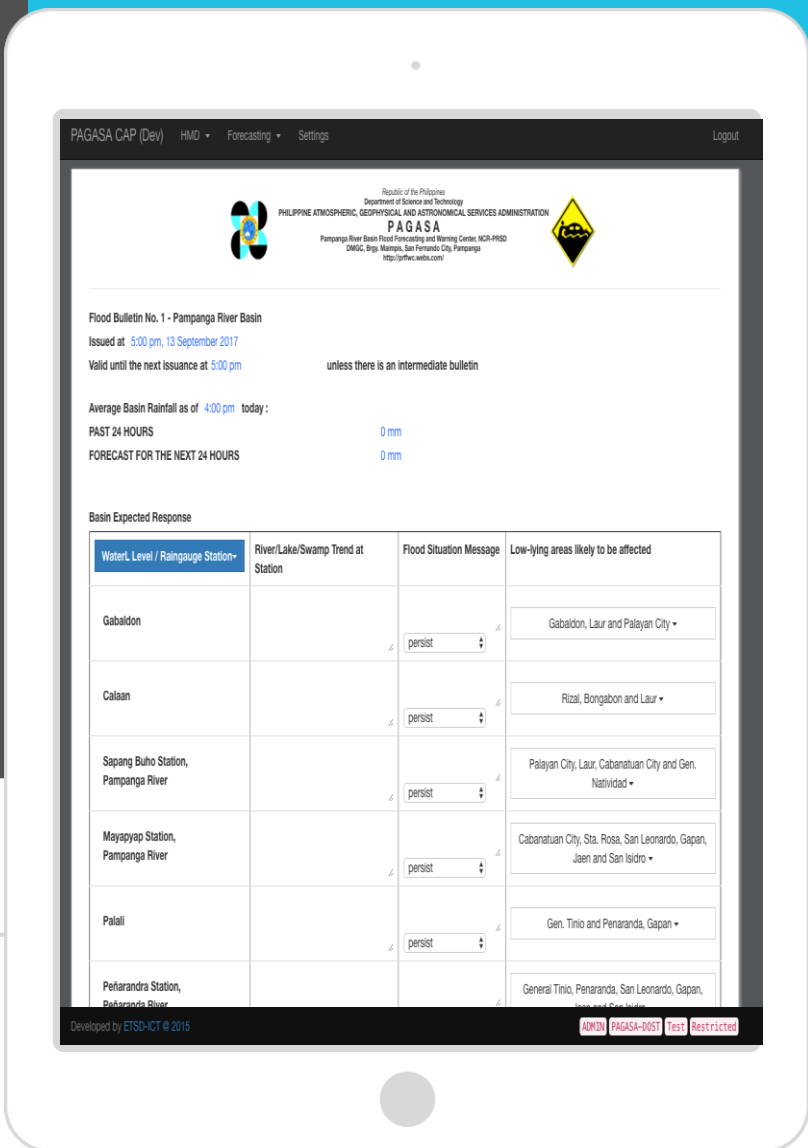
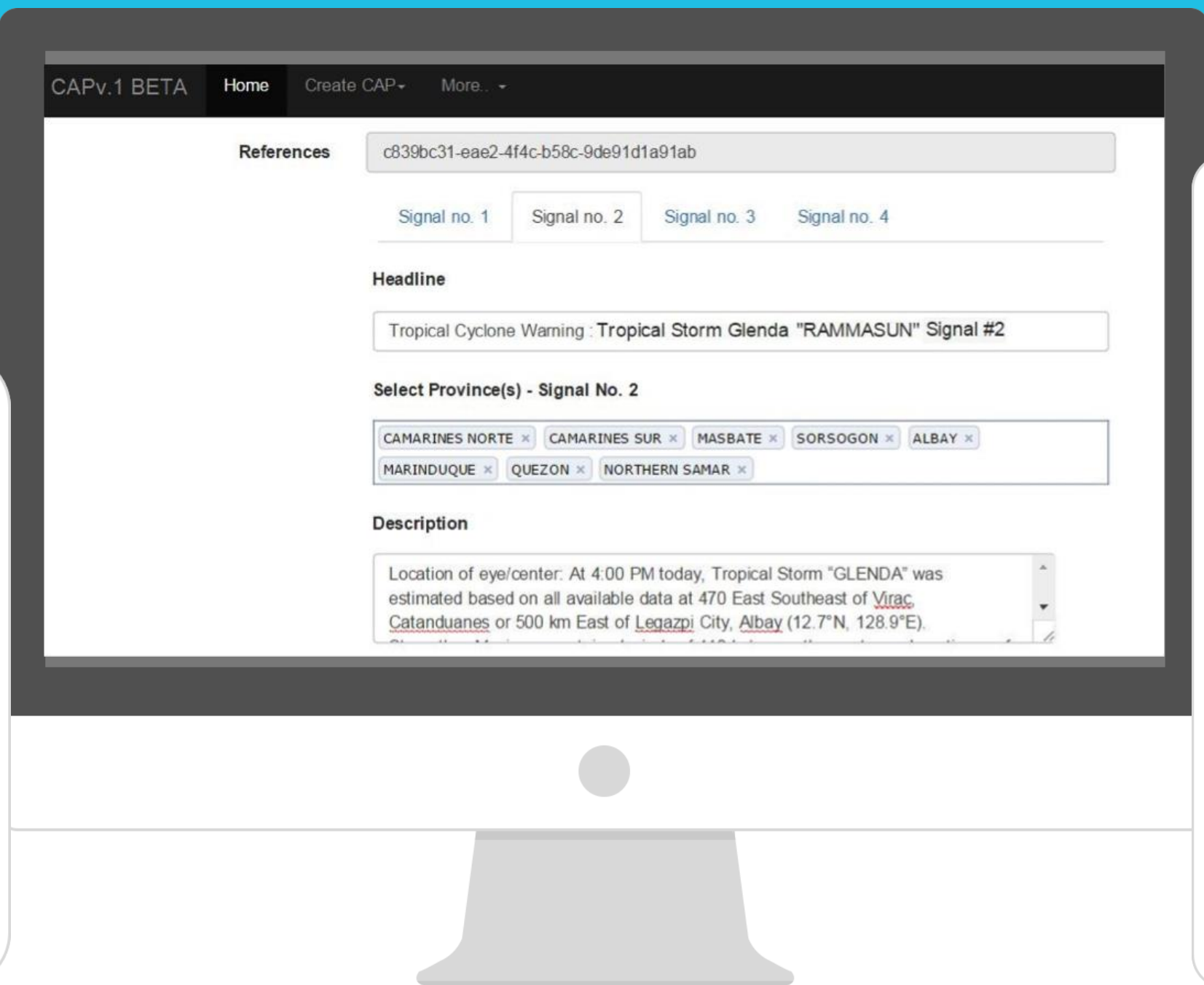
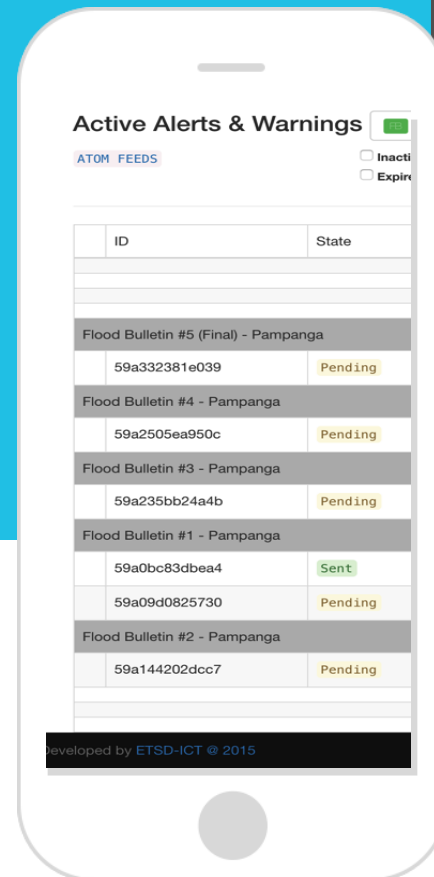
CBRNE: Chemical, Biological, Radiological, Nuclear or High-Yield Explosive threat or attack

Other: Other events

About 3 years ago...

