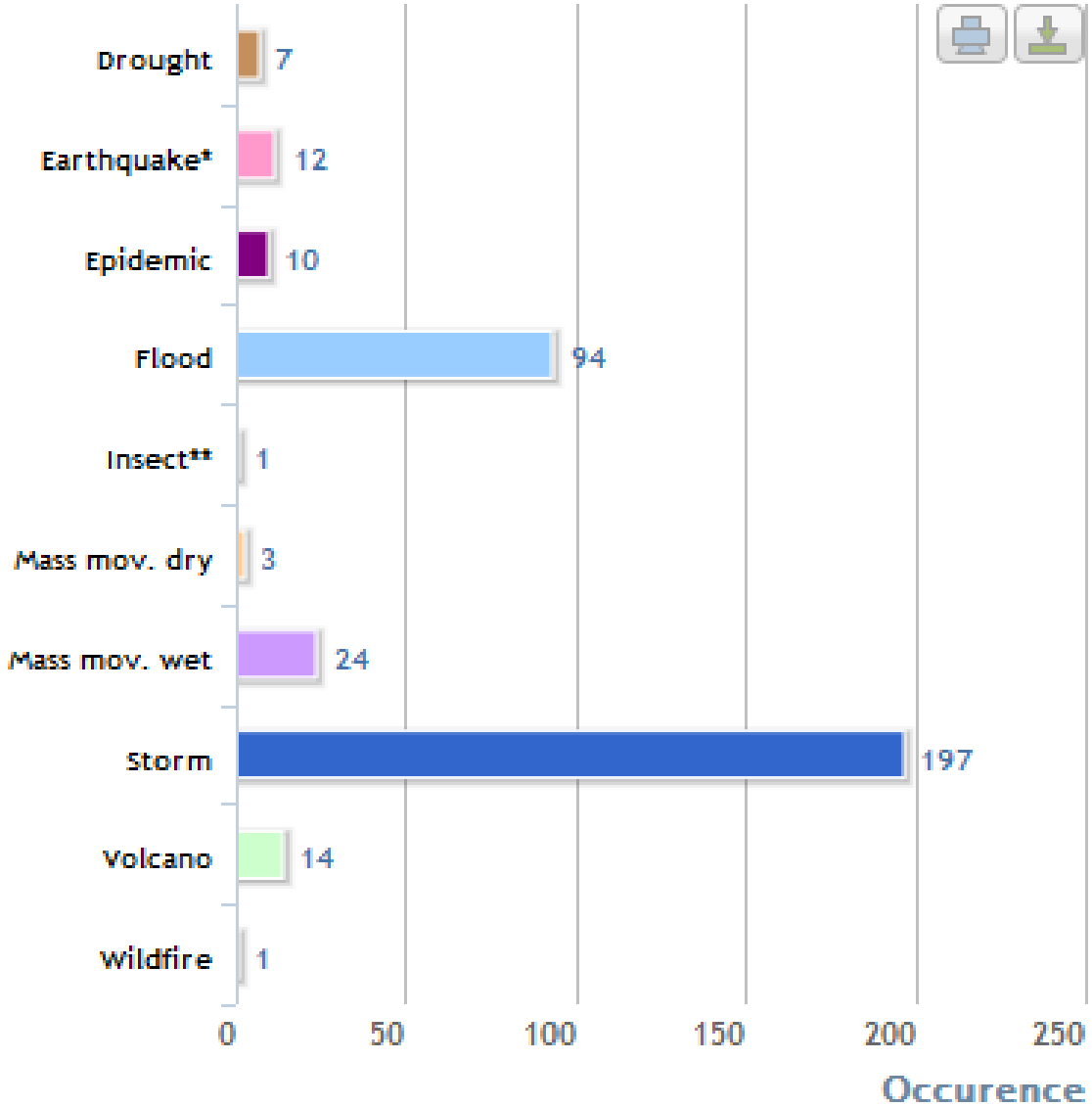
SENTINEL ASIA DAN UPDATES

Manila Observatory
2nd Joint Project Team Meeting for
Sentinel Asia STEP3 (JPTM2014)
19-21 November 2014
Asia Plaza Hotel, Yangon, Myanmar

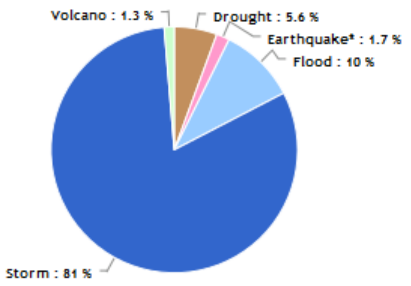
Outline

- International Context of Disasters Attributed to Tropical Cyclones
- Disaster Management Implementation and Monitoring in the Philippines
- The Manila Observatory's Mission and Research Programs
- Emergency Observation (EO) and Mapping Protocol, 15 January 2013
- TC Bopha/ Pablo, 4 December 2012
- SWM Enhanced TC Trami/ Maring, 19 August 2013
- TC Haiyan/ Yolanda, 8 November 2013
- The Manila Observatory's Future Plans

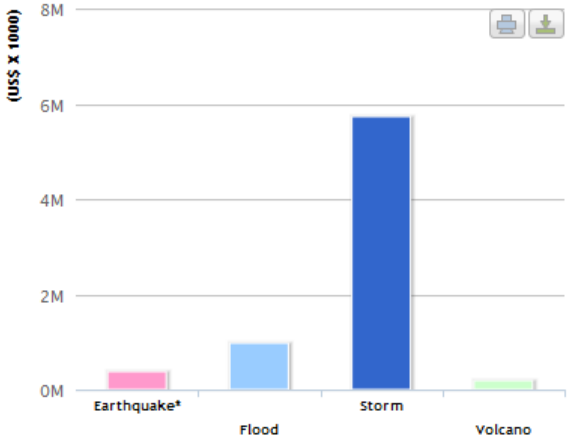
Disaster Statistics in the Philippines (1980-2010)



Percentage of reported people affected by disaster type



Estimated economic damages reported by disaster type (US$ X 1,000)



