



Recent Developments and Future Plans for Fundamental Research at the NOAA National Severe Storms Laboratory

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This paper provides an overview of recent accomplishments made by scientists and engineers at the National Severe Storms Laboratory in Norman, Oklahoma in the three general areas of radar advancements, convectively admitting modeling (CAM), and hydrometeorological R&D. Particular emphasis will be placed on the status and plans for: the “Warn On Forecast” CAM program; its relationship to the Multifunction Phased Array Radar (MPAR) program for producing rapidly updated, agile radars capable of serving both the radar and aircraft tracking missions; FACETs (Forecasting a Continuum of Environmental Threats) for delivering grid-based probabilistic threat information to the public; the Multi-Radar Multi-Sensor (MRMS) system recently transitioned into operations at the National Weather Service; and the FLASH coupled modeling system for forecasting flash flooding. Also to be discussed are six “grand scientific challenges” that collectively form the vision for NSSL for the next decade, and which we hold are both highly challenging and of great importance to improving the ability to save lives through improved forecasts and warnings of severe local storms.