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10am – 11am (MT)

Evaluation of HRRR Forecasts using New York City NY-uHMT in-situ data

The New York Urban Hydro-Meteorological Testbed (NY-uHMT) is a sub-hourly automated network of weather stations installed across New York City, which provides research entities and the governing bodies of NYC with high spatio-temporal resolution meteorological data. The uHMT network aims to improve observations of the urban micro-climate, as well as provide independent data against which other forecast and observational datasets can be compared. In addition to its urban heat island effect, New York City is one of the most at-risk urban areas in the country to floods due to its extensive waterfront development and high population density in high-risk flood zones. This study provides an example framework for comparing uHMT point observational data with NOAA operational products such as the High Resolution Rapid Refresh (HRRR) model and Multi-Radar/Multi-Sensor (MRMS) system using the Developmental Testbed Center's Model Evaluation Tools (MET) verification software. The evaluation of these high-resolution products is undertaken toward demonstrating the potential benefits of an operational, in-situ observational network in areas with particular microscale processes of interest, for example, urban heat island effects and stormwater runoff risk.

Speaker Bio: Adrian Pena is a NOAA EPP/MSI CSC funded graduate student from the City College of New York at CUNY. He has a degree in Earth Systems Science and Environmental Engineering and is currently a Master's student in the Water Resources and Environmental Engineering department. At the graduate level, his research has focused on tempo-spatial variability within urban New York city. During the internship in the Physical Science Division, he has evaluated HRRR precipitation and temperature forecasts using in-situ data from the New York City Urban Hydro-Meteorological testbed.