DISASTER RISK REDUCTION AND MANAGEMENT USING ICT

Presented by:
Paolo Jonas Alan
Information and Communications Technology Division
Office of Civil Defense

Scope of Presentation

I. THE PHILIPPINE DISASTER RISK PROFILE
II. THE PHILIPPINE DRRM SYSTEM
III. OFFICE OF CIVIL DEFENSE (OCD)
IV. NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL (NDRRMC)
V. NDRRM OPERATIONS CENTER
VI. TOOLS USED FOR DRRM

THE PHILIPPINE DISASTER RISK PROFILE

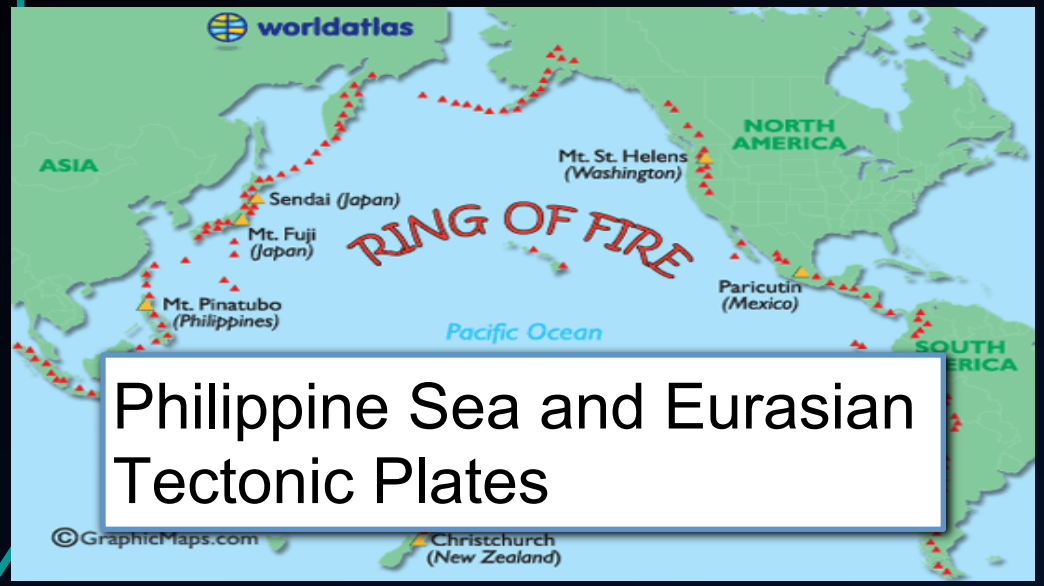
What is a disaster?

Disaster

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

~ Republic Act 10121

Pacific Ring of Fire



Philippine Sea and Eurasian Tectonic Plates

300 volcanoes, and 22 are active.

