



## Nationwide Operational Assessment of Hazards

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Nara, Japan

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Project NOAH WebGIS Component





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“Project NOAH is not just a website. We really think of it as a way of life. We advocate the cultivation of distinct kind of consciousness about safety among Filipinos – a consciousness about safety not when the crisis happens, but practicing safety long before a crisis even happens”  
Prof. Alfredo ‘Mahar’ Lagmay



VULNERABILITY

X

EXPOSURE

X

NATURAL  
HAZARDS

=

DISASTER

Source: UN-ISDR



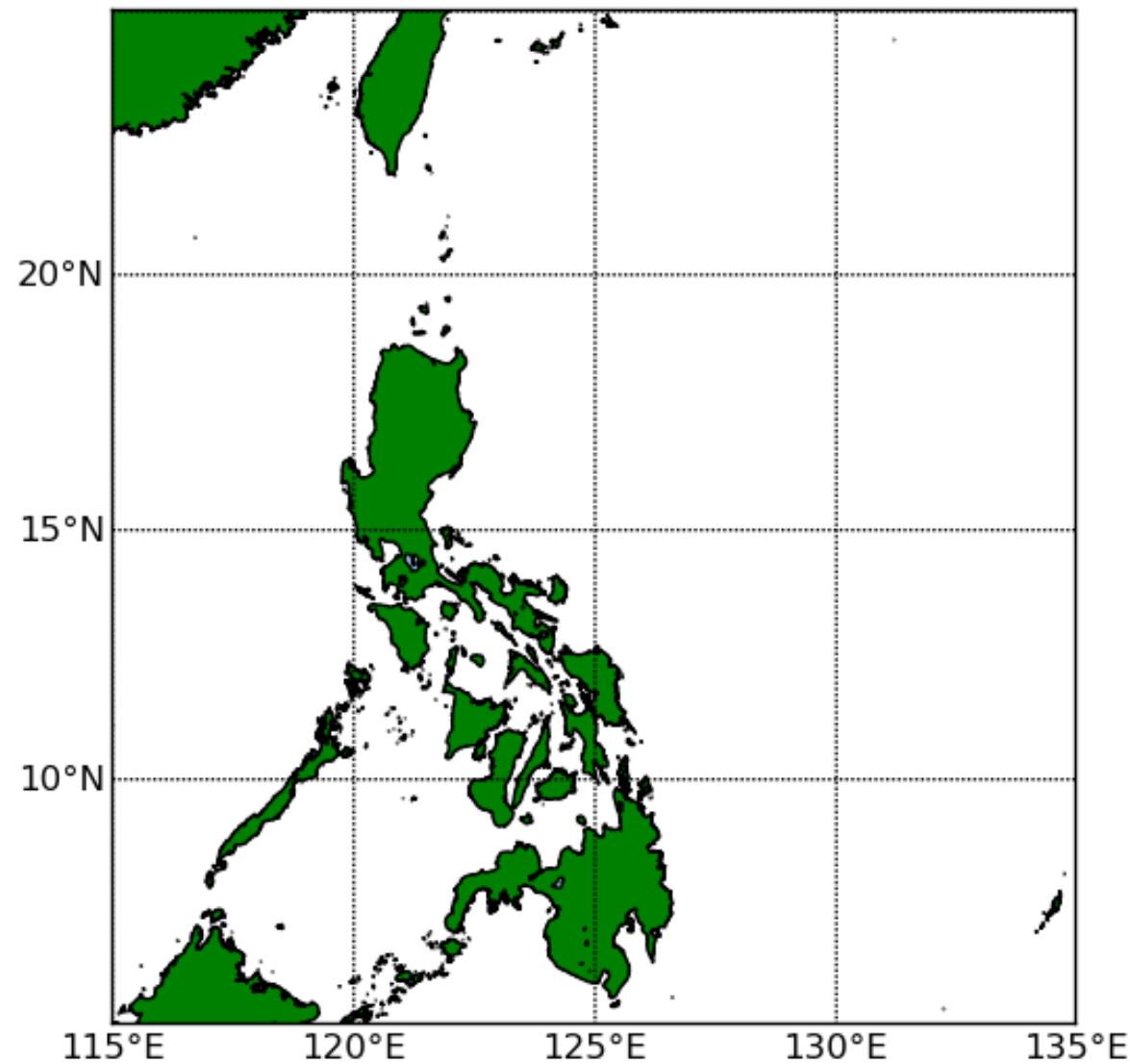
natural hazard	disaster
<p><b>natural process or phenomenon</b> that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption or environmental change</p>	<p><b>serious disruption of functioning</b> of a community or a society involving widespread human, material, economic or environmental losses or impact which exceeds the ability of affected community or society to cope using its own resources</p>

Source: UN-ISDR

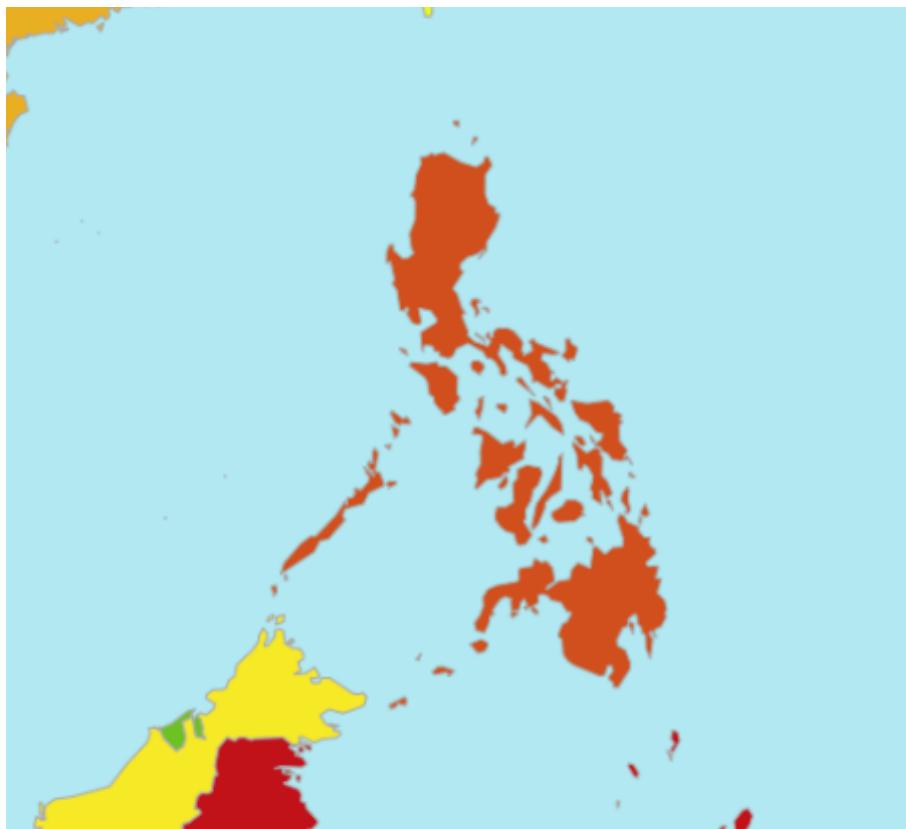
storms  
floods    volcanic eruption  
earthquake    storm surge  
landslides    tsunami



1951



Philippines has the **5<sup>th</sup>** largest coastline in the world  
**36,289 km.**



