

NARBO's 9TH IWRM TRAINING
12-19 May 2014 • Philippines

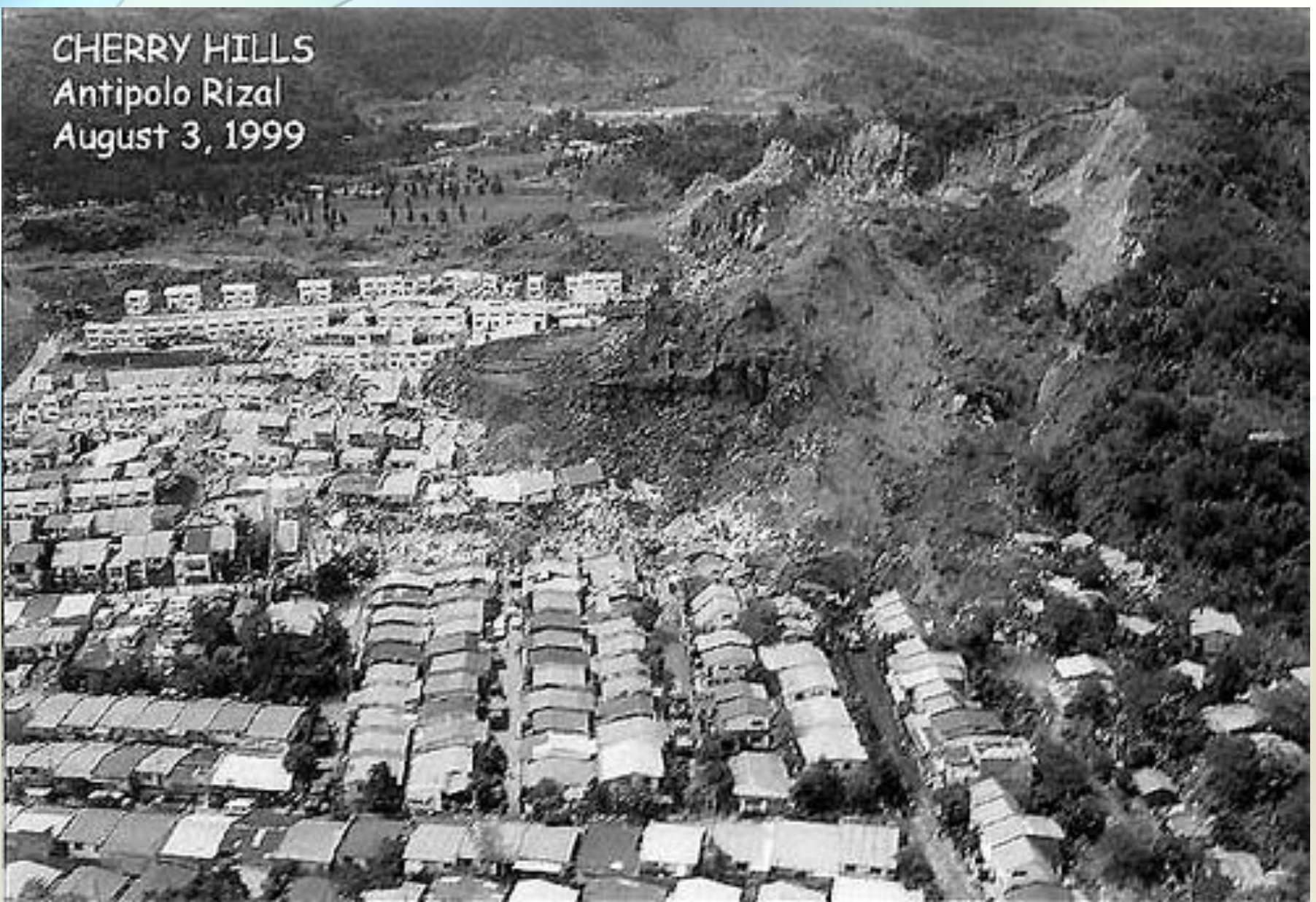


Building on IWRM Good Practices

The Laguna Lake Basin Experience

Disaster Risk Reduction and Project NOAH Solutions

CHERRY HILLS
Antipolo Rizal
August 3, 1999



Proper Land Use Planning Proper Preparedness Right Information at the Right Time





GPS

X, Y, Z



Airborne LiDAR Systems measure at a rate of 100,000 to 500,000 points per second (!)

