TERMINAL AREA ICING WEATHER INFORMATION FOR NEXTGEN RESEARCH OBJECTIVES

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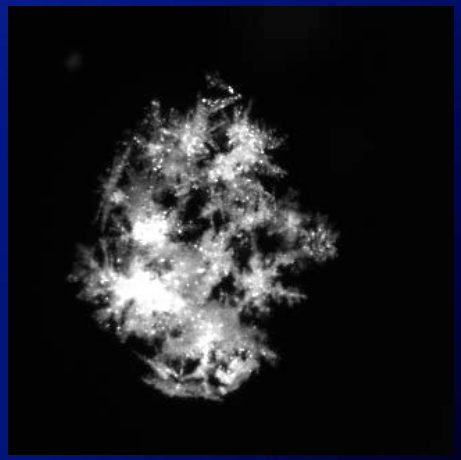
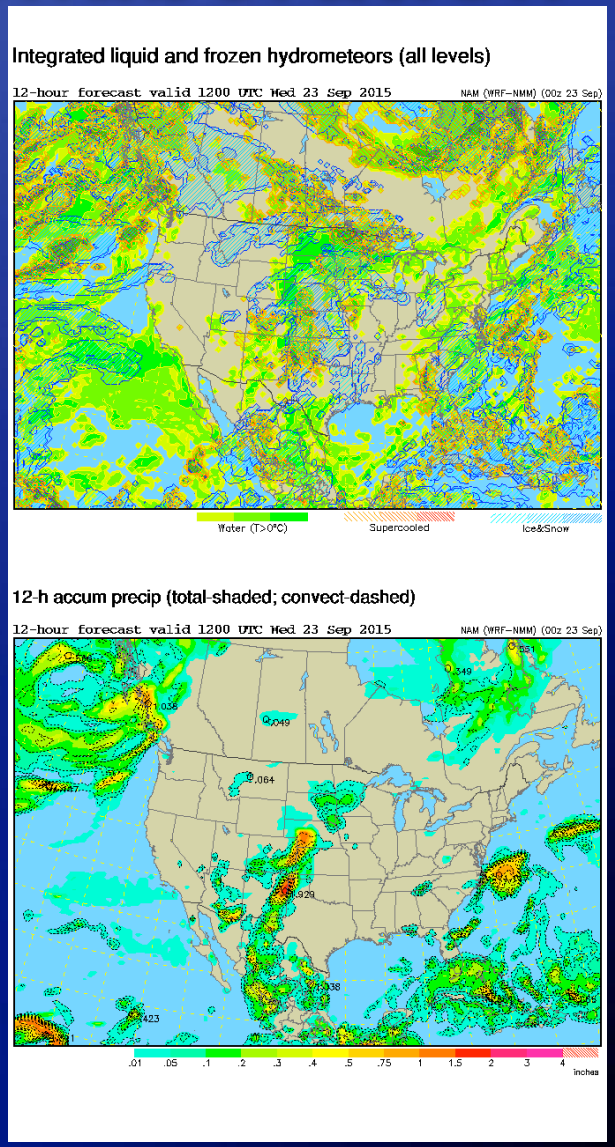
Research Areas

- Improved ground detection of icing conditions:
  - Development of an automated FZDZ detection algorithm
  - New automated precipitation detection instrumentation
  - Better determination of snowfall and freezing precipitation variability across the terminal area



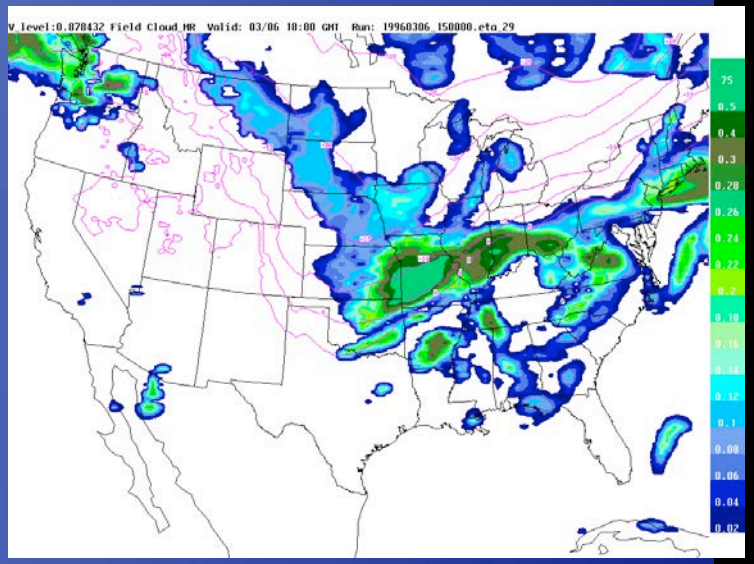
Model Improvements – NCAR/NOAA ESRL Collaboration