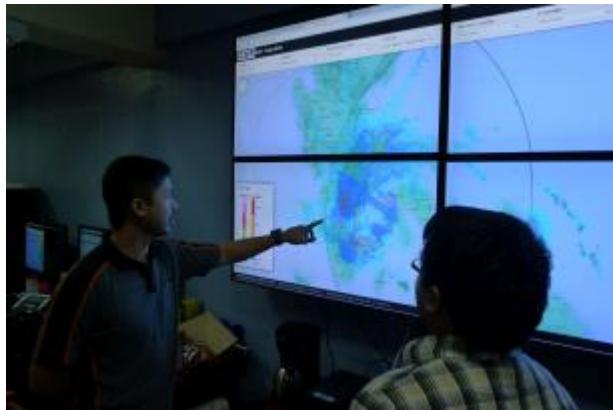
## WorldRiskIndex

Rank	Country	Risk (%)
1.	Vanuatu	36.43
2.	Tonga	28.23
3.	Philippines	27.52
4.	Guatemala	20.88
5.	Bangladesh	19.81
6.	Solomons	18.11
7.	Costa Rica	16.94
8.	Cambodia	16.90
9.	El Salvador	16.85
10.	Timor-Leste	16.37
11.	Papua-New Guinea	15.90
12.	Brunei Darussalam	15.80
13.	Mauritius	15.18
14.	Nicaragua	14.89
15.	Japan	14.10

- World Risk Index Report 2013

# What is Project NOAH?

Project NOAH is a nationwide disaster management program that aims to improve the government and Filipino people's capacity to respond against the impact and effect of extreme weather conditions



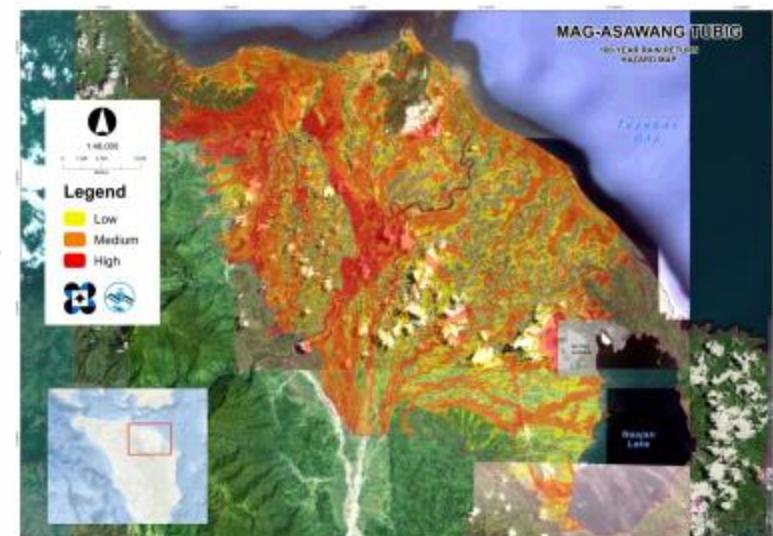
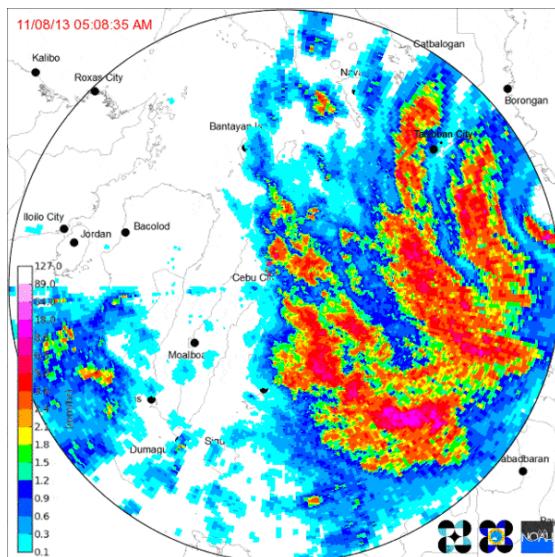


**DOST'S response to President Aquino's directive to put in place a responsive disaster prevention and mitigation program. It is mandated by the government to:**

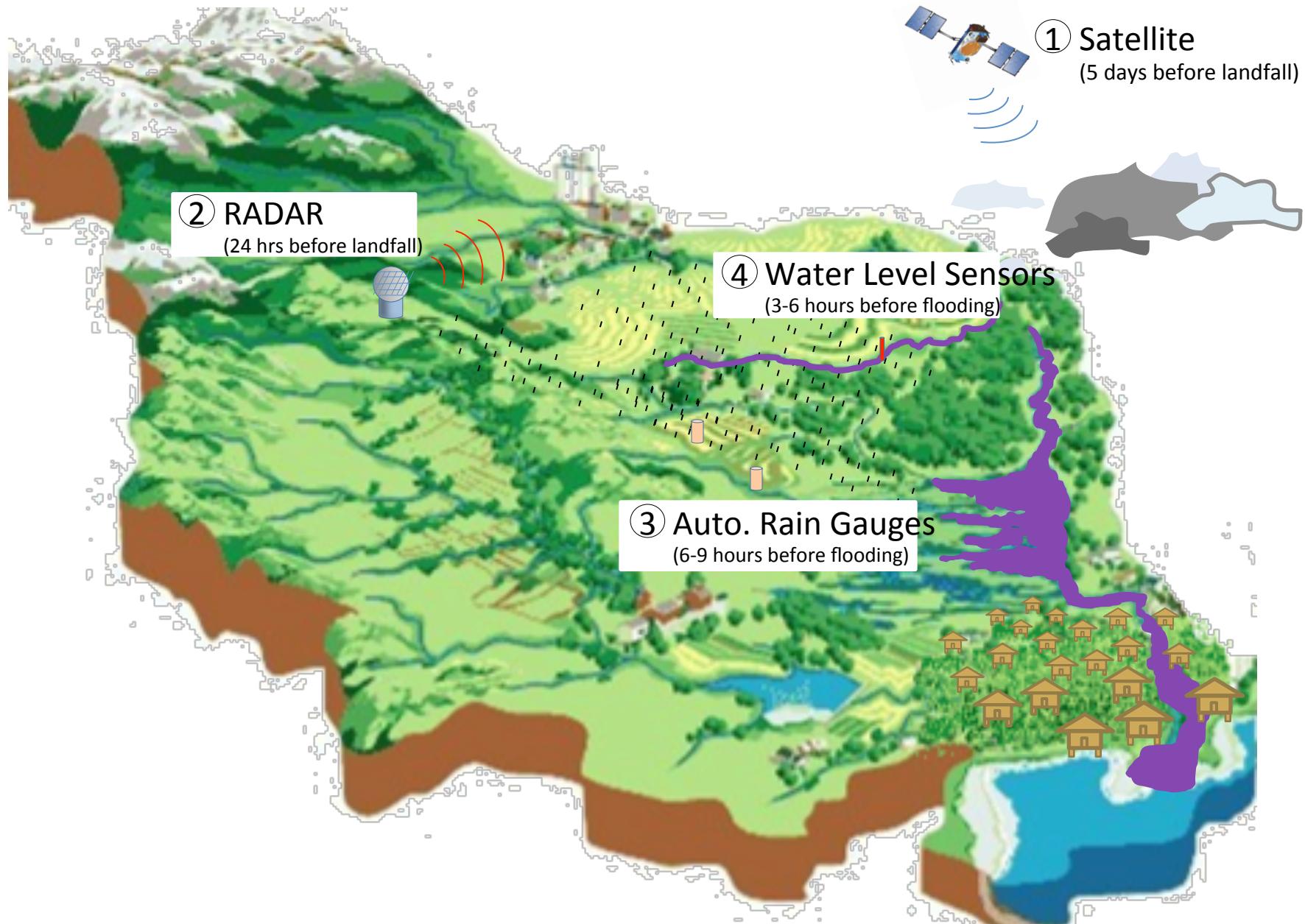
1. develop a flood mitigation system – 6hr flood warning system for communities living along 18
2. ~~enhance early warning systems~~ geo-hazard maps
3. enhancement of storm surge vulnerability maps