PAGASA registered its first CAP Feed URL containing Tropical Cyclone Alert and Tropical Cyclone Warning initiated by Google Partnership

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



In-House development



ICT developed a web application to generate CAP alerts using the ff. software libraries, validator and documentation.

google.org Common Alerting Protocol Validator



CAP Tool Objective

PAGASA CAP HMD Forecasting Settings

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 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

Developed by ETSO-ICT © 2015

PHMGFA PAGASA-DOST Actual Public

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:
LIGHT TO MODERATE RAINS AND ISOLATED THUNDERSTORMS

WATERCOURSES LIKELY TO BE AFFECTED:

- ILOILO, COTABATO, DAVAO, PINANTAN, BAROTAC, AKLAN, JARO, LAMUNAN, JARO, AGA, BICALOM, IPAYO, CAG, MALINAO, PANAY
- CAPIZ, AKLAN RIVER, NEGROS OCCIDENTAL, PARTICULARLY MALOGO, SICABA, GRANDE, TYABANAN, SIPALAY, LOWER ILOG, HILABANGAN

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 STILL ADVISED TO TAKE PRECAUTIONARY MEASURES

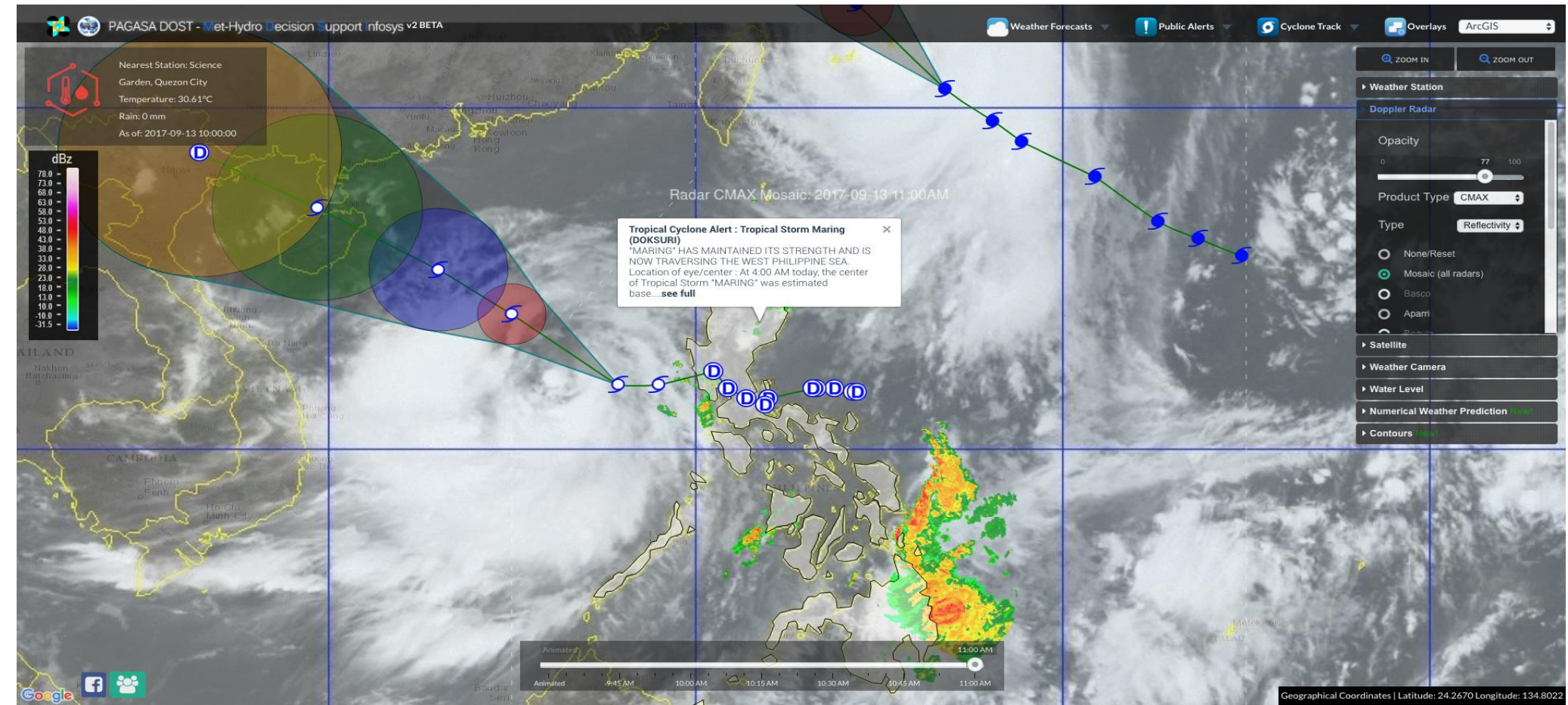
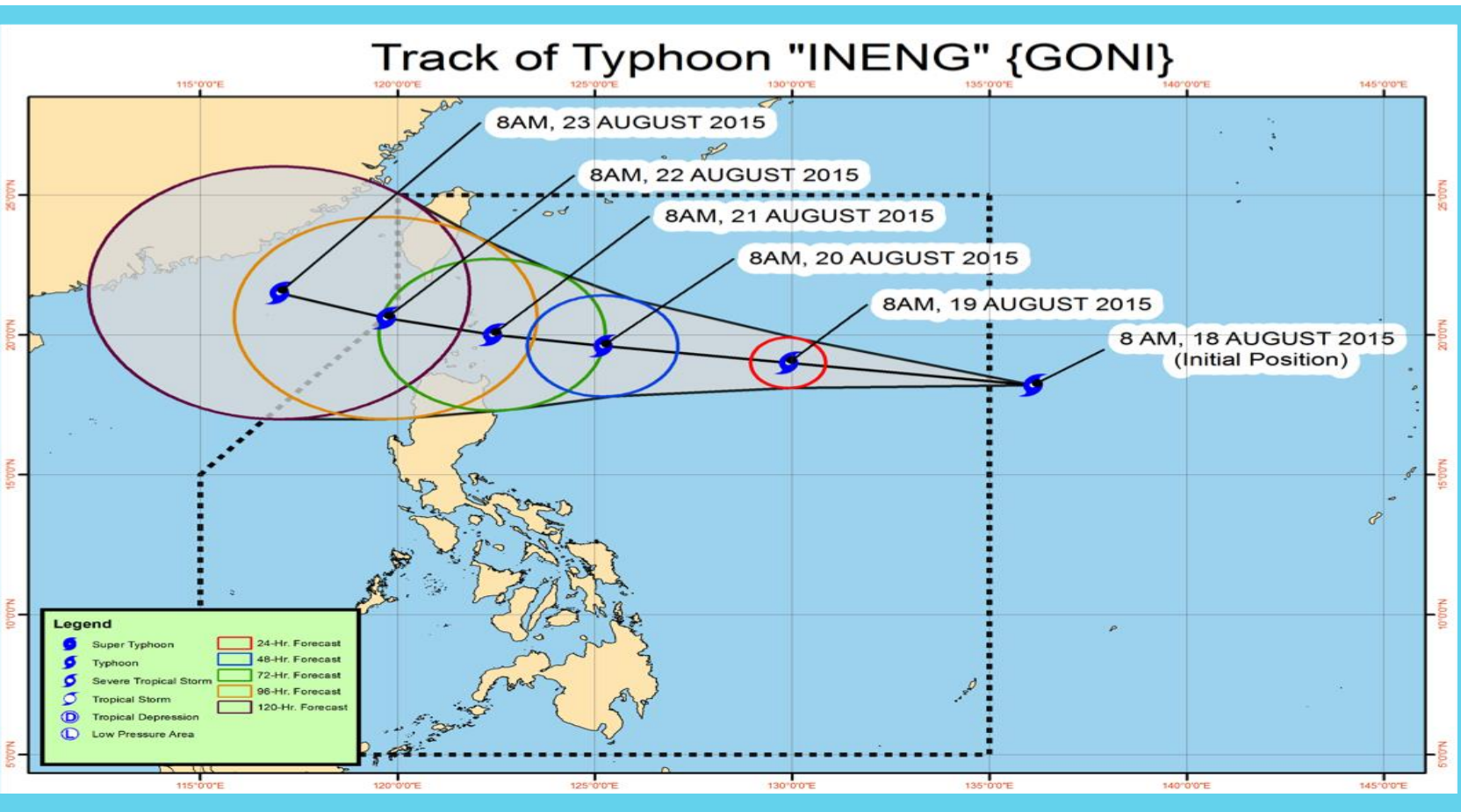
PREPARED BY:

RAB/EAC
Main Operation Center-Flood Forecasting and Warning Section (MOC-FFWS)
Hydrometeorology Division



