P26 Aerosol modeling in Northern Thailand.

Macatangay, Ronald, *National Astronomical Research Institute of Thailand,* Gerry Bagtasa, *Institute of Environmental Science and Meteorology, Philippines,* Thiranan Sonkaew, and Lampang Rajabhat *University Thailand*

A blanket of haze plagues Northern Thailand every dry season (mid-February-May). In order to provide early warning mitigation measures against this, aerosol number concentrations were modeled and compared for WRF v.3.6, v.3.7 and v.3.8 with the MODIS land use categories, the Thompson aerosol aware microphysics scheme and the Betts-Miller-Janjic cumulus parameterization. The aerosol amount model outputs were taken from the water-friendly aerosol number concentrations (sum of sulfates, sea salt and organic carbon) given by the Thompson parameterization and initialized using 7-year (2001-2007) aerosol climatology from the Goddard Chemistry Aerosol Radiation and Transport (GOCART) model. These were modeled for the period of April 10-20, 2016 coinciding with the Thai New Year, called Songkran, and compared to PM10 observations at Chiang Mai City. Results showed that the model failed to capture the unusually low aerosol concentration variability prior and during Songkran due to the low burning activities during the holidays. In an effort to improve the model output, a 10-day average of aerosol number concentrations, prior to the analysis period, were used to initialize the Thompson microphysics scheme based on fire and thermal anomalies from MODIS. Results showed that the variability was captured better.