*: Including tsunami

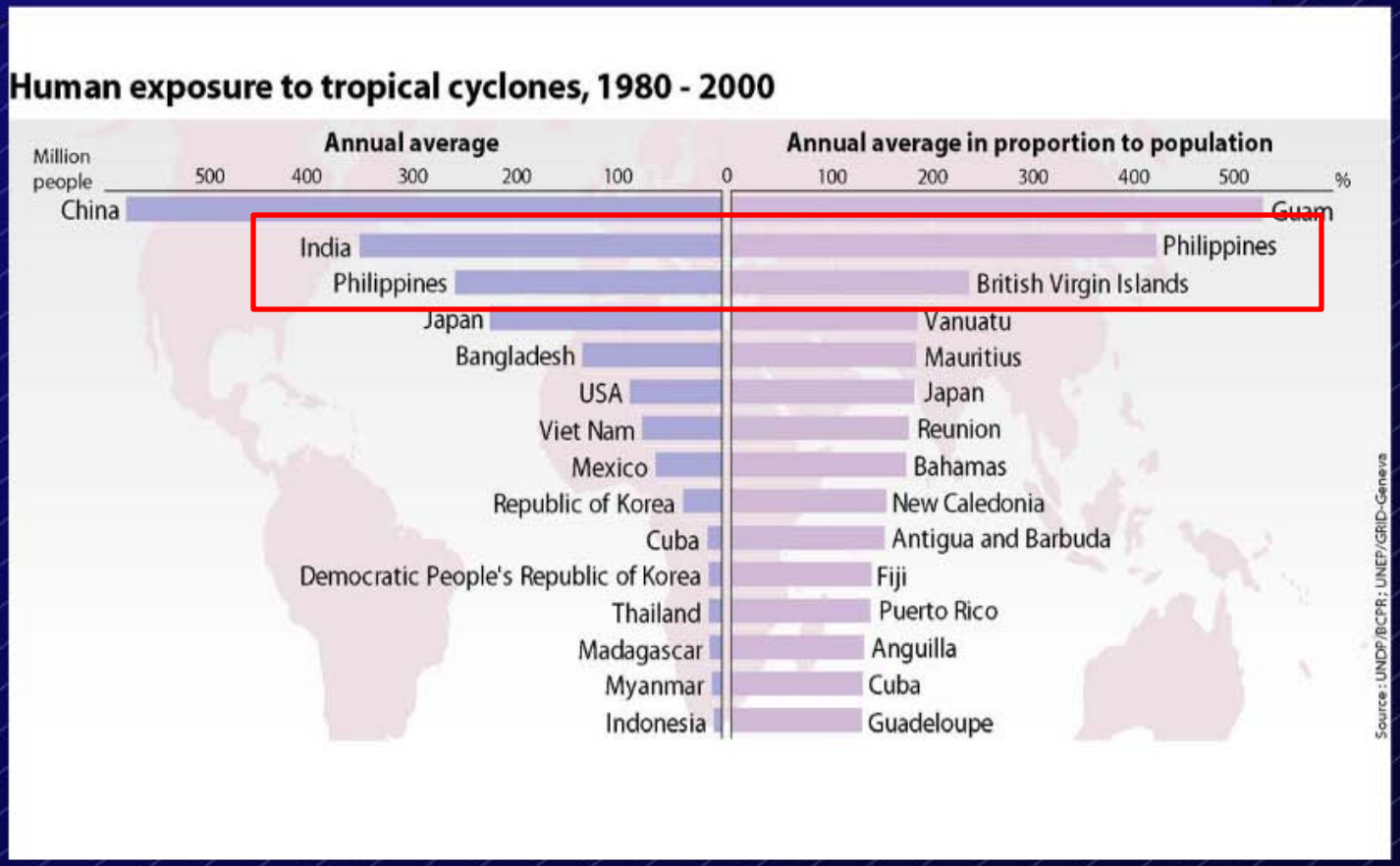
More information and data on: www.emdat.be/

Source of data: "EM-DAT: The OFDA/CRED International Disaster Database, Universit catholique de Louvain, Brussels, Bel."
Data version: v11.08

Data displayed does not imply national endorsement

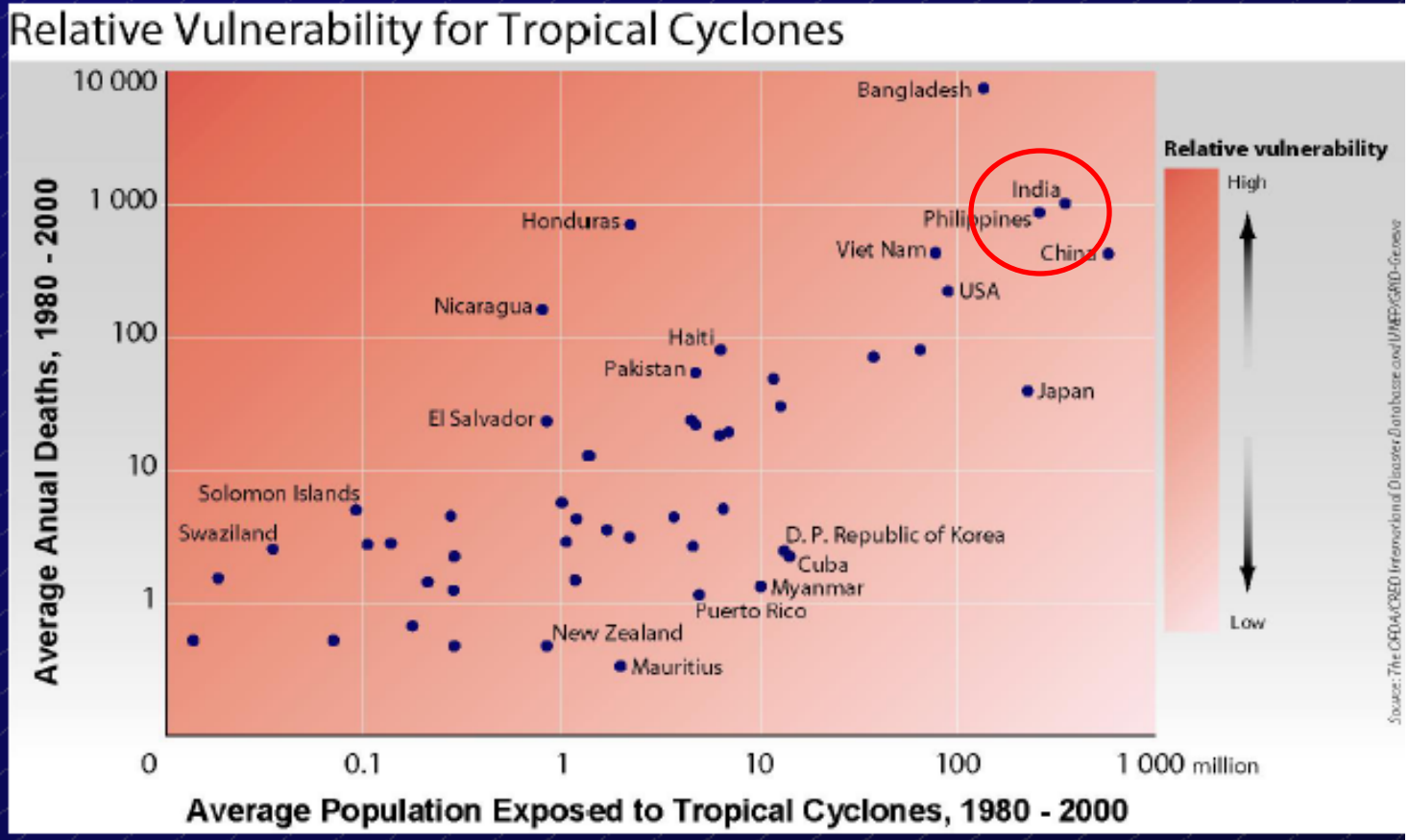
http://www.preventionweb.net/english/countries/statistics/?cid=135