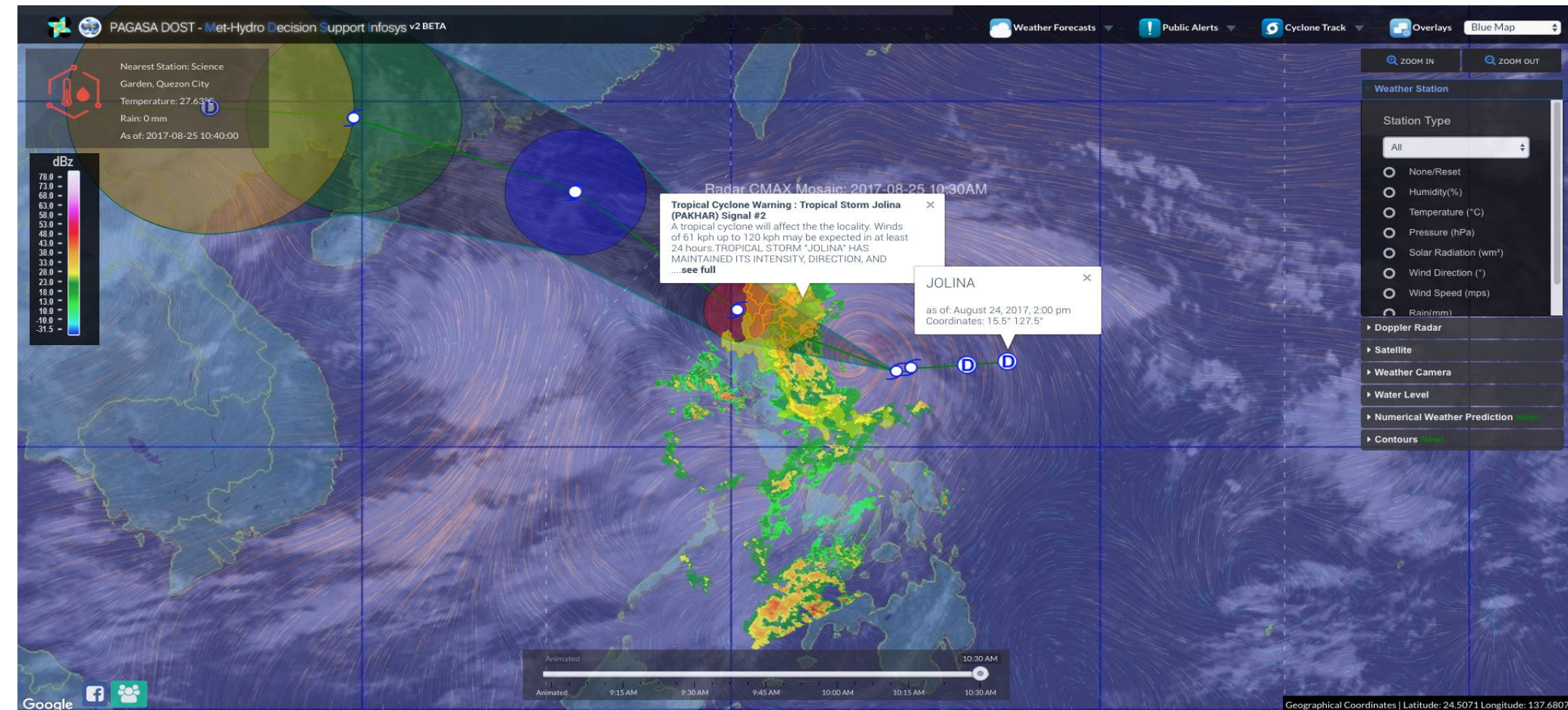
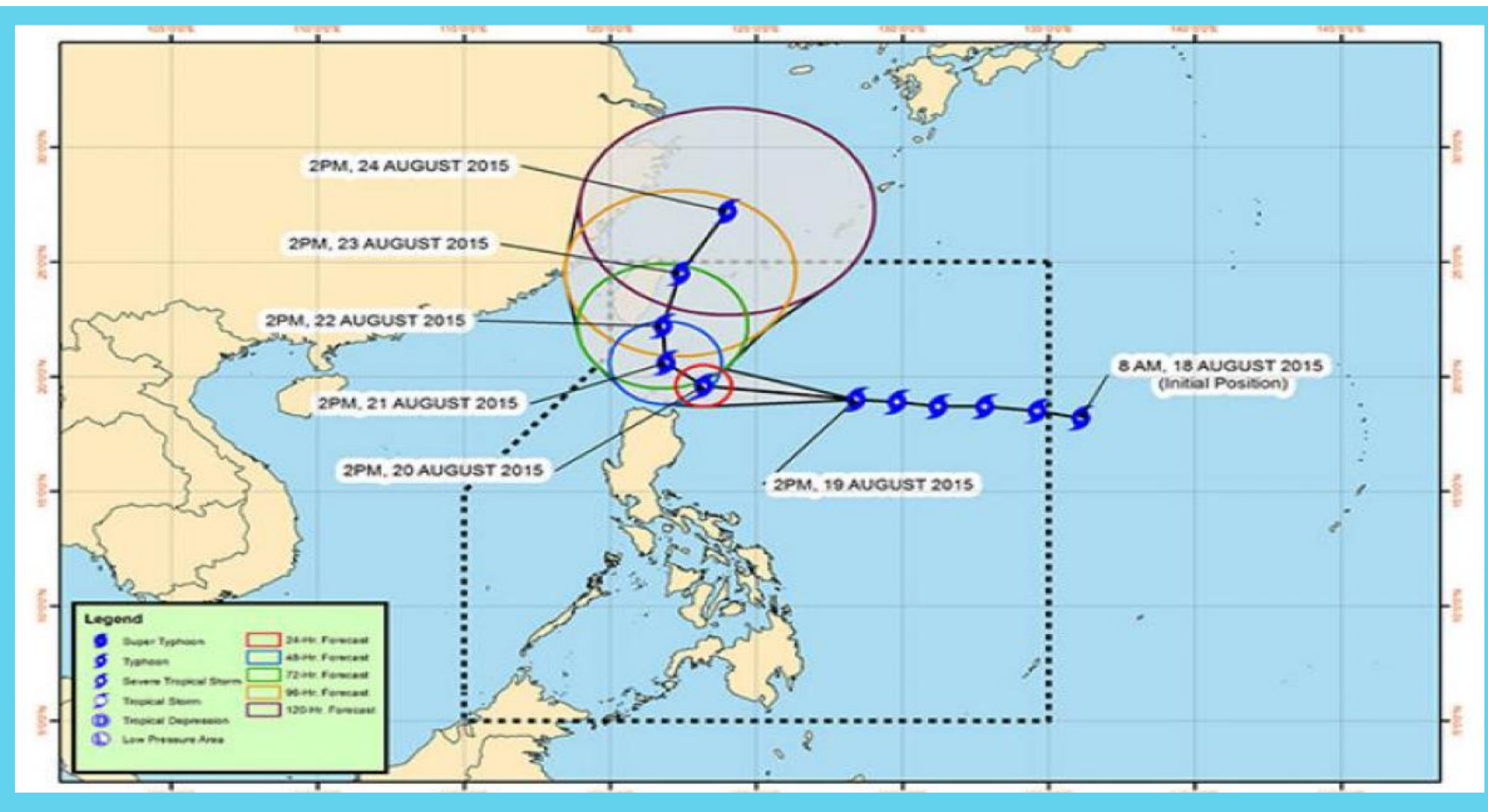
The main objective of our CAP system is to address our existing process and new CAP alerts with one application at the same time.

