CARE | SOUTH ASIA

RIMES

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

RDAS

Uniqueness, Capabilities, Highlights, and Way Forward

Training Overview and Recap of the System Development Progress

Global/regional data downscaled to national, provincial, and district levels and connected to DSSs, to readily support various DSSs analysis

RDAS
Regional Resilience Data and Analytics Service

Regional tools ready for national/sub-national customization

Cutomized tools provide iinovation perspectives for regional tools

National/Sub-national in-situ datasets assimmilated in RDAS for cutomizing tools

DSSs

CLIMATE AND SECTORAL DATA

IMPACTS ANALYSES

DECISION GUIDANCE

Intervention

BANGLADESH — NEPAL — PAKISTAN

Focus

AGRICULTURE

DISASTER RISK MANAGEMENT

LIVESTOCK

PLANNING AND DEVELOPMENT

TRANSPORT

WATER

co-development process pursued with stakeholder institutions






Climate

Water

Agriculture

Livestock

Disaster Management

Planning and Development

Transport

Climate Drivers and Climate Behaviors

Climate and Crops

Climate and Livestock

Climate and Water

Severe Weather Impacts Analysis Tool

EL Nino Imoacts Analysis Tool

Stand-alone data that can be downloaded, and on which stakeholders can have a number of analysis either on its own or paired with other data.

In this panel, stakeholders can also upload their data, sector-wise, after quality checks.

Easy to understand analyses of time-series climate and sectoral datasets to identify behaviour patterns, and relationships between climate and sectoral parameters

Analyses of potential impacts of anticipated weather/climate phenomena per assessment of historical sectoral impacts, forecast data, and other prevailing conditions

DATA

Dynamic regional data repository for climate and sectors

- **About 228 climate and sectoral datasets/library of datasets available in RDAS**

ANALYTICS

Analyses of time-series climate and sectoral datasets

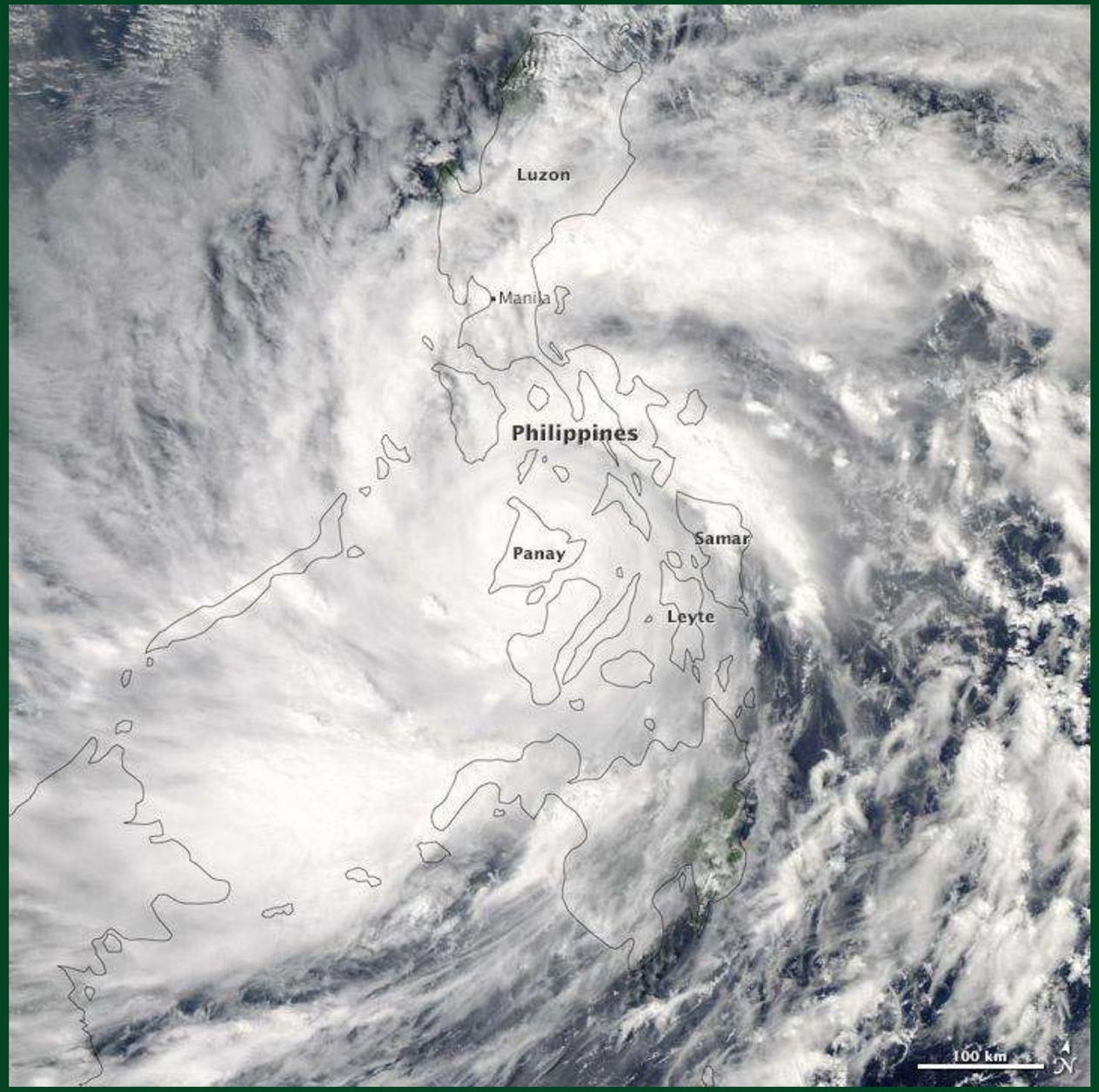
- **4 analytics tools developed and operational**
  - **Exceeding target of 3 tools**