# how do we do this?

- ✓ advanced disaster science research
- ✓ multidisciplinary assessment of hazards



- ✓ develop accessible tools that enable prevention & mitigation of disasters  
(LGUs, planners, policy makers, communities, individuals, families)



# multidisciplinary & bottom-up approach

## PROJECT NOAH

Hydromet  
Sensors

Dream  
LIDAR

Flood  
NET

Disaster  
Management  
using  
WEBGIS

Landslide  
&  
GeoHazar  
ds

Weather  
Information  
Integration  
for System  
Enhancemen  
t (WISE)

Storm  
Surge  
Inundatio  
n  
Mapping

Doppler  
System



Nationwide Operational Assessment of Hazards

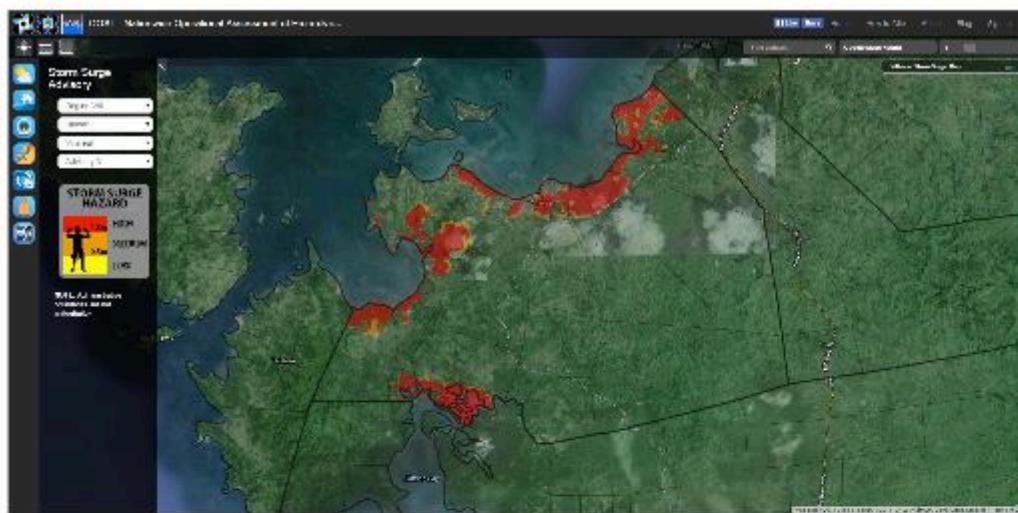


Photo by: Ray Gilhang Pacamparra



## SSA 3

### San Rafael, Villareal City, Western Samar

#### STATISTICS

##### HOUSES WASHED AWAY

104/150

46 severely damaged

##### CASUALTIES

0



#### Reach People nearby

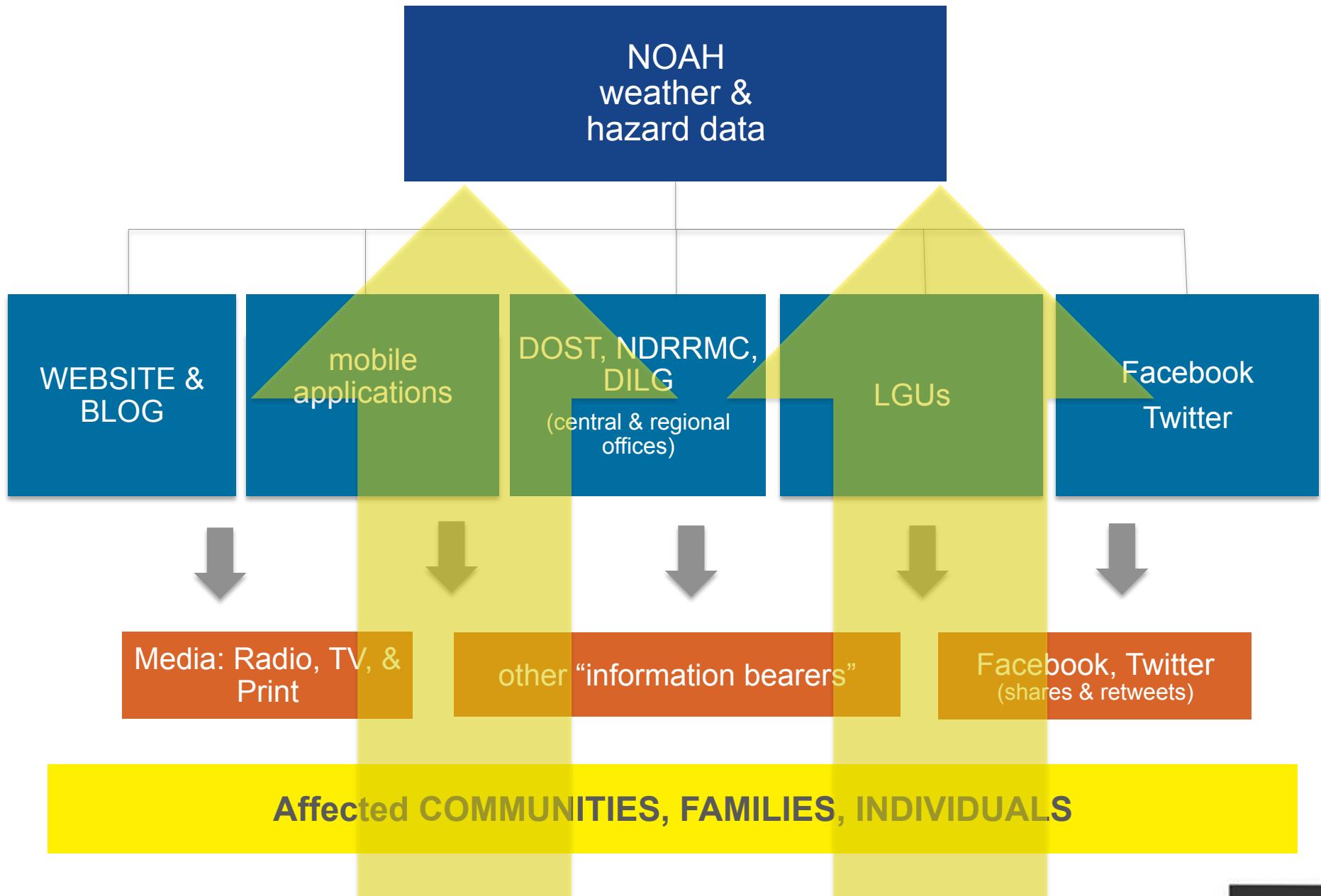
[Expand](#)

Get people near Quezon City to like  
your Page

[Promote Page](#)