$$D = c \times t/2$$

X, Y, Z - D



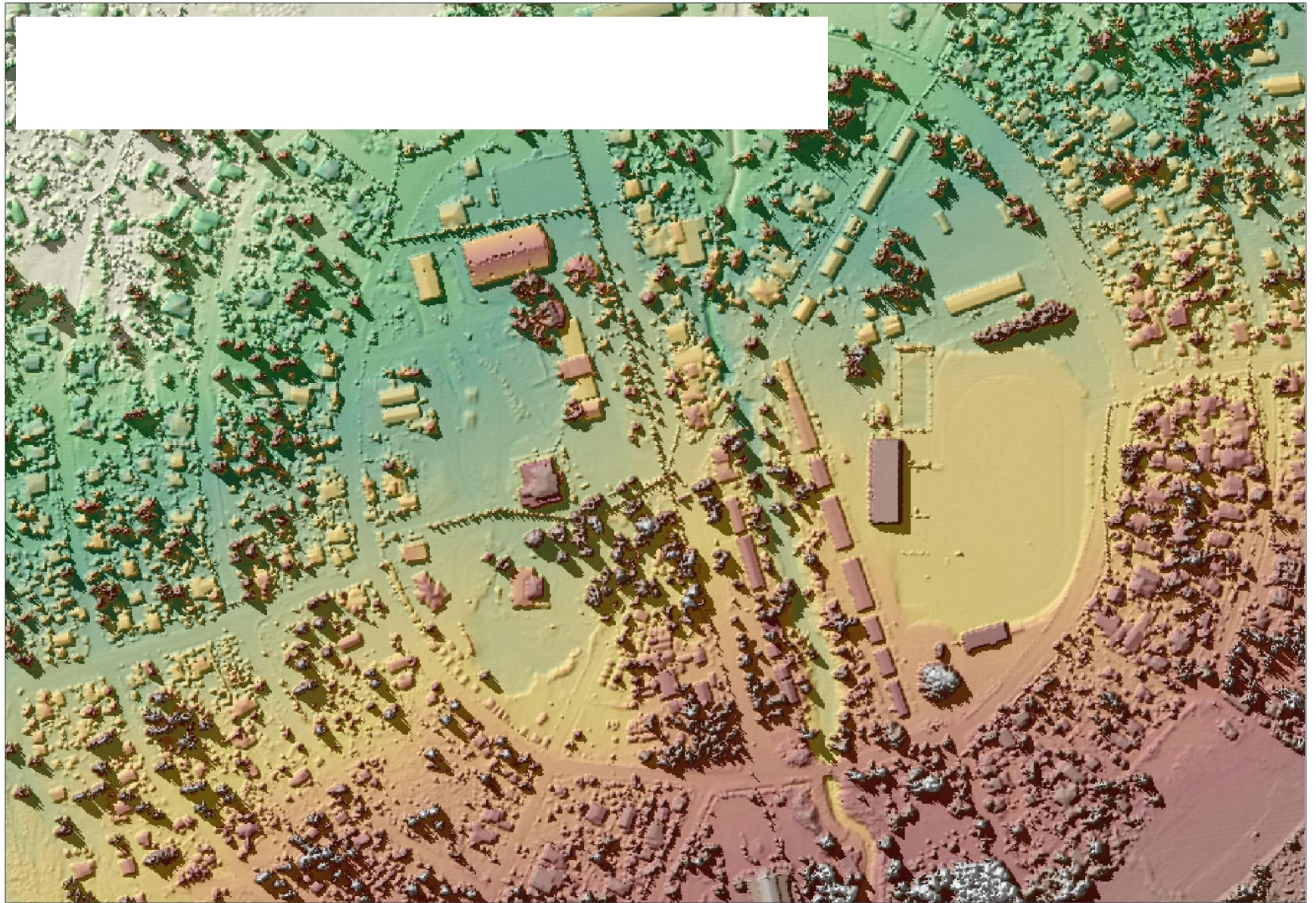


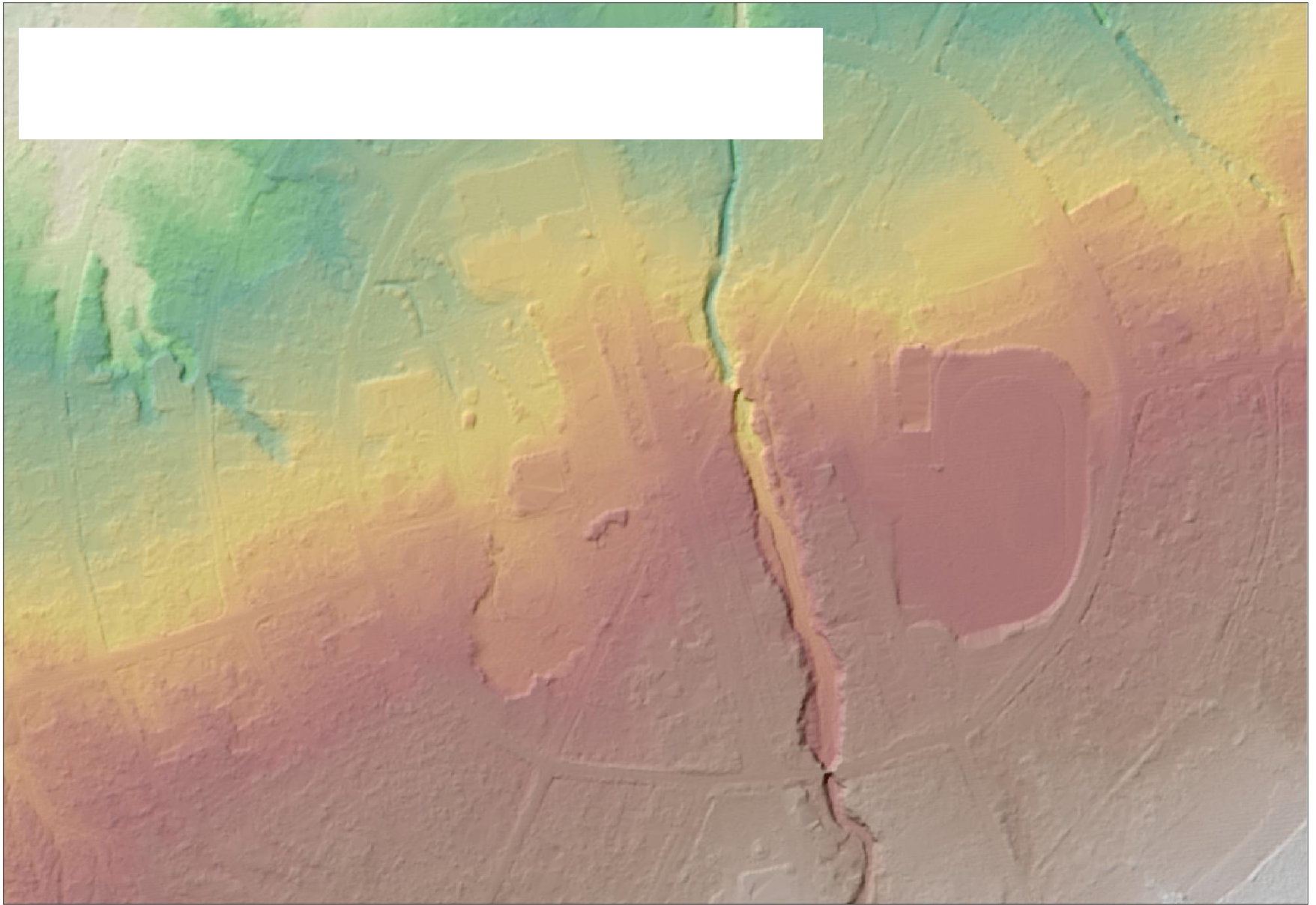
X, Y, Z

The measured points are recorded for later processing to form what are known as “point clouds”

