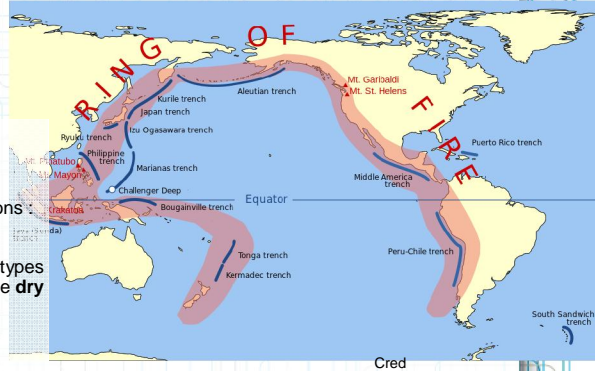


Philippine DRM Projects and Geo-DRM

Outline

- | Philippine Hazards
- | Government Projects
- | Data Sharing Issues and Challenges

The Philippines



- | **7,107 islands**
- | Three (3) main geographical divisions: **Luzon, Visayas and Mindanao.**
- | A tropical country with only two (2) types of seasons, the **wet season** and the **dry season**
- | Population : 96M
- | Located in the **Pacific Ring of Fire** and seated on the side of the **Typhoon Belt**
- | An average of 20 typhoons per year enters the PAR (Philippine Area of Responsibility)
- | Other Natural Calamities : Floods, Landslides, Volcanic Eruptions (53 active volcanoes) and Earthquakes

Bohol Earthquake

- | **Occurred On** October 15, 2013, at 8:12 a.m. (PST)
- | It affected the whole Central Visayas region, particularly Cebu and Bohol.
- | **Duration** 34 seconds
- | **Magnitude** Mw 7.2
- | **Depth** 12.0 km (7.5 mi)
- | **Type** Tectonic
- | **Maximum Intensity** Intensity VII (Bohol and Cebu provinces)
- | **Aftershocks** 4,465 (122 felt) (as of December 31, 2013)
- | **Casualties** 222 dead; 8 missing; 976 injured



Chocolate Hills - ABS-CBN



A highway in Getafe, Bohol damaged by the earthquake - Reuters



Loon Church Before and After Earthquake - http://en.wikipedia.org/wiki/Churches_in_Bohol

Typhoons in PH

	Landfall	Highest Wind	Lowest Pressure	Fatalities	Damage	Other Affected Areas
Typhoon Ketsana (Ondoy)	September 26, 2009	10-minute sustained: 130 km/h (80 mph) 1-minute sustained: 165 km/h (105 mph)	960 mbar (hPa); 28.35 inHg	464 deaths, 37 missing	\$237,141,524.35 (2009 USD)	China, Vietnam, Laos, Cambodia, Thailand
Typhoon Washi (Sendong)	December 13, 2011	10-minute sustained: 95 km/h (60 mph) 1-minute sustained: 95 km/h (60 mph)	992 mbar (hPa); 29.29 inHg	1,257 deaths, 85 missing	\$47,233,872.00 (2012 USD)	Micronesia, Palau
Typhoon Bopha (Pablo)	December 3, 2012	10-minute sustained: 185 km/h (115 mph) 1-minute sustained: 280 km/h (175 mph)	930 mbar (hPa); 27.46 inHg	1,901 deaths, 834 missing	\$1.04 billion (2012 USD)	Federated States of Micronesia, Palau

<http://en.wikipedia.org/wiki>

TYPHOON HAIYAN (Yolanda)

- Hit PH on November 8
- Fatalities** : 6,268 deaths, 28,689 injured, 1,061 missing
- Damage** : \$1.5 billion (2013 USD) (Preliminary total)
- People displaced**: 4 million
- Homes destroyed/damaged**: 1.1 million
- Other Areas affected** : Micronesia, Southern China, Vietnam

Tacloban City, Leyte

- Storm Surge Height : 5 to 6 meter (15–19 ft)
- 90 percent of the city had been destroyed
- "off the scale, and apocalyptic"



Credits: <http://www.tejapic.com.ph/>



A cargo ship washed ashore by Typhoon Haiyan sits among the ruins of Tacloban. - www.abc.net.au



Debris littering the streets of Tacloban City on November 14, nearly a week after the storm struck. - *Wiki*



A Philippine flag flutters over signs at an area devastated by Typhoon Haiyan in Tacloban city November 24, 2013. - *REUTERS/Athit Perawongmetha*

GOVERNMENT PROJECTS

NOAH Program

- Nationwide Operational Assessments of Hazards (NOAH) is the Philippine's flagship program on disaster prevention and mitigation by the Department of Science and Technology (DOST)

ICT (Information and Communications Technology) For the Environment Program

- A program in collaboration with the PAGASA (Philippine Atmospheric, Geophysical and Astronomical Services Administration), which is the Philippine Weather Bureau. This program is a network of automated weather station that automatically acquires and collects environmental parameters that will be used to forecast weather related calamities.