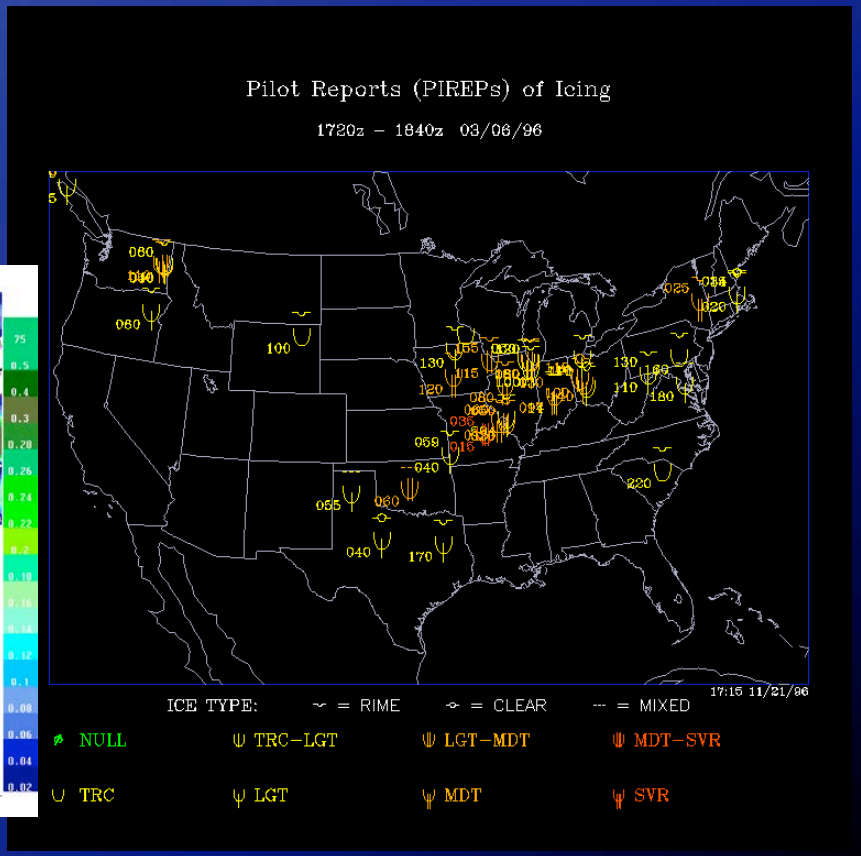
- Time-lag Ensembles and Blending Techniques
- Improved initialization
  - Focus on data assimilation
- Aerosol improvements
  - Better representation of aerosols for CCN
- Cloud underproduction
  - Known issue with models not producing liquid-based clouds at sub-freezing temperatures



Model Verification

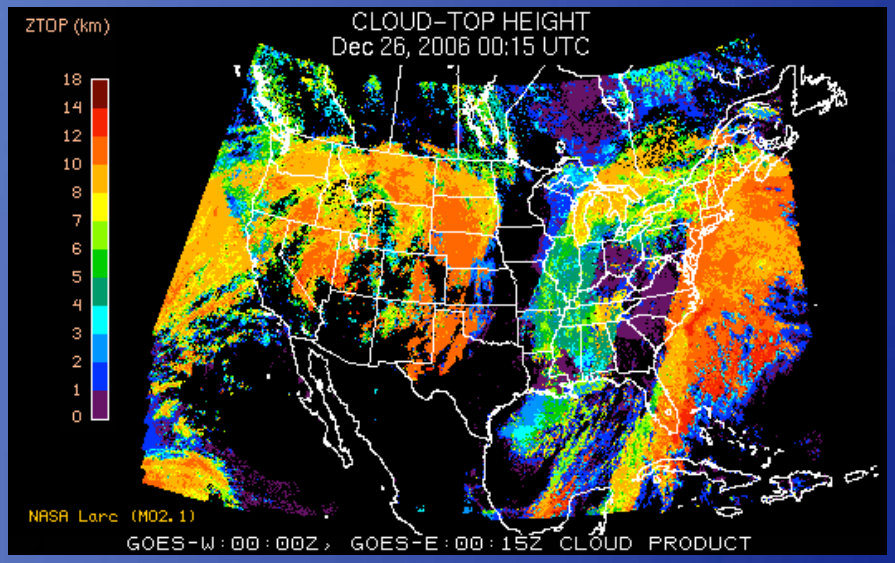
- Various Models (HRRR/GFS/NAM/etc.)
- Icing Relevant Parameters
  - Ground
  - Aloft

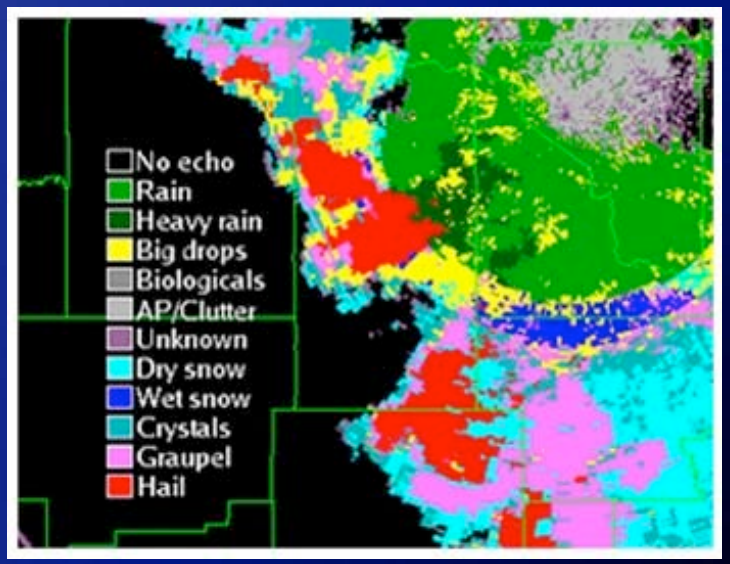




Improved Nowcasts

- Feature Tracking
  - Radar products utilizing dual polarization-derived fields (ie. Hydrometeor Classification)
  - Icing conditions derived from satellite data





Additional Tasks

- Survey of current icing detection capabilities
- Field campaign recommendations
- Icing weather tool survey