Republic of the Philippines

1

Session 3.3

Country report

Philippines

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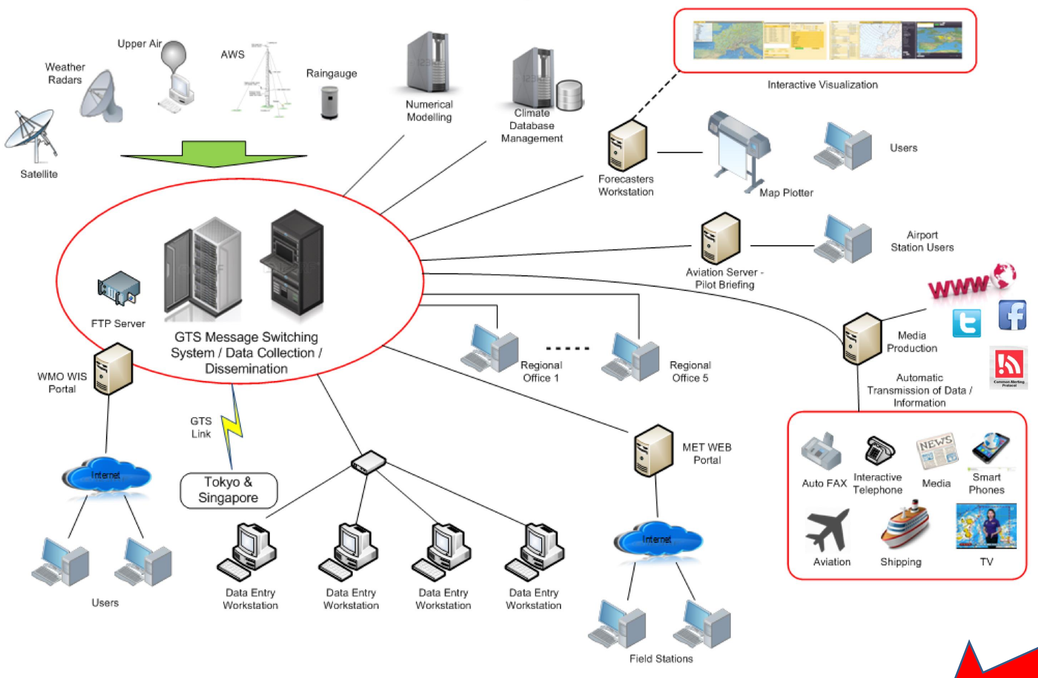
PAGASA-DOST

