Implementation Instructions: ETSS v2.2.0

As of: Feb 28, 2017

# 1) Check out ETSS 2.2.0 from the repository

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| % workDir=**<your working directory>**  % cd $workDir  % svn co https://vlab.ncep.noaa.gov/svn/etss/gfs\_stormsurge/tags/ETSS2.2-spa etss.v2.2.0  % cd etss.v2.2.0 |

# 2) Build the executables

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| % cd sorc  # Load 'cray' module file to setup the compiling environment.  % module load ./build\_etss.module.cray  % make -f Makefile.cray clean install ;# Build the executables  % make -f Makefile.cray clean ;# Clean up afterwards  % cd ../ |

# 3) Run a test

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| % cd dev  # Validate that runETSS\_model.sh sets the env variable "LOWres" to YES  # if you want to continue creation of the coarse (5/6 km)grids. The env  # variable "LOWres" will be set to default value "NO" in Job Card script  # if there is no action before calling the Job Card script (./jobs/JETSS).  % grep LOWres ./runETSS\_model.sh  #===============================================================  # ./runETSS.sh is the kick off script for the ETSS model.  # Arguments are:  # YYYYMMDD (optional): Date to run, or current date if missing.  # Cycle: 00, 06, 12, 18  # Copy wind data? copy/no-copy  # Skip ETSS model Run? Y/N  # Generate web images? Y/N  #  # The run scripts creates /gpfs/hps/ptmp/${USER}/etss.v2.2.0/tmp and  # treats that as the root from a production perspective (e.g. .../tmp/com,  # .../tmp/pcom) {where USER=<your login username>}.  #===============================================================  # Option 1: "Use today's wind forcing"  # Run the model, post-process the result, and makes a GEMPAK run  # Note - replace **XX** with the (00 06 12 18) for the cycle  % ./runETSS.sh **XX** copy N N # First run: copies GFS data to sandbox area  % ./runETSS.sh **XX** no-copy N N # Skips copying GFS data, but runs the model  % ./runETSS.sh **XX** no-copy Y N # Skips running the model, but does post-processing  # Option 2: "Use wind forcing from a specified date"  # Run the model, post-process the result, and makes a GEMPAK run  # Note - replace **XX** with the (00 06 12 18) for the cycle  % ./runETSS.sh YYYYMMDD **XX** copy N N # First run: Copies GFS data to sandbox area  % ./runETSS.sh YYYYMMDD **XX** no-copy N N # Skips copying GFS data and runs the model  % ./runETSS.sh YYYYMMDD **XX** no-copy Y N # Skips running the model |

# 4) Check the logs for errors

Look at the log entries via...

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| % cd ${workdir}/tmp/com/logs  # Review the logs... |

