The Multi-Year Reanalysis of Remotely Sensed Storms (MYRORSS): Data Processing and Severe Weather Projects Kiel Ortega^{1,2}, Travis Smith^{1,2}, Scott Stevens^{3,4}, Skylar Williams^{1,2}, Darrel Kingfield^{1,2}, and Ryan Lagerquist^{1,2} ¹University of Oklahoma/CIMMS ²NOAA/OAR/NSSL ³NCSU/CICS-NC ⁴NOAA/NESDIS/NCEI

What is MYRORSS?

A joint effort between OU/CIMMS, NCSU/CICS, NSSL, and NCEI, to reprocess the entire archive of WSR-88D level-II data for the contiguous United States through the Multi-Radar, Multi-Sensor (MRMS) framework. The data produced will include 3D reflectivity, reflectivity-derived products, hydrometeorological products, and 2 composite layers of azimuthal shear derived from Doppler velocity data.

Why MYRORSS?

There is a need for a consistent, easily minable radar database for multiple applications involving severe weather and hydrometeorological studies. MRMS also recently went operational within the NWS and MYRORSS provides a database for large scale evaluation of MRMS products and product improvement/development. The MYRORSS database can be applied to developing radar-based climatologies, warning evaluations, specific hazard forecasting, and storm typing.









A radar error placed 90 dBZ in nearly every gate. This resulted in erroneous MRMS hail size estimates. The actual conditions were clear air, so the corrupted volumes were manually removed.



Bad gates ring the radar with a passing squall line. Using a multiplehypothesis tracking technique some of the bad data was removed in derived products (not the raw data).



Most common issue: ducting beam along coasts, which leads to high reflectivity values far from the originating radar.

Errors within Doppler Velocity data











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