Photo credit: worldatlas.com

Pacific Typhoon Belt

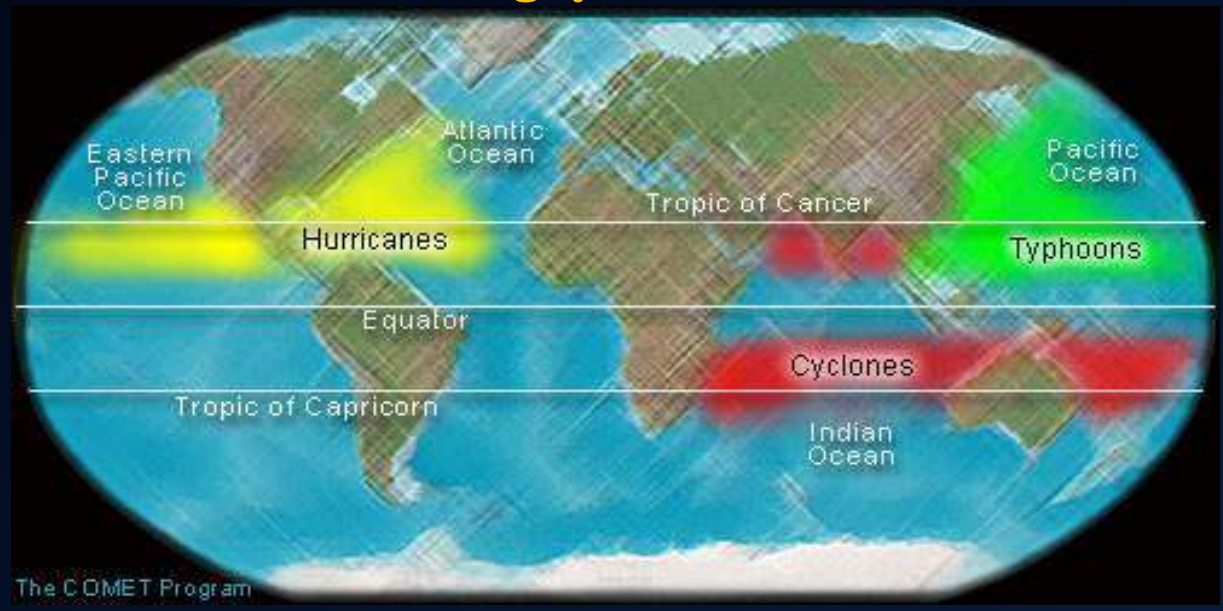
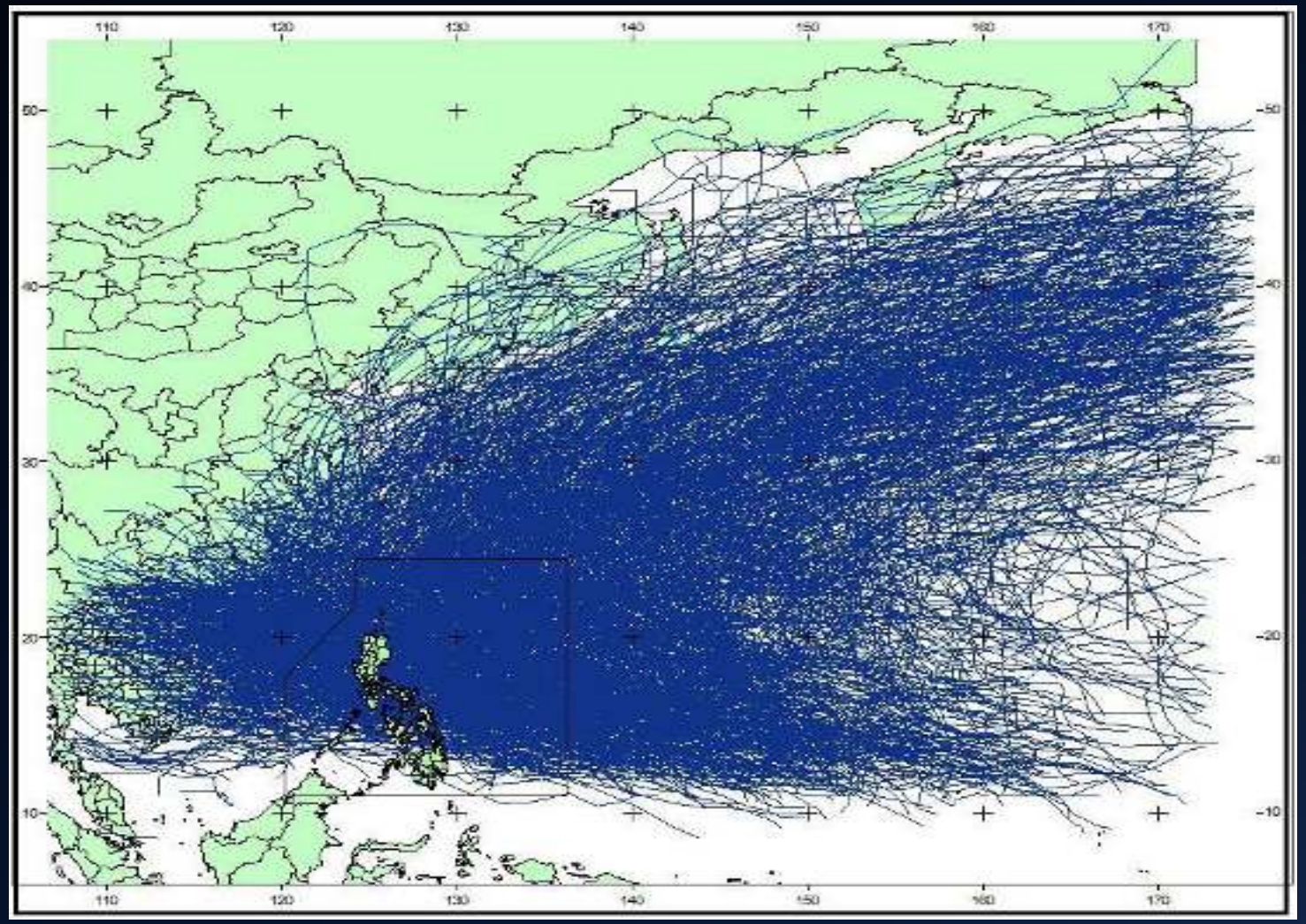