[www.wsa-mobile.org](http://www.wsa-mobile.org)  
[wsa-mobile.org](http://wsa-mobile.org)



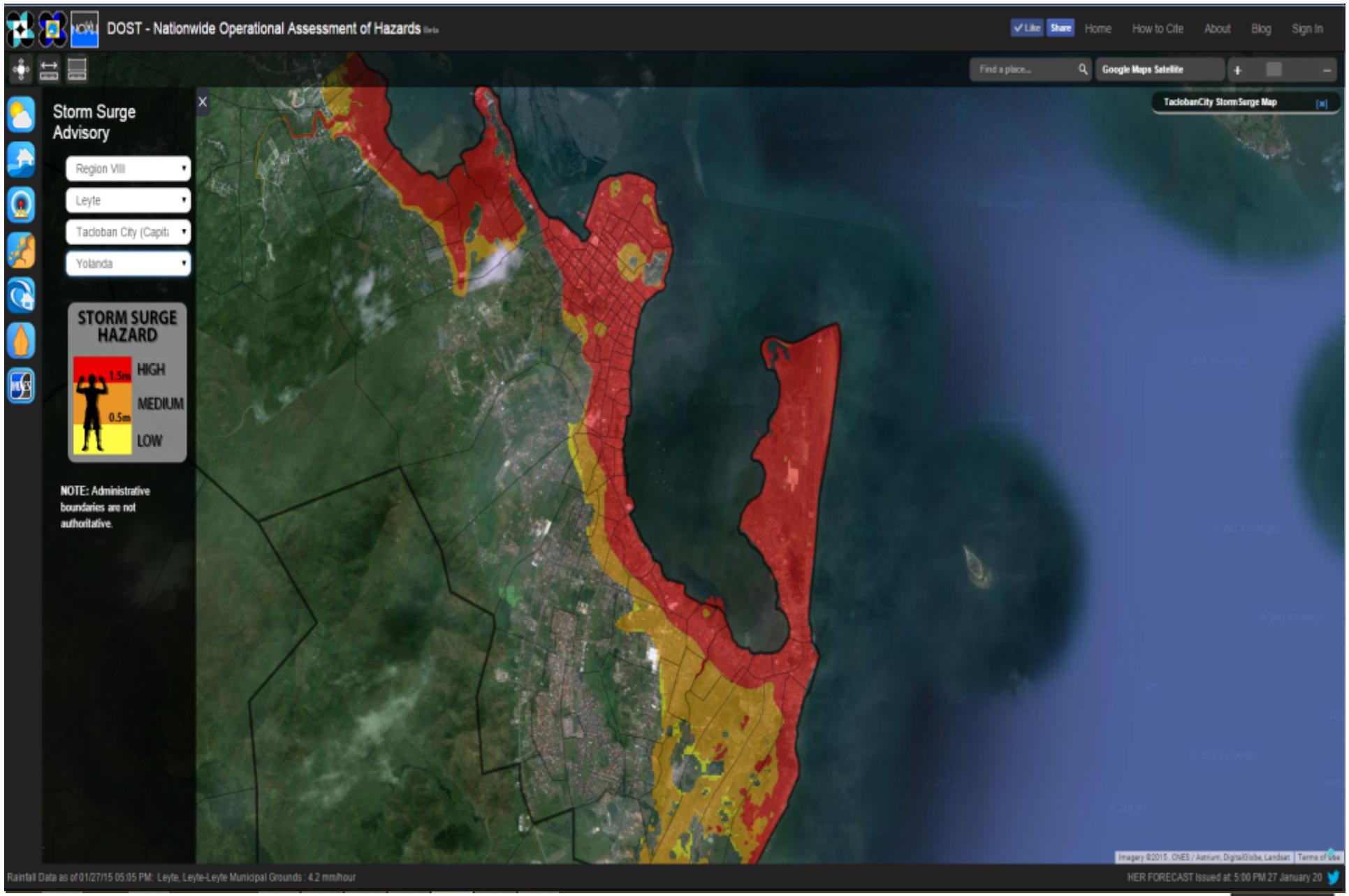
# Project NOAH website

<http://beta.noah.dost.gov.ph>

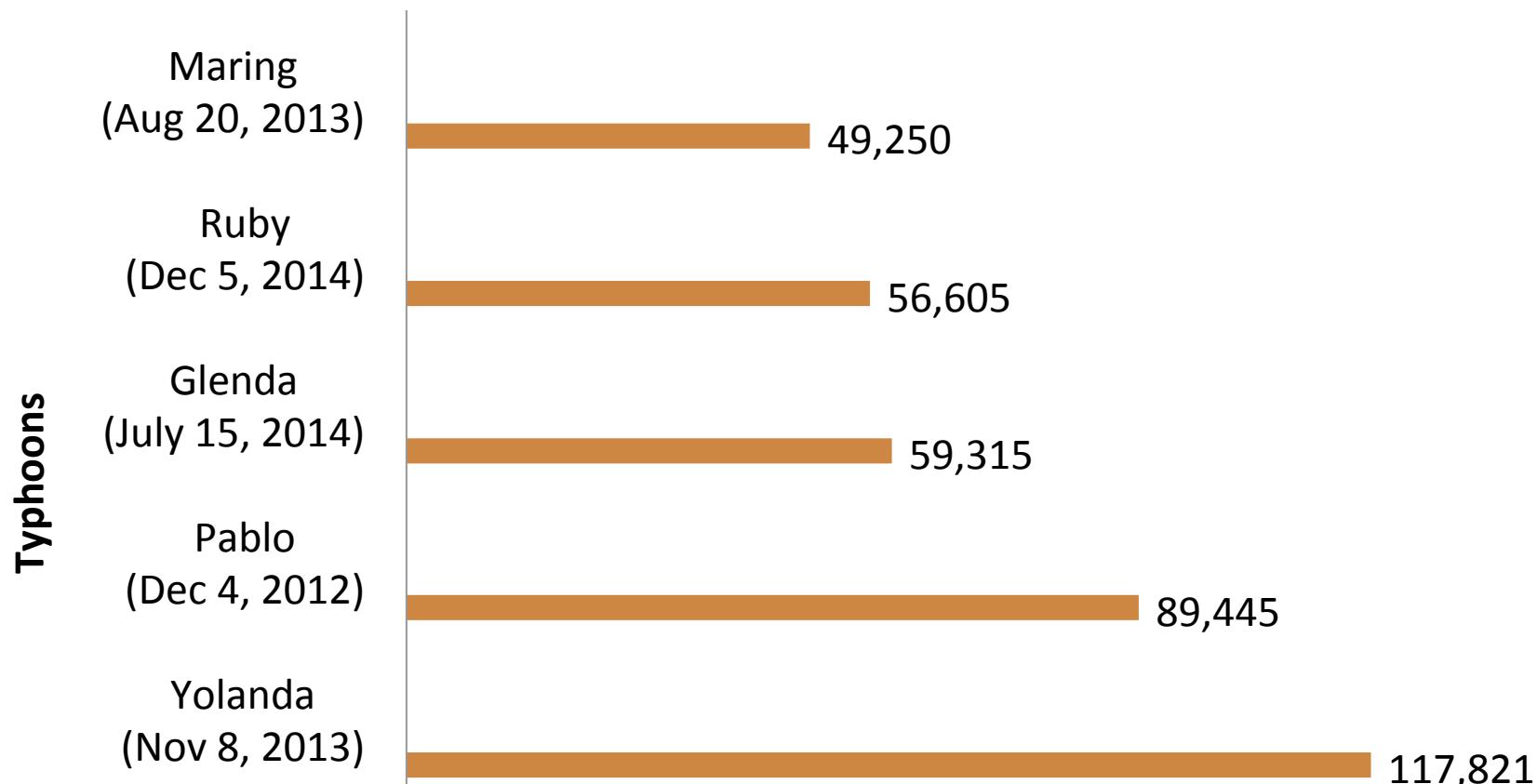


1- Homepage; 2- Twitter Feed; 3- Menu Bar; 4- Tool Bar; 5- Search Bar; 6- Base Map; 7- Zoom Options; 8- Rainfall Data





## Top 5 Website Pageviews



Pageviews refer to the number of times Internet users have viewed a particular Web page.