X, Y, Z - D



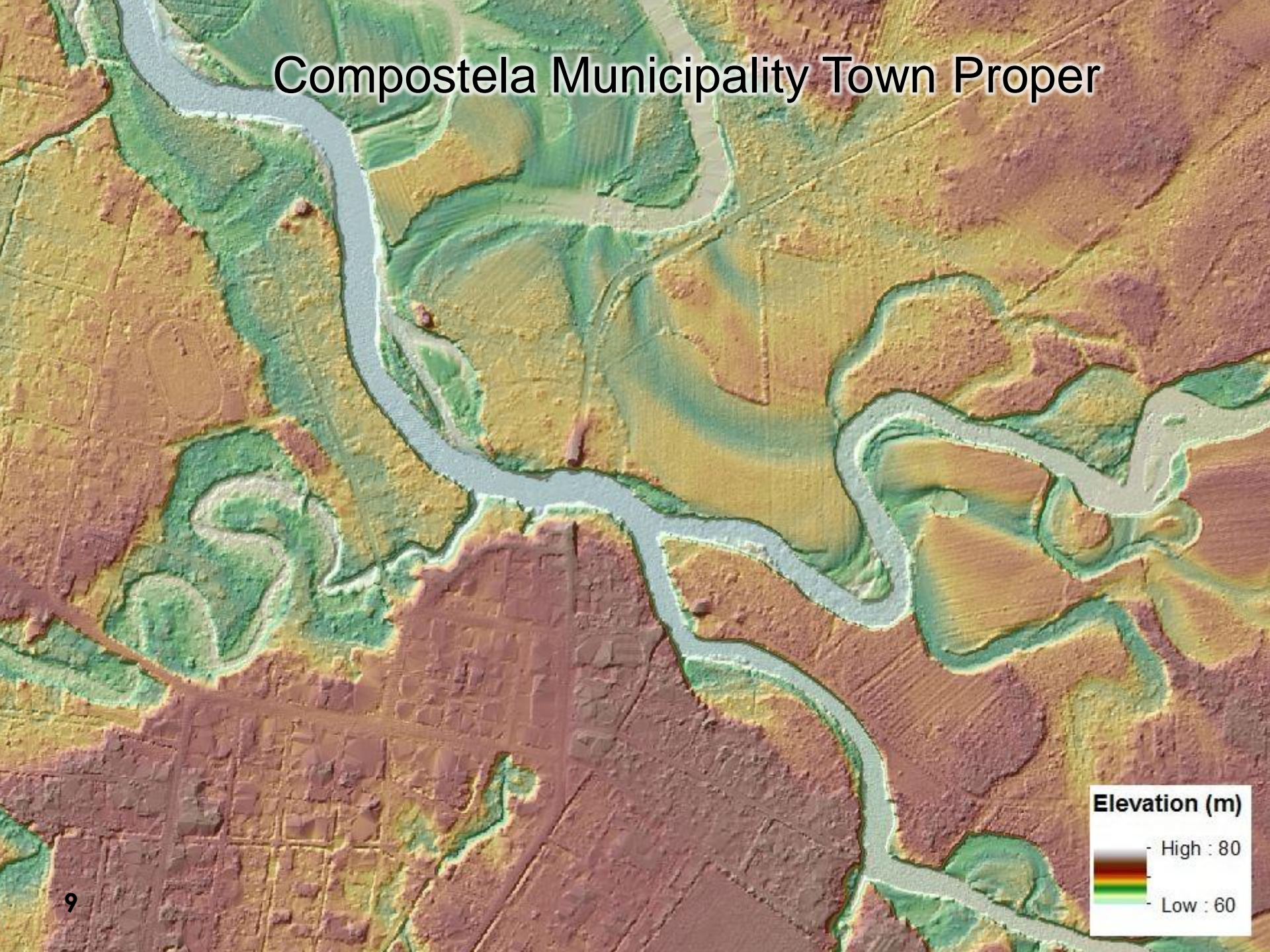


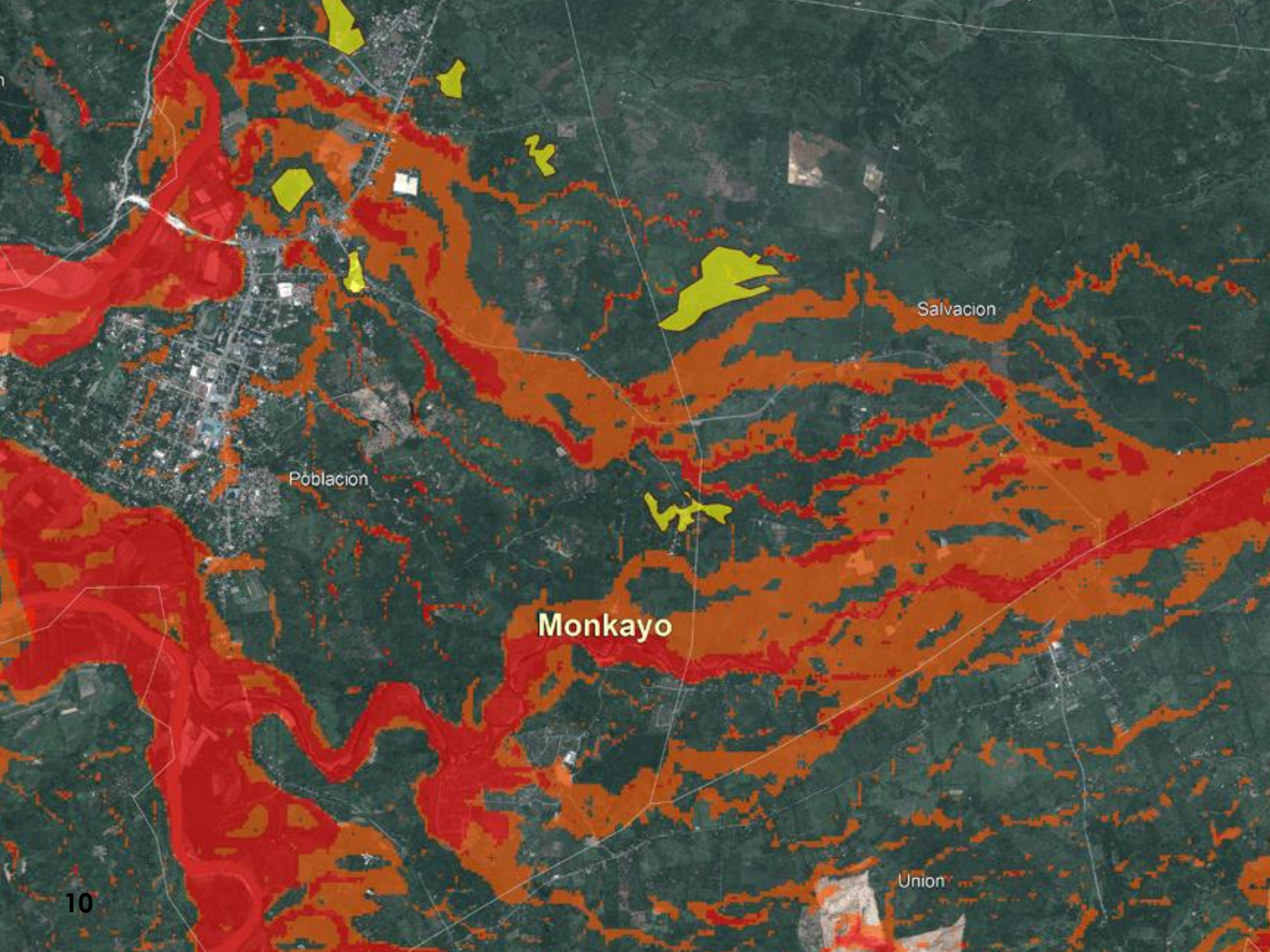


Compostela Municipality Town Proper



Compostela Municipality Town Proper





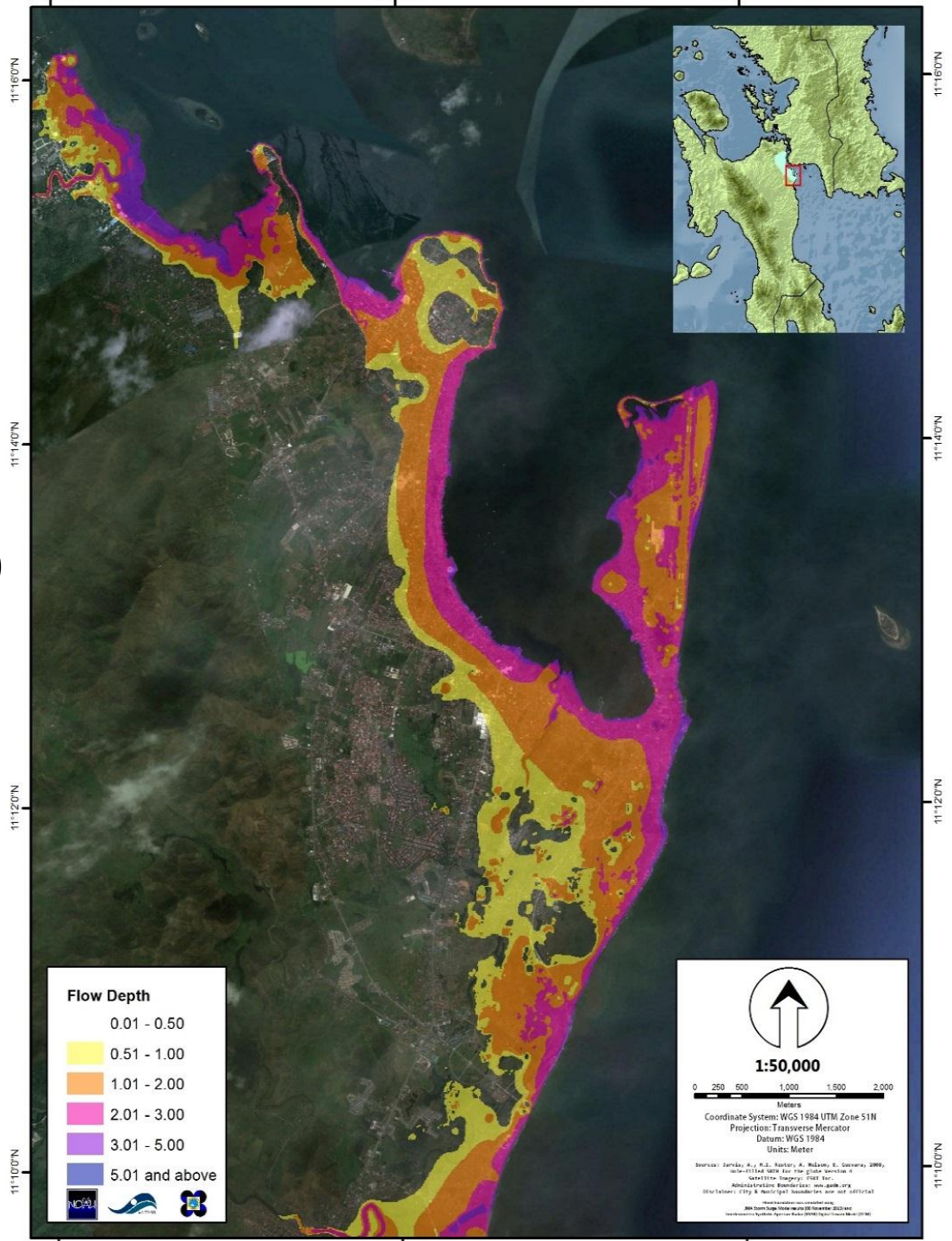
Poblacion

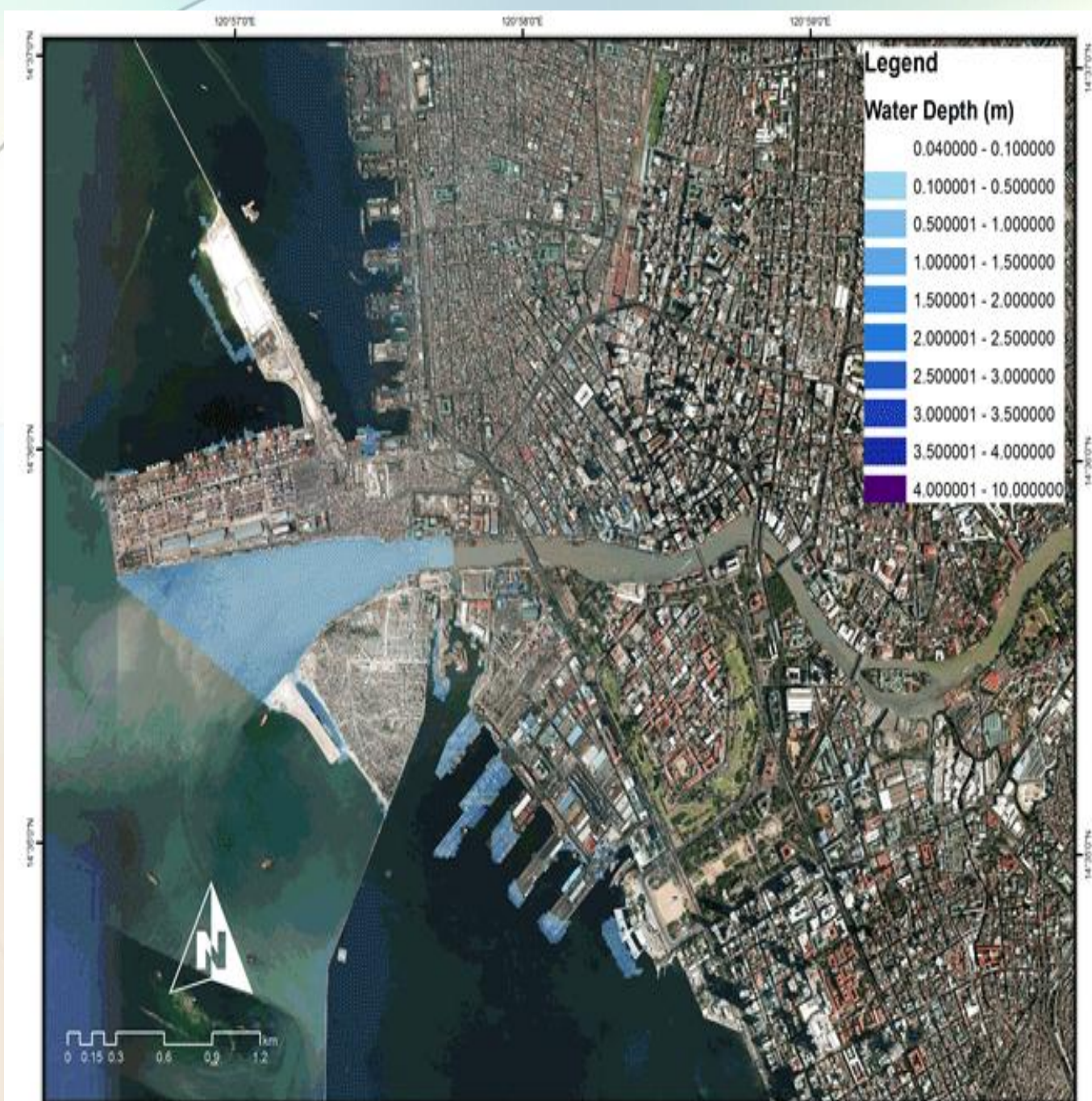
Monkayo

Salvacion

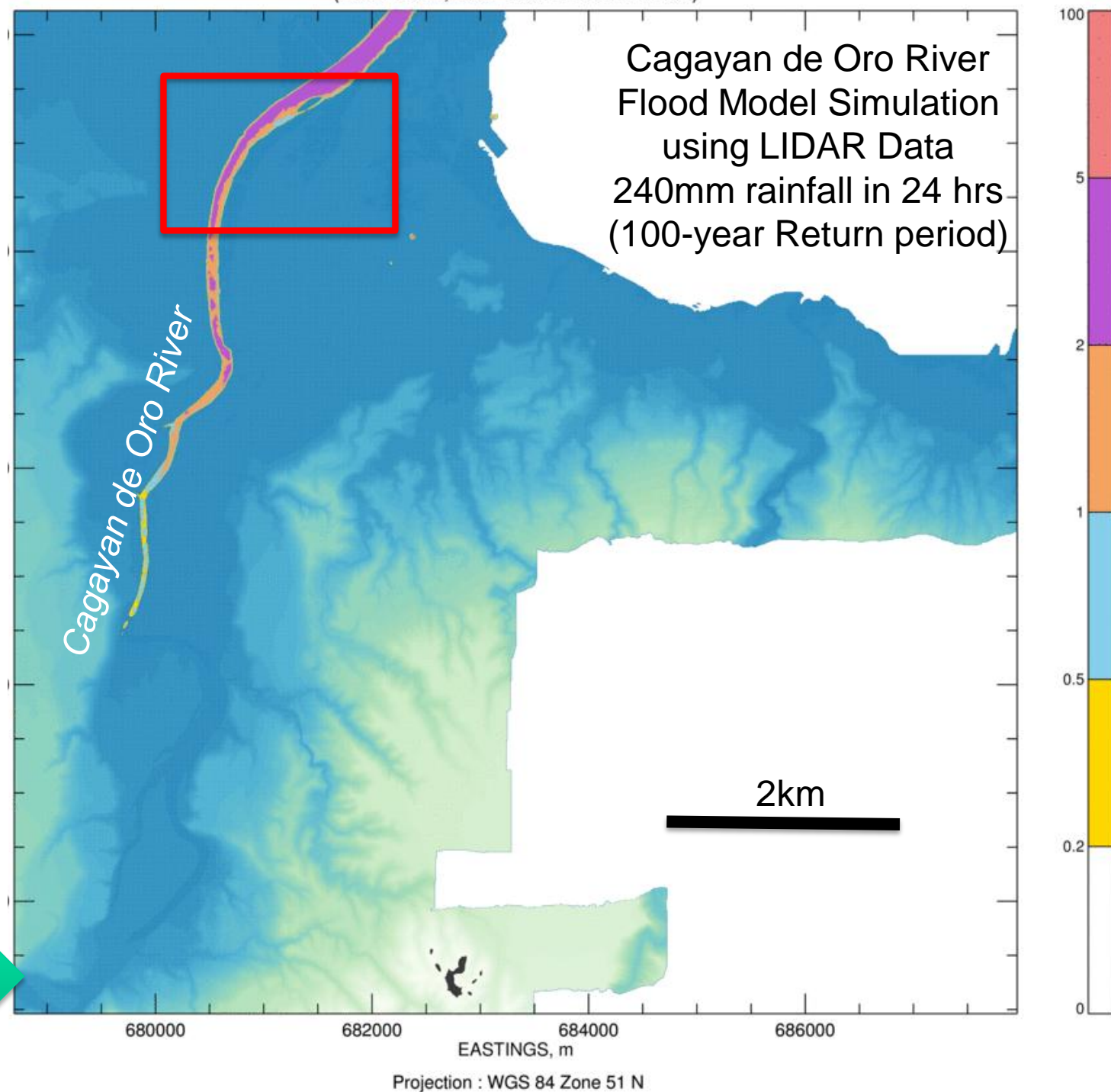