Physical Exposure to Cyclones



Reducing Disaster Risk: A Challenge for Development, A Global Report from the UNDP Bureau of Crisis Prevention and Recovery, n.d.

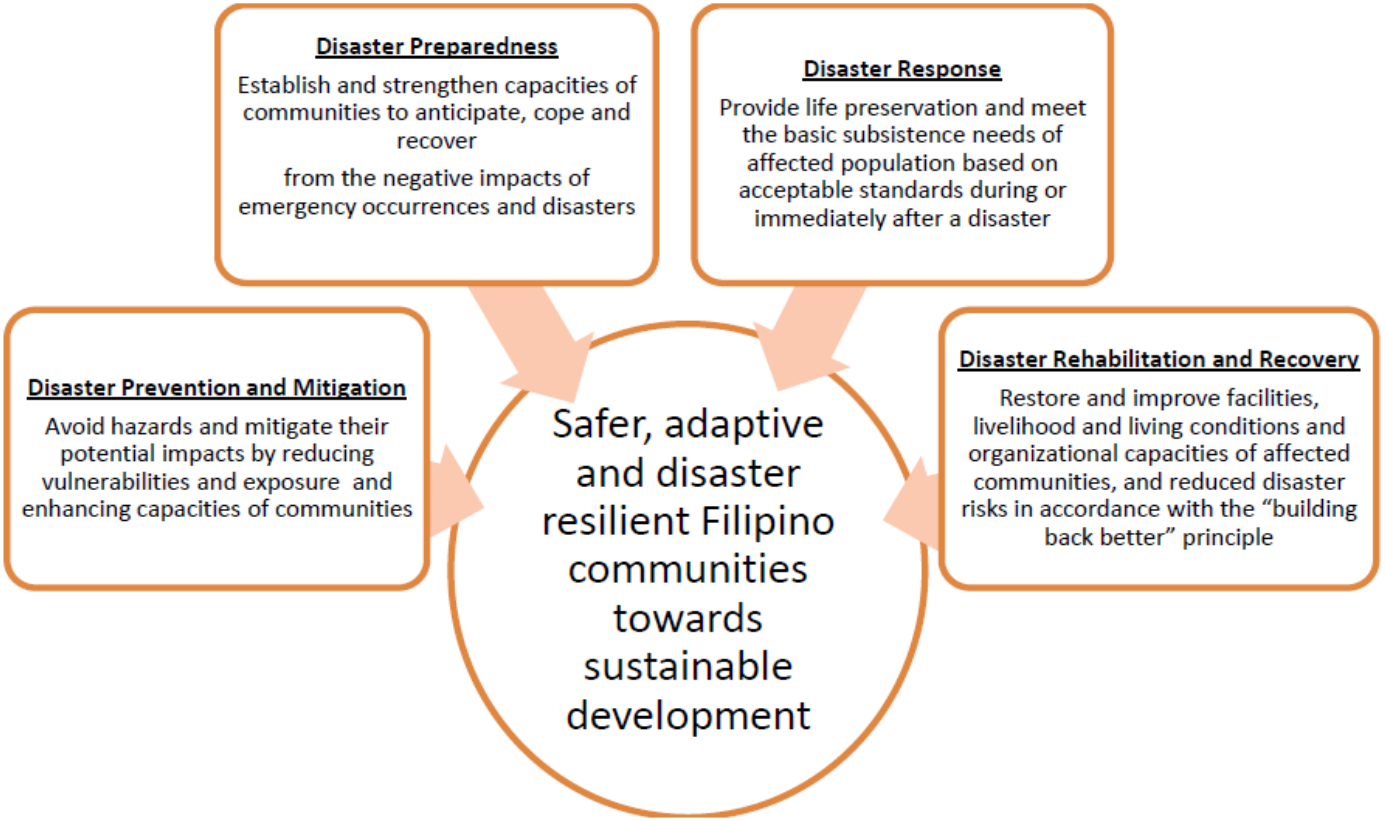
Tropical Cyclones

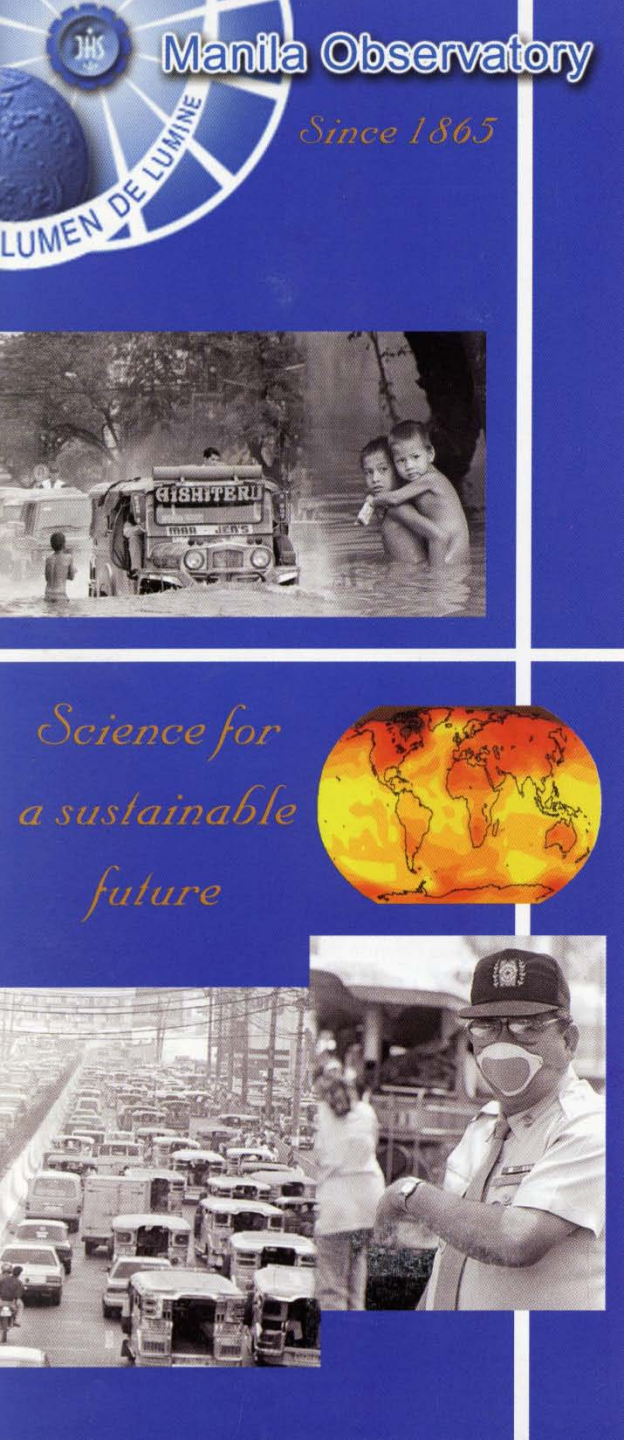


Reducing Disaster Risk: A Challenge for Development, A Global Report from the UNDP Bureau of Crisis Prevention and Recovery, n.d.

Disaster Management Implementation and Monitoring in the Philippines