Computing and Archiving Research Environment (CoARE)

- This project essentially targets to enable multiple data integration from ASTI-initiated projects and collaborative projects with other agencies that have high requirements for data storage and high-performance computing.

Philippine Geoportal

- A multi-agency project which aims to establish a spatial data infrastructure that provides and integrates geographically-referenced data. This is spearheaded by NAMRIA, which is the the central mapping agency, depository, and distribution facility for natural resources data.

The NOAH Program

- Nationwide Operational Assessments of Hazards (NOAH) is the Philippine's flagship program on disaster prevention and mitigation by the Department of Science and Technology (DOST)

Nine (9) component projects :

Hydromet Sensors Development

- DREAM-LIDAR 3-D Mapping Project

Flood NET-Flood Modeling Project (The Climate Experiment Project)

Hazards Information Media (Disaster Management using WebGIS)

- Enhancing Geo-hazards Mapping through LIDAR

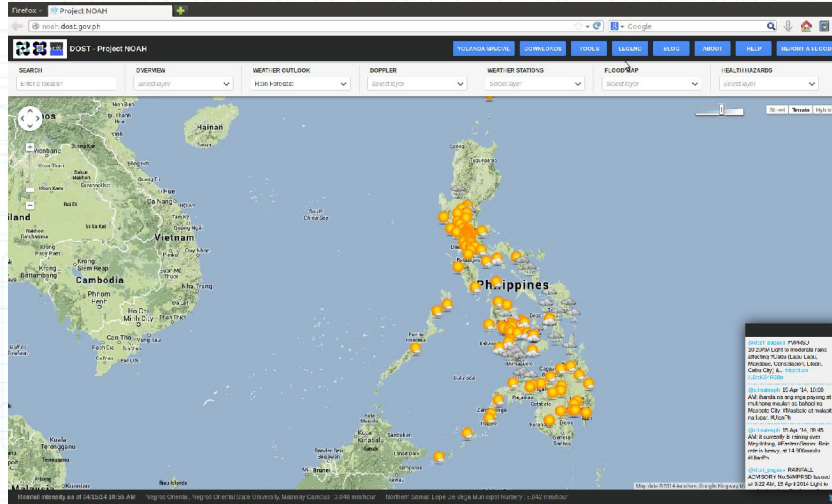
- Doppler System Development

- Landslide Sensors Development Project

- Storm Surge Inundation Mapping Project

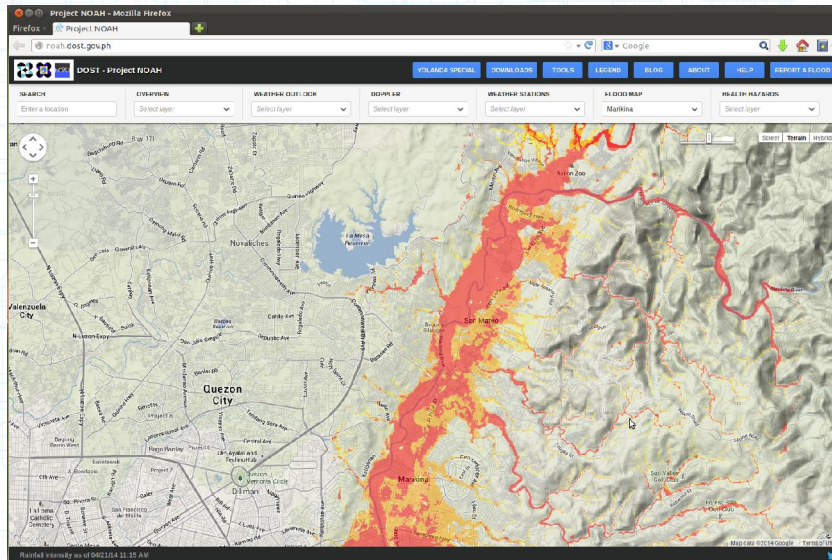
- Weather Information - Integration for System Enhancement (WISE)