Union

Storm Surge Inundation map

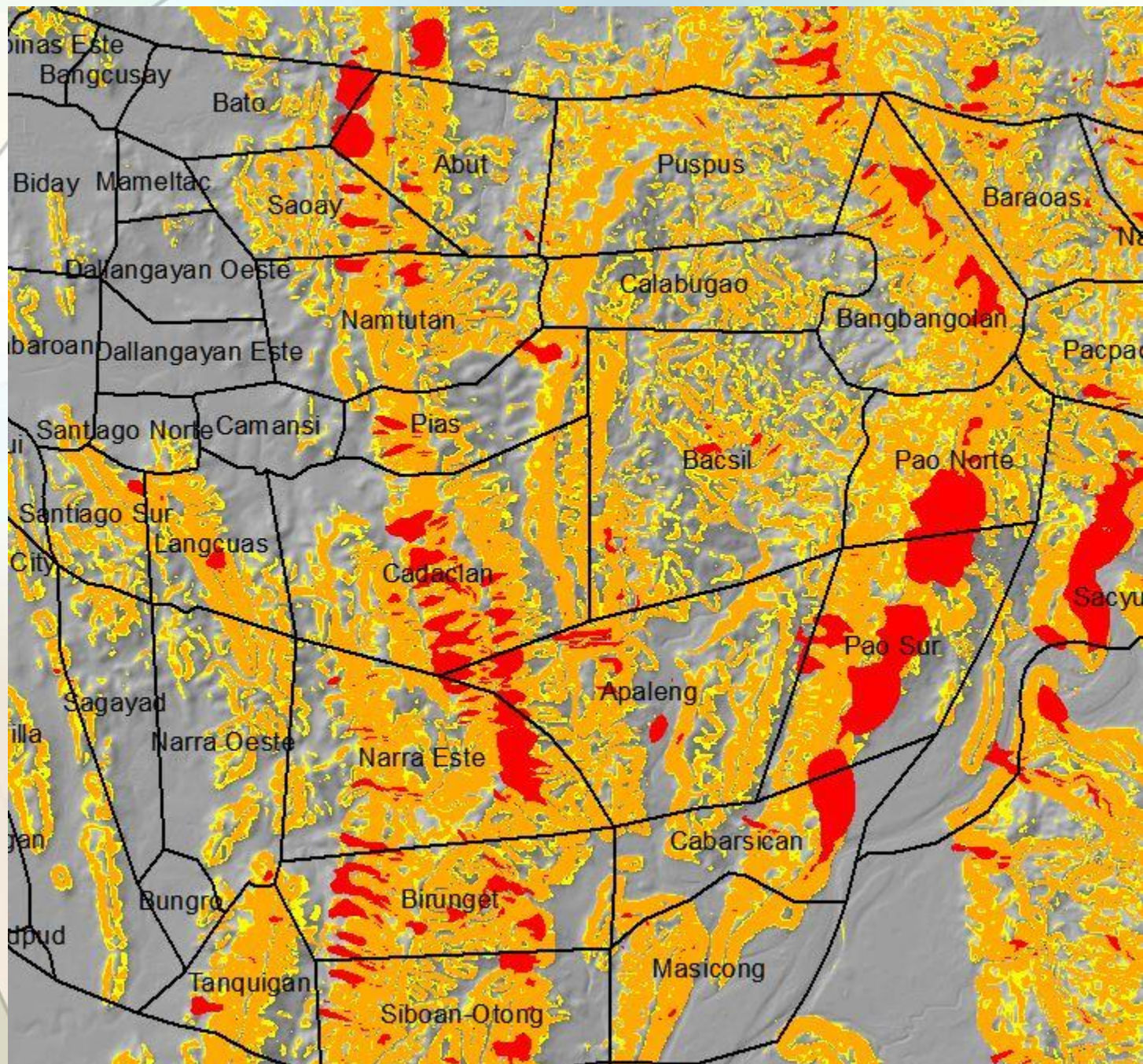




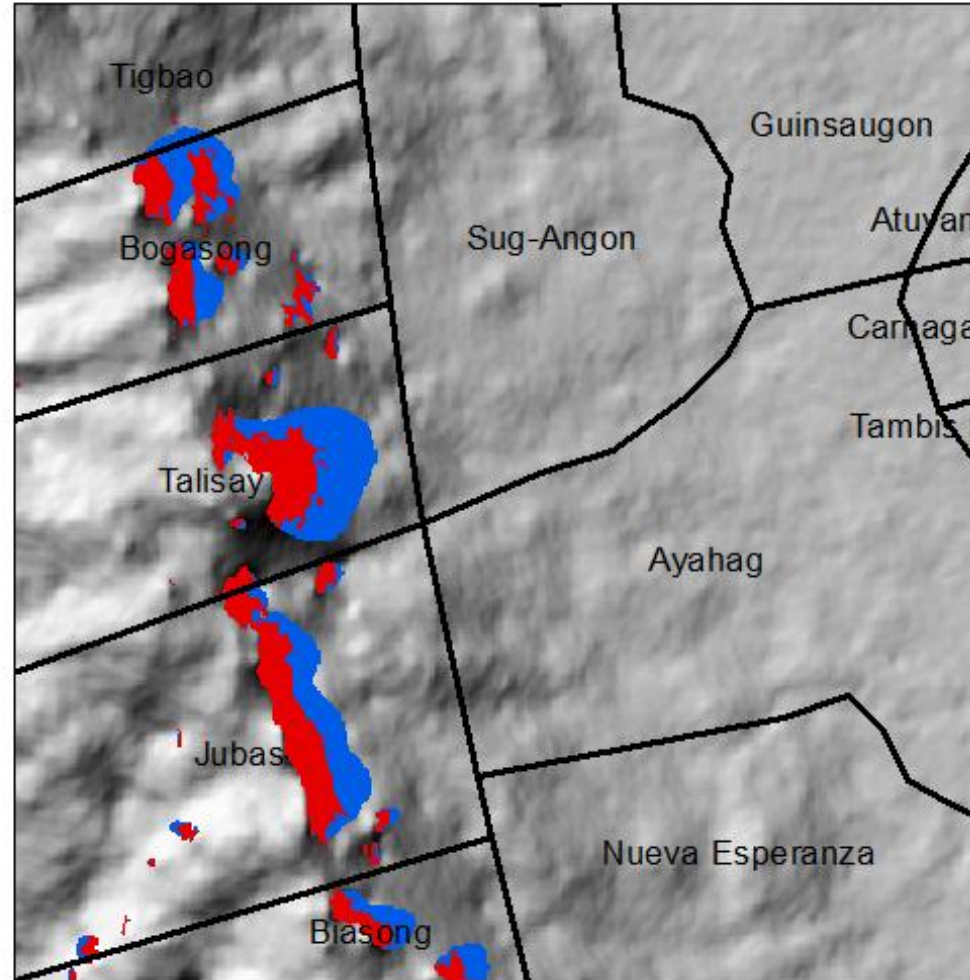
Storm surge (1.8 m height Typhoon Pedring) - inundation map for Manila





Inflow coming from Cagayan de Oro watershed



Barangay level landslide hazard map





Legend




