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1  Script for Boulder Windstorm case WIND01 (Part 3)
2  ATM419/563 Spring 2024
3
4  * ----- preliminaries ----- *
5  * move into your WINDSTORM directory
6  * copy $LAB/WINDSTORM/SETUP_MET.tar and unpack it
7  * if you do not have the wrfout file
8     also copy $LAB/WINDSTORM/wrfout_d01_2021-12-30_12:00:00
9
10 • Set up required subdirectories within WINDSTORM
11 * mkdir wrfprd
12 * mv wrfout* wrfprd/
13 * mkdir postprd
14
15 • SETUP_MET.tar provides these files: run_unipost_frames MET6_ALL.sh
16 MET6_ASOS.sh MET6_COAGMET.sh MET6_MESOWEST.sh MET6_RAWS.sh
17 MET6_WXNET.sh network_plots.sh do_station_analysis.sh run_stations_F10M.sh
18 run_stations_F10M.pl run_stations_T2M.sh run_stations_T2M.pl
19 sum_and_average_F10M.sh sum_and_average_T2M.sh sum_and_average.pl
20 plot_MET_analyses.ipynb plot_met.sh
21
22 * ----- unipost ----- *
23 • The script run_unipost_frames is already configured for this case
24 • This version is designed for wrfout files containing multiple times
25 • Important lines to be edited for future cases:
26 export startdate=2021123012
27 export fhr=00
28 export lastfhr=12
29 export incrementthr=01
30 for domain in d01
31
32 • Update python environment and execute unipost program
33 dopython
34 bash run_unipost_frames
35
36 • if unipost fails immediately, did you create the postprd subdirectory?
37 • look for “End of Output Job”
38
39 * ----- MET ALL ----- *
40 • Run MET on ALL available observations
41 • The script MET6_ALL.sh is already configured for this case
42 • Important lines to be edited for future cases:
43 Date_base=20211230
44 Date_hour=12
45 domain=1
46 OBS_base=$MYLAB/DATA/MADIS/DEC2021_BOULDER_V2/

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47 • **Run MET**
48 sh MET6_ALL.sh *creates "point_stat*" files in postprd/*
49

50 • **create network average analysis file ("output.txt")**
51 sh network_plots.sh *extracts info from postprd/point_stat* files*
52 *and creates output.txt*
53

54 • **create station analysis files ("STATIONS_F10.txt", "STATIONS_T2M.txt")**
55 sh do_station_analysis.sh *computes station statistics and creates*
56 *STATIONS_*.txt files*
57
58

59 • **Start Jupyterlab on ARCC – batch or snow, minimal resources suffice**
60 • **launch or reinitialize plot_MET_analyses.ipynb**
61 → check or change analysis name in Cell #2. This analysis is "ALL" stations
62 → see slides 7-10
63

64 * ----- **MET SUBSETS** ----- *

65

66 • **Follow the same procedure to look at subsets of observations**
67 [Run a MET6 script, then network_plots.sh, do_station_analysis.sh, re-initialize and
68 run plot_MET_analyses. These scripts are pre-configured to access the appropriate
69 observations. *The sh scripts overwrite previous analysis files, so if you need to save*
70 *them, move/copy/rename them first.*]
71

72 MET6_ASOS.sh ASOS stations (mainly airports)
73 MET6_RAWS.sh RAWS stations (many in hills, mountains, forests)
74 MET6_MESOWEST.sh MESOWEST stations (utilities, govt. agencies, etc.)
75 MET6_WXNET.sh APRSWXNET stations (obs mainly from the public)
76 MET6_COAGMET.sh Colorado Ag Meteorology stations
77

78 See assignment document "ATM419_MET_assignment.pdf"