Photo credit: Google Images

Exporter of Typhoons

Tracks of Tropical Cyclones in the Western North Pacific Period from 1948 to 2010.



Reference: Japan Meteorological Agency as cited by Godillano (2014)

Natural Hazards

Photo credit: Google Images

- ✓Typhoons
- ✓Floods
- ✓Storm Surges
- ✓Earthquakes
- ✓Tsunamis
- ✓Volcanic eruptions
- ✓Landslides
- ✓Drought

Mt Pinatubo Eruption, 1991

Photo-credit: theguardian.com

Guinsaugon Landslide, 2006

Photo-credit: nbcnews.com

Tropical Storm “Ondoy,” 2009

Photo-credit: typhoonondoy.org

7.2 M Earthquake in Bohol, 2013

Photo-credit: newsinfo.inquirer.net

Typhoon “Yolanda,” 2013

Photo-credit: rappler.com

Typhoon “Glenda,” 2014

Photo-credit: google.com

Human – Induced Hazards

Photo credit: Google Images

- ✓ Fire
- ✓ Maritime accidents
- ✓ Aircraft crash
- ✓ Land accidents
- ✓ Industrial accidents
- ✓ Pollution
- ✓ Civil disturbance
- ✓ Terrorism
- ✓ Armed conflict

What are the effects of disasters?

Effects of Disasters

Photo credit: wikipedia.org

- ✓ Human toll: dead, injured and missing
- ✓ Families displaced
- ✓ Lost livelihoods
- ✓ Damages and losses
- ✓ Slows economic development
- ✓ Hampers delivery of services

WORLD RISK INDEX REPORT 2016

9th in 2009

6th in 2010

3rd in 2011

3rd in 2012

3rd in 2013

2nd in 2014

3rd in 2015

3rd in 2016

WorldRiskIndex		
Rank	Country	Risk (%)
1.	Vanuatu	36.28
2.	Tonga	29.33
3.	Philippines	26.70
4.	Guatemala	19.88
5.	Bangladesh	19.17
6.	Solomon Islands	19.14
7.	Brunei Darussalam	17.00
8.	Costa Rica	17.00
9.	Cambodia	16.58
10.	Papua New Guinea	16.43
11.	El Salvador	16.05
12.	Timor-Leste	15.69
13.	Mauritius	15.53
14.	Nicaragua	14.62
15.	Guinea-Bissau	13.56

Study by : UN University Institute for Environment and Human Security
Reference: http://weltrisikobericht.de/wp-content/uploads/2016/08/WorldRiskReport2016.pdf

THE PHILIPPINE DRRM SYSTEM

OFFICE OF CIVIL DEFENSE

Office of Civil Defense

Serves as the Executive Arm and Secretariat of the NDRRMC

Reference: Sec 7, RA 10121

Office of Civil Defense

Mission:

To provide leadership and administration of comprehensive national civil defense and disaster risk reduction and management program.

Reference: Sec 7, RA 10121

Office of Civil Defense

Vision:

A center of excellence in disaster risk reduction and management by 2020.