-  Unstable Slopes
-  Runout of Landslide

DOST PROJECT NOAH LANDSLIDE HAZARD MAP

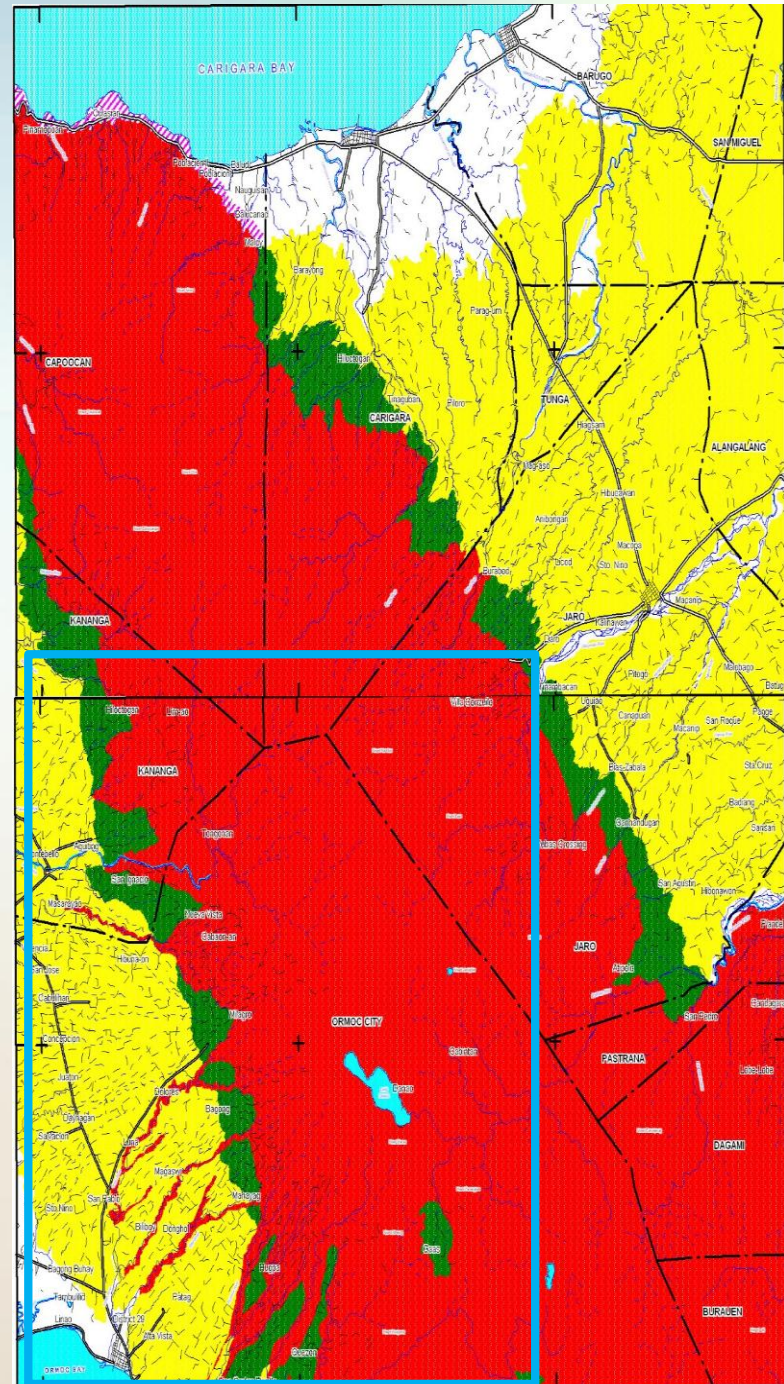
LEGEND :

-  High Susceptibility
-  Moderate Susceptibility

Legend

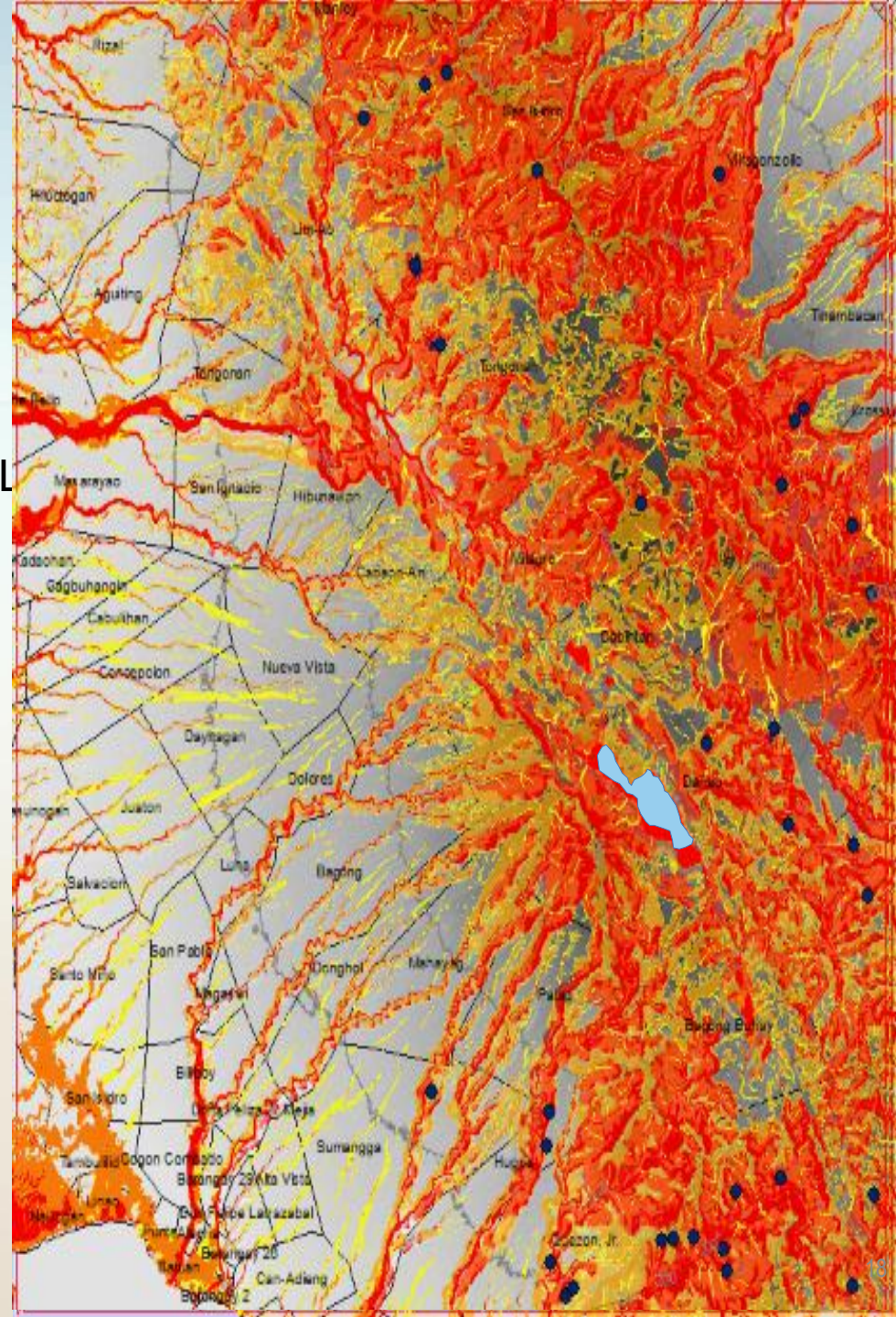
-  No Build Zone
-  Slope Protection and Continuous Monitoring
-  Continuous Monitoring

