|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable name 123+112+418+337+96 = 1060 | Description | Frequency / Levels | Computed stats | Unit |
| CG\_2min\_DensityCount\_Count (5) | Count of grids of 2min cloud to ground lightning strike density within labelled storm | 1, 1-5, 20-50, 5-20, 50+ | N/A | count |
| CG\_2min\_DensityCount (10) | 2min cloud to ground lightning strike density of storm | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | flashes/km2/min |
| DCAPE\_3km (3) | Downdraft CAPE in the lowest 3km | N/A | mean, max, std | J/kg |
| DCAPE\_HtMinThetaE (3) | Downdraft CAPE at height of minimum theta-e | N/A | mean, max, std | J/kg |
| DCAPE\_SfcLCL (3) | Downdraft CAPE at surface LCL | N/A | mean, max, std | J/kg |
| ET18\_Count (16) | Count of grids of 18 dBZ echo top height | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20 km | N/A | count |
| ET18 (10) | 18 dBZ echo top height | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | Km |
| ET40\_Count (16) | Count of grids of 40 dBZ echo top height | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20 km | N/A | count |
| ET40 (10) | 40 dBZ echo top height | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | Km |
| ET50\_Count (16) | Count of grids of 50 dBZ echo top height | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20 km | N/A | count |
| ET50 (10) | 50 dBZ echo top height | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | Km |
| H18\_Abv0C\_Count (11) | Count of grids of thickness between 18 dBZ top to 0C | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15 km | N/A | count |
| H18\_Abv0C (10) | Thickness between 18 dBZ top to 0C | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | km |
| H40\_Abv0C\_Count (11) | Count of grids of thickness between 40 dBZ top to 0C | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15 km | N/A | count |
| H40\_Abv0C (10) | Thickness between 40 dBZ top to 0C | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | km |
| H50\_Abv0C\_Count (11) | Count of grids of thickness between 50 dBZ top to 0C | 0-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 11-12, 13-14, 14-15 km | N/A | count |
| H50\_Abv0C (10) | Thickness between 50 dBZ top to 0C | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | km |
| Heightof0C (3) | Height of 0C | N/A | mean, max, std | km |
| Heightof-10C (3) | Height of -10C | N/A | mean, max, std | km |
| Heightof-20C (3) | Height of -20C | N/A | mean, max, std | km |
| Heightof-40C (3) | Height of -40C | N/A | mean, max, std | km |
| HeightofThetaEmin (3) | Height of minimum Theta-e | N/A | mean, max, std | km |
| HeightofWetBulbZero (3) | Height of 0C wet bulb temperature | N/A | mean, max, std | km |
| LLShear\_Count (8) | Count of grids with low-level shear magnitude between two layers | 0-0.001, 0.001-0.002, 0.002-0.004, 0.004-0.006, 0.006-0.008, 0.008-0.01, 0.01-0.015, 0.015+ | N/A | count |
| LLShear (10) | Low-level shear | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | m/s ? |
| LandUseMode (1) | Land use? | N/A | N/A | unitless |
| LapseRate\_800to500mb (3) | Lapse rate between 800 and 500mb | N/A | Mean, max, std | C/km |
| Latitude |  |  |  |  |
| Longitude |  |  |  |  |
| MESH\_Count (15) | Count of grids with maximum expected size of hail | 5-10, 10-15, 15-20, 20-25, 25-30, 30-35, 35-40, 40-45, 50-55, 55-60, 60+, any, NonSevere, Severe, SigSevere | N/A | count |
| MESH (10) | Maximum expected size of hail | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | mm |
| ML100AvgLCLHeight (3) | Mixed layer averaged LCL height in the lowest 100mb | N/A | mean, max, std | km |
| ML100mbAvgCAPE (3) | Mixed layer averaged CAPE in the lowest 100mb | N/A | mean, max, std | J/kg |
| ML100mbAvgEL (3) | Mixed layer averaged EL in the lowest 100mb | N/A | mean, max, std | km |
| MLShear\_Count (8) | Count of grids of mixed layer shear | 0-0.001, 0.001-0.002, 0.002-0.004, 0.004-0.006, 0.006-0.008, 0.008-0.01, 0.01-0.015, 0.015+ | N/A | count |
| MLShear (10) | Mixed layer shear | N/A | Mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | /s |
| MUCAPE (3) | Most unstable CAPE | N/A | mean, max, std | J/kg |
| MUCAPE\_SfcTo3kmAGL (3) | Most unstable CAPE between surface to 3km AGL | N/A | mean, max, std | J/kg |
| MUEL (3) | Most unstable EL | N/A | mean, max, std | km |
| MULCLHeight (3) | Most unstable LCL height | N/A | mean, max, std | km |
| MUParcelHeight (3) | Height of most unstable parcel | N/A | mean, max, std | km |
| MeanMixingRatio\_0-1kmAGL (3) | 0-1km AGL mean mixing ratio | N/A | mean, max, std | g/kg |
| MeanMixingRatio\_0-3kmAGL (3) | 0-3km AGL mean mixing ratio | N/A | mean, max, std | g/kg |
| MeanRH\_SfcTo0C (3) | Surface to 0C layer mean relative humidity | N/A | mean, max, std | % |
| MeanRH\_SfcToMULCL (3) | Surface to most unstable LCL mean relative humidity | N/A | mean, max, std | % |