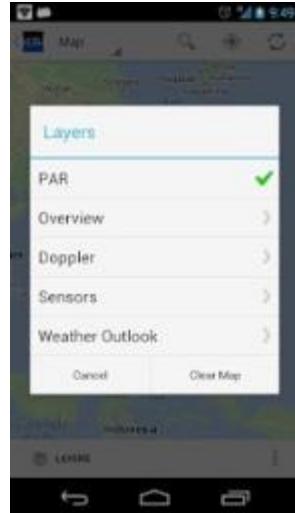
# our mobile applications

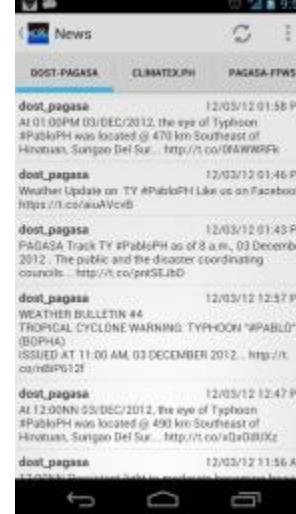


Available at Google Play: <https://play.google.com/store/search?q=DOST%20NOAH&c=apps&hl=en>



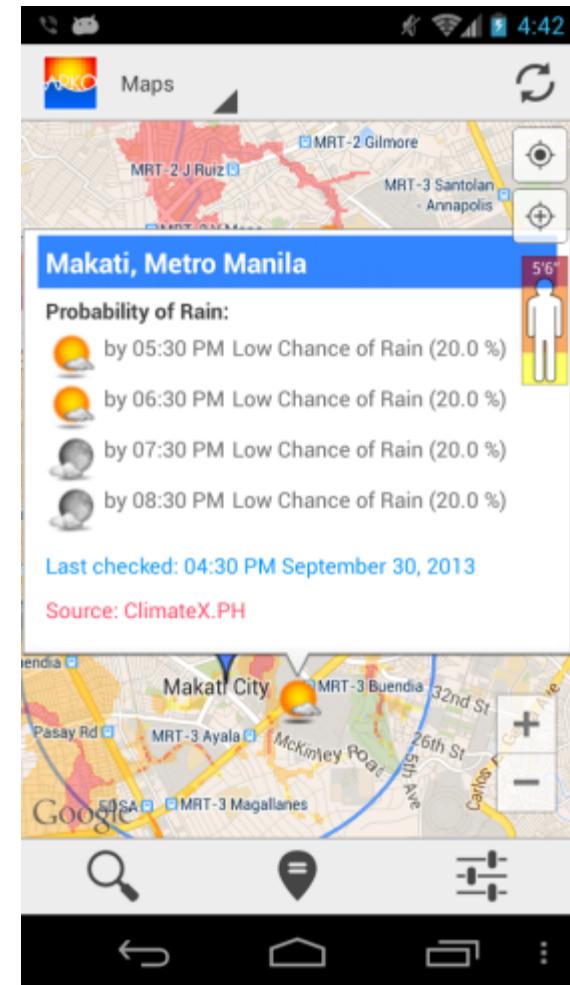
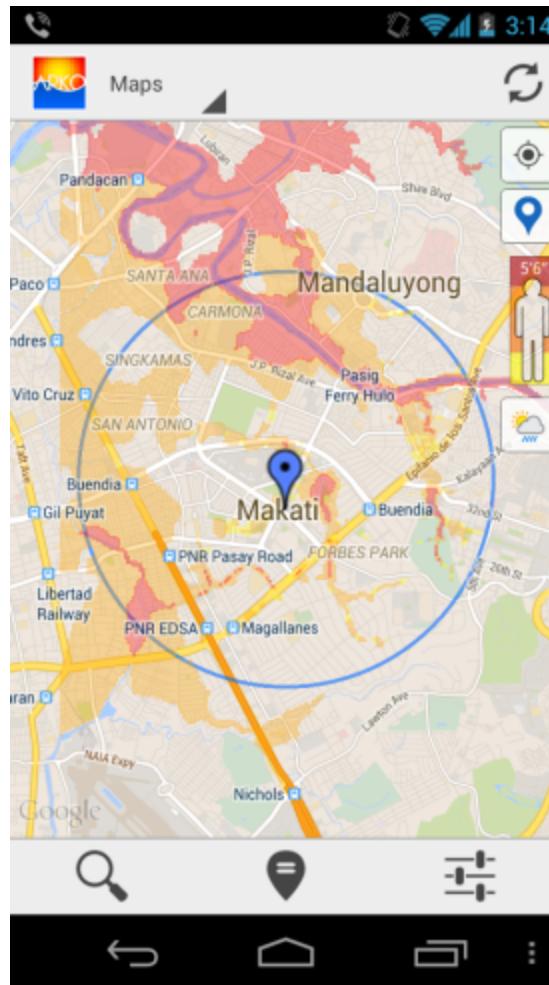
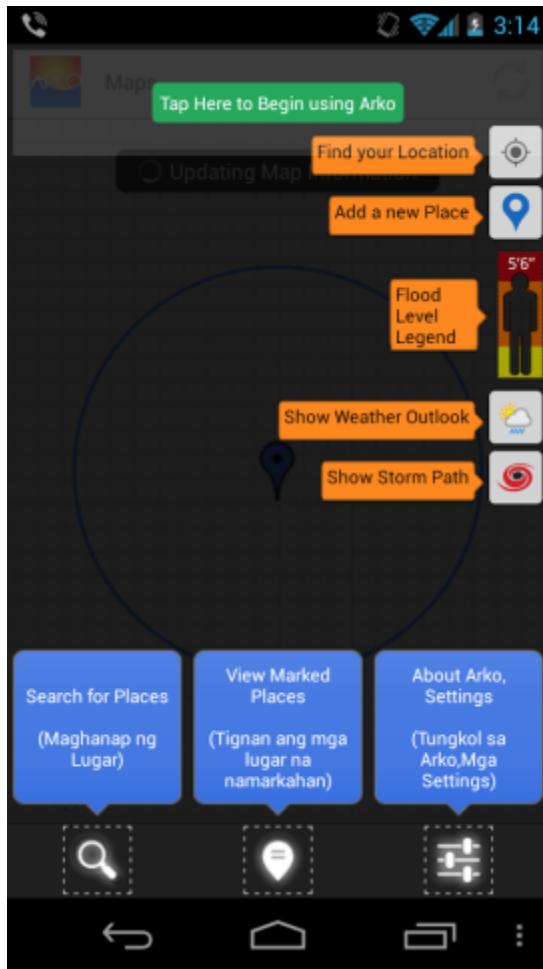
# NOAH (for Android)



