DOST - PAGASA Radar Network Today and Beyond

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1. PAGASA Radar Network

PAGASA, one of the attached agencies of the Department of Science and Technology (DOST) under its Scientific and Technical Services Institutes, is mandated to "provide protection against natural calamities and utilize scientific knowledge as an effective instrument to insure the safety, well-being and economic security of all the people, and for the promotion of national progress." (Section 2, Statement of Policy, Presidential Decree No. 78; December 1972 as amended by Presidential Decree No. 1149; August 1977). PAGASA under the current Administrator, Vicente B. Malano Ph. D. has an initiative of modernizing all facilities for forecasting, nowcasting and hydrometeorology. One part of the advancement of remote sensing equipment is the installation of Doppler Surveillance Weather Radar and X Band Doppler Radar. PAGASA Radar Observation started since the 1960's, the radar observation was maximized after the year 2011, where Metro Manila experiences monsoon rains which flooded major roads and towns in the Metro. The Government of the Philippines take action by passing an executive order which supports the development and modernizing PAGASA's remote sensing equipment. PAGASA is aiming on installing twenty Doppler Surveillance Radar, comprising of S Band and C Band to cover the entire Philippines by the year 2020, install additional six X-Band Radar for gap filling applications and assists the flood forecasting regional center in the upcoming year. Currently there are Sixteen Radar Station that are installed on strategic locations in the Philippines. PAGASA Radar Network is composed of six S band Surveillance Doppler Radar(Dual and Single Polarization) and one C Band Dual Pol Radar in Basco to cover the Eastern Portion of the country serving as a typhoon tracking radar, and six C - Band Dual Pol Radar for accurate rainfall estimation to urban places in Luzon,Visayas and Mindanao. Remaining Four S Band Single Polarization are for rainfall observation and typhoon tracking in Western and Central part of the country.

PAGASA starts archiving the radar raw files since 2011, currently we are aiming for a better archiving facility and a data center which will serve as the backbone for our research and development. The PAGASA's Radar Network is comparable to a colt maturing to become a stallion, which is open to development and currently teaming up with various Meteorological Offices, Government Agencies, Academe, Private sectors from the Philippines and other countries, conducting research and development. One of the developments of PAGASA Radar is the synchronization of scanning strategy for a diverse Radar Network to conform to a ten minute observation using modified VPC 11 as a preliminary scan strategy, in-sync with Satellite data and other remote sensing equipment such as Automatic Rain Gauge, AWS, and AWOS. Currently, PAGASA has an ongoing project and partnership with Taiwan (CWB), Japan (JICA and JAXA) and WMO Wigos, standardizing, performing Quality Control and QPF of radar data for Forecasting, Nowcasting, Hydrometeorology and Data assimilation for Numerical Weather Prediction.