National Disaster Risk Reduction and Management Plan 2011-2028. The NDRRMP sets down the expected outcomes, outputs, key activities, indicators, lead agencies, implementing partners and timelines under each of the four distinct yet mutually reinforcing thematic areas. The goals of each thematic area lead to the attainment of the country's overall DRRM vision, as graphically shown below.





The Manila Observatory's Mission and Research Programs

Urban Air Quality

Regional Climate Systems

Climate Change Assistance

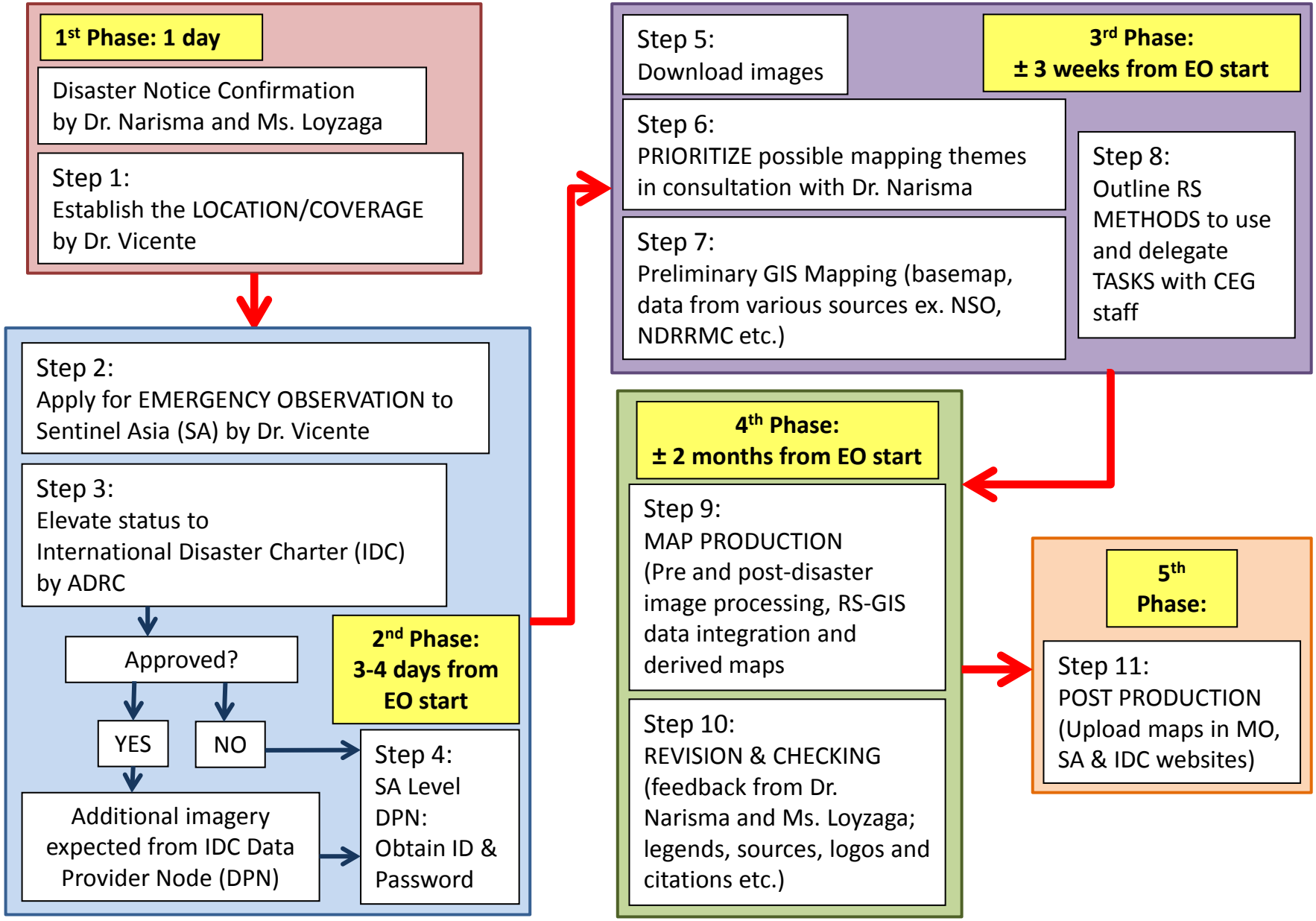
Geomatics for Environment and Development