# 5) Check results

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| % cd ${workdir}  #===============================================================  # 1) Check the GRIB2 results in the /com folder. There should be the  # following 6 files (different resolutions) for: surge, tide and storm tide.  # etss.t${cyc}z.stormsurge.con2p5km.grib2  # etss.t${cyc}z.stormtide.con2p5km.grib2  # etss.t${cyc}z.stormtide.con625m.grib2  # etss.t${cyc}z.tide.con625m.grib2  # etss.t${cyc}z.stormsurge.ala3km.grib2  # etss.t${cyc}z.stormtide.ala3km.grib2  # Additionally, there are 3 maximum (surge plus tide) over 0-102 hours.  # etss.max.t${cyc}z.stormtide.con2p5km.grib2  # etss.max.t${cyc}z.stormtide.con625m.grib2  # etss.max.t${cyc}z.stormtide.ala3km.grib2  # If the low resolution grids are not discontinued, then there are also:  # etss.t${cyc}z.stormsurge.con5km.grib2  # etss.t${cyc}z.stormsurge.ala6km.grib2  #===============================================================  % ls tmp/com/etss/prod/etss.YYYYMMDD/\*.grib2  #===============================================================  # 2) Check the newer model specific text files for surge and storm tide  # results in the /com folder. There should be the following 10 files:  # etss.t${cyc}z.stormsurge.${area}.txt (area = wst, goa, ber, est and gom)  # etss.t${cyc}z.stormtide.${area}.txt (area = wst, goa, ber, est and gom)  #===============================================================  % ls tmp/com/etss/prod/etss.YYYYMMDD/\*.txt  #===============================================================  # 3) Check the older model specific text files for surge results in the  # /com folder. There should be the following 6 files:  # mdlsurge.${cyc}${bsn} (bsn = z, a, k, w, e, g)  #===============================================================  % ls tmp/com/etss/prod/etss.YYYYMMDD/mdlsurge.\*  #===============================================================  # 4) Check the SHEF bulletins in the /com folder. There should be the  # following 5 SHEF bulletins (one for each area):  # shef.etss.t${cyc}z.totalwater.${area} (area = wst, goa, ber, est, and gom)  #===============================================================  % ls tmp/com/etss/prod/etss.YYYYMMDD/shef\*  #===============================================================  # 5) Check the CSV files (look for tar files) in the /com folder. There should  # be the following 1 csv\_tar per cycle:  # etss.t${cyc}z.csv\_tar  #===============================================================  % ls tmp/com/etss/prod/etss.YYYYMMDD/\*csv\_tar  #===============================================================  # 6) Check the gempak files in the /com/nawips folder. There should be 22 gempak  # files per cycle:  # surge\_2p5km\_con\_${YYYYMMDD}${cyc}  # surge\_tide\_2p5km\_con\_${YYYYMMDD}${cyc}  # surge\_3km\_ala\_${YYYYMMDD}${cyc}  # surge\_tide\_3km\_ala\_${YYYYMMDD}${cyc}  # surge\_2p5km\_con\_${zoom}\_${YYYYMMDD}${cyc}  # (zoom = gulf, necoast, nwcoast, secoast, and swcoast)  # surge\_tide\_2p5km\_con\_${zoom}\_${YYYYMMDD}${cyc}  # (zoom = gulf, necoast, nwcoast, secoast, and swcoast)  # surge\_3km\_ala\_${zoom}\_${YYYYMMDD}${cyc}  # (zoom = arctic, bering, egulf, wgulf)  # surge\_tide\_3km\_ala\_${zoom}\_${YYYYMMDD}${cyc}  # (zoom = arctic, bering, egulf, wgulf)  #===============================================================  % ls tmp/com/nawips/prod/etss.YYYYMMDD/\*  #===============================================================  # 7) Check the GRIB2 results in the /pcom folder. There should be the following  # 6 GRIB2 files (different resolutions):  # grib2.etss.t${cyc}z.stormsurge.ala3km.etss\_${cyc}  # grib2.etss.t${cyc}z.stormsurge.con2p5km.etss\_${cyc}  # grib2.etss.t${cyc}z.stormtide.ala3km.etss\_${cyc}  # grib2.etss.t${cyc}z.stormtide.con2p5km.etss\_${cyc}  # grib2.etss.t${cyc}z.stormtide.con625m.etss\_${cyc}  # grib2.etss.t${cyc}z.tide.con625m.etss\_${cyc}  # If the low resolution grids are not discontinued, then there are also:  # grib2.etss.t${cyc}z.stormsurge.ala6km.etss\_${cyc}  # grib2.etss.t${cyc}z.stormsurge.con5km.etss\_${cyc}  #===============================================================  % ls tmp/pcom/etss/grib2\*  #===============================================================  # 8) Check the text products results in the /pcom folder. There should be the  # following 6 station surge text files:  # txt.etss.t${cyc}z.fqac23\_stormsurge.arctic  # txt.etss.t${cyc}z.fqak23\_stormsurge.bering  # txt.etss.t${cyc}z.fqga23\_stormsurge.gulfAK  # txt.etss.t${cyc}z.fqpz23\_stormsurge.west  # txt.etss.t${cyc}z.fqgx23\_stormsurge.gulfMX  # txt.etss.t${cyc}z.fqus23\_stormsurge.east  #===============================================================  % ls tmp/pcom/etss/txt\*  #===============================================================  # 9) Check the SHEF bulletins in the /pcom folder. There should be the  # following 6 SHEF files:  # shef.etss.t${cyc}z.totalwater.arctic  # shef.etss.t${cyc}z.totalwater.bering  # shef.etss.t${cyc}z.totalwater.gulfAK  # shef.etss.t${cyc}z.totalwater.west  # shef.etss.t${cyc}z.totalwater.gulfMX  # shef.etss.t${cyc}z.totalwater.east  #===============================================================  % ls tmp/pcom/etss/shef\* |

# 6) Compare results to MDL’s runs

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| #===============================================================  # Compare /com directories to MDL's runs. There should be no differences  # if everything is correct.  #===============================================================  % tree1=/gpfs/hps/ptmp/mdl.surge/etss.v2.2.0/tmp/com/etss/prod/etss.YYYYMMDD  % tree2=${workdir}/com/etss/prod/etss.YYYYMMDD  % diff -rq ${tree1} ${tree2} |