

14 August 2016 Tornado Episode over Manila City: A Damage Assessment

On 14 August 2016, Southwest Monsoon continued to affect Metro Manila causing widespread precipitation and massive flooding incidences within the metropolis. At around 4:00PM on the same day, a severe thunderstorm was spotted over Manila Bay heading towards Baseco area monitored through the radar. At 4:35PM, a tornadic activity started to hit Baseco which inflicted damages as it moved eastward towards Quezon Boulevard-Sampaloc areas.

Meteorological Tools

State-of-the-science tools were used to identify and monitor the development of the system that could potentially cause severe damages to localities. These tools are vital for decision makings in issuing forecasts, warnings and advisories.

a. Upper Air Sounding

Figure 1 shows the atmospheric conditions generated by the radiosounding of Tanay upper air station at 8:00AM. The atmospheric sounding showed that there was a saturated atmosphere from the surface to about 100hPa favourable for the occurrence of severe weather events. Said data is valid for 12 hrs from 8:00AM – 8:00PM.

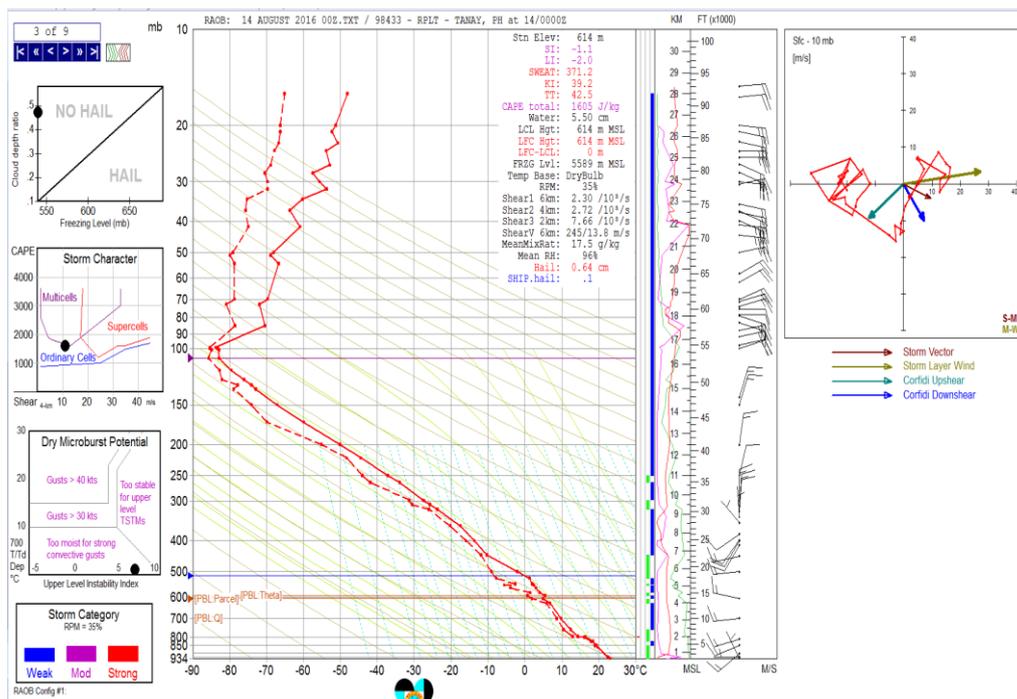


Figure 1: Upper Air Sounding at 8:00AM, 14 August 2016, Tanay Upper Air Station

b. Doppler Radar Data/Images

Figure 2 shows the radar images during the occurrence of severe tornado over Manila City area. As early as 4:00PM, high radar echoes were spotted over Manila Bay moving towards Manila area due to influence of Southwesterly and westerly wind flow.

