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RESPONSE TO DISASTER

Reported by PHILIPPINES



ISO 9001:2008 CERTIFIED FOR MAPPING
AND GEOSPATIAL INFORMATION MANAGEMENT



Typhoon Haiyan: Path of destruction





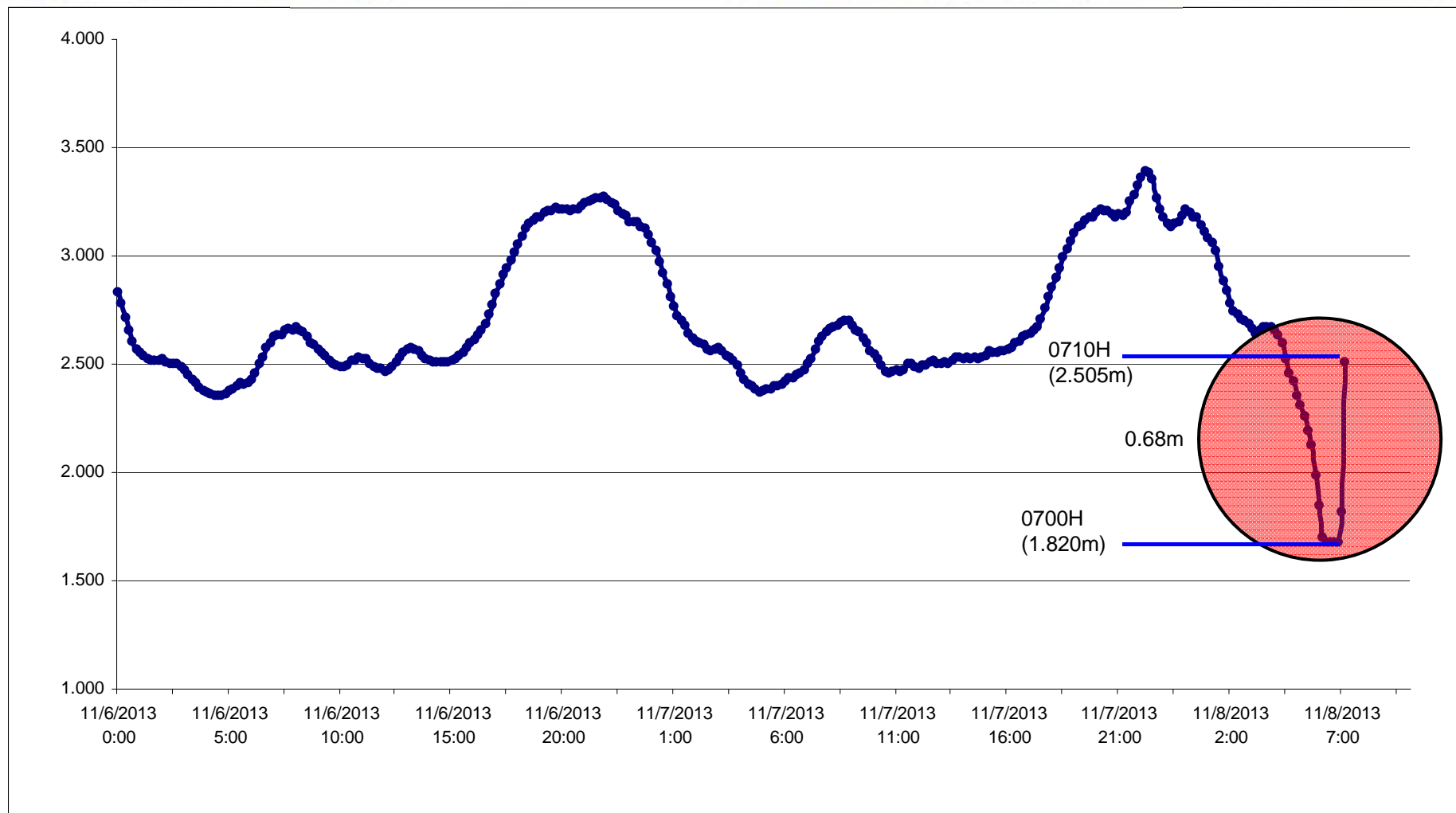
TYPHOON HAIYAN

- Known as typhoon Yolanda in the Philippines
- Most powerful storm to make landfall in recorded history
- Worst hit provinces: Leyte and Eastern Samar with a combined population of 2.3 M
- Experienced sustained winds of 270kph, gusts of up to 312kph
- Storm surge as high as 7m