Solid Earth Dynamics

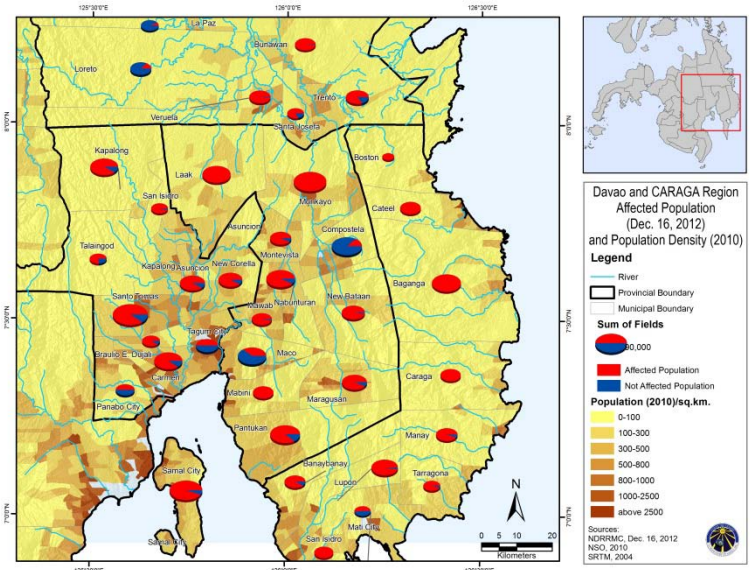
Iono-Geomagnetics

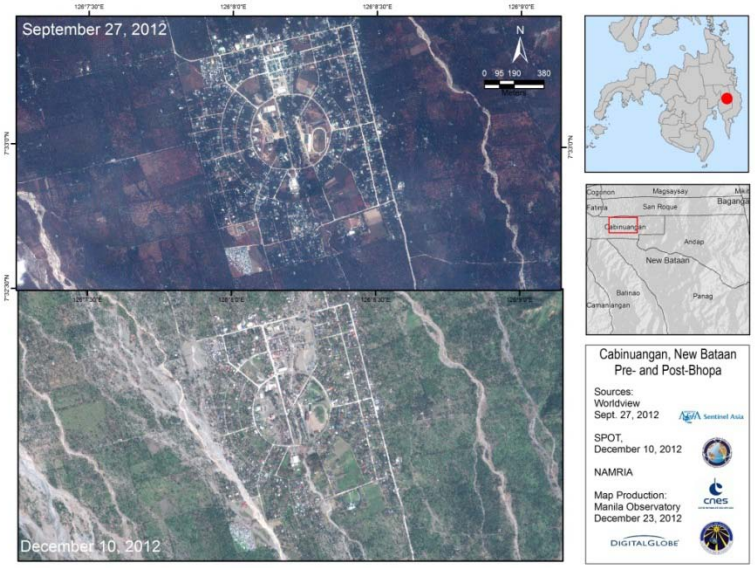
Instrumentation and Technology Development