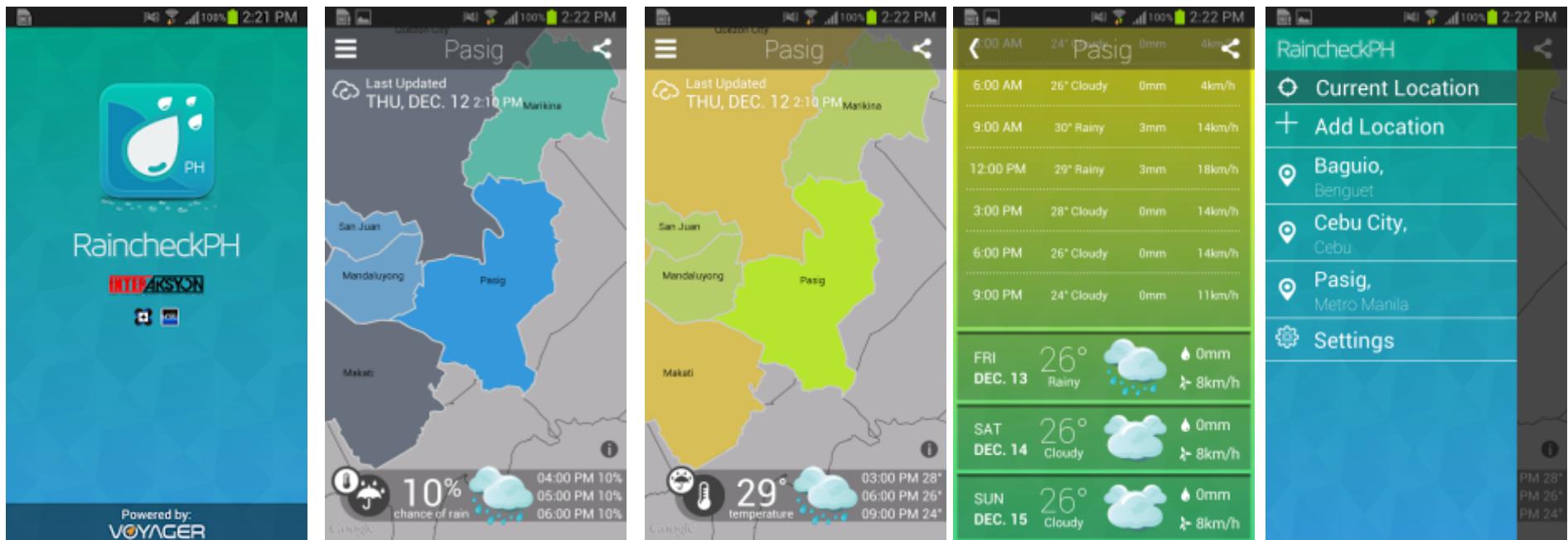
- 
- A news feed from DOST-PAGASA. It includes several entries:
- dost\_pagsa 12/03/12 01:58 PM At 01:05PM 03/DEC/2012, the eye of Typhoon #PabloPH was located @ 470 km Southeast of Hinatuan, Sungao Del Sur... <http://t.co/IAWWBPFk>
  - dost\_pagsa 12/03/12 01:46 PM Weather Update on TV #PabloPH Like us on Facebook <https://t.co/auAVcLB>
  - dost\_pagsa 12/03/12 01:43 PM PAGASA Track TV #PabloPH as of 8 a.m., 03 December 2012. The public and the disaster coordinating councils... <http://t.co/prnSLJbd>
  - dost\_pagsa 12/03/12 12:57 PM WEATHER BULLETIN #4 TROPICAL CYCLONE WARNING: TYPHOON "#PABLO" (BOPHA) ISSUED AT 11:00 AM, 03 DECEMBER 2012. <http://t.co/omPG12f>
  - dost\_pagsa 12/03/12 12:47 PM At 12:00NN 03/DEC/2012, the eye of Typhoon #PabloPH was located @ 490 km Southeast of Hinatuan, Sungao Del Sur... <http://t.co/0tD8UxZ>



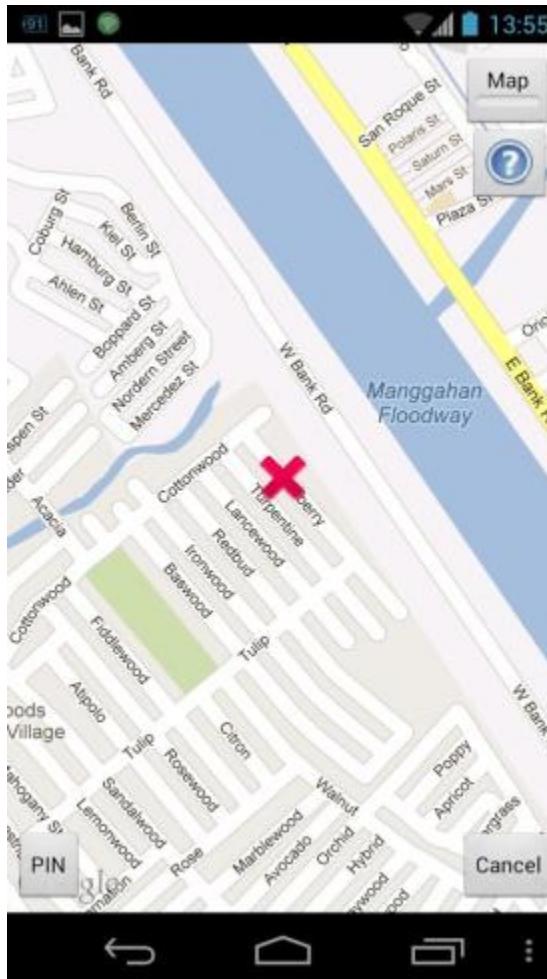
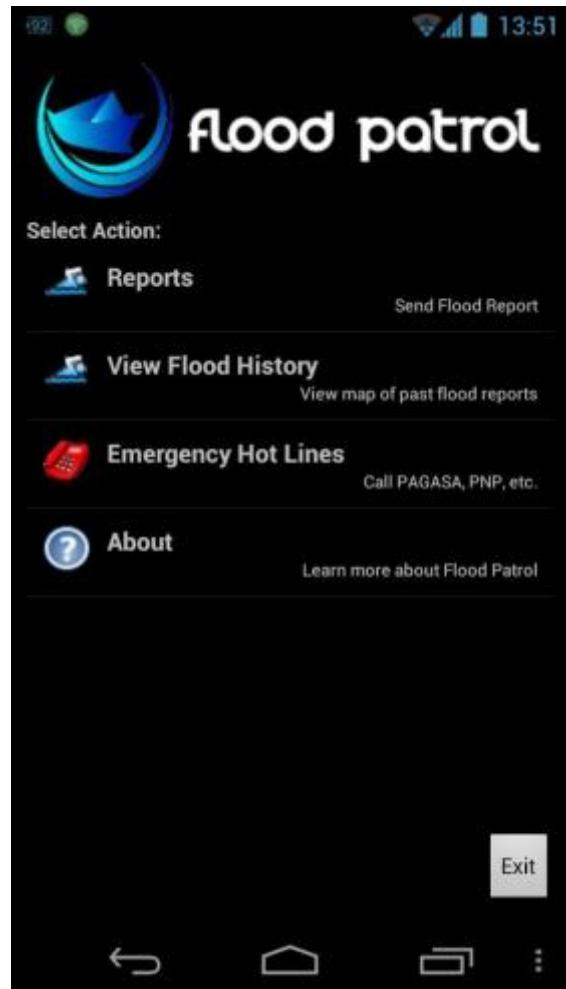
# ARKO