Reference: Sec 7, RA 10121

NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL

NDRRMC

Empowered with policy-making, coordination, integration, supervision, monitoring and evaluation of functions with regard to Disaster Risk Reduction and Management initiatives

Reference: Sec 6, RA 10121

DRRM Network

- National Disaster Risk Reduction and Management Council
- 18 Regional Disaster Risk Reduction and Management Councils
- 81 Provincial Disaster Risk Reduction and Management Councils
- 145 City Disaster Risk Reduction and Management Councils
- 1, 489 Municipal Disaster Risk Reduction and Management Councils
- 42,029 Barangay Disaster Risk Reduction and Management Committees

Reference: Philippine Statistics Authority

NDRRM
OPERATIONS CENTER

NDRRM Operations Center

- 24/7 facility for monitoring and coordination
- Disseminates situation reports, alerts and communications
- Facilitates effective management of the consequences of disasters

NEW NDRRM Operations Center

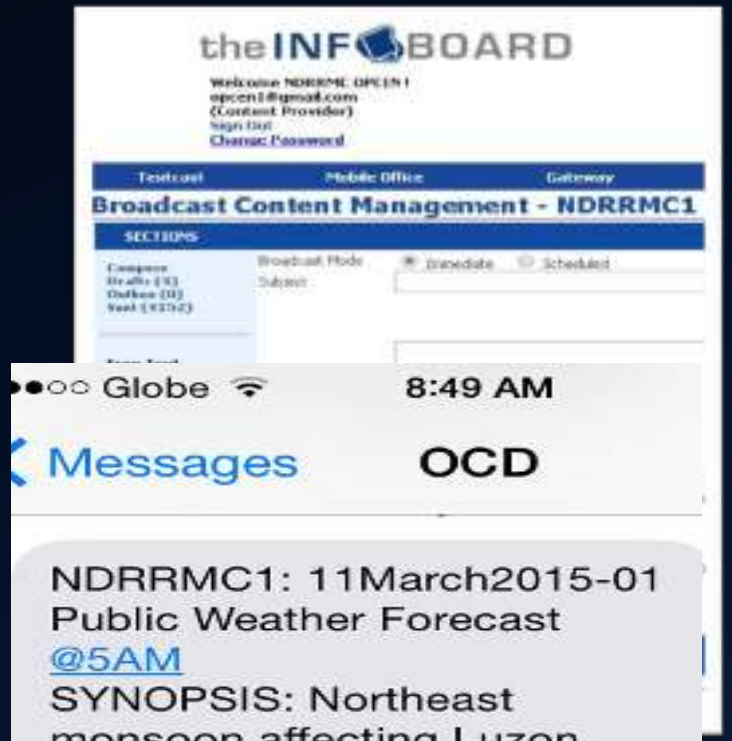
NEW NDRRM Operations Center

NEW NDRRM Operations Center

NDRRM Operations Center

TOOLS USED FOR DRRM

Early Warning System



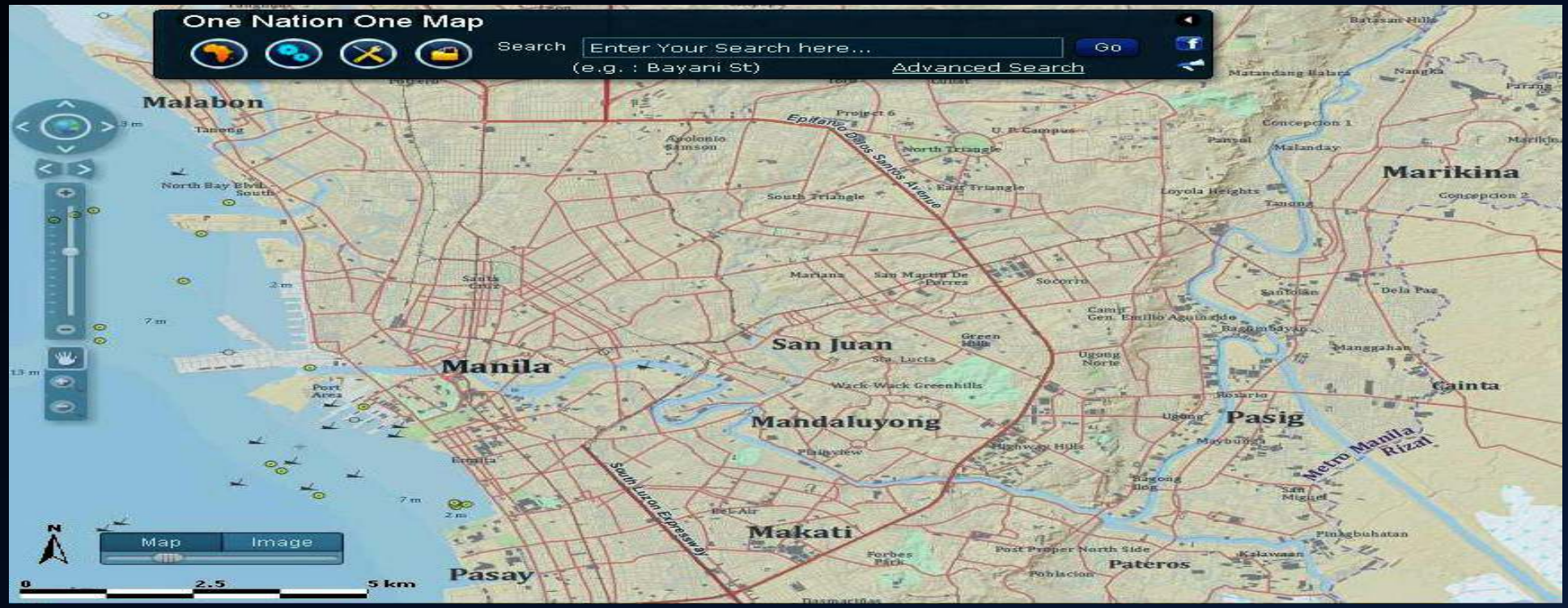
- ✓ Provide advisories, announcements to pre-registered subscribers to more or less 100,000 disaster managers
- ✓ Send information to desired disaster managers to any specific locality
- ✓ Receive feedback, comments, suggestions, queries and other user-specific messages
- ✓ Official Mask Name - OCD

Mobile Application

✓ "Batingaw" is a Filipino word for siren or bell which is used by the natives in providing warning to its populace.

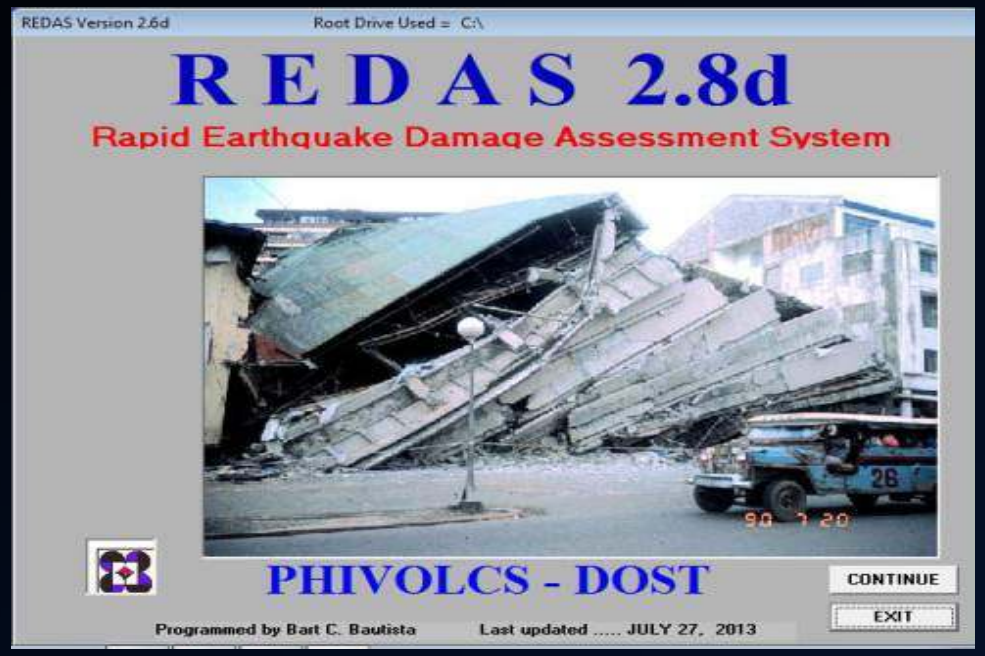
✓ Batingaw is a free-to-download mobile application software that is intended for the public which focuses on disaster awareness and management.