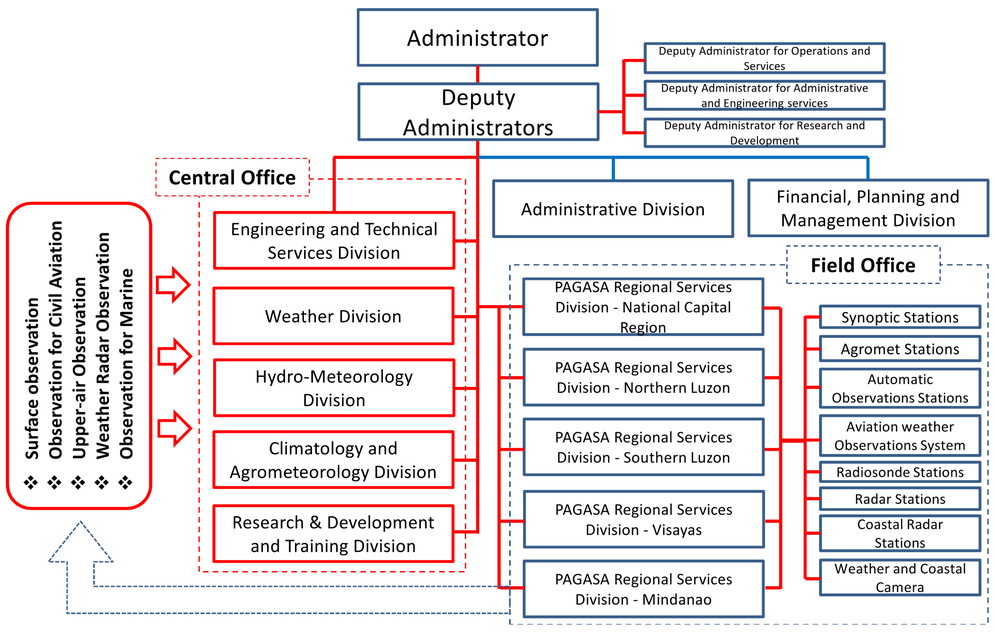
2

1. Observation system overview



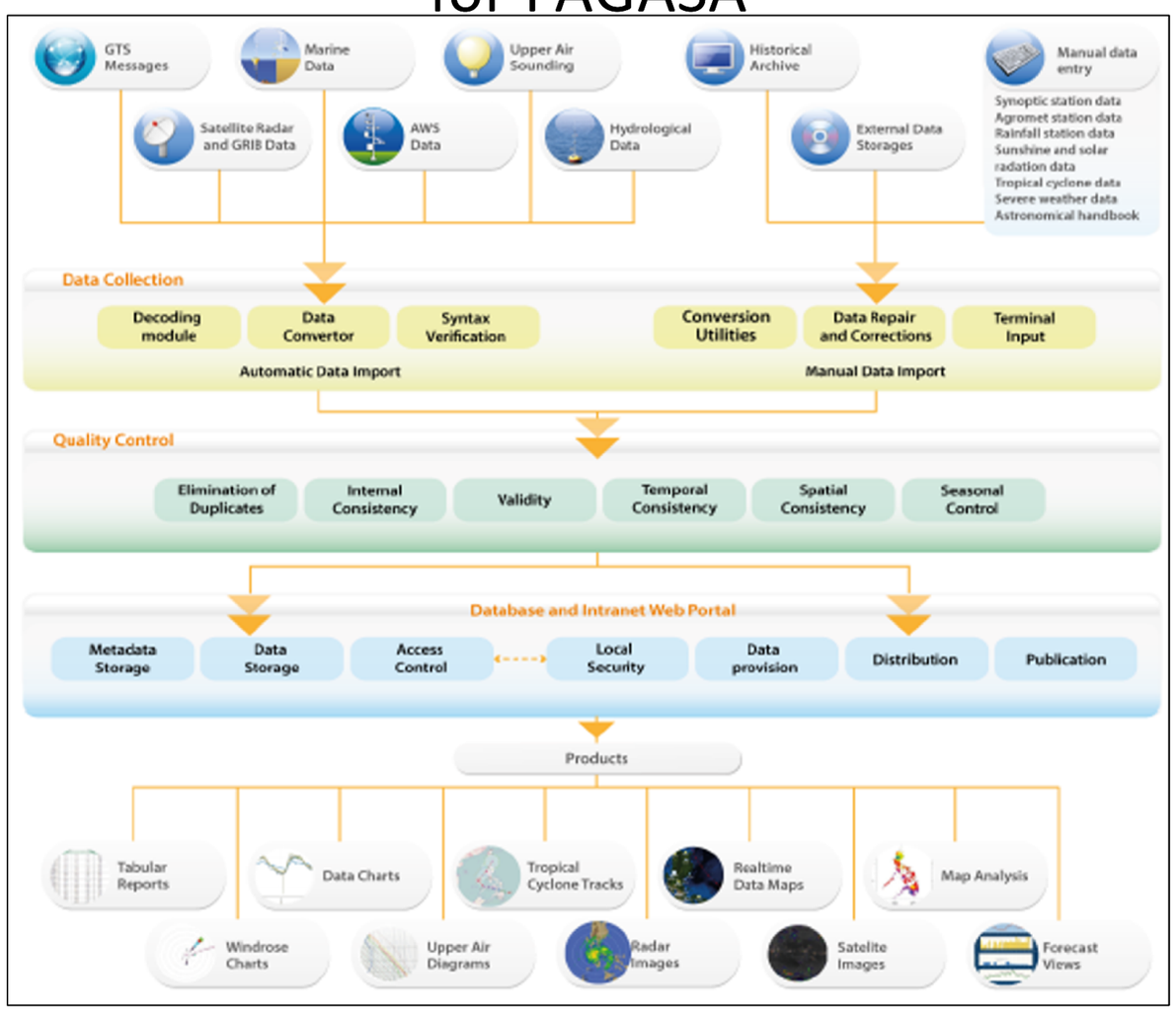
3

2. Observational organization structure



4

3. Quality management of Observation data for PAGASA



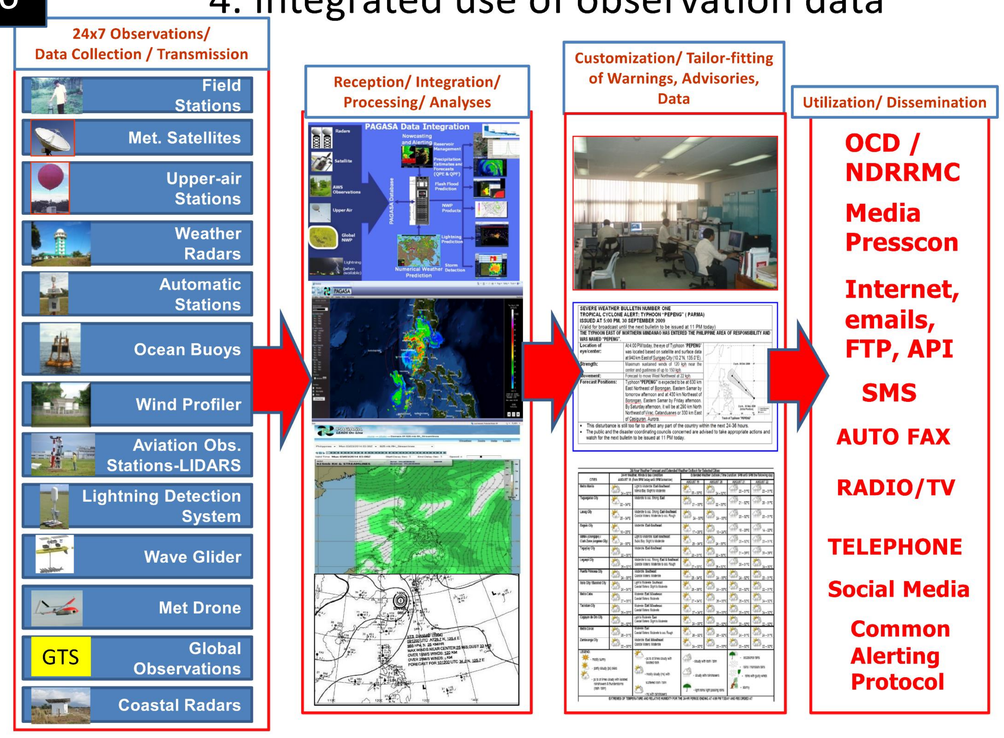
5

4. Integrated use of observation data

24x7 Observations/ Data Collection /Transmission	Collection/ Integration/ Processing/ Analyses	Customization/ Tailor-fitting of Warnings, Advisories	Utilization/ Dissemination
-Acquisition of Wave glider, HFDR, Aviation LIDAR, Met Drones - Dense Spatial Resolution -Dense Temporal Resolution - Minimal Manual Intervention - Computer-based electronic transmission - Multi modal transmission system - Local technology - Met-hydro Instruments	-Automation of collection & processing - Integration of data - Numerical Model generation -Automated product generation - Automated data distribution system - Monolithic data structure and platform - Rapid data sharing capacity -Data conversion to different formats	-Customized structure of warnings, advisories, forecasts for different users - More frequent issuance of public warnings - Enhanced now-casting & forecasting services - Site-specific localized weather products	-Computer-based nationwide outbound information dissemination - Updated transmission of information to social media channels - Enhanced multi sectoral services - Enhanced linkage with emergency responders - Availability of data and info to academe and researchers

6

4. Integrated use of observation data



7

5. Training Timeline for Meteorological Technician(Weather Observer)

	1st Month	2nd Month	3rd Month	4th Month	5th Month
Theoretical					
Study Tour					
On-the-Job-Training : Weather Observation and Instruments					
: Upper Air Observation					
: Aviation Meteorological Observation					
: Marine Observation					
: Weather Forecasting					
: Climatology and Agromet					

8

5. Training Timeline for Chief Meteorological Officer (Weather Specialist)

	1st Year	2nd Year	3rd Year	4th Year 1st Qtr	4th Year 2nd Qtr	4th Year 3rd Qtr	4th Year 4th Qtr
Meteorological Technician Training							
Work Experience							
Theoretical Course							
Study Tour							
On-The-Job-Training: Weather Forecasting							
: Aviation Meteorological Forecasting							
: Marine Meteorological Forecasting							
: Hydrology							
: Climatology and Agromet							
: Astronomy							