Proposed Emergency Observation (EO) and Mapping Protocol, 15 January 2013



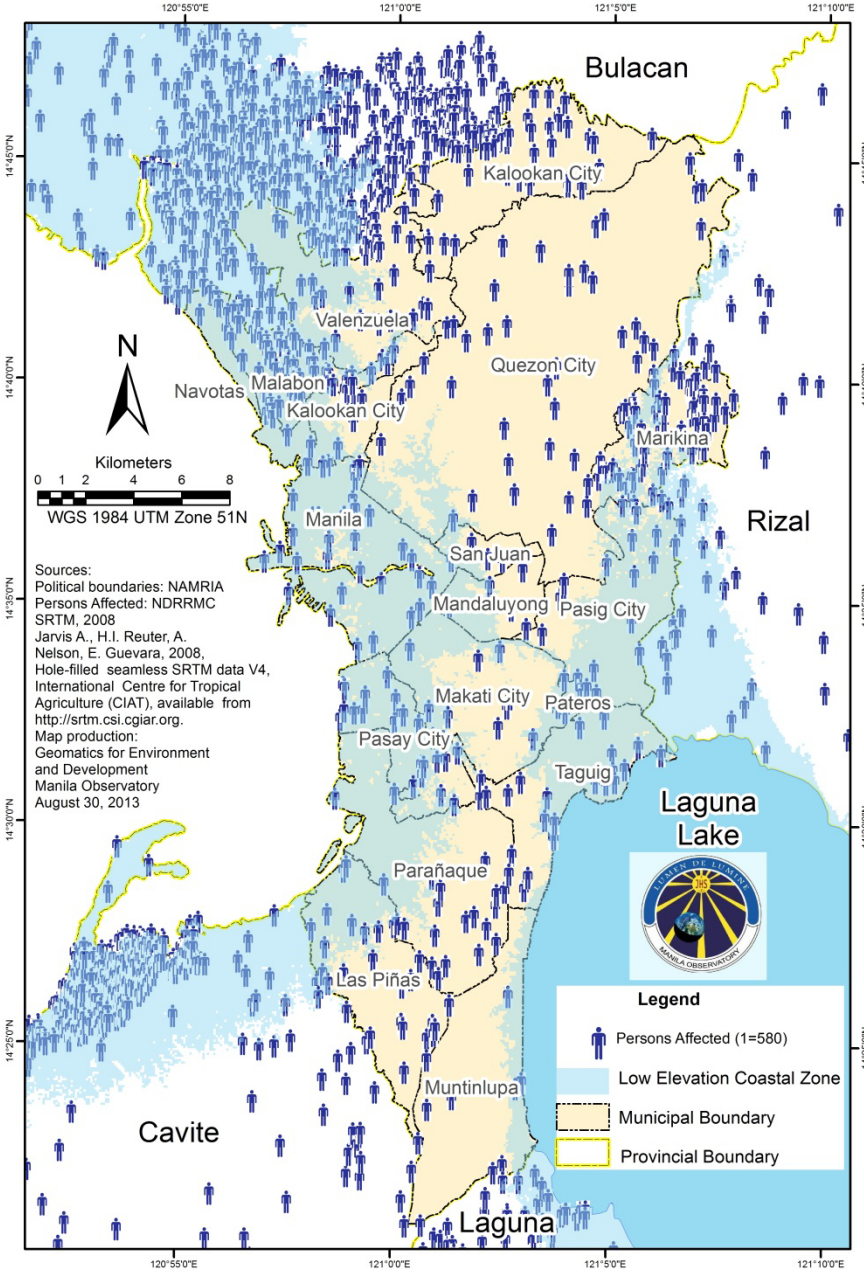
TC Bopha/ Pablo, 4 December 2012

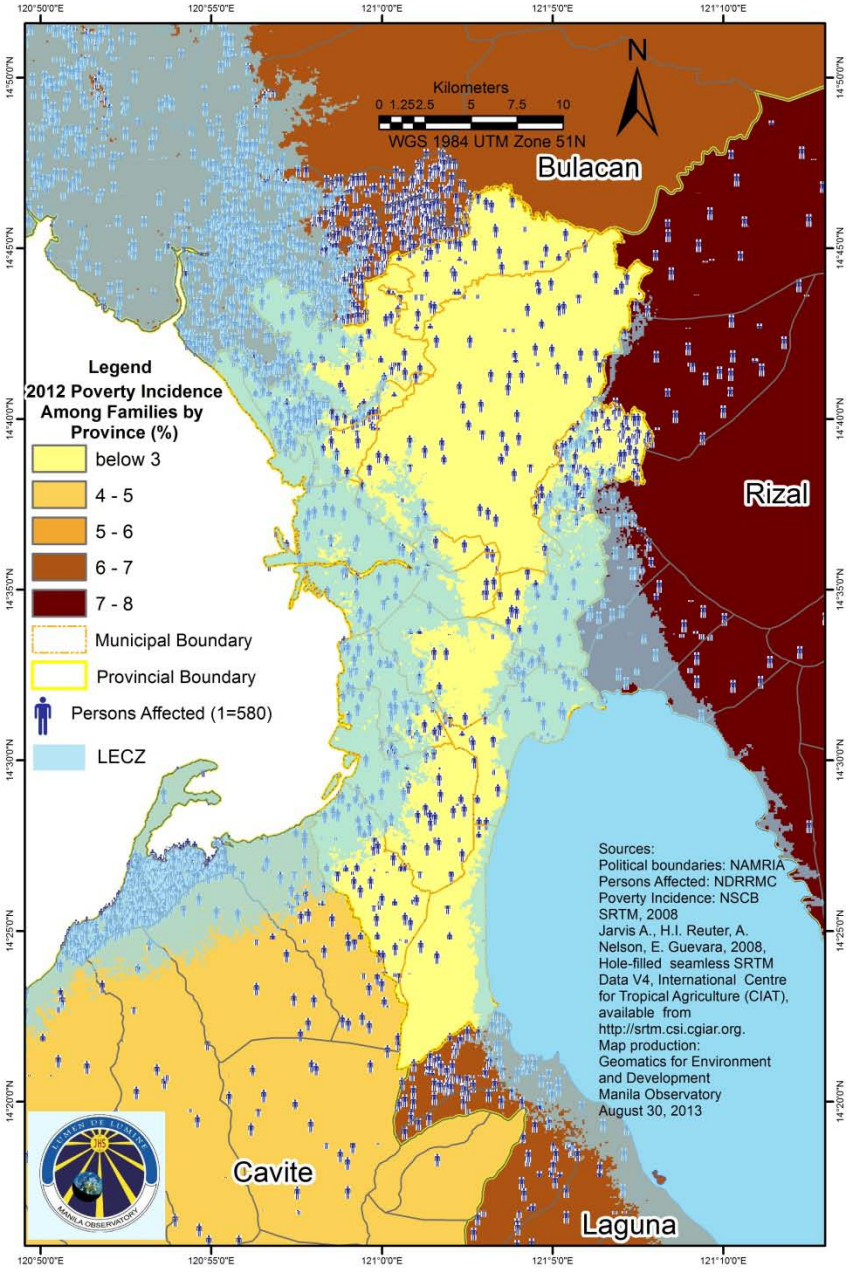




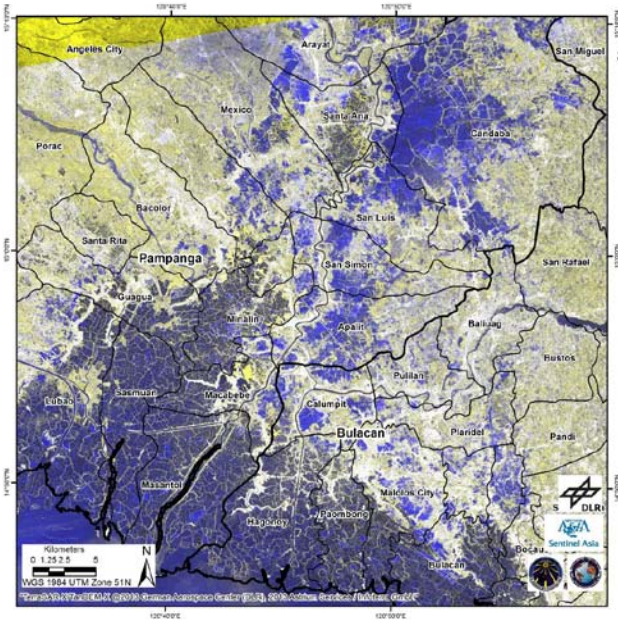
Barangay Cabinuangan, New Bataan, Compostela Valley province after Typhoon Bopha (10 Dec 2012)
The terrain views shown below are rendered using SRTM data from NASA and SPOT 5 XS 2.5 m.

SWM Enhanced TC Trami/ Maring, 19 August 2013





SWM Enhanced TC Trami/ Maring, 19 August 2013



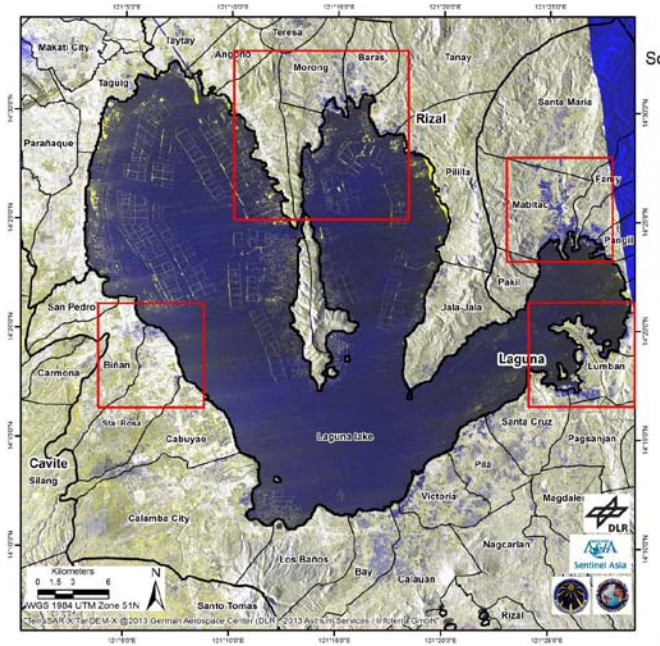
PAMPANGA
Inundation Map
Southwest Monsoon and
Tropical StormTrami
TerraSAR-X
(March 20, 2011 and
August 21, 2013)