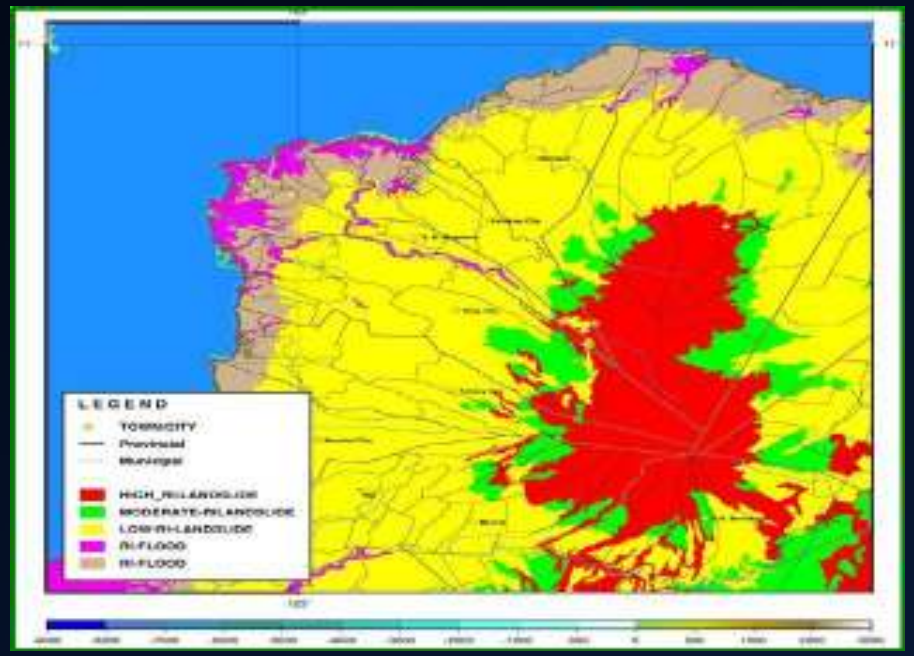
DRRM Information System



- ✓ Platform for the Philippines' National Spatial Data Infrastructure
- ✓ An Internet-based mechanism for sharing of geospatial information
- ✓ A policy for the government's one-basemap advocacy

DRRM Information System





- ✓ A simulation tool that provides a rapid estimate of the possible seismic hazards which can be used in inferring the severity of impacts to various elements-at-risk
- ✓It aims to provide quick and near real-time simulated earthquake hazard information to disaster managers which will help them in assessing the distribution and extent of the impacts of a strong earthquake.

Internet Presence

Internet Presence

ASEAN Humanitarian Assistance Centre

Disaster Monitoring and Response System (DMRS)