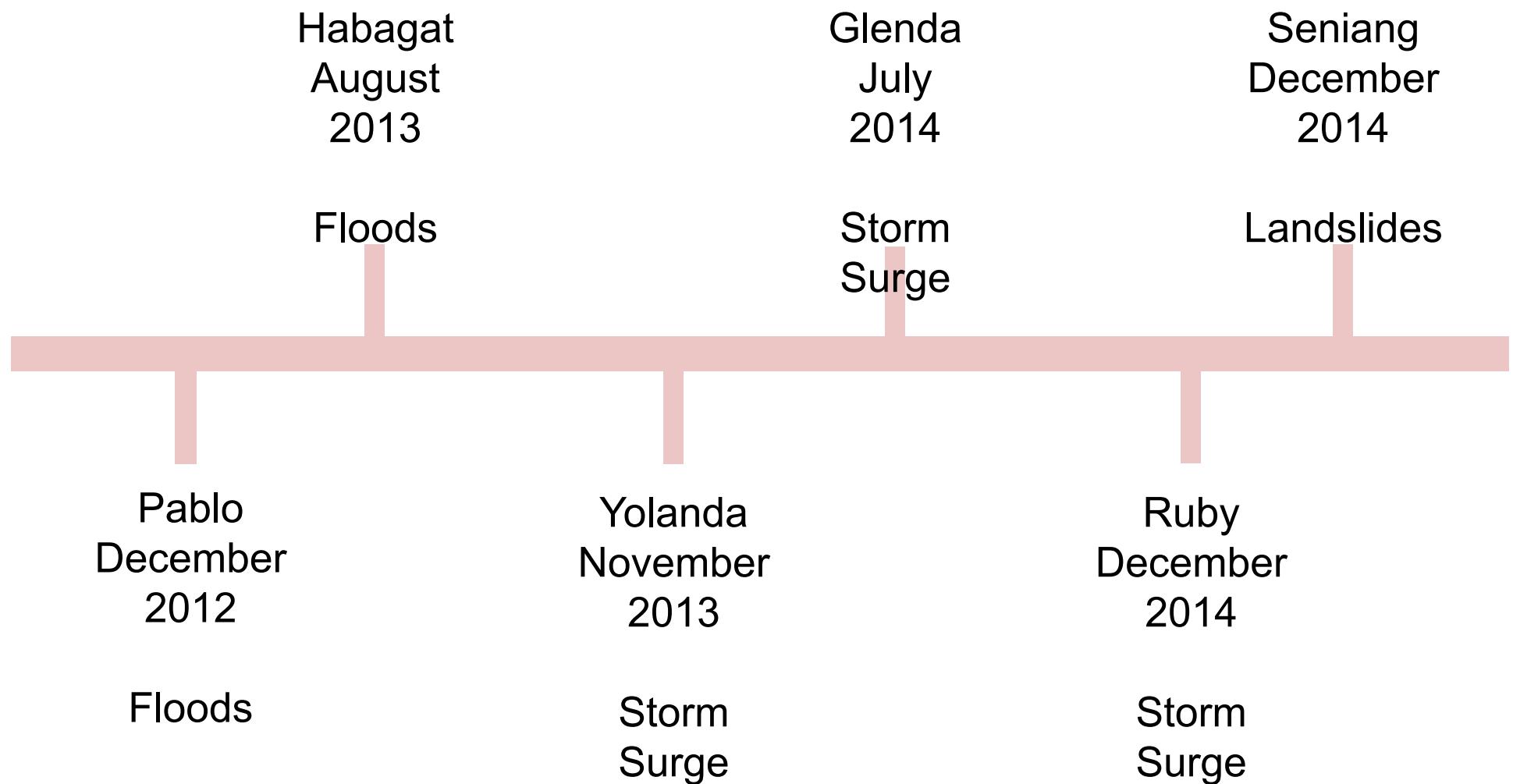


# RAINCHECK



# Flood Patrol





**International name:**  
Bopha

**Area of interest:**  
Cagayan de Oro City

Pablo  
December  
2012  
Floods

- From 1000+ deaths in Sendong 2011, CDO City managed to reduce the number to 0 deaths a year later.
- The city used water level sensors streamed from the NOAH website for early warning and evacuation measures

A.k.a.: Habagat  
Monsoon rains August 2013

**Area of interest:**  
Marikina City Floods

- Marikina City was one of the most devastated areas during Typhoon Ondoy 2009 (International name: Ketsana)
- The city has used the products of Project NOAH to monitor the water level of the Marikina River and has been using it as an early warning system to augment their existing resources

**International name:**  
Haiyan

**Area of interest:**  
Tacloban City

Yolanda  
November  
2013  
Storm  
Surge

- Tacloban City was one of the most devastated areas during Typhoon Yolanda, total deaths racked up to 6000+.
- This was the first time the Storm Surge Component of NOAH implemented their Storm Surge Simulation protocols

**International name:**

Rammasun

**Area of interest:**

Bicol Region

### Glenda

- July 2014 typhoons to hit Central Luzon in recent years  
Storm Surge
- In the light of Typhoon Yolanda, we focused on doing simulations for areas in the typhoon's path, especially since it affected the highly-urbanized areas of Metro Manila and nearby areas
- List of storm surge affected areas were released



**International name:**  
Hagupit

**Area of interest:**  
Daram, Samar

- Continued using translated weather bulletins for local languages on NOAH platforms
- Timely preemptive evacuation was done due to lessons learned from Typhoon <sup>Ruby</sup> December 2014 Yolanda <sup>Storm Surge</sup>