ACTIVITIES CONDUCTED BY THE NATIONAL MAPPING AND RESOURCE INFORMATION AUTHORITY (NAMRIA) AFTER SUPER TYPHOON YOLANDA

NEAR REAL TIME RECORD TACLOBAN TIDE STATION



*** Actual observation transmitted/recorded based on the 10-minute interval, 1.820m at 0700H and last recorded data is 2.505m at 0710H above zero of tide staff. The tide house was damaged during the passage of the typhoon.**



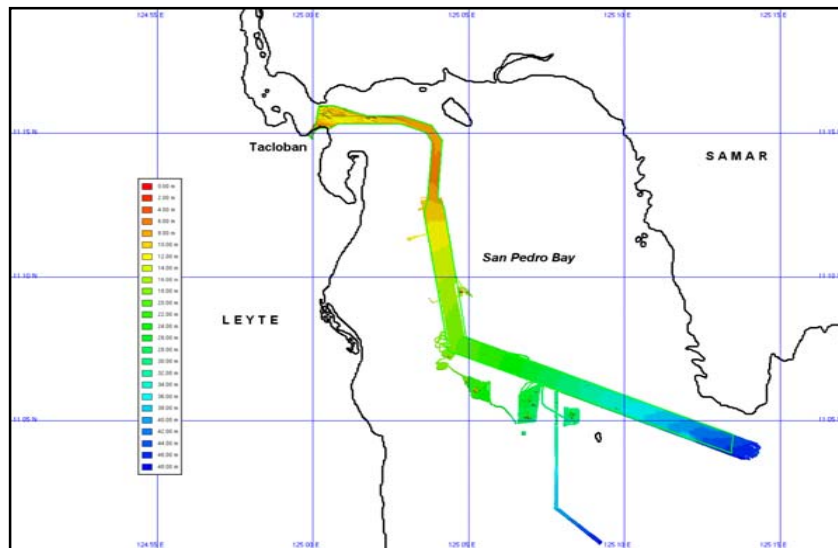
PH-US COOPERATIVE HYDROGRAPHIC SURVEYS

Hydrographic survey operations between the Philippines and the United States under Operation Damayan in response to Typhoon Yolanda

Participating Agencies

- **Hydrography Branch of NAMRIA**
- **Office of Littoral Affairs Group of the Philippine Navy**
- **United States Naval Oceanographic Office Detachment 129**
- **USNS Bowditch (with 2 survey launches) of NAVOCEANO**

SURVEY OF CHANNEL LEADING TO TACLOBAN PORT





PROVISION OF MAPS AND CHARTS

- **Distributed topographic maps and nautical charts to government offices (Municipal Hall, Philippine Ports Authority and Philippine Coast Guard) in Tacloban City and nearby towns**
- **Provided updated nautical charts to the United Kingdom's Royal Navy Ships for certain ports**
- **Provided maps and chart of Tacloban to the Royal Thai Navy**
- **Posted the path of the typhoon and the map of damaged structures at the NAMRIA website**
- **<http://namria.gov.ph/haiyan2013.htm>**



SURVEY INITIATIVES IN TACLOBAN CITY

- **Conducted coast pilot survey**
- **Conducted single beam survey using motor launch of BRPH Ventura in the vicinity of Tacloban Pier**
- **Transported relief goods to Tacloban City using NAMRIA survey vessels**