Tropical Cyclone Alert



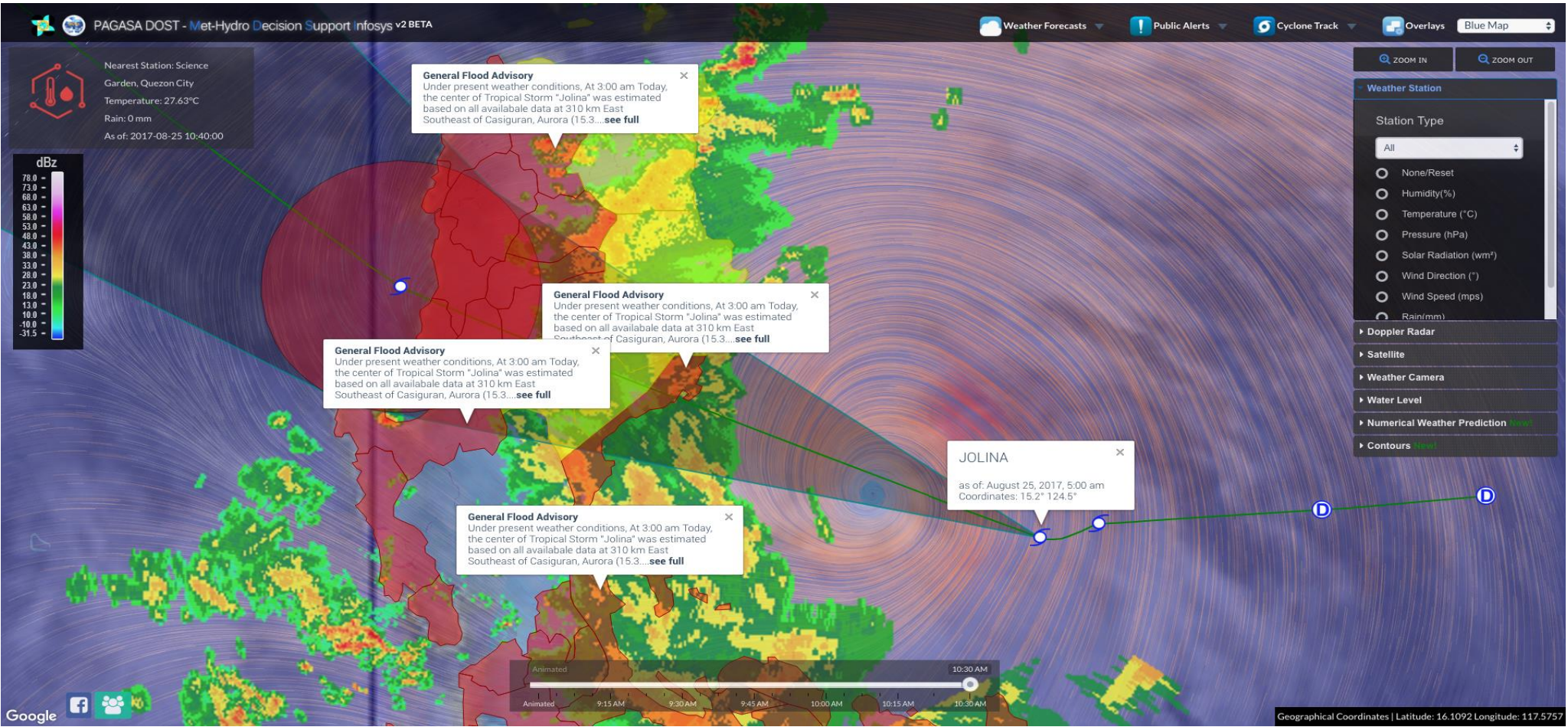
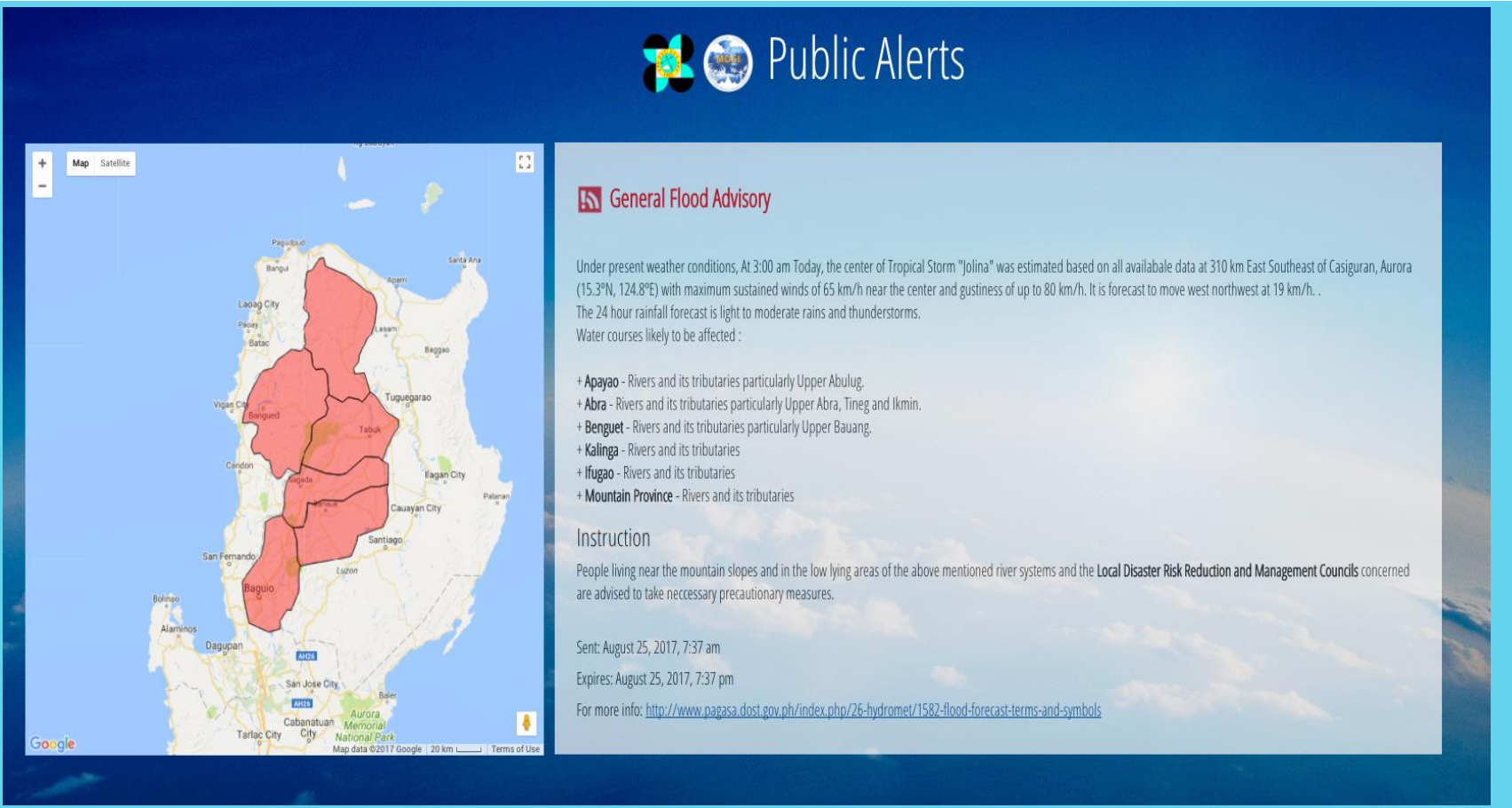
TCA is generated when a typhoon is already inside the Philippine Area of Responsibility (PAR) but no signal yet was given on any city or region.

Tropical Cyclone Warning



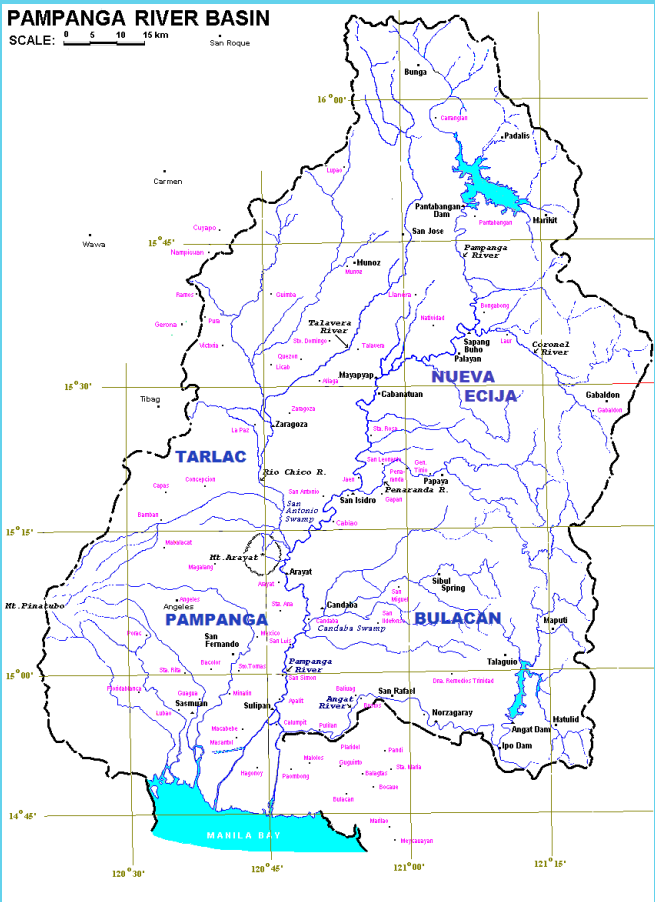
TCW is generated when a typhoon is already affecting land part of the Philippines and an active signal or warning level is in effect. Currently, Philippines have 5 categories of typhoon signals.

General Flood Advisory



GFA is a non-metered advisory issued by the Hydrologist.

Flood Bulletin



Active Alerts & Warnings

FE

Flood Bulletin

ATOM FEEDS

- ☐ Inactive Events
- ☐ Expired Events

ID	State	Date Created		Action
Flood Bulletin #5 (Final) - Pampanga				
59a332381e039	Pending	2017-08-28 18:56:47		
Flood Bulletin #4 - Pampanga				
59a2505ea950c	Pending	2017-08-27 16:28:59		
Flood Bulletin #3 - Pampanga				
59a235bb24a4b	Pending	2017-08-27 11:01:23		
Flood Bulletin #1 - Pampanga				
59a0bc83dbea4	Sent	2017-08-26 19:01:04	2017-08-31 13:17:37	
59a09d0825730	Pending	2017-08-26 06:11:18		
Flood Bulletin #2 - Pampanga				
59a144202dcc7	Pending	2017-08-26 19:00:51		

Developed by ETSD-ICT @ 2015

ADMIN PAGASA-DOST Test Restricted

FB is metered alert and issued by the local river basin center of PAGASA.