Legend
Provincial Boundary
City/Municipal Boudnary
Flood

Sources:
Political boundaries: NAMRIA
Terrasar-X

Map production:
Geomatics for Environment
and Development,
Manila Observatory
August 23, 2013

Map Composite
R: August 21, 2013
G: August 21, 2013
B: March 20, 2011



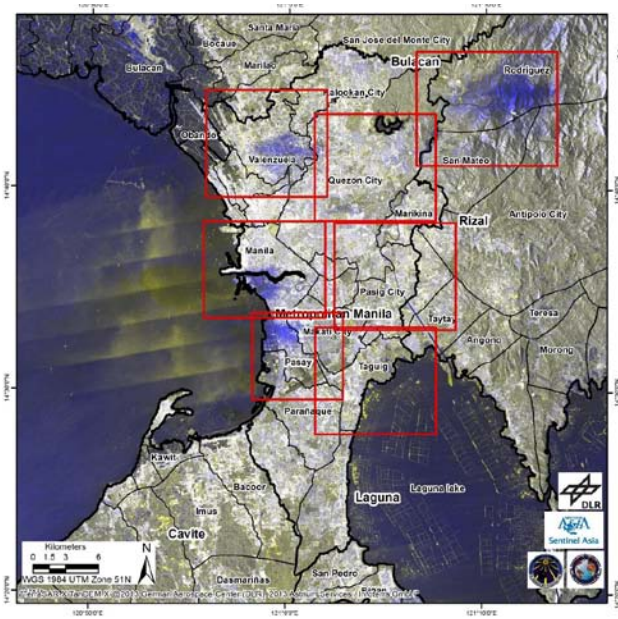
LAGUNA
Inundation Map
Southwest Monsoon and
Tropical StormTrami
TerraSAR-X
(March 20, 2011 and
August 21, 2013)

Legend
Provincial Boundary
City/Municipal Boudnary
Flood

Sources:
Political boundaries: NAMRIA
Terrasar-X

Map production:
Geomatics for Environment
and Development,
Manila Observatory
August 23, 2013

Map Composite
R: August 21, 2013
G: August 21, 2013
B: March 20, 2011



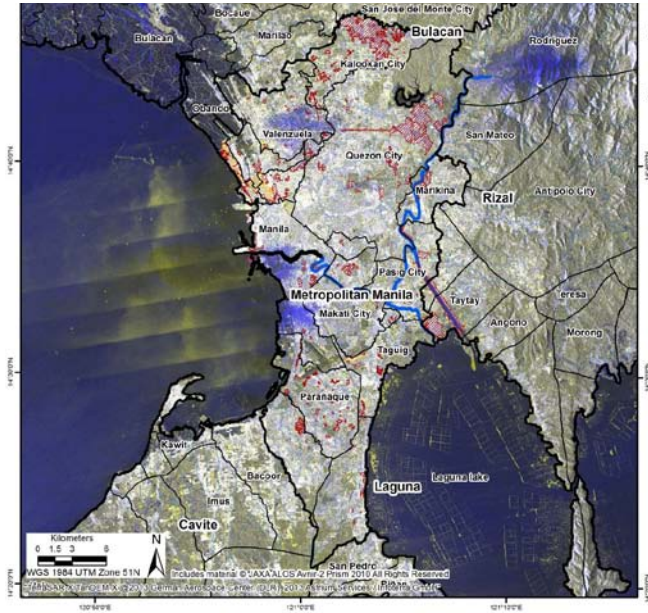
METRO MANILA
Inundation Map
Southwest Monsoon and
Tropical StormTrami
TerraSAR-X
(March 20, 2011 and
August 21, 2013)

Legend
Provincial Boundary
City/Municipal Boudnary
Flood

Sources:
Political boundaries: NAMRIA
Terrasar-X

Map production:
Geomatics for Environment
and Development,
Manila Observatory
August 23, 2013

Map Composite
R: August 21, 2013
G: August 21, 2013
B: March 20, 2011



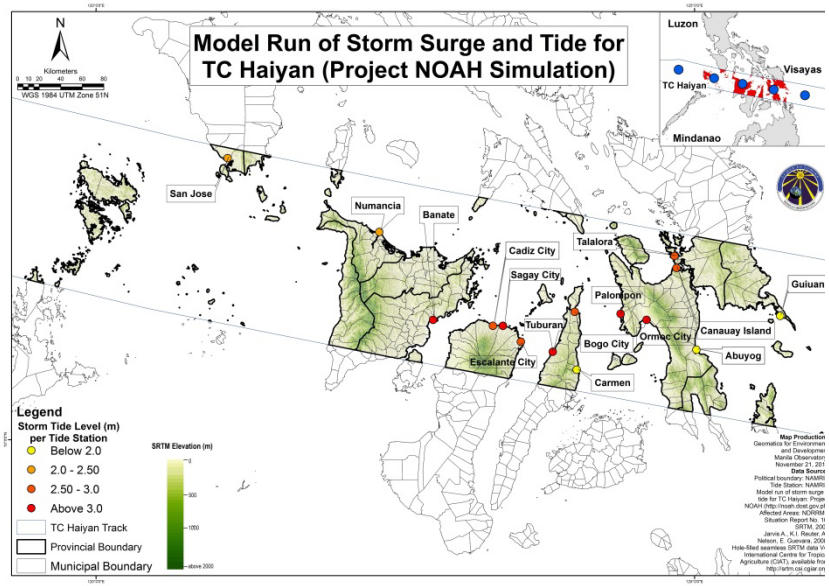
Monsoon and Tropical
Storm Trami TerraSAR-X
(March 20, 2011 and
August 21, 2013)
and Informal Settlements
2010