12

7. Expectation for this workshop

- Acquire new information and knowledge that are adaptable for the advancement of our products and services.
- Getting some materials for lecturing about updates on WIGOS and OSCAR in my office
- Making firm relationships between participants to exchange useful information after the workshop

9

6. Plans for Developing Weather Related Products

PRODUCTS AND SERVICES	EXISTING	MODERNIZED PAGASA
TC Forecast	5-day	7-day
Weather Forecast	Up to 5 days	Up to 7 days
Temperature Forecast	Manual (Selected cities)	Automated (All Cities and LGUs)
Localized Weather Forecast	5-day Selected cities and tourist destinations	7-day All cities and LGUs
Thunder Storm and Heavy Rainfall Forecast	Descriptive Half hour to 2 hour lead time	QPE, Probabilistic, Higher Resolution of 7km x 7km or better, 6-hr lead time
Tropical Cyclone warning	Up to 5 days – updated every 6 hour; Track/position/speed-hourly	Up to 5 days - updated every 3 hours; Track*/position/speed-hourly
Tropical Cyclone Rainfall	Descriptive range (light to moderate, moderate to heavy…)	Quantitative estimate: QPF precipitation forecast, QPE forecasting with graphical presentation of RR and wind map
Marine Forecast - Gale warning -TC Warning for Shipping	-Table (manual) -International	-GIS-based - wave modeling -Inter-island
Aeromet -SIGMET for Tropical Cyclone -SIGMET for Volcanic Ash	-SIGMET for -SIGMET for Volcanic Ash	-SIGMET for TC, lightning and TSTM -SIGMET for volcanic ash and wind shear

10

6. Plans for Developing Climate Related Products

OUTPUT	EXISTING	MODERNIZED PAGASA
Seasonal Climate Forecast (weather within climate)	Statistical method	• Combined Statistical and dynamical downscaling • Customized seasonal forecast including impacts such as dry spell, drought, water level projection of dams
Intra-seasonal and Inter-annual Forecast Services (ISIF)	Intra-seasonal and Inter-annual Forecast Services (ISIF)	• Probabilistic seasonal forecast • Sub-Seasonal to seasonal Forecast System (S2S)
Daily Farm Weather Forecast and Advisories (FWFA)	Daily Farm Weather Forecast and Advisories (FWFA)-by region	Daily Farm Weather Forecast and Advisories (FWFA)-by LGU's
10-Day Agri Weather Information	10-Day Agri Weather Information – by region	10-Day Agri Weather Information – by province
Tropical Cyclone Warning for Agriculture (TCWA)	Tropical Cyclone Warning for Agriculture (TCWA)	Tropical Cyclone for Long-Range Forecasting (TCLRF)
Heat index	Heat index (Steadman formula)	Heat index (development of local formula for heat index)
Climate change scenario	Climate change scenario – 25x25 km SRES emission scenario (A1B)	Climate change scenario – 8x8 km RCP 4.5, 8.5 Ensemble Climate Prediction
Climate Statistics	Climate Statistics (TC Climatology, Normals, Extremes, Wind Rose, Daily, Monthly and Annual Climatic Data, Return period of Extreme Rainfall)	Issuance of State of Philippine Climate, Monthly Climate bulletin, Climate Atlas, Seasonal Climate Summary, Wind/Solar map of the Philippines

11

6. Plans for Developing Hydrology Related Products

OUTPUT	EXISTING	MODERNIZED PAGASA
Flood Forecast/Bulletins	5 River Basins (telemetered)	18 Major (2016), 21 river basin (2017) and 400 principal River Basins (telemetered)
General Flood Advisories-regional	Issued daily for 13 Regions (non-telemetered basins)	(Converted to telemetered) Issuance of Localized flood forecast and bulletins
Basin Daily Hydrological Forecast	5 River Basins	18 River Basins
Rainfall Intensity Duration Frequency (RIDF)	RIDF issued to 58 synoptic stations	58 synoptic stations and all rainfall stations
Flood Hazard and Risk Maps	5 Selected river basins	18 Major River basins and other flood prone areas in the country
Flood Simulation Models	5 River Basins	18 River Basins and other flood prone areas in the country
Storm Surge Warning	embedded in SW Bulletin (24 hours lead time) Low resolution storm surge map	Storm Surge warning (48 hours lead time) High resolution storm surge map
Rainfall-induced landslide forecast	Not existing	Issuance of Rainfall-induced landslide forecast