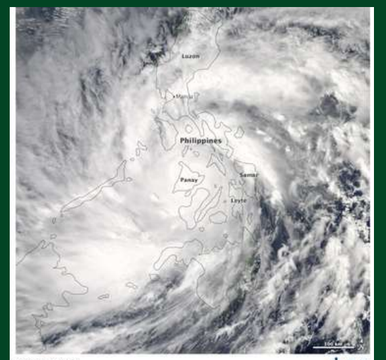
PREDICTIVE TOOLS

Predictive climate impacts tools

- **3 predictive tools developed and operational**
  - **Exceeding target of 2 tools**

What is the value of data in climate resilience?





November 8, 2013
November 8, 2013

JPEG
TIFF

This story was updated at 12:40 p.m. Eastern US time on November 9.

One of the most powerful typhoons on record slammed into the Philippines on November 7–8, 2013. Wind and flood damage to the region was expected to be extensive, but impassable roads and hampered communications systems made it difficult to assess the full impact to life and property.

Super Typhoon Haiyan (locally named Yolanda) made its first landfall at 4:40 a.m. local time (20:40 Universal Time) on November 7. Preliminary reports suggested the storm roared ashore near Guinan (Samar Province), where ground stations recorded sustained winds of 235 kilometers (145 miles) per hour and gusts to 275 kilometers (170 miles) per hour. According to remote sensing data from the Joint Typhoon Warning Center, sustained winds approached 315 kph (195 mph) just three hours before landfall, with gusts to 380 kph (235 mph).

The Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's Aqua satellite acquired this natural color image of Super Typhoon Haiyan over the Philippines. The image was acquired at 2:10 p.m. local time (5:10 UTC) on November 8, 2013, when winds were estimated to be 270 kph (165 mph). The storm made landfall five different times as it skirted through the chain of islands. Click here to see the monster storm on November 7, before it roared ashore.

The National Disaster Risk Reduction and Management Council reported on November 8 that four people had died and seven were injured. However, cities and villages in the hardest hit areas of Leyte and Samar were cut off from most ground transportation and communications. A storm surge of anywhere from 3 to 5 meters (10-17 feet) hit the island of Leyte and its coastal capital of Tacloban; much of the local elevation is about 10 feet above sea level. By the night of November 9, reports of the death toll ranged from 138 to more than 1,200 people, and numbers were still rising as authorities inspected the wreckage.

