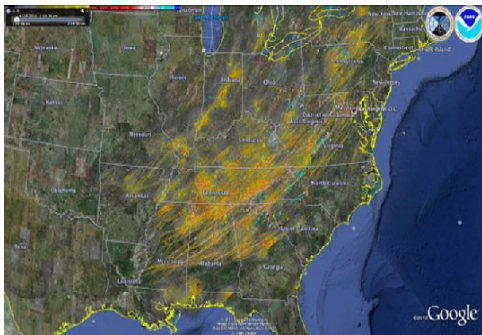




# a NOAA/OU cooperative institute

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the University of Oklahoma is a U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA) cooperative research institute. CIMMS supports scientists, engineers, and students who conduct research, training, and outreach in mesoscale weather, weather radar, and regional-scale climate processes. The largest and second oldest research center at OU, CIMMS was established in 1978 through a memorandum of agreement between OU and NOAA.

CIMMS research activity primarily assists NOAA in achieving two of its Next Generation Strategic Plan Long-Term Goals: (a) Weather Ready Nation: Society is prepared for and responds to weather-related events; and (b) Climate Adaptation and Mitigation: An informed society anticipating and responding to climate and its impacts. Thus, CIMMS contributes to NOAA's Enterprise-Wide Capabilities in Science and Technology, Engagement, and Organization and Administration.



On Demand Severe Weather Verification System, part of the NSSL/CIMMS Warning Decision Support System – Integrated Information (WDSS-II) Multi-Radar/Multi Sensor platform.



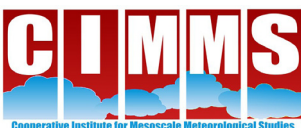
CIMMS partners with the Dept. of Energy's Atmospheric Radiation Measurement Program.

## Research Themes

- Weather radar research and development
- Stormscale/mesoscale modeling research and development
- Forecast and warning improvements research and development
- Impacts of climate change related to extreme weather events
- Societal and socioeconomic impacts of high impact weather systems

## Research Partners

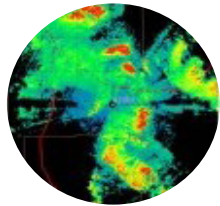
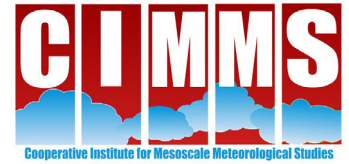
- OAR National Severe Storms Laboratory
- OAR Air Resources Laboratory
- NWS Radar Operations Center for the WSR-88D (NEXRAD) Program
- NWS/NCEP Storm Prediction Center
- NWS Warning Decision Training Division
- NWS Norman Weather Forecast Office
- NWS Training Center in Kansas City



COOPERATIVE INSTITUTE FOR  
MESOSCALE METEOROLOGICAL STUDIES

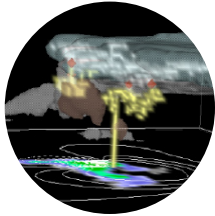


# research in action



## **Weather Radar Research and Development**

WSR-88D Dual-Polarimetric Algorithm and Application Development; Multi-Function Phased Array Radar (MPAR); Multi-Radar/Multi-Sensor (MRMS) System; Advances in Radar Technology; Warning Decision Support System – Integrated Information (WDSS-II).



## **Stormscale and Mesoscale Modeling Research and Development**

Numerical and Ensemble Modeling; Data Assimilation; Ensemble Kalman Filter (EnKF) Research; Stormscale, Mesoscale, and Synoptic Processes Associated with Hazardous Weather; Hydrologic Modeling; Storm Electrification and Lightning; Warn-on-Forecast.



## **Forecast Improvements Research and Development**

Hazardous Weather Testbed (HWT) – Experimental Forecasting Program and Experimental Warning Program; Warning Decision-Making Training; Coastal and Inland Flooding Observation and Warning (CI-FLOW).



## **Impacts of Climate Change Related to Extreme Weather Events**

Southern Climate Impacts Planning Program (SCIIPP); Building Resilience to Environmental Extremes Like Drought.



## **Social and Socioeconomic Impacts of High Impact Weather Systems**

Warning Process Evolution (Forecasting a Continuum of Environmental Threats - FACETs); Value of Tornado Warnings and Watches; Risk Communication; Evolution of Forecaster Performance; Place-Based Tornado Risk Perception.

For more information, contact: [cimms@nwc.ou.edu](mailto:cimms@nwc.ou.edu)

On the web: <http://cimms.ou.edu/>

10/2016