The Multi-Year Reanalysis of Remotely Sensed Storms (MYRORSS) Project

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What is MYRORSS?

- A joint effort between the National Severe Storms Laboratory (NSSL) and National Climatic Data Center (NCDC)
- WSR-88D data will be processed through NSSL’s Warning Decision Support System—Integrated Information (WDSS-II)
- Paired with RUC model analyses, multi-radar multi-sensor (MRMS) grids of different reflectivity, reflectivity-derived and Doppler velocity-derived fields will be produced
- Two primary datasets will be produced: a severe weather dataset (MYRORSS) and a hydrometeorological (HYDRO) dataset
- These datasets will help fill the need for a high quality, high resolution, common reference dataset for severe weather and quantitative precipitation estimation (QPE)

Product Lists

**MYRORSS**
- Reflectivity
- Reflectivity Composite
- Reflectivity at: lowest altitude, 0 C, -10 C, -20 C
- Low Level Shear
- Mid Level Shear
- Severe Hail Index
- Max. Expected Size of Hail
- Vertically Integrated Liquid
- 18 and 50 dBZ Echo Tops

**HYDRO**
- Precipitation type
- Precipitation rate
- Quality field
- Gauge-corrected QPE

Velocity data is first dealiased using a 2D technique. The dealiased velocity is then processed through a linear-least squares technique to produce an azimuthal shear field. The azimuthal shear field is then corrected (to account for differences due to distance) and stamped out with a 40 dBZ threshold. Two composite layers of the corrected shear field are created: a 0-3 km AGL composite and a 3-6 km AGL composite. These composites are then used in the merger.

Processing Technical Details

Processing has begun with data from 2008. The goal is to process the entire WSR-88D archive for CONUS radars which is nearly 140 million volume scans.

Continuing Work

- Complete processing
- NSSL: even years, NCDC: odd years
- Manually identify poor data
- Bad data can filter through QC methods (i.e., “hot” radars)
- Complete early projects
- Publish dataset with NCDC

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