News reports noted that as many as one million people took refuge in temporary shelters before the storm hit. Eduardo del Rosario from the disaster response agency told the Associated Press that a typhoon of similar strength killed 508 people and left 246 missing when it hit the Philippines in 1990. The nation has developed extensive plans for storm evacuations and warnings over the past two decades, but even the best planning cannot necessarily counter the potent forces of a category 5 storm.

Haiyan (Yolanda) is the 24th tropical storm to affect the island nation in 2013. It is now headed west toward Vietnam, where it is likely to arrive as a category 1 or 2 typhoon.

NASA image by Jeff Schmaltz, LANCE/EOSDIS Rapid Response. Caption by Mike Carlowicz.

DEVASTATING TOLL. Yolanda's physical impact on Eastern Visayas was widely documented, with stories and visuals that show the widespread destruction caused by the storm. But its psychological impact remains largely hidden. Years after the disaster, it continues to take a devastating toll on its survivors, many of whom who still suffer from fear and trauma from their harrowing experiences. FILE PHOTO FROM PHILIPPINE DAILY INQUIRER

MANILA, Philippines — On this day (November 8) seven years ago, Super Typhoon Yolanda (international name: Haiyan) struck the Visayas, affecting at least 16 million people in 44 provinces and devastating several parts of the country's central region.

The typhoon, which damaged 1.14 million houses in 2013, triggered the evacuation of more than a million families or about 5.13 million individuals at the height of its onslaught.

Was the Typhoon Yolanda Strongest in the Observation History in the Philippines?

Hisayuki Kubota[1] ,Esperanza O. Cayanan[2], Yukihiro Takahashi[3], Jun Matsumoto[1,4] , Kozo Yamashita[5] , Rie Kumazawa[1,6] , Flaviana D. Hilario[2] , Rosalina G. De Guzman[2], Marcelino Q. Villafuerte II[2], Gemma Teresa T. Narisma[7]

1: Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
2: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
3: Hokkaido University
4: Tokyo Metropolitan University
5: Salesian Polytechnic
6: Yokohama National University
7: Ateneo de Manila University

Japan–Philippine Urgent Collaborative Projects regarding "Typhoon Yolanda" within the J-RAPID Program

Japan Science and Technology Agency

DOST PCIEERD

DAMAGES TO PAGASA

Equipment and Facilities: PhP74.24M (radar excluded)

- 11 Stations (buildings unroofed, shattered glass windows, etc.)
- Meteorological instruments (windvane, thermometer shelter, etc.)
- Meteorological Buoy in Bantayan Is.

Tacloban PAGASA Station

Guiuan PAGASA Station

Casualty: 1 Weather Observer

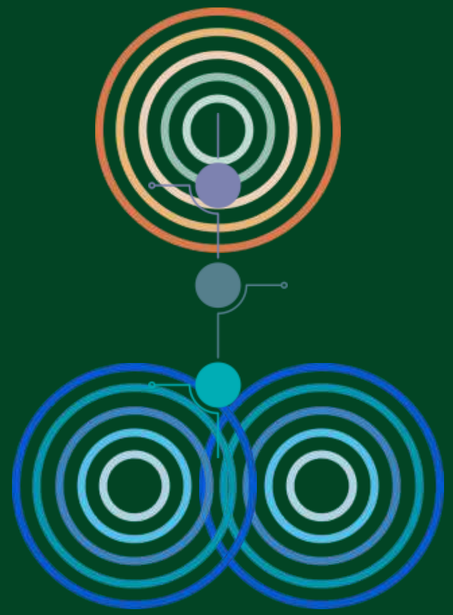
Comparison between typhoon Haiyan (Yolanda) ,1912 typhoon, and 1897 typhoon

