WEATHER AND CLIMATE MONITORING IN THE PASSAIC BASIN

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The Office of the New Jersey State Climatologist supports various means of collecting real-time weather to longer-term climate conditions within the Passaic Basin, as well as throughout the remainder of New Jersey. This includes the integration of several automated networks within the New Jersey Weather and Climate Network (NJWxNet) and the daily data gathered manually by volunteers as part of the New Jersey Community Collaborative Rain, Hail, and Snow Network (NJ CoCoRaHS). Together these serve as a comprehensive information resource for NJ weather and climate monitoring, weather and river forecasting, and weather/climate- and hydrologic-related decision making.

The NJWxNet is a unique "network of networks", arguably the densest mesonet in the nation in the most densely populated state. Data are gathered each hour from over 150 stations, including approximately 40 operated by the Office of the New Jersey State Climatologist (ONJSC), along with more than 100 stations maintained by NOAA/National Weather Service, the U.S. Geological Survey, the NJ Department of Transportation, and others. Several dozen stations are situated within the Passaic Basin. At the ONJSC, raw data are processed into a common database, with data and derived products made available in colorful maps, graphs and tables via the NJWxNet web site (http://climate.rutgers.edu/njwxnet) within minutes of the observation.

NJ CoCoRaHS is a network of volunteer weather observers that has grown since its February 2008 launch to almost 200 observers throughout the state. Through the use of low-cost measurement tools and by emphasizing training, CoCoRaHS volunteers take accurate daily observations of precipitation and snow cover. These measurements are then entered onto a web form, sent to a central national archive, and displayed through the CoCoRaHS website (http://www.cocorahs.org/state.aspx?state=nj).

Network particulars will be discussed, along with examples of how data and products are being used in cooperation with public and private entities within the basin and statewide involved with emergency, transportation, environment, hydrologic, and meteorological decision making. Lessons learned and future plans will also be addressed.