CAP Integrations



Google Public Alerts



SAHANA

Red Cross



PAGASA MDSI



CAP Integrations

Google Public Alerts

6 Public Storm Warning Signal 4 for Part of Luzon and Visayas
Active for next 10 minutes
Posted 1 day ago – **PAGASA**



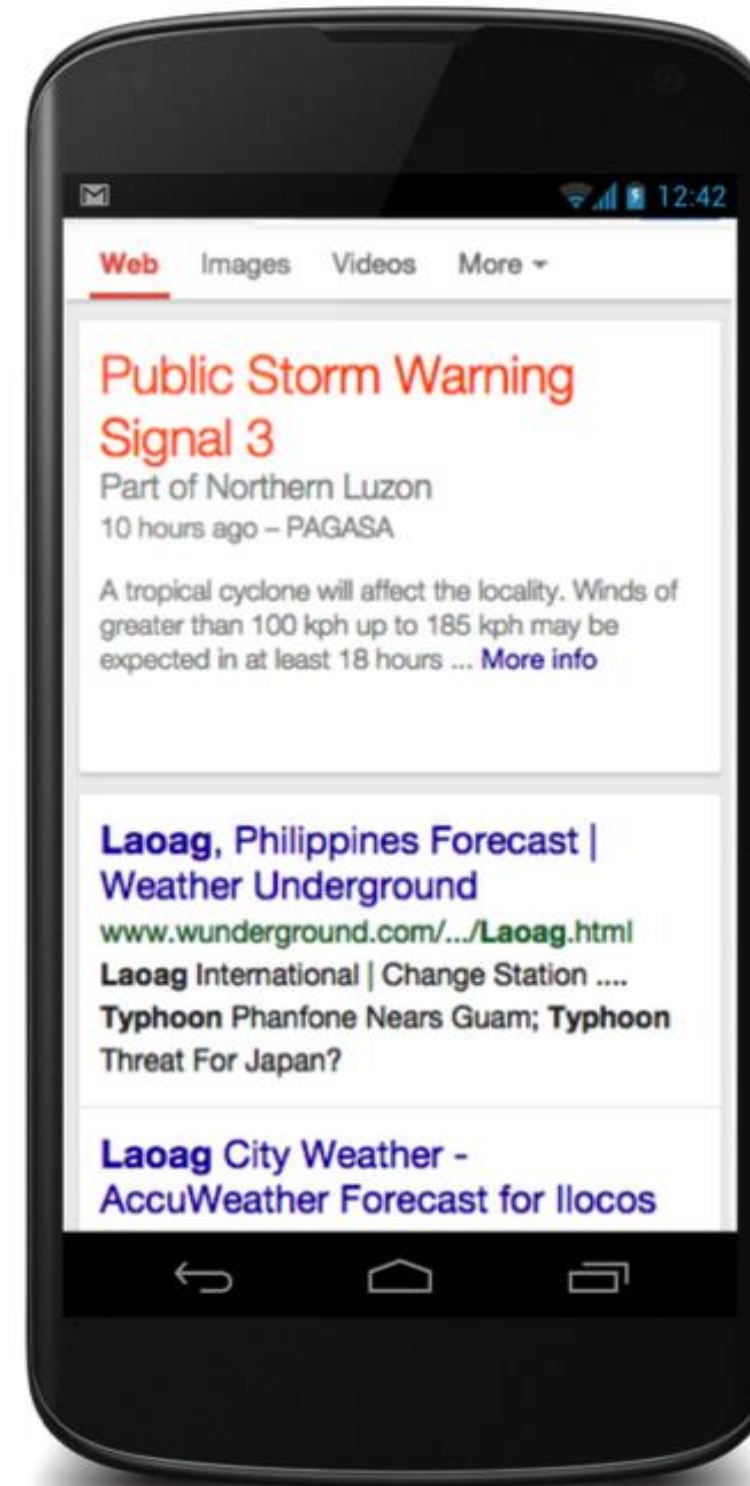
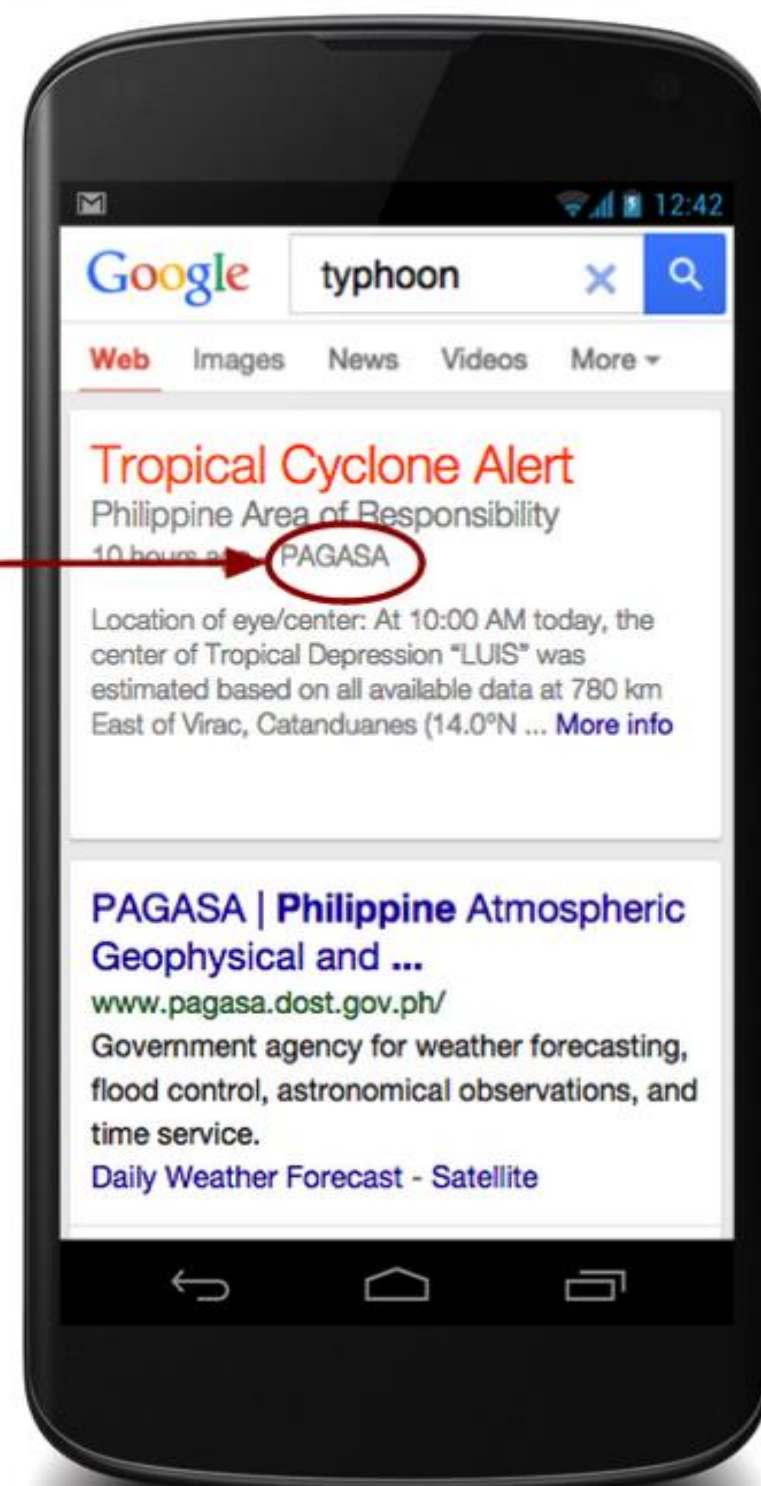
Locations: Masbate, Northern Samar, Eastern ... [More](#)



PAGASA and Google partnership started May 2014, and since then PAGASA created a team for Common Alerting Protocol.

Typhoon Alert on Google Search

**PAGASA
Attribution**



CAP Integrations

SAMBRO (CAP on a Map Project)



“CAP on Map” project starts a workshop in Philippines May 2015 under Sahana Software Foundation, AIT and United Nations ESCAP, and held a training in Thailand for Implementers training. PAGASA’s SAMBRO is now accessible in <http://sambro.meteopilipinas.gov.ph>

PAGASA Alert Hub Common Alerting Picture

View Datalist

Filter Options

Pakita

General Flood Advisory

Actual alert for Iloilo, Antique, Capiz, Negros Occidental, Aklan, Guimaras.

[General Flood Advisory \(Moderate\) Update](#)

Issued by: PAGASA-DOST

Issued on: 2017-09-20 07:33:12

[Full Alert](#)

General Flood Advisory

Actual alert for Oriental Mindoro, Palawan, Occidental Mindoro, Romblon, Marinduque.

[General Flood Advisory \(Moderate\) Update](#)

Issued by: PAGASA-DOST

Issued on: 2017-09-20 07:32:14

[Full Alert](#)

General Flood Advisory

Actual alert for Iloilo, Antique, Capiz, Negros Occidental, Aklan, Guimaras.

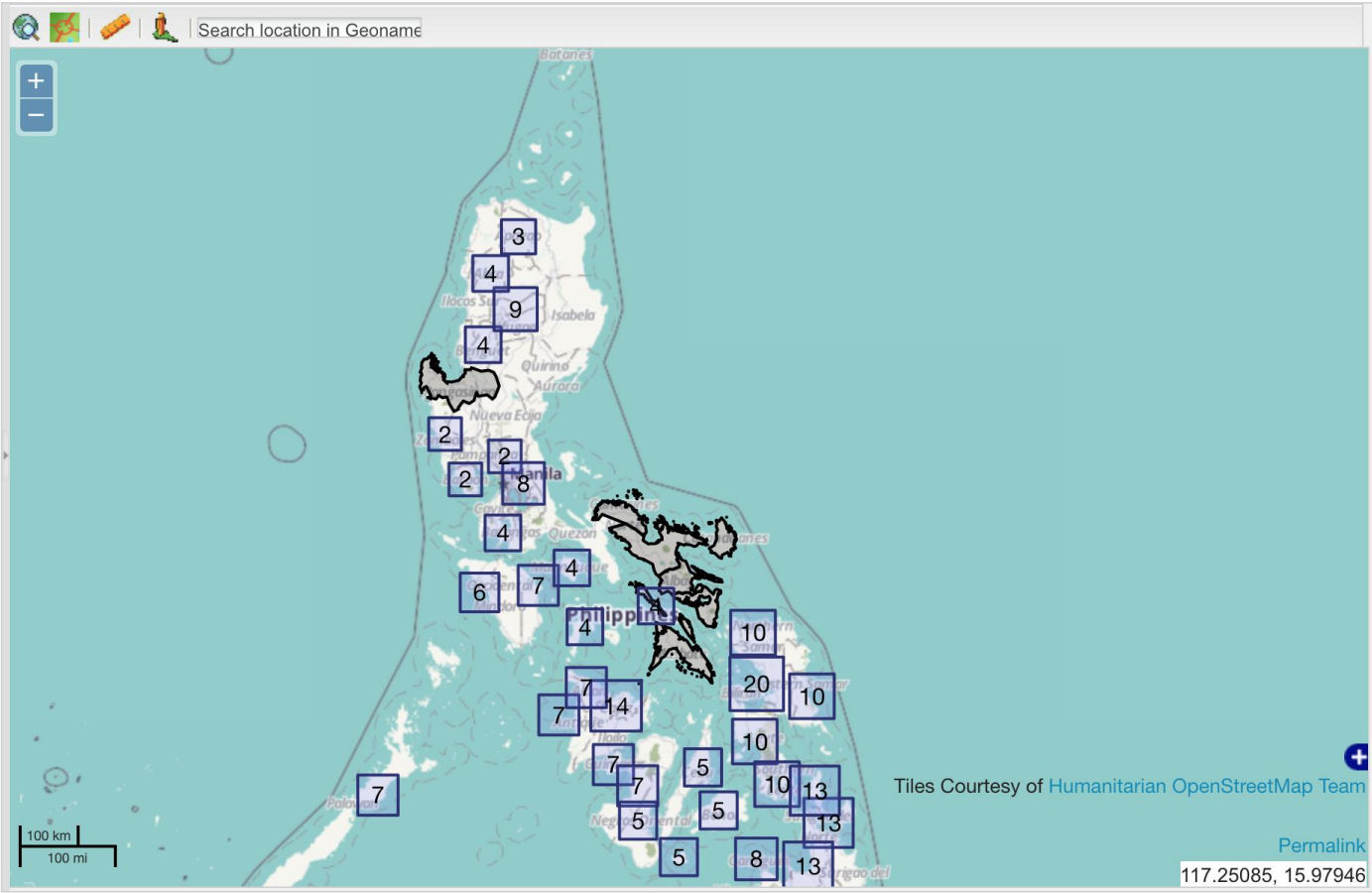
[General Flood Advisory \(Moderate\) Update](#)