**International name:**  
Jangmi

**Area of interest:**  
Visayas region

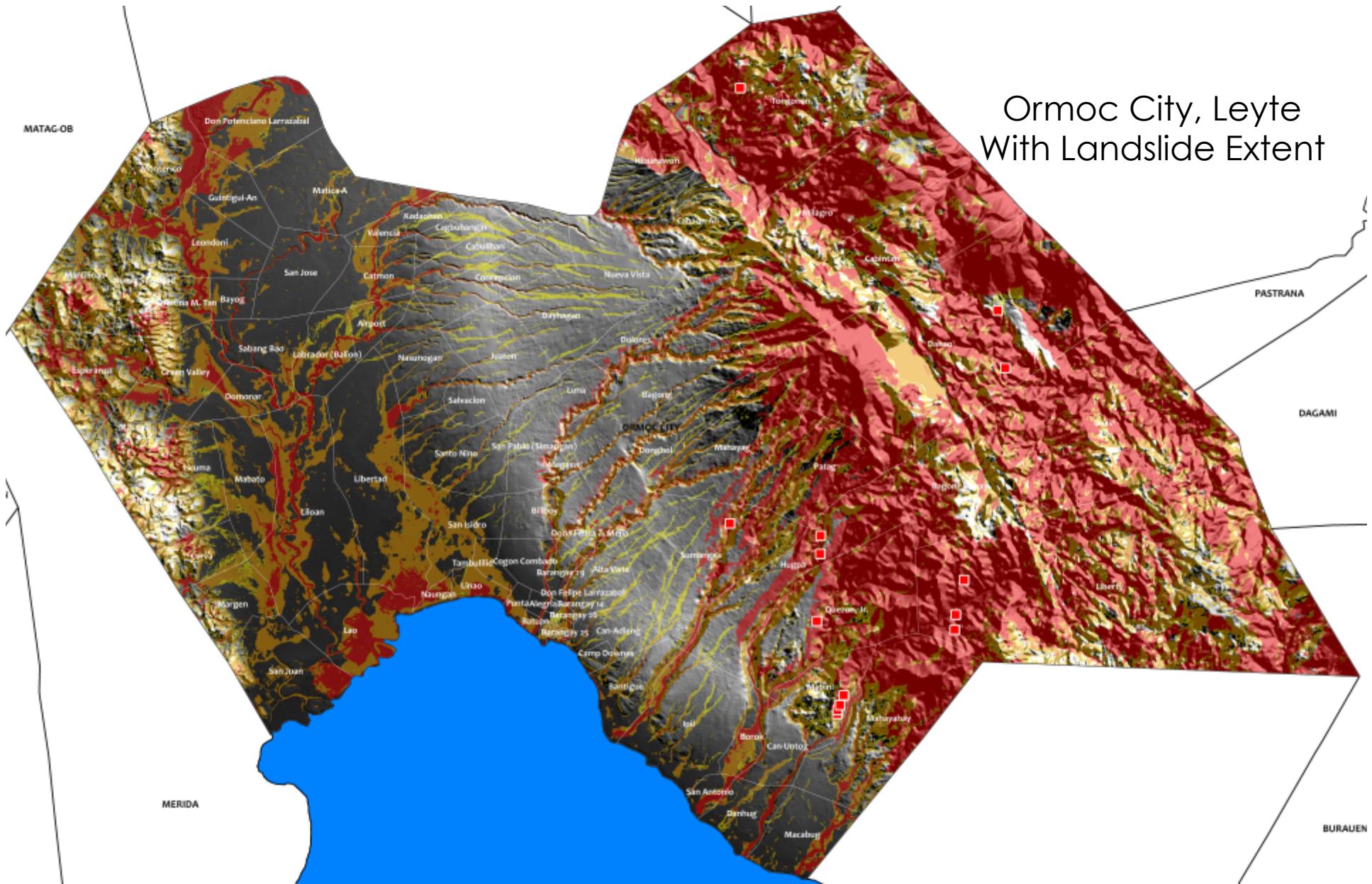
Seniang  
December  
2014

- Major hurdle: Holiday season in the Philippines, caused a lax environment, closed government offices

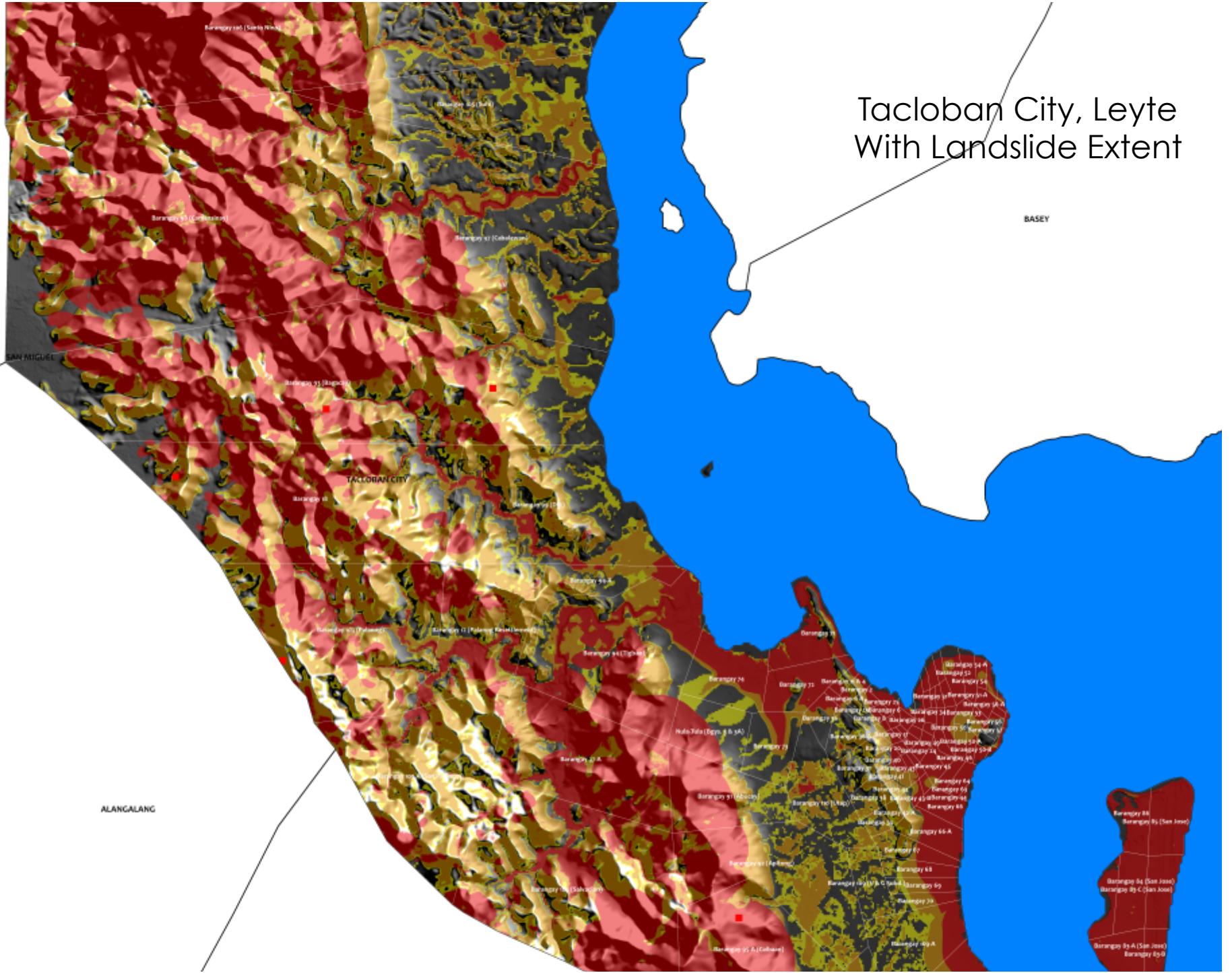
- Due to minimal damage during Typhoon Ruby, there was a sense of complacency

- NOAH still continued to update on all platforms

- Mapping of 18 major river basins for flood maps  100%  
 100% (67 out of 67)
- Coastal Areas simulated for Storm Surge  100% (82 out of 82)
- Landslide Mapping and Inventory  -100% (69 out of 69)
  - mapped alluvial fans  80%
  - and debris flow  80%
- Website 2.0 100%
- Rain and weather prediction system



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## Tacloban City, Leyte With Landslide Extent

<http://beta.noah.dost.gov.ph>

<http://noah.dost.gov.ph>

<http://blog.noah.dost.gov.ph>

<https://www.facebook.com/dostnoah>

[info@noah.dost.gov.ph](mailto:info@noah.dost.gov.ph)

[embedded@asti.dost.gov.ph](mailto:embedded@asti.dost.gov.ph)

