

TORUS Deployment Summary IDV Bundles

Required software: Integrated Data Viewer (IDV; <https://www.unidata.ucar.edu/software/idv/>)¹

Author: Adam Houston (ahouston2@unl.edu)

Summary

Data bundles in compressed IDV format (zidv) are included as summaries of key TORUS deployments. Each bundle includes the positions of all assets operating on a particular day updated at a 1 minute time interval, the radar reflectivity from the nearest WSR-88D, and scanning symbols for remote-sensing instruments.

Key for asset names

- P[n]: Probe [n], NSSL mobile mesonet, n=[1,2]
- C-[n]: CoMeT-[n], UNL mobile mesonet, n=[1,2,3]
- RAAVEN[n]: UCB RAAVEN UAS, n=[0,2,3,4,5] (flight altitudes are visualized)
- Windsong: NSSL mobile mesonet and windsong release vehicle (windsong balloons not visualized)
- FF: Far-field sounding system, NSSL mobile mesonet and mobile sounding system (radiosondes not visualized)
- LIDAR: NSSL mobile LIDAR, mobile mesonet, and mobile sounding system (radiosondes not visualized)
- LIDAR_scn: Appears when LIDAR is scanning (no distinction is made between a VWP and a vertical stare)
- TTU-Ka[n]: Appears when a TTU Ka-band mobile radar is scanning, n=[1,2]
 - Range is based on the R_{max} for a typical TTU-Ka PRF
 - Sector includes a (360°) surveillance sweep corresponding to low-level PPIs and a sector within which RHIs were collected
- NOXP: Appears when NOAA x-band dual-polarimetric radar is scanning
 - Range is based the R_{max} for a typical NOXP PRF
- P3: NOAA P3 manned aircraft
 - Flight altitudes are visualized
 - Range is based on the R_{max} for a typical P3 PRF
 - Sectors indicate the approximate location of pseudo-dual-Doppler lobes

Other notes

Error windows are likely to pop up when first opening the bundle. Each of these errors is associated with a data set that was not included in the bundle because the asset was not operational on a particular day.

Acronyms

CoMeT Combined Mesonet and Tracker

¹ Tested with IDV version 5.6.

LIDAR	Light Detection and Ranging
NOAA	National Oceanic and Atmospheric Administration
NSSL	National Severe Storms Laboratory
PPI	Plan Position Indicator
PRF	Pulse Repetition Frequency
RAAVEN	Robust Autonomous Aerial Vehicle-Endurant Nimble
RHI	Range Height Indicator
TTU	Texas Tech University
UAS	Unmanned Aircraft System
UCB	University of Colorado, Boulder
UNL	University of Nebraska – Lincoln
VWP	Vertical Wind Profile