

MRMS Data for VORTEX-SE 2017

1. General Description

This data set contains the gridded precipitation data from the National Centers for Environmental Prediction (NCEP) Multi-Radar/Multi-Sensor (MRMS) system for days that VORTEX-SE conducted operations during its 2017 field season as well as surrounding days (8-11 and 24-31 March; 1-7 and 20-30 April; and 1-2 May 2017). These data are in GRIB2 format.

2. VORTEX-SE 2017 Field Season

VORTEX-SE conducted four Intensive Observing Periods (IOPs) during the 2017 field season.

Table 1. VORTEX-SE 2017 IOPs

| IOP | Start Date | End Date |
|----------------|-------------------|-----------------|
| IOP1A | 20170325 | 20170325 |
| IOP1B | 20170327 | 20170328 |
| IOP2 | 20170330 | 20170331 |
| IOP3A | 20170403 | 20170403 |
| IOP3B | 20170405 | 20170406 |
| IOP3.5A | 20170421 | 20170422 |
| IOP3.5B | 20170422 | 20170423 |
| IOP4A | 20170426 | 20170428 |
| IOP4B | 20170428 | 20170429 |
| IOP4C | 20170430 | 20170501 |

There was also an Unofficial Field Operation (UFO) conducted on 9-10 March 2017 by some instrumentation.

3. Data Format Description

These data are in the GRIB2 format. Information about this format is available with the World Meteorological Organization (WMO) Manual on Codes (WMO No. 306). This order includes the Guide to FM92 GRIB edition 2 (GRIB2_062006.pdf) and the Introduction to GRIB Edition 1 and GRIB Edition 2 (Introduction_GRIB1-GRIB2.pdf). At the time of this readme, complete information on GRIB2 was available from the WMO at:

<http://www.wmo.int/pages/prog/www/WMOCodes.html> and from NCEP here: http://www.nco.ncep.noaa.gov/pmb/docs/grib2/grib2_doc.shtml

Included in the data set are the following data sets:

GaugeCorr_QPE_01H – Quantitative Precipitation Estimate – Radar with Gauge Bias Correction (1 hour accumulation) in mm

PrecipFlag – Surface Precipitation Type Flag

- 3 = No coverage
- 0 = No precipitation
- 1 = Warm stratiform rain
- 2 = warm stratiform rain
- 3 = snow
- 4 = snow
- 5 = reserved for future use
- 6 = convective rain
- 7 = rain mixed with hail
- 8 = reserved for future use
- 9 = no longer used
- 10 = cold stratiform rain
- 91 = tropical/stratiform rain mix
- 96 = tropical/convective rain mix

PrecipRate – Radar Precipitation Rate (SPR) in mm/hr every two minutes

RadarOnly_QPE_01H – Quantitative Precipitation Estimate – Radar Only (1 hour accumulation in mm)

RadarOnly_QPE_24H - Quantitative Precipitation Estimate – Radar Only (24 hour accumulation in mm)

SeamlessHSR – Seamless Hybrid Scan Reflectivity (SHSR) in dBZ every two minutes

4. Data Remarks

These data were retrieved from the Iowa State University archives on 14 December 2017. At that time the archives were located here:

<http://mtarchive.geol.iastate.edu/YYYY/MM/DD/mrms/ncep/>