 Municipal Boundary



IFSAR DIGITAL ELEVATION MODEL
 SHALLOW LANDSLIDES
 LANDSLIDE INVENTORIES
 STRUCTURALLY CONTROLLED LANDSLIDES
 FLOOD HAZARD
 AND STORM SURGE MAPS
 POSSIBLE LANDSLIDE EXTENTS

Landslide Hazard Type	Current map	Enhanced map
High	28.34%	62.53%
Moderate	19.91%	10.54%
Low	4.22%	20.61%
	0.32%	47.54%



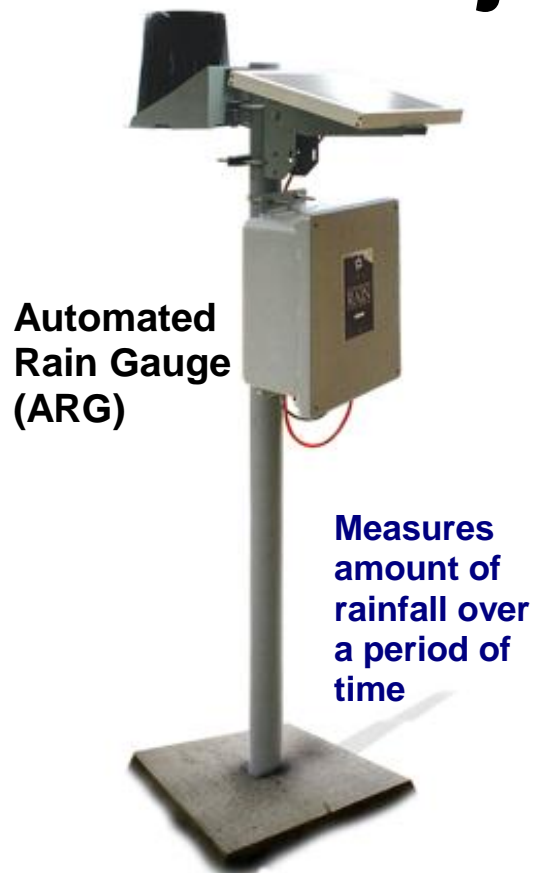
Teknolohiyang Gamit ng Project NOAH



Doppler Radar



Stream Gauge



Automated Rain Gauge (ARG)

Measures amount of rainfall over a period of time

Measures

- Wind Speed
- Wind direction
- Air Temperature
- Air humidity
- Air pressure
- Rain amount, duration & intensity



Automated Weather Station (AWS)



Project NOAH Website

noah.dost.gov.ph

The screenshot displays the Project NOAH website interface. At the top, the browser address bar shows "noah.dost.gov.ph". The website header includes the Project NOAH logo and the text "DOST Nationwide Operational Assessment of Hazards". Navigation buttons for "TOOLS", "LEGEND", "ABOUT", "HELP", and "REPORT A FLOOD" are visible. Below the header, there are search and filter sections for "SEARCH", "OVERVIEW", "WEATHER OUTLOOK", "DOPPLER", "WEATHER STATIONS", and "FLOOD MAP". The main content area features a map of the Philippines with various cities and regions labeled, such as Maynila, Lungsod ng Dasmariñas, and Lungsod ng Ormoc. A sidebar on the right contains a list of weather advisories from @dost_pagasa, including details about rain intensity and thunderstorm advisories. The bottom of the page shows a Google logo and a status bar with the text "Rainfall intensity as of 05/21/13 11:50 AM Masbate, Aroroy : 6.604 mm/hour".

DOST Nationwide Operational Assessment of Hazards

- TOOLS
- LEGEND
- ABOUT
- HELP
- REPORT A FLOOD

SEARCH:

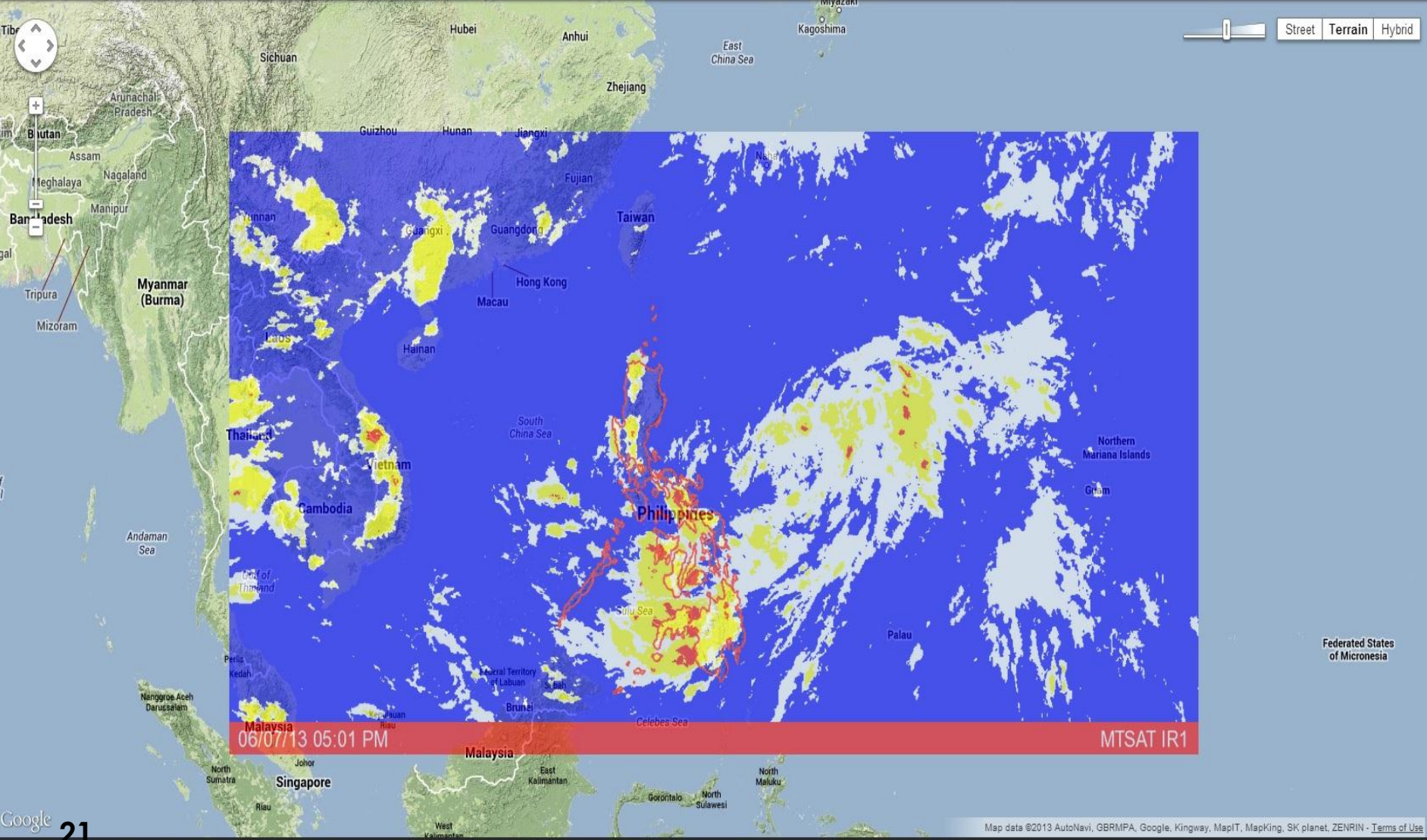
OVERVIEW:

WEATHER OUTLOOK:

DOPPLER:

WEATHER STATIONS:

FLOOD MAP:



DOST Nationwide Operational Assessment of Hazards

- BOPHA FORECAST
- TOOLS
- LEGEND
- ABOUT
- HELP
- REPORT A FLOOD

SEARCH:

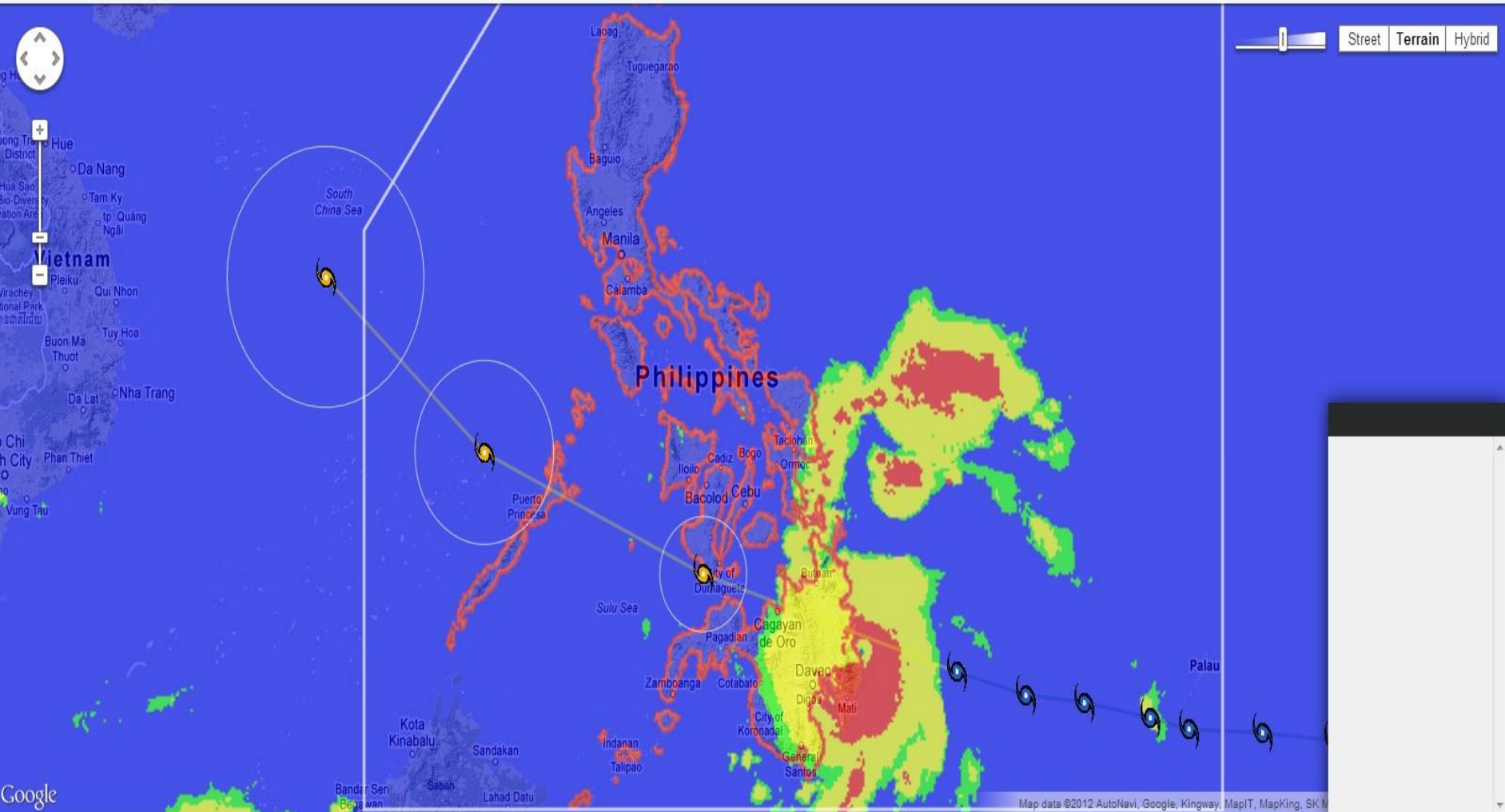
OVERVIEW:

WEATHER OUTLOOK:

DOPPLER:

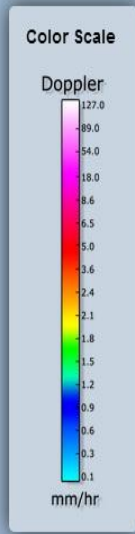
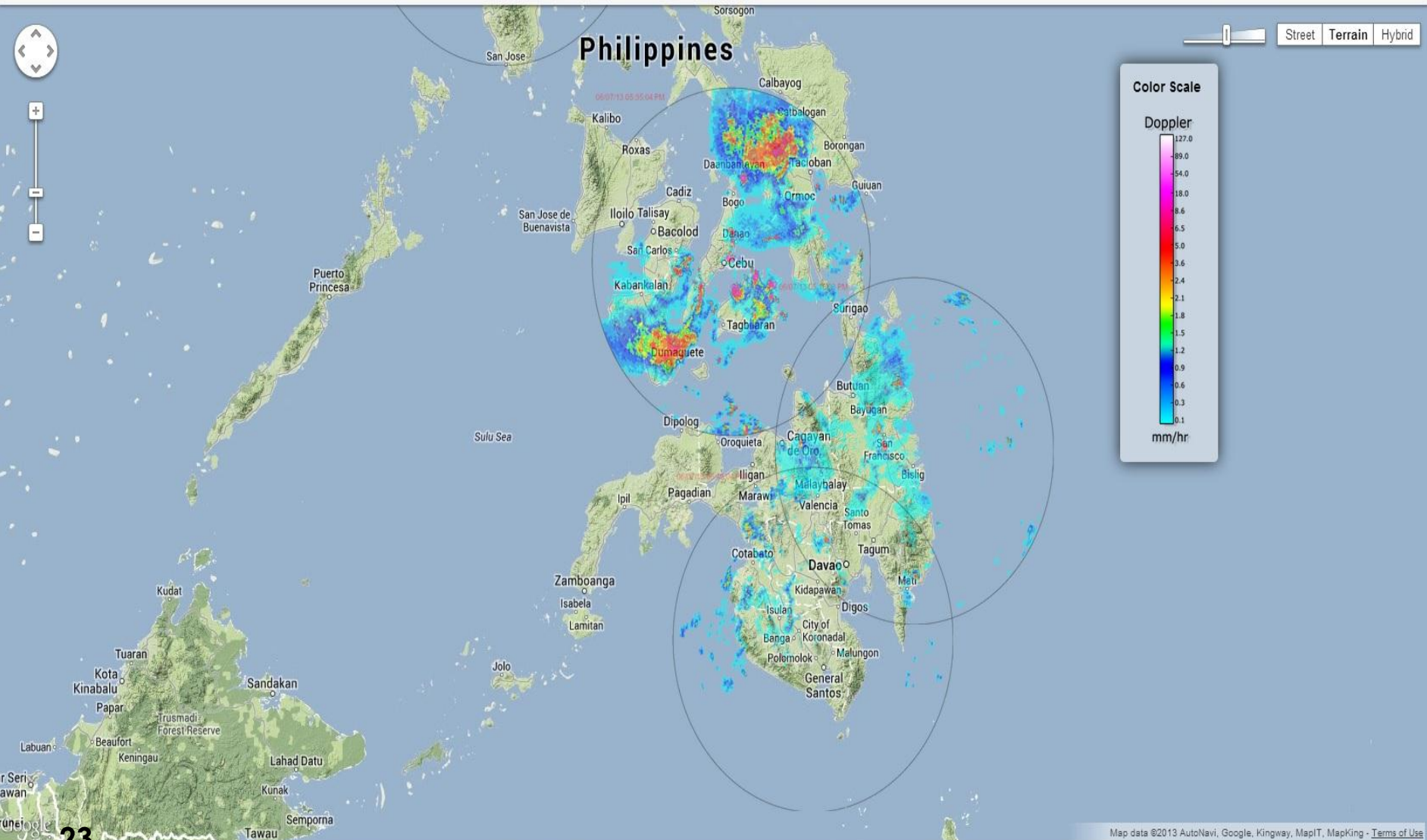
WEATHER STATIONS:

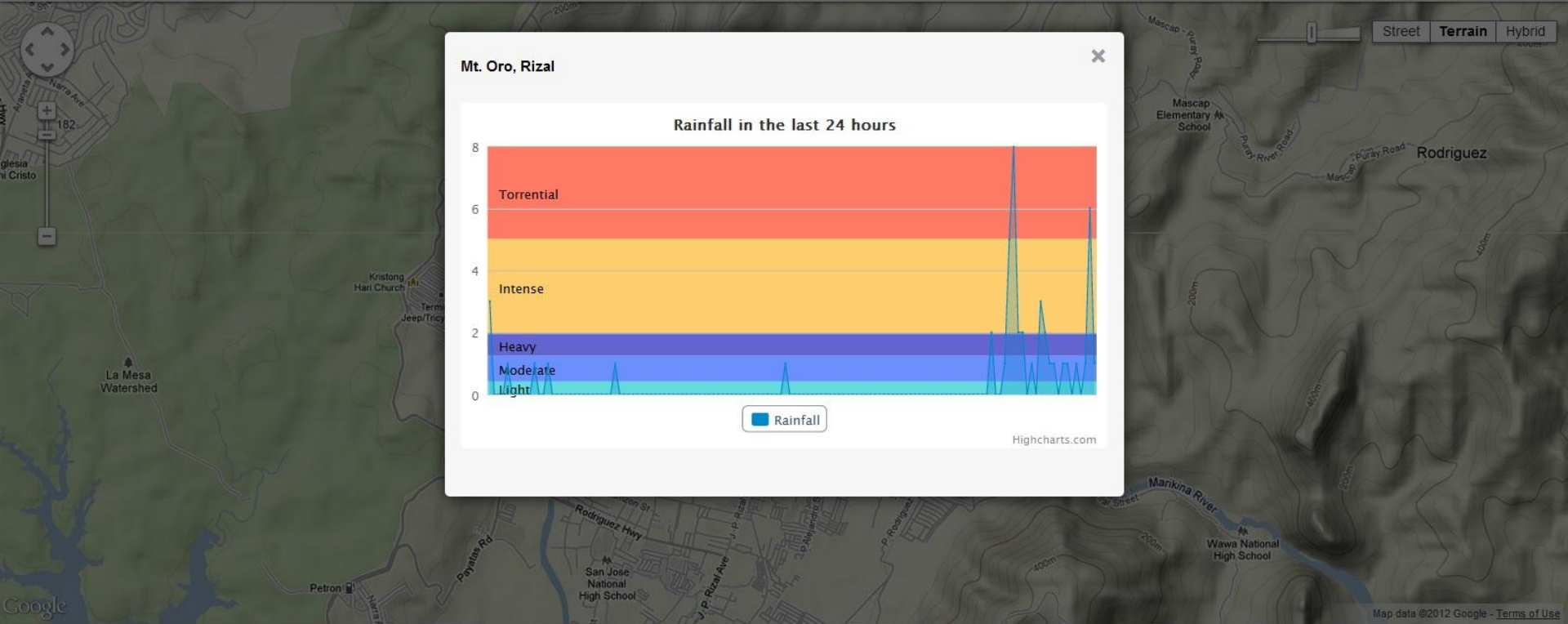
FLOOD MAP:

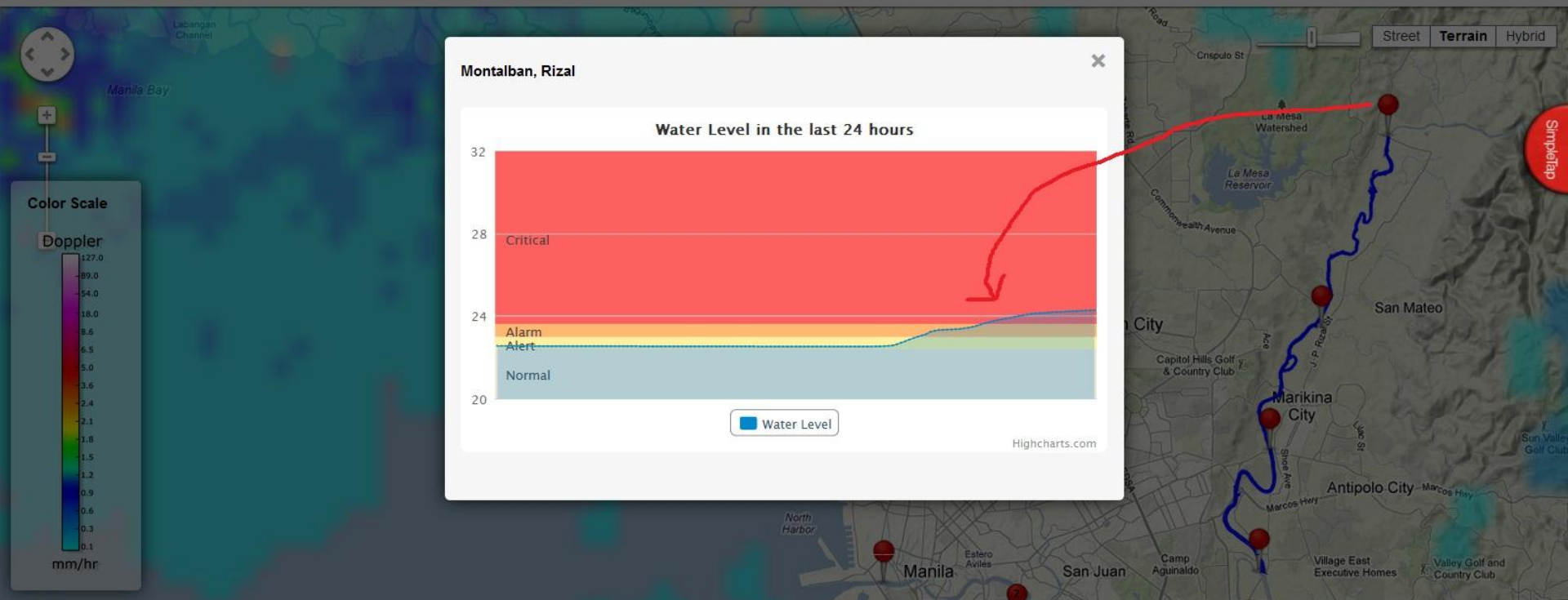


Rainfall intensity as of 12/04/12 05:20 AM Misamis Oriental, Pigsag-An, Cagayan De Oro City : 3.81 mm/hour Southern Leyte, St. Bernard : 5.33 mm/hour

SEARCH: Enter a location
OVERVIEW: Select layer
WEATHER OUTLOOK: Select layer
DOPPLER: Subic Station, Tagaytay Stati...
WEATHER STATIONS: Select layer
FLOOD MAP: Select layer

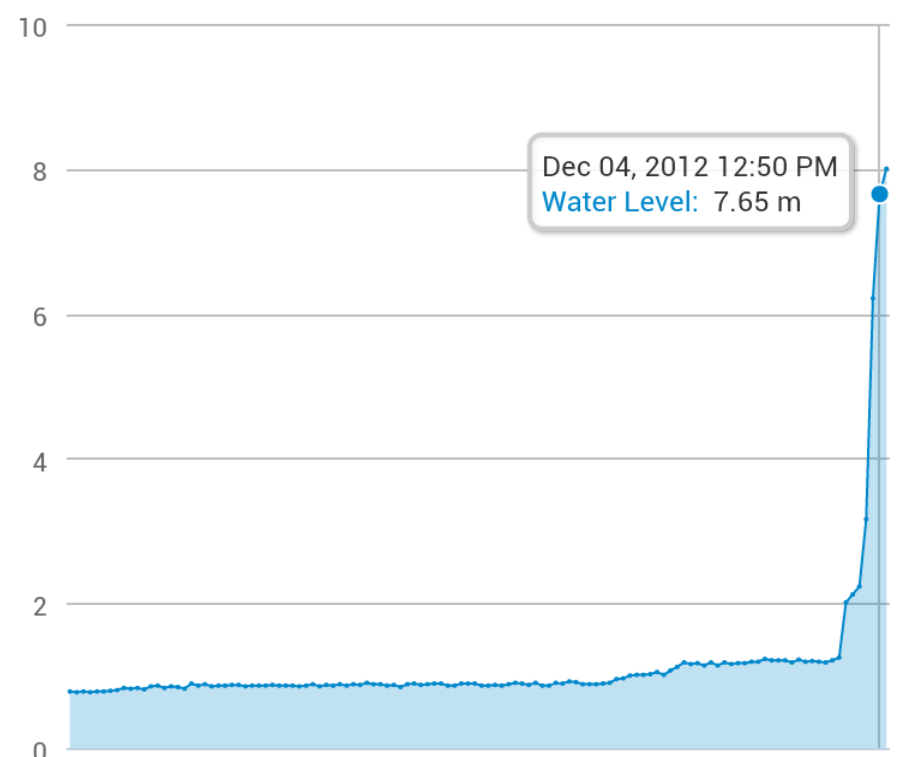








Water Level in the last 24 hours



Cagayan de Oro City



THANK YOU!



**Tamang impormasyon sa tamang panahon!
Maraming Salamat!**



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Oscar Lizardo



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