| MeanShear\_0-6km (3) | 0-6km mean shear | N/A | mean, max, std | /s |
| MeanUWindAt-20C (3) | Mean U wind at -20C level | N/A | mean, max, std | m/s |
| MeanWindSpeedAtEL (3) | Mean wind speed at EL | N/A | mean, max, std | m/s |
| MergedRefComp\_Count (8) | Count of grids with merged composite reflectivity | 0-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70+, any dBZ | N/A | Count |
| MergedRefComp\_Avg (10) | Merged composite reflectivity | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| MergedRef (340) | Merged reflectivity at different height levels | 0.25, 0.75, 1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.00, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| MergedRef\_Count\_0-20 (34) | Count of grids with reflectivity between 0-20 dBZ at different height levels | Same as MergedRef | N/A | count |
| MergedRef\_Count\_20-30 (34) | Same as above but for 20-30 dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_30-40 (34) | Same as above but for 30-40 dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_40-50 (34) | Same as above but for 40-50 dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_50-60 (34) | Same as above but for 50-60 dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_60-70 (34) | Same as above but for 60-70 dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_70+ (34) | Same as above but for 70+ dBZ range | Same as MergedRef | N/A | count |
| MergedRef\_Count\_Any (34) | Same as above but for any value | Same as MergedRef | N/A | count |
| Population (1) |  |  |  |  |
| PrecipitatableWater (1) | Precipitable water | N/A | mean, max, std | mm |
| RALA\_Count (8) | Count of grids of reflectivity at lowest altitude | 0-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70+, any | N/A | count |
| RALA (1) | Reflectivity at lowest altitude | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| Ref-10C\_Count (7) | Count of grids of reflectivity at -10C level | 0-20, 20-30, 40-50, 50-60, 60-70, 70+, any | N/A | count |
| Ref-10C (10) | Reflectivity at -10C level | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| Ref-20C\_Count (7) | Count of grids of reflectivity at -20C level | 0-20, 20-30, 40-50, 50-60, 60-70, 70+, any | N/A |  |
| Ref-20C (10) | Reflectivity at -20C level | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| Ref-0C\_Count (7) | Count of grids of reflectivity at 0C level | 0-20, 20-30, 40-50, 50-60, 60-70, 70+, any | N/A |  |
| Ref-0C (10) | Reflectivity at 0C level | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | dBZ |
| SRHelicity0-1km (3) | 0-1 km storm relative helicity | N/A | mean, max, std | m-2/s2 |
| SRHelicity0-3km (3) | 0-3 km storm relative helicity | N/A | mean, max, std | m2 s-2 |
| SfcDewPoint (3) | Surface dew point | N/A | mean, max, std | C |
| SfcTemperature (3) | Surface temperature | N/A | mean, max, std | K |
| SfcThetaE (3) | Surface theta-e | N/A | mean, max, std | K |
| SfcWetBulb (3) | Surface wet blub temperature | N/A | mean, max, std | K |
| ShearVectorMag\_0-1km (3) | 0-1km shear vector magnitude | N/A | mean, max, std |  |
| ShearVectorMag\_0-3km (3) | 0-3km shear vector magnitude | N/A | mean, max, std |  |
| ShearVectorMag\_0-6km (3) | 0-6km shear vector magnitude | N/A | mean, max, std |  |
| ShearVectorMag\_0-MULMB (3) | 0 to most unstable layer of maximum buoyancy shear vector magnitude | N/A | mean, max, std |  |
| ShearVectorMag\_Deep (3) | Deep layer shear vector magnitude | N/A | mean, max, std |  |
| StormDataGrid\_Hail\_max (1) | Maximum hail size |  |  | inch |
| StormDataGrid\_Tor\_max (1) | Maximum tornado scale |  |  | EF-scale |
| StormDataGrid\_Wind\_max (1) | Maximum wind speed |  |  | kt |
| TerrainElevation (3) | Terrain elevation | N/A | mean, max, std | m |
| ThetaEDiffSfcToThetaEMin (3) | Theta-e difference between surface to theta-e minimum level | N/A | mean, max, std | K |
| UWindMean0-6 (3) | Mean 0-6km u-wind | N/A | mean, max, std | kt |
| VIL\_Count (8) | Count of grids with vertical integrated liquid | 0-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70+ | N/A | count |
| VIL (10) | Vertical integrated liquid | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | (mm?) g m-2 |
| VWindMean0-6 (3) | Mean 0-6km v-wind | N/A | mean, max, std | kt |
| negCG\_2min\_DensityCount (5) | Count of grids of 2min negative cloud to ground lightning strike density | 1, 1-5, 5-20, 20-50, 50+ | N/A | count |
| negCG\_2min\_Density (10) | 2min negative cloud to ground lightning strike density | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | flashes/km2/min |
| posCG\_2min\_DensityCount (5) | Count of grids of 2min positive cloud to ground lightning strike density | 1, 1-5, 5-20, 20-50, 50+ | N/A | count |
| posCG\_2min\_Density (10) | 2min positive cloud to ground lightning strike density | N/A | mean, max, mode, percentiles 25th, 50th, 75th, 90th, 95th, 99th, 99.9th | flashes/km2/min |