Issued by: PAGASA-DOST

Issued on: 2017-09-20 07:33:12

[Full Alert](#)

General Flood Advisory



ting Southern
ins and
utaries
ian, Jaro-
ly Sibalom,
d its tributaries
Occidental** -
Jpper
ly Ibajay, Aklan

RESPONSE TYPE :: **MONITOR**

INSTRUCTIONS :: 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 neccessary precautionary measures.

INFORMATION KAGANAPAN :: **General Flood Advisory (Moderate)**

Kategorya :: Met - Meotrolohiko (inc. baha)

Urgency :: Future - Responsive action should be taken in the near future

Severity :: Moderate - Possible threat to life or property

Certainty :: Possible but not likely (p <= ~50%)

Effective Date :: 2017-09-20 16:26:19

Onset Date :: 2017-09-20 16:26:19

Petsa ng Pagkapaso :: 2017-09-20 19:33:12

Information URL :: <http://sambro.meteopilipinas.gov.ph/eden/cap/public/4804>

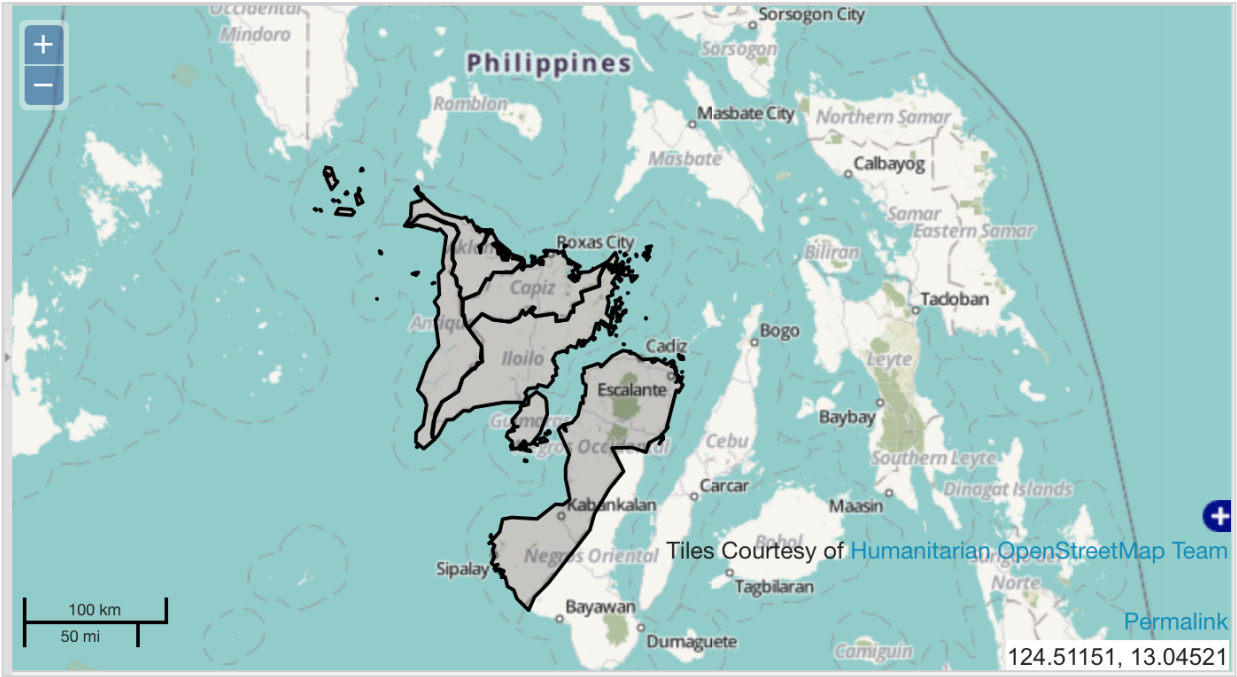
Tagapagdala :: PAGASA-DOST

Contact Info :: PAGASA-DOST

Parameters :: layer:Google:Region:0.1: Region 6 (Western Visayas)

PINANGGALINGAN :: **None**@<http://sambro.meteopilipinas.gov.ph>

AREA :: Iloilo, Antique, Capiz, Negros Occidental, Aklan, Guimaras



ALERT QUALIFIERS

Sender ID :: PAGASA-DOST

Sent Date/Time :: 2017-09-20 07:33:12

Message Status :: Actual - actionable by all targeted recipients

Uri ng Mensahe :: Update

Saklaw :: Public

CAP Integrations

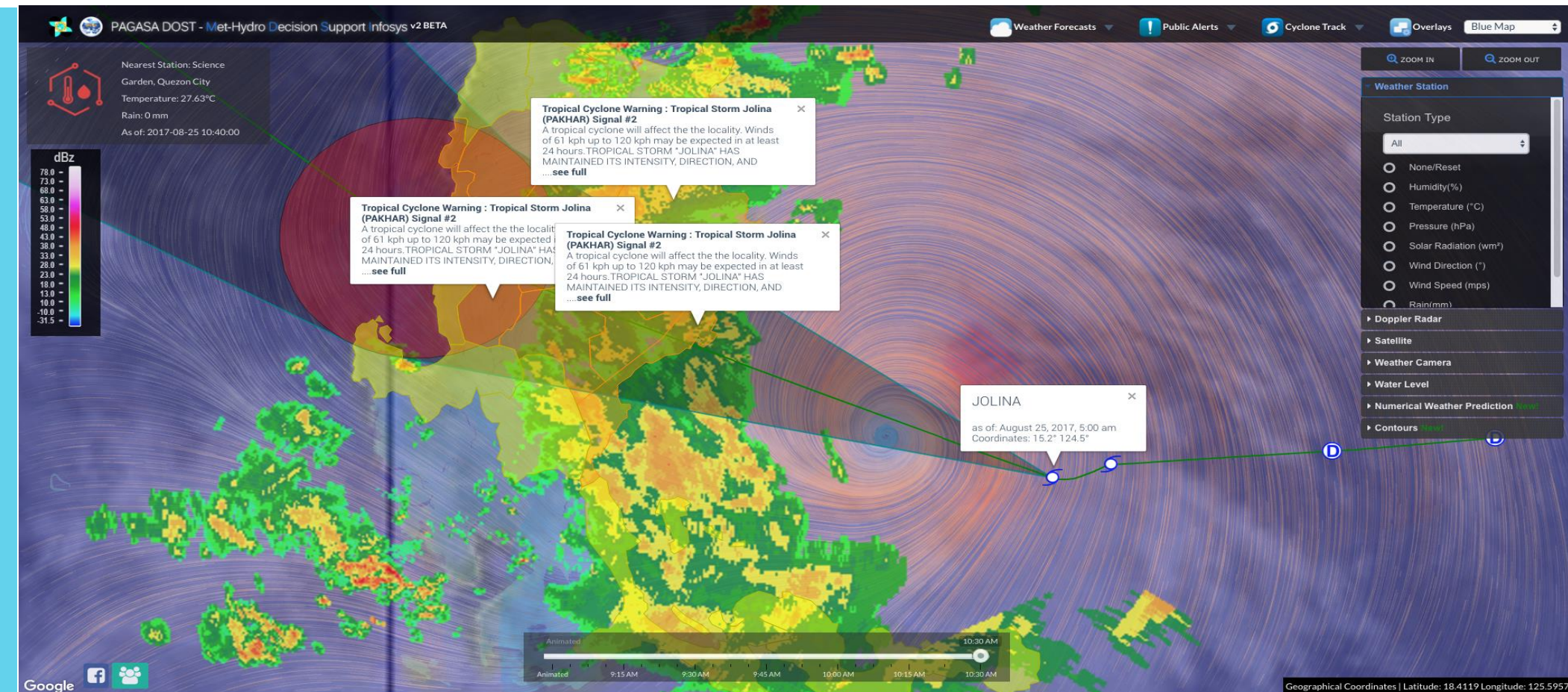
Red Cross (Hazard App)



PAGASA acts as a information partner of Philippine Red Cross for disaster preparedness.