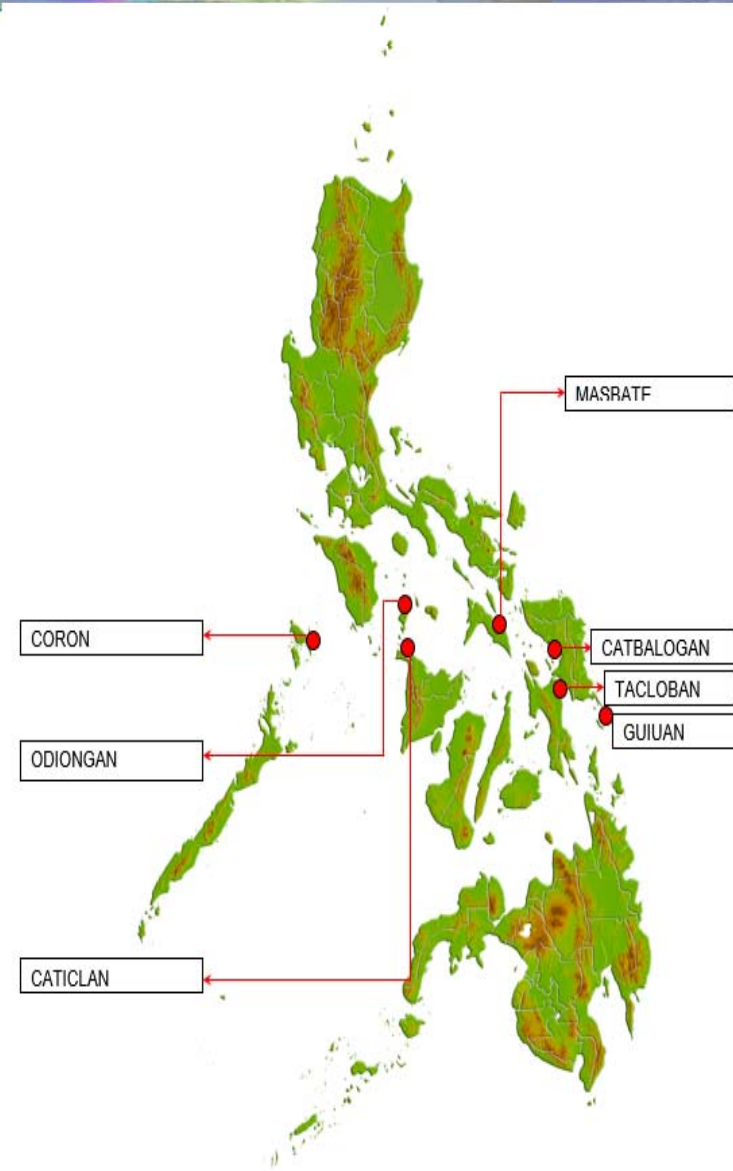
INSPECTION OF TACLOBAN TIDE STATION



ASSESSMENT OF TIDE STATIONS ALONG THE PATH OF THE TYPHOON

STATUS OF TIDE STATIONS

Location	Status
Guiuan, Samar	damaged
Tacloban, Leyte	equipment damaged
Catbalogan, Samar	no damage
Caticlan, Aklan	no damage
Odiongan, Romblon	no damage
Coron, Palawan	no damage





Source: <http://shielaculpa.blogspot.com/2013/11/super-typhoon-yolanda.html>



Source: <http://www.gmanetwork.com/news/photo/48289/debris-including-ships-litter-tacloban>



Source: <http://ph.news.yahoo.com/photos/residents-walk-past-destroyed-houses-overturned-jeepney-tacloban-photo-024856473.html>