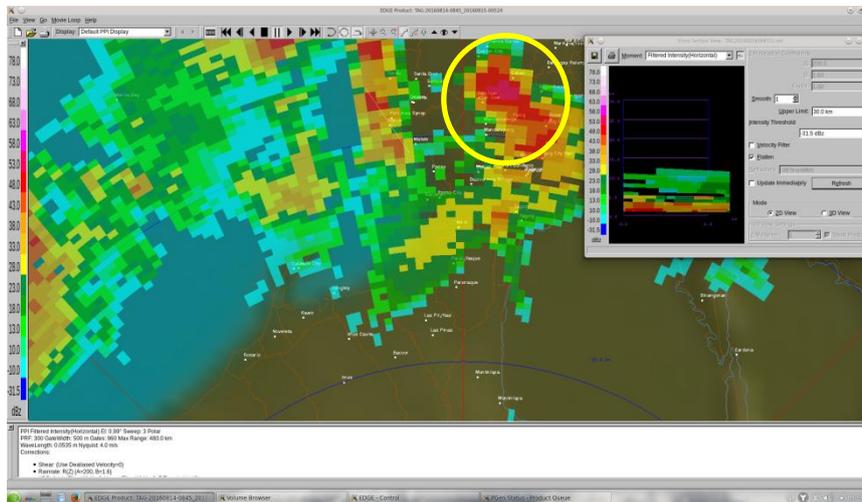
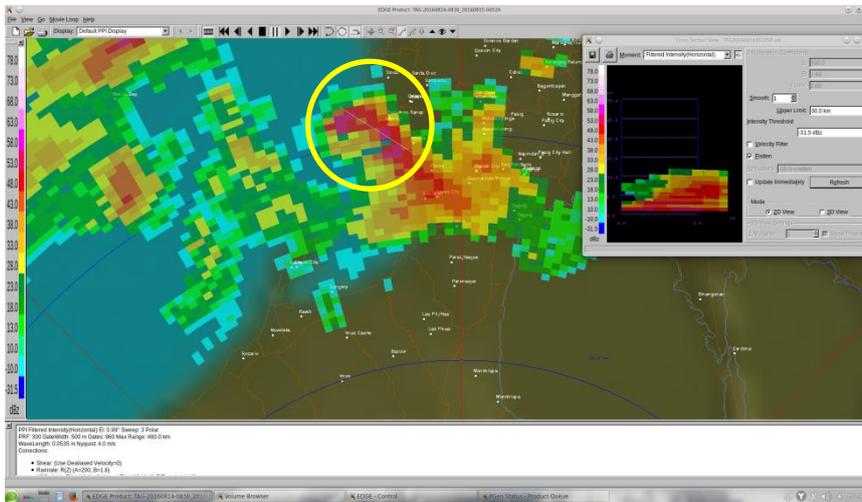
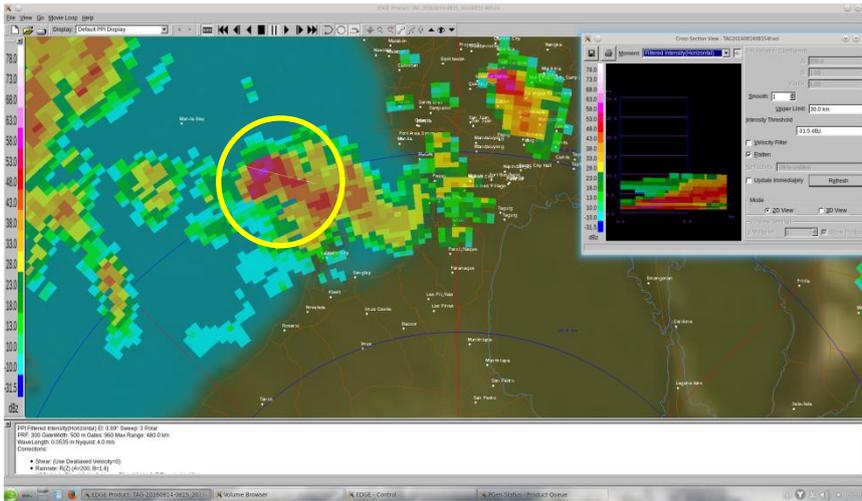


Figure 2: High Radar Echoes (63 dBZ) were spotted over Manila Bay as early as 4:14PM moving towards Manila area.

Impacts

The tornado occurrence left widespread damages to many residents in Manila City area. According to the Manila Disaster Risk Reduction and Management Office (MDRRMO) through Mr. Ryan Y. Valencia, Command Center Communication Head, tornadic activity started to inflict damages over

Baseco, Tondo Maynila at 4:35PM. It persisted for around 15 minutes coursing through Fort Santiago Intramuros Manila, Road 10 Anda Circle and Quezon Boulevard, Sampaloc Manila.

As of 6:00PM, there were around ten (10) Barangays affected which include Barangays of Binondo, Ermita, Paco, Quiapo, Sampaloc, San Miguel, San Nicolas, Sta. Ana, Sta. Cruz, Sta. Mesa and Tondo. There were two (2) males with minor injuries of finger laceration however, no evacuees reported. The hardly hit areas were Baseco and Sampaloc, Manila. Residential are the major damages in Baseco while business establishments were affected in Sampaloc area.

There were more than 100 houses affected houses in the areas of Sampaloc, Plaza Lawton, Fort Santiago Intramuros, Road 10 Anda Circle, Quezon Boulevard and Baseco, Tondo Manila. Manila DRRMO Update is reflected in Annex "A".



Damaged residential houses in Baseco, Tondo Manila.



Destroyed "7-Eleven" Commercial establishment due to Tornado in 576 G. Tuazon, Sampaloc, Manila City

For further information, please contact Hydrometeorology, Tropical Meteorology and Instrumentation Research and Development Section, Research & Development and Training Division (HTMIRDS-RDTD) at telephone number 4342715.