CAP Integrations




PAGASA Met-Hydro Decision Support Infosys (MDSI)



MDSI is a interactive web application developed by PAGASA for weather visualization from radar, satellite, numerical model, observed data, weather camera and CAP alerts.

MDSI is accessible to www.meteopilipinas.gov.ph

What's coming?

-  Restructured CAP alert with polygon, geocode and area description per area element
-  Implementation of CAP-enabled Flood Bulletin to River Basins in Philippines
-  New CAP product for Rainfall Warning and Inter-agency collaboration

CAP with geocode and polygons

```
▼<area>
  ▼<areaDesc>
    Iloilo, Antique, Capiz, Negros Occidental, Aklan, Guimaras
  </areaDesc>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>063000000</value>
  </geocode>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>060600000</value>
  </geocode>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>061900000</value>
  </geocode>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>064500000</value>
  </geocode>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>060400000</value>
  </geocode>
  ▼<geocode>
    <valueName>SAME</valueName>
    <value>067900000</value>
  </geocode>
</area>
```



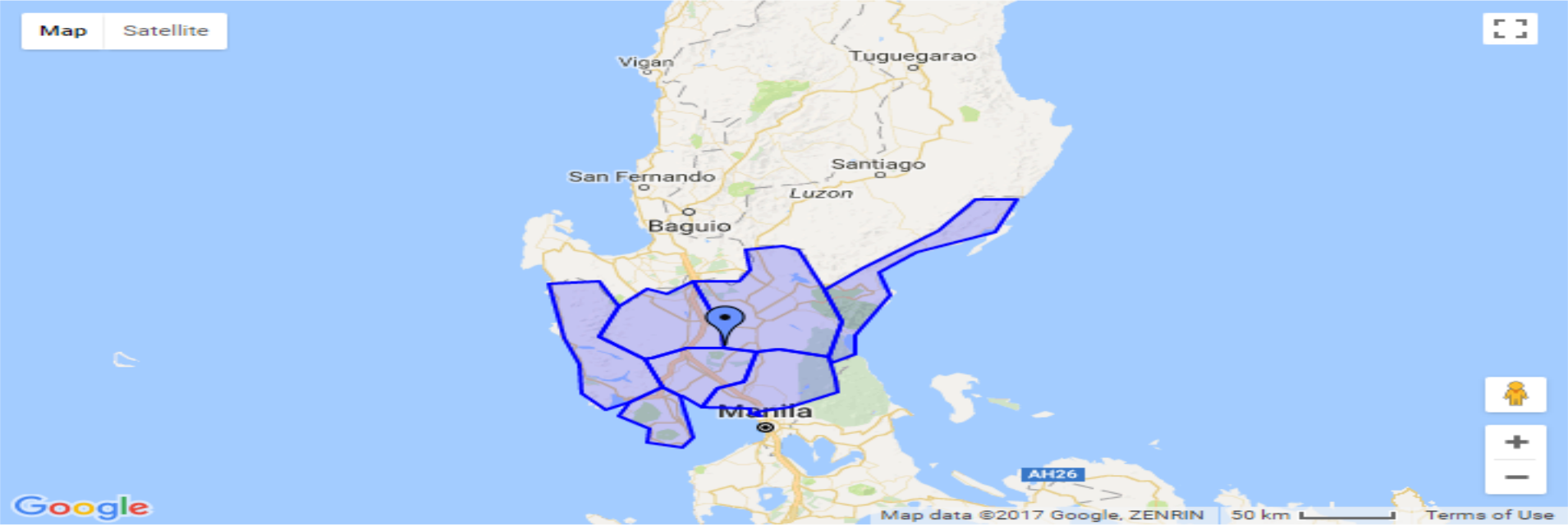
```
<area>
  <areaDesc>Iloilo</areaDesc>
  <polygon>
    13.570244001313,121.86623744119 13.461210113732,122.124282663
    13.213517460881,122.04181300569 13.284474451431,121.8670487052
    13.461336977395,121.81351637037 13.570244001313,121.86623744119
  </polygon>
  <geocode>
    <valueName>SAME</valueName>
    <value>174000000</value>
  </geocode>
</area>
<area>
  <areaDesc>Antique</areaDesc>
  <polygon>
    13.49,120.88 13.254,120.77 13.043,121.24 12.201,121.24 12.237,121.13
    12.725,120.79 13.0,120.76 13.191,120.64 13.294,120.48 13.526,120.41
    13.467,120.75 13.49,120.88
  </polygon>
  <geocode>
    <valueName>SAME</valueName>
    <value>175100000</value>
  </geocode>
</area>
<area>
  <areaDesc>Capiz</areaDesc>
  <polygon>
    11.856,121.32 11.856,121.31 11.857,121.3111 11.859,121.31 11.852,121.31
    11.858,121.31 11.854,121.31 11.854,121.31 11.851,121.31 11.856,121.31
    11.85,121.3111 11.856,121.3211 11.855,121.32 11.856,121.32
  </polygon>
  <geocode>
    <valueName>SAME</valueName>
    <value>175200000</value>
  </geocode>
</area>
```

CAP with geocode and polygons

Result

Valid!