NAMRIA'S PROJECTS FOR 2014 IN RESPONSE TO DISASTER



HYDROGRAPHIC SURVEYS OF VARIOUS PORTS AND OTHER AREAS

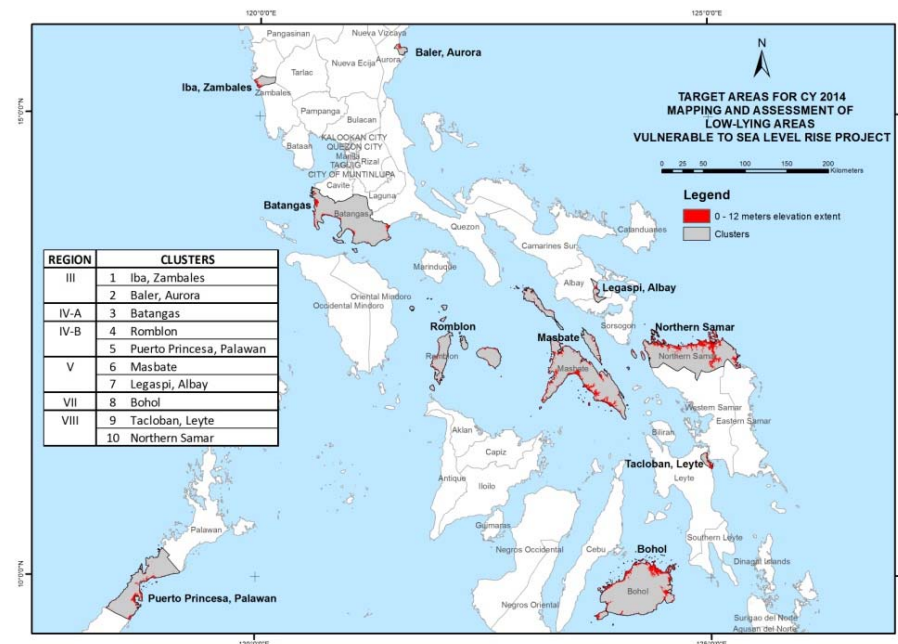
Hydrographic Survey of Port of Tacloban City and Vicinity, Province of Leyte	Approximate Total Area 115 sq.kms	Approximate Length of Coastline 40 kms
Hydrographic Survey of Port of Ormoc and Vicinity Province of Leyte	109 sq. kms	29.3 kms
Hydrographic Survey of Port of Tagbilaran City and Vicinity, Province of Bohol	12.35 sq.kms	16.77 kms
Hydrographic Survey of Siete Pecados Island and Vicinity Dumangas, Iloilo City	23.07 sq.kms	18.5 kms
Hydrographic Survey of Caticlan Jetty Port and Vicinity Malay, Province of Aklan	32 sq.kms	14.45 kms

MAPPING AND ASSESSMENT OF LOW-LYING AREAS VULNERABLE TO SEA LEVEL RISE

- Objective

To generate map of low-lying areas and assess vulnerability to sea level rise using high resolution satellite images with the application of remote sensing and GIS techniques

Region	Clusters
Luzon Clusters	
III	1. Iba, Zambales
	2. Baler, Aurora
IV-A	3. Batangas
IV-B	4. Romblon
	5. Puerto Princesa, Palawan
	6. Masbate
	7. Legaspi, Albay
Visayas Clusters	
VII	8. Bohol
VIII	9. Tacloban, Leyte
	10. Northern Samar





HAZARD MAPPING AND ASSESSMENT FOR EFFECTIVE COMMUNITY-BASED DISASTER RISK MANAGEMENT

Objective

- aims to address the problem of Disaster Risk Management (DRM) at the local level by empowering the most vulnerable municipalities and cities in the country
- enable the community to prepare disaster risk management plans
- collaborative effort of partner agencies

Philippine Institute of Volcanology and Seismology (PHIVOLCS)

**Philippine Atmospheric, Geophysical and Astronomical Services
Administration (PAGASA)**

Mines and Geosciences Bureau (MGB)

National Mapping and Resource Information Authority (NAMRIA)

**Office of Civil Defense – National Disaster Coordinating Council (OCD-
NDCC)**

United Nations Development Program

Government of Australia through AUSAID