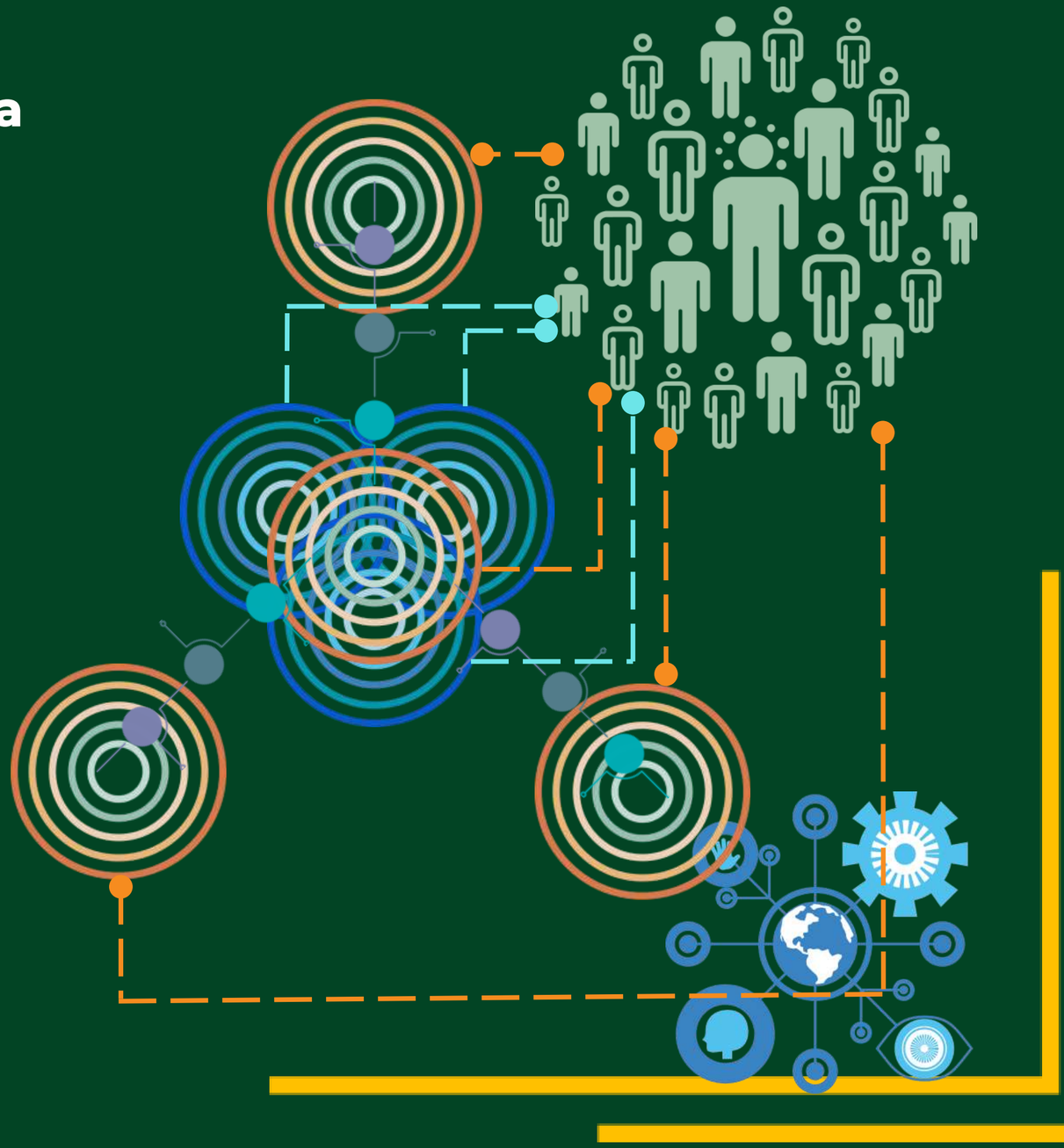
Haiyan (Yolanda) 2013	**1912 typhoon**	**1897 typhoon**
Maximum wind 44m/s(160kph) gust 54m/s (195kph) (Guiuan)	Maximum wind Beaufort scale 12 (Tacloban, Ormoc)	
Minimum station pressure 910.0 hPa (Guiuan)	Minimum station pressure 924.0 hPa (Tacloban)	Minimum station pressure 938.6 hPa (925.2hPa?) (Tanawan or Tanauan)
Storm surge damage Guiuan to Hernani 6-7m Tacloban to Palo 5-6m Basey 5-6m	Storm surge damage Santa Rita 7m Bobon, Tababao 6.1m Tacloban 2m Capiz 1m	Storm surge damage Hernani 7.3m Vasay 4.9m Guiuan 0.7m Tacloban 0.4m
(PAGASA)	(Algué 1912)	(Algué 1898)