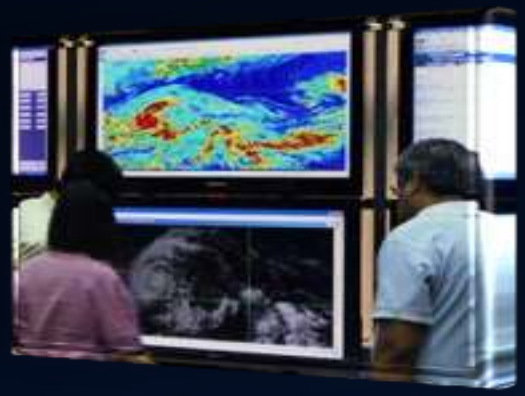
AHA Centre Web EOC

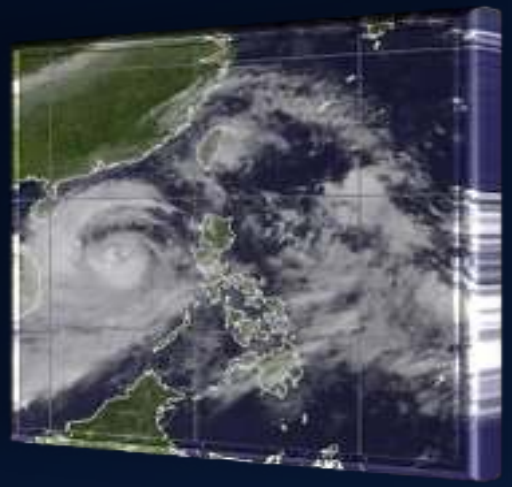
AHA Webex Video Conferencing

Information, Education and Communication

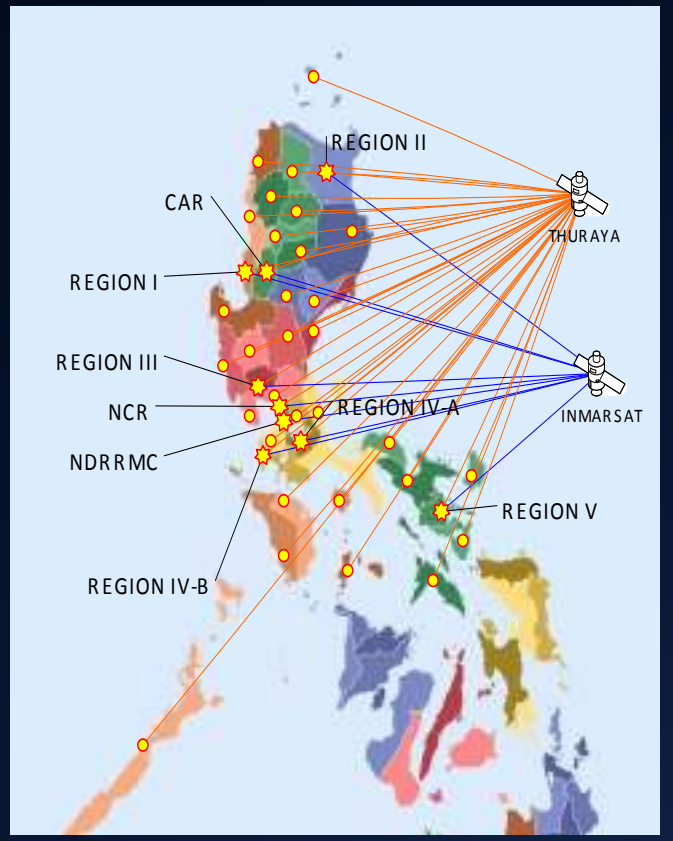
PROJECT DINA

- ✓ Online DRRM audio-visual learning platform
- ✓Gauge the level of public awareness
- ✓Tips on what to do before, during & after a disaster
- ✓Downloadable video materials
- ✓General public viewing for 12 y/o and above
- ✓Informative, educational & entertaining





Emergency Communications System



- ✓ THURAYA satellite phone w/ docking station
  - ☐ TSF - 37 sets (2 national, 8 regional & 27 provincial)
  - ☐ WFP - 40 sets (6 national & 34 regional (all OCDROs)
  - ➢ Voice, Facsimile, SMS

- ✓ BGAN (INMARSAT) w/ power box and solar panel
  - ☐ 10 sets (2 national & 8 regional (I, II, III, IV-A, IV-B, V, CAR, NCR)
  - ➢ Internet

What is RETT?

RETT – Rapid Emergency Telecommunications Team

- Rapid Deployment Team equipped with ICT resources;
- Organized to address the communications, electronics and information needs of the Emergency Operations Center (EOC) and/or Incident Command Posts (ICPs) in a disaster area.
- Provide telecommunications support on the ground for command & control and communications mechanism.

RAPID EMERGENCY TELECOMS TEAM

Typhoon Yolanda

Typhoon Lando

RAPID EMERGENCY TELECOMS TEAM

Typhoon Yolanda

Typhoon Lando

RAPID EMERGENCY TELECOMS TEAM

National Simultaneous EQ Drill

ASEAN 2017

THANK YOU

SMS
(63) 917-891-6322

Telefax
(632) 912-2665 / 912-5668
911-1406

Facebook
NDRRMC Opcen

Twitter
@NDRRMC Opcen

Email
ndrrmoc@ocd.gov.ph

Website
www.ndrrmc.gov.ph

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Proactive

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