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1  Script for Boulder Windstorm case WIND01 (Part 3 - verification)
2  ATM419/563 Fall 2024
3
4  * ----- preliminaries ----- *
5  I am presuming you have a directory called WINDSTORM and a subdirectory
6  called WIND01 with your wrfout file from our common control run.
7  → if you don't have a subdirectory called WIND01 please create it and move
8  your control run wrfout file into it
9  → if you have lost your control run wrfout file, copy it from here:
10     $ cp $LAB/WINDSTORM/wrfout_d01_2021-12-30_12:00:00 .
11
12  * move into your WINDSTORM/WIND01 directory
13  * copy $LAB/WINDSTORM/SETUP_MET.tar and unpack it in WIND01
14
15  • Set up required subdirectories within WIND01
16  * mkdir wrfprd
17  * mv wrfout* wrfprd/
18  * mkdir postprd
19
20  • SETUP_MET.tar provides these files: run_unipost_frames MET6_ALL.sh
21  MET6_ASOS.sh MET6_COAGMET.sh MET6_MESOWEST.sh MET6_RAWS.sh
22  MET6_WXNET.sh network_plots.sh do_station_analysis.sh run_stations_F10M.sh
23  run_stations_F10M.pl run_stations_T2M.sh run_stations_T2M.pl
24  sum_and_average_F10M.sh sum_and_average_T2M.sh sum_and_average.pl
25  plot_MET_analyses.ipynb plot_met.sh
26
27  * ----- unipost ----- *
28  • The script run_unipost_frames is already configured for this case
29  • This version is designed for wrfout files containing multiple times
30  • Important lines to be edited for future uses:
31  export startdate=2021123012
32  export fhr=00
33  export lastfhr=12
34  export incrementthr=01
35  for domain in d01
36
37  • Update python environment and execute unipost program
38  dopython
39  bash run_unipost_frames
40
41  • if unipost fails immediately, did you create the postprd subdirectory?
42  • look for "End of Output Job"
43
44  * ----- MET ALL ----- *
45  • Run MET on ALL available observations
46  • The script MET6_ALL.sh is already configured for this case

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47 • Important lines to be edited for future uses:
48 Date_base=20211230
49 Date_hour=12
50 domain=1
51 OBS_base=$MYLAB/DATA/MADIS/DEC2021_BOULDER_V2/
52
53 • Run MET
54 sh MET6_ALL.sh                creates "point_stat*" files in postprd/
55
56 • create network average analysis file ("output.txt")
57 sh network_plots.sh          extracts info from postprd/point_stat* files
58                               and creates output.txt
59
60 • create station analysis files ("STATIONS_F10.txt", "STATIONS_T2M.txt")
61 sh do_station_analysis.sh     computes station statistics and creates
62                               STATIONS_*.txt files
63
64
65 • Start Jupyterlab on ARCC – batch or burst, minimal resources suffice
66 • launch or reinitialize plot_MET_analyses.ipynb
67 → check or change analysis name in Cell #2. This analysis is "ALL" stations
68 → see slides 7-10
69
70 * ----- MET SUBSETS -----*
71
72 • Follow the same procedure to look at subsets of observations
73 [Run a MET6 script, then network_plots.sh, do_station_analysis.sh, and re-initialize
74 and run plot_MET_analyses. These scripts are pre-configured to access the
75 appropriate observations. The sh scripts overwrite previous analysis files, so if you
76 need to save them, move/copy/rename them first.]
77
78 MET6_ASOS.sh                 ASOS stations (mainly airports)
79 MET6_RAWS.sh                 RAWS stations (many in hills, mountains, forests)
80 MET6_MESOWEST.sh             MESOWEST stations (utilities, govt. agencies, etc.)
81 MET6_WXNET.sh                APRSWXNET stations (obs mainly from the public)
82 MET6_COAGMET.sh              Colorado Ag Meteorology stations
83
84 See assignment document "ATM419_MET_assignment.pdf"

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