Summary

- Typhoon Haiyan (Yolanda) hit Philippines in Nov. 2013 and storm surge damage was occurred in Visayas.
- Automatic weather system was installed in Tolosa near Tacloban to support meteorological observation where the PAGASA weather stations were destroyed by typhoon Yolanda.
- National Meteorological -Hydrological Convention was held in Manila with PAGASA and JAMSTEC in Nov. 2014 to share the researches.
- Observation data were collected during typhoon Yolanda and Doppler radar measured more than 100m/s (360kph) near Guiuan.
- Typhoon landfall in the Philippines were investigated for the past 120 years and similar tracks to typhoon Haiyan（Yolanda) with storm surge damage was observed in 1912 and 1897.
- There is a possibility of the risk of similar strong typhoon landfall at least once in 100 years.

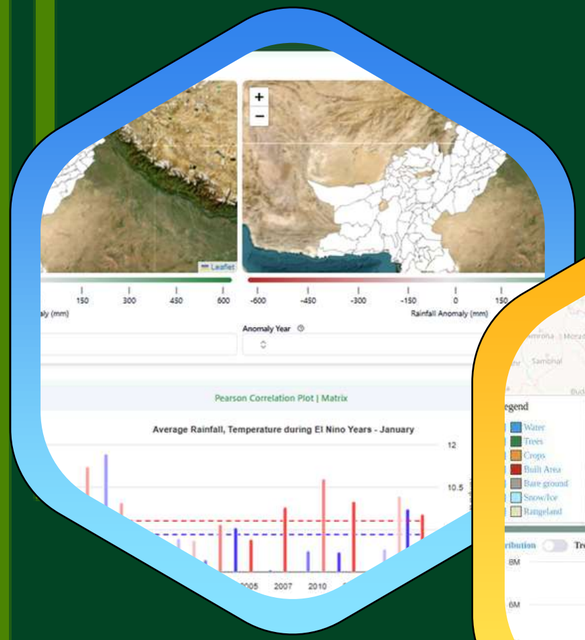
Exponential Value of Multi-Disciplinary Data Analysis



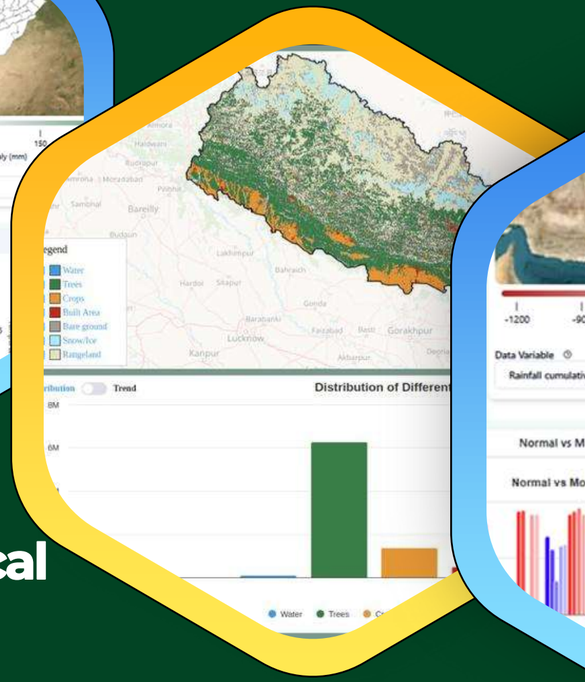


- climate, crops production, commodities availability
- climate, malaria incidence, vaccine availability
- climate, diseases incidence, vaccination availability

Analytics Tools in RDAS



La Nina and Local Climate



Land Use and Land Cover Change

El Nino and Local Climate

Cropping Calendar and Local Climate

?

Predictive Tools in RDAS

?

La Nila and Local Climate

El Nino and Local Climate

TEMPS

?

RDAS Training and CoP Forum

- Capacitate stakeholders in SAR to use RDAS
- draw from expertise, knowledge, and skills in the region to further evolve/refine the RDAS modules and/or prioritize new modules