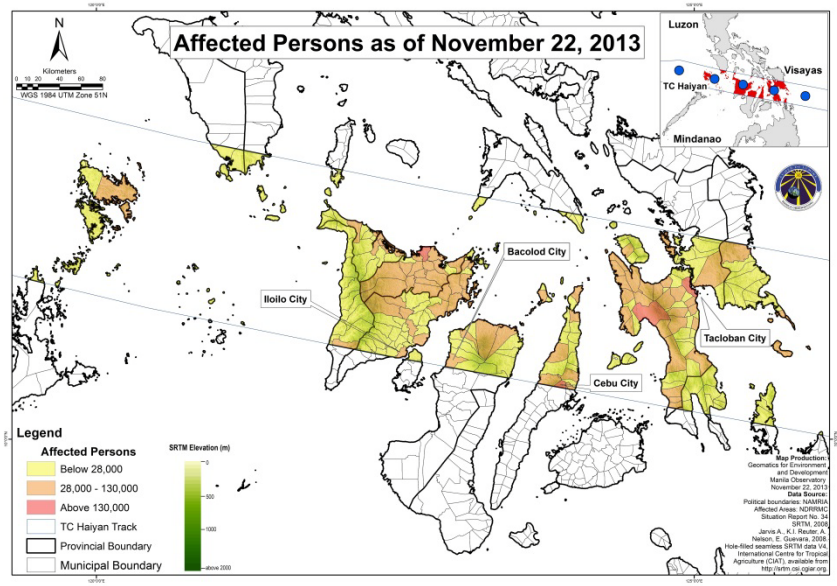
Legend
Provincial Boundary
City/Municipal Boudnary
Informal Settlement
Mixed Settlement
Major River
Waterways
Flood

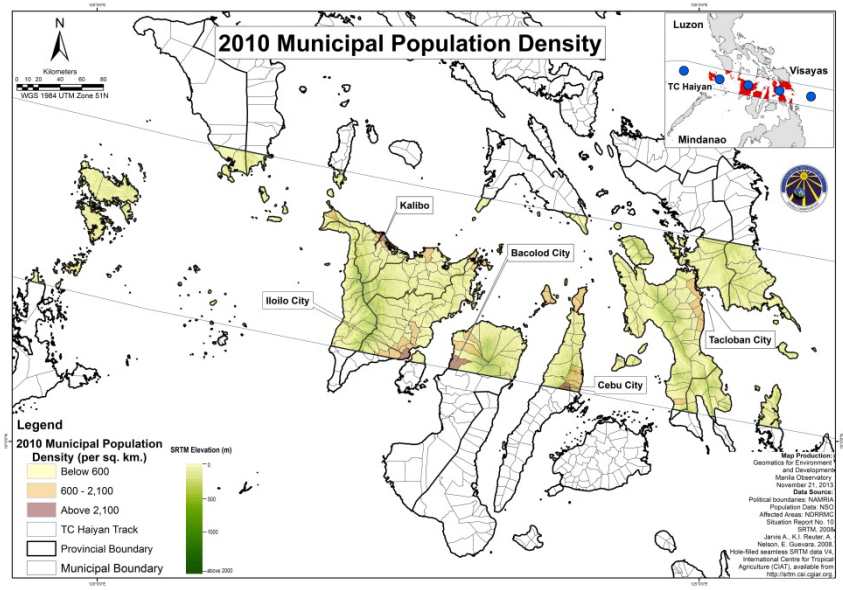
Sources:
Political boundaries: NAMRIA
JAXA ALOS (Mar. 20, 2010)
© OpenStreetMap contributors
SRTM, 2008
Jarvis A., H.I. Reuter, A.
Nelson, E. Guevara, 2008,
Hole-filled seamless SRTM data V4.
International Centre for Tropical
Agriculture (CIAT), available from
http://srtm.csi.cgiar.org.

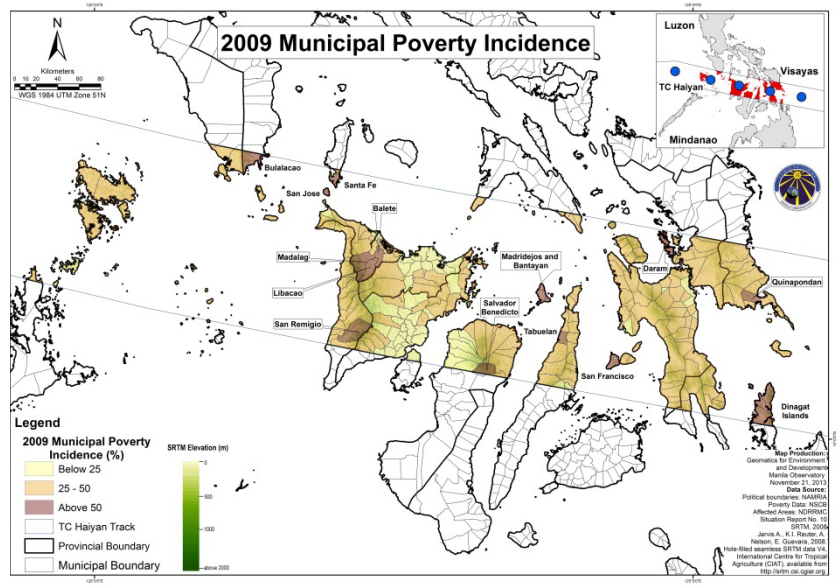
Map production:
Manila Observatory
August 28, 2013

TC Haiyan/ Yolanda, 8 November 2013









The Manila Observatory's Future Plans

- MO 2015 Geoportal on 150th Anniversary

- Integrating Risk and Resiliency Policy Research: This includes translation of research results into forms that are more readily understood by various stakeholders.

- Mainstreaming CCA-DRM in Planning and Governance: This is undertaken vertically and horizontally at various levels of governance, especially through the integration of planning instruments like Comprehensive and Sustainable Land Use Plans (CSLUPs), Strategic Agriculture and Fisheries Development Zones (SAFDZs), National and Physical Framework Development Plans.

- Upgrading and Consolidating Teaching and Research Laboratories among Academic Partners: This is being undertaken in the light of interdepartmental and cross-program research. The former concerns the Physics (MS in Atmospheric Science), Environmental Science, Information Systems and Computer Science Departments of the Ateneo de Manila University. The MS in AS trains and forms staff from the PAGASA.

- Improving the Network of Rainfall Monitoring Stations:

  - 37 weather station data in and around Metro Manila:
    - 4 with MO network
    - 7 with Makati City network (owned by Makati City)
    - 26 with the Metro Weather network in Caltex Stations and other suitable locations

  - 5 weather stations outside Metro Manila; 1 each in Cagayan de Oro, Bukidnon, Davao, Zamboanga Cities and South Cotabato

- Strengthening Networking and Linkages

- Improving Access to Satellite Imageries and Regional Climate Models/ Scenarios

- Improving the Network of Ground-Based Sensors (i.e. TRGs, Rain Gauges, LIDAR)