NOAH Program : NOAH WebGIS

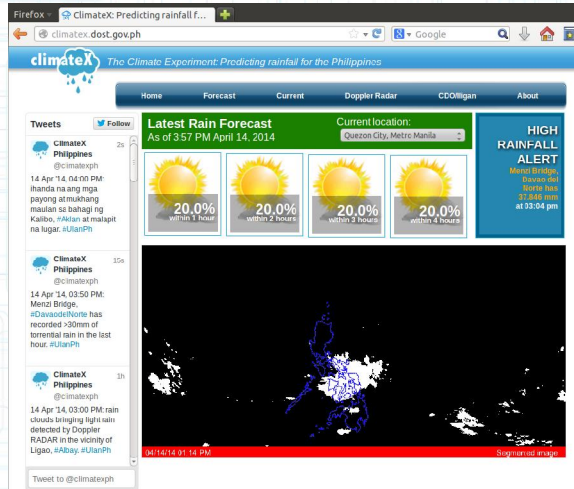


<http://noah.dost.gov.ph/>

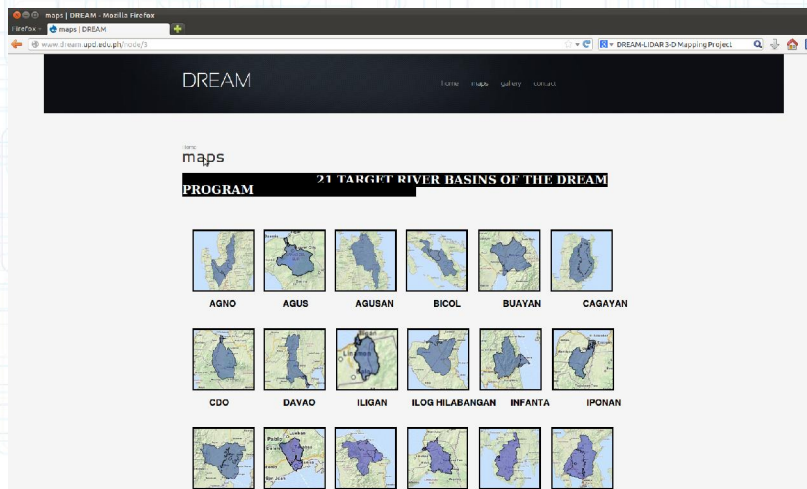
NOAH WebGIS Flood Map



NOAH Program : Climatedx



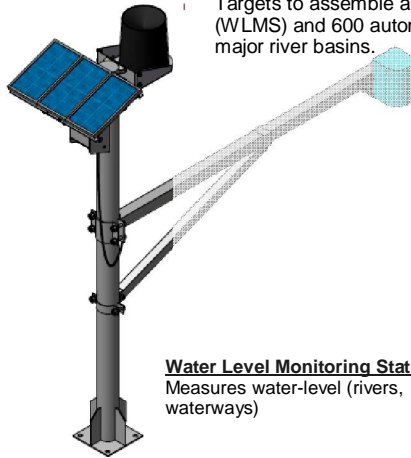
NOAH Program : DREAM-LIDAR 3-D Mapping Project



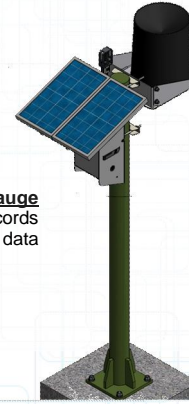
<http://dream.upd.edu.ph/>

NOAH Program : Hydromet Sensors Development

- The first component of NOAH Program, which aims to reduce casualties and property damage brought about by heavy and/or persistent rainfall.
- Targets to assemble and install 400 water level monitoring stations (WLMS) and 600 automated rain gauges (ARC) in 10 major river basins.



Water Level Monitoring Stations
Measures water-level (rivers, waterways)



Automated Rain Gauge
Gathers and records rainfall data

Other Component Projects of NOAH

Landslide Sensors Development Project – This seeks to improve existing landslide hazard maps and aims to be able to use state-of-the-art techniques to construct **landslide hazard maps**.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/云报告?reportId=5_5490

