TORUS_2022: MRMS Merged Reflectivity Composite Raw Data

Author:
NOAA/National Severe Storms Laboratory (NSSL)

1.0 Data Set Description

Continental United States (CONUS) Multi-Radar, Multi-Sensor (MRMS) merged reflectivity composite data from the NEXRAD radar network for the TORUS_2022 campaign.

Data Version: 1.0
Release Date: 14 July 2022
Data Status: Final
Time period: 15 May to 15 June 2022
Location: Contiguous United States
Data Frequency: 2 minute
Data source: NOAA/NSSL
Data set restrictions: None

2.0 Instrument Description

Data are based on the WSR-88D radar network over the contiguous United States.

3.0 Data Collection and Processing

Data were collected via the NOAA/NSSL MRMS web site.

The maximum reflectivity in a vertical column using all available WSR-88D radars at a horizontal grid point.

The spatial resolution is 0.01° Latitude (~1.11 km) x 0.01° Longitude (~1.01 km at 25°N and 0.73 km at 49°N)

4.0 Data Format

The data are in hourly tar files with the file naming convention:
MRMS_MergedReflectivityComposite_YYYYMMDDHH.tar

The tar files contain GRIB2 data files every two minutes with names like:
MRMS_MergedReflectivityComposite_00.50_YYYYMMDD-HHmmSS.grib2.gz

where:
MRMS_MergedReflectivityComposite_00.50: the dataset
YYYYMMDD - is the UTC year, month, day of month
HHmmSS - is the UTC time
grib2.gz: is the data format, gzip compressed GRIB2 data

GRIB (General Regularly-distributed Information in Binary form) is the name of a data representation form for general regularly-distributed information in binary. Data encoded in GRIB consists of a continuous bit-stream made of a sequence of octets (1 octet = 8 bits). There are a number of utilities that can decode or display GRIB2 data. GRIB is described fully in the WMO Manual on Codes International Codes Volume 1.2 which at the time of this document (13 July 2022) was available from the WMO here:
https://library.wmo.int/?lvl=notice_display&id=10684#.Ys8Ts3bMJaQ

5.0 Data Remarks

Strengths
As with single-radar composite reflectivity, this product is a good situational awareness tool to determine first convective echo, as well as the overall extent of mature thunderstorm echoes (especially in the echo overhang region).

Limitations
The height of the maximum reflectivity is not identified

Quality Control
None

6.0 References

None.