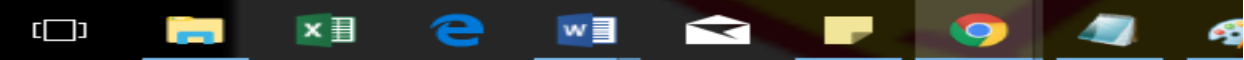
MapSatellite



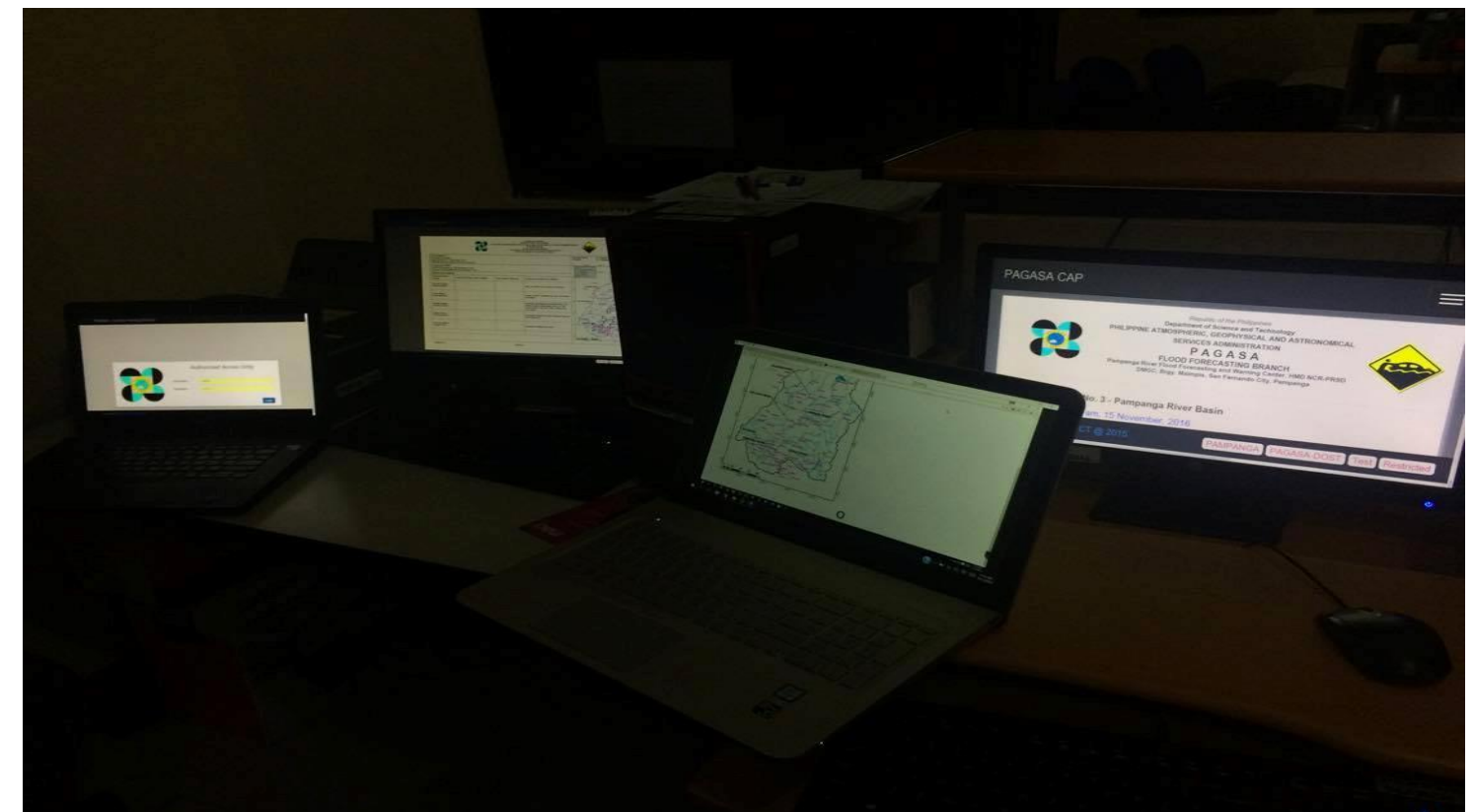
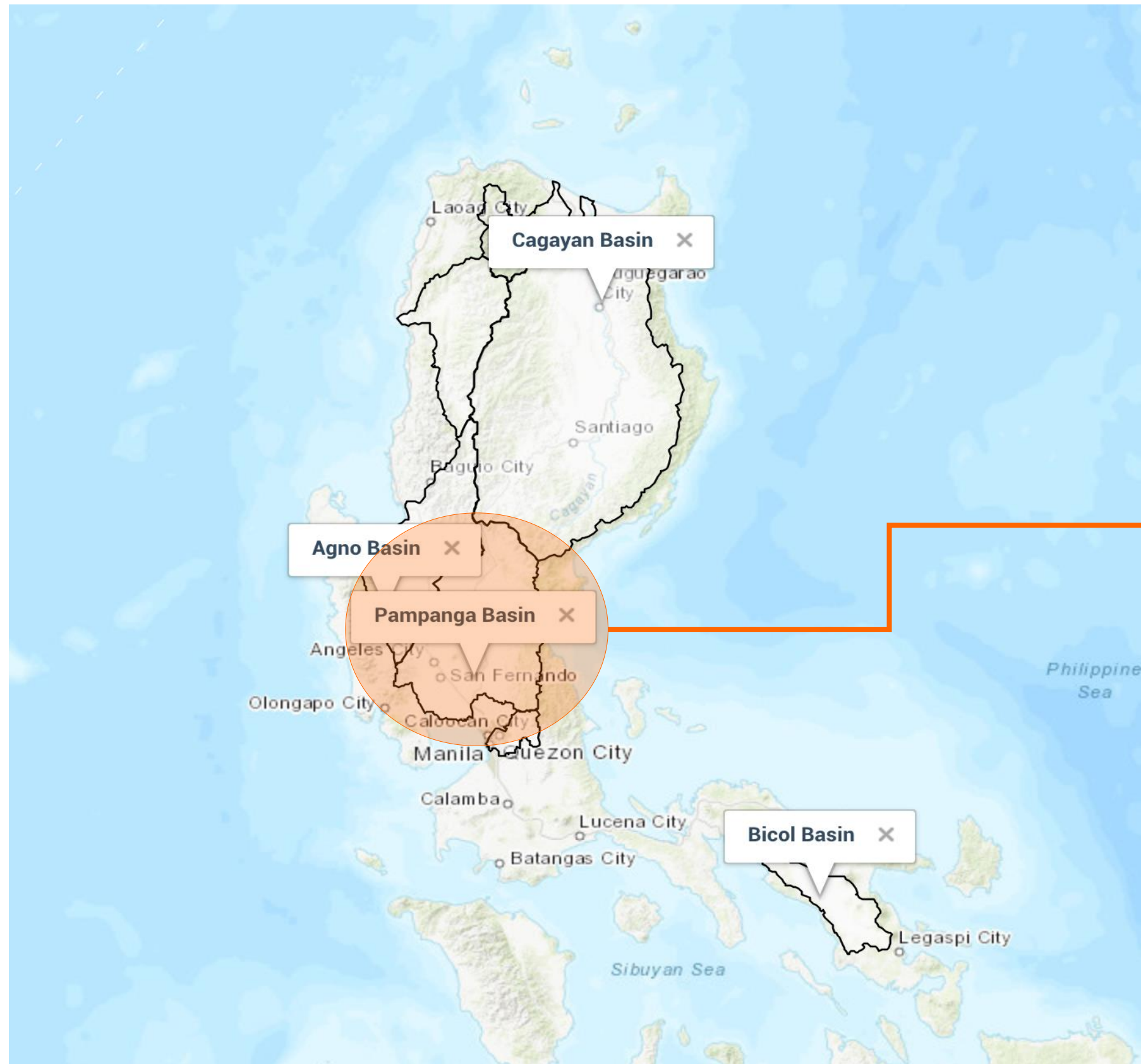
File

```
1 <alert xmlns="urn:oasis:names:tc:emergency:cap:1.2">
2 <identifier>17633d47-f54e-4897-887c-6eebbdd4b16e</identifier>
3 <sender>PAGASA-DOST</sender>
4 <sent>2017-09-02T12:21:12+08:00</sent>
5 <status>Test</status>
6 <msgType>Alert</msgType>
7 <scope>Restricted</scope>
8 <info>
9 <category>Met</category>
10 <event>General Flood Advisory (Moderate)</event>
11 <responseType>Monitor</responseType>
12 <urgency>Future</urgency>
13 <severity>Moderate</severity>
14 <certainty>Possible</certainty>
15 <expires>2017-09-03T00:21:12+08:00</expires>
16 <senderName>PAGASA-DOST</senderName>
```

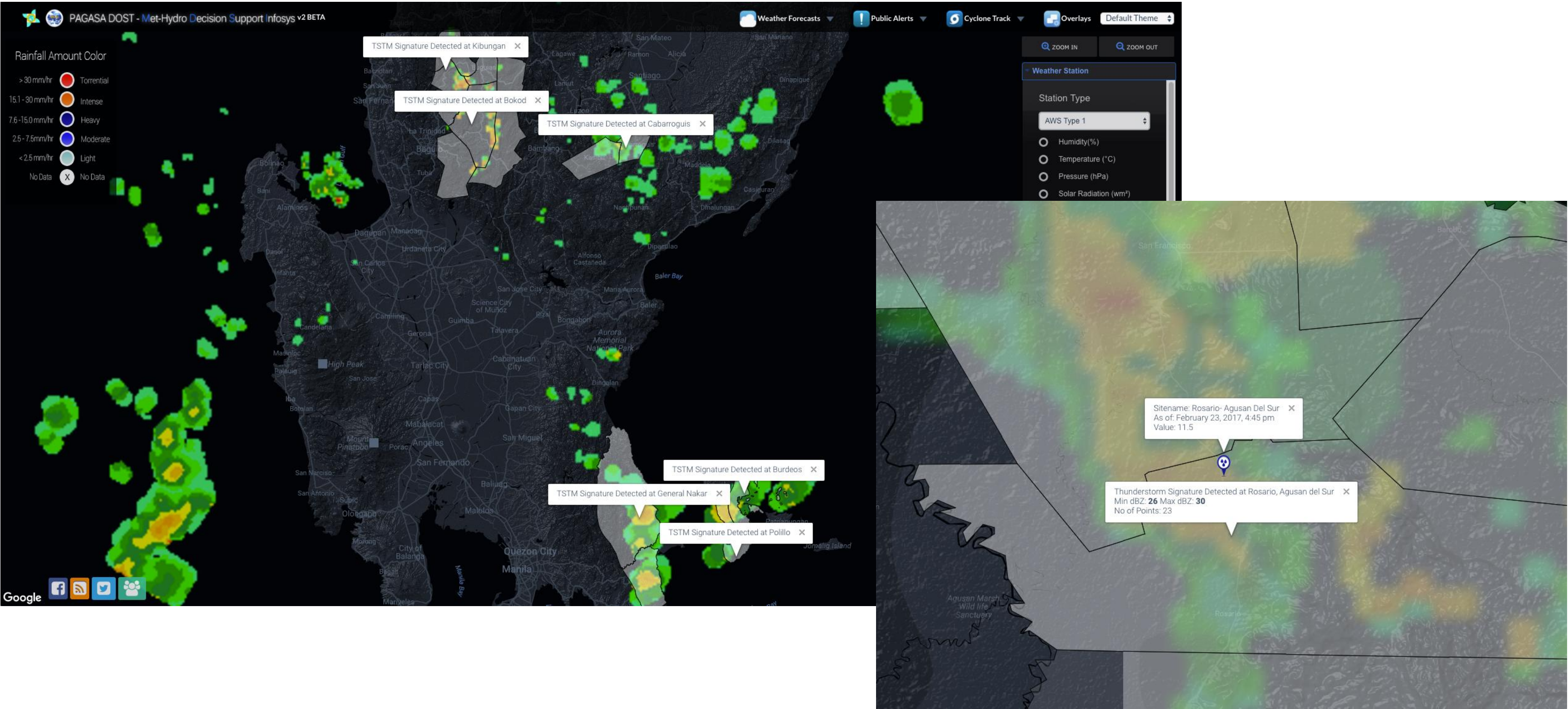
Search Windows



Flood Bulletin Implementation



Research: Automatic CAP from Radar



Inter-agency collaboration





Get in touch!



Science Garden, Diliman, Quezon city, Philippines

- Lester Kim M. Lagrimas | Weather Facilities Specialist
- lester.lagrimas@pagasa.dost.gov.ph
- kim.lagrimas@meteopilipinas.gov.ph

Thank you!

Any questions?
