**NHCG v4.2.0 Test Plan**

NHC will submit test storms (storm numbers in the 80s) from the ATCF and/or utilize real storm cases (invests with storm numbers in the 90s or storm numbers 01-40). The following scenarios will be included in testing:

* Atlantic (AL)
* East Pacific (EP)
* Central Pacific (CP)

Since certain components of NHCG rely on real-storm cases that produce global and regional model trackers, the following is proposed for a test case of HCCA, DTOPS, and NNIC:

The first test is designed to ensure that the merge\_input\_adecks.bash script is pointing to the proper production file locations for upstream dependencies in the absence of any real-life storms, since these packages do not track our test 80s series storms:

* + The merge\_input\_adecks.bash script can be tested by:
    - Set testmerge=YES in versions/run.ver
    - Set testmerge\_stormid to a current stormid (e.g., al052023) being produced by ens\_tracker, hafs

A successful merge\_input\_adecks.bash test run will produce a merge\_input\_test.out file with global and/or regional trackers:

* + - ens\_tracker: grep for a global model like “AVNO”
    - hafs: grep file for “HFSA” and “HFSB” to ensure it’s grabbing both trackers

NHC pre-staged input data in /lfs/h1/nhc/nhc/noscrub/data/guidance/staged\_test/ and modified the code appropriately. These tests still require NHC to submit test storms as detailed above:

* + The HCCA, DTOPS, & NNIC models within JNHC\_GUIDANCE can be tested by:
    - Ensure testmerge=YES and testmerge\_stormid is set to current test stormid, similar to merge\_input\_adecks.bash test above
    - Set testhcca=YES in versions/run.ver
    - Verify with NHC that the staged test file symlink was changed to the one with HAFS input rather than HWRF/HMON

A successful test will produce the following file content:

* + - /lfs/h1/ops/[env]/com/nhcg/v4.2/storm-data/${stormid}/a${stormid}.dat
      * grep for “HCCA” - there should be multiple lines
    - /lfs/h1/ops/[env]/com/nhcg/v4.2/storm-data/${stormid}/ships/stext/ships.txt  
      /lfs/h1/ops/[env]/com/nhcg/v4.2/storm-data/${stormid}/ships/etext/ships.txt
      * grep for “DTOPS” - the values should not be 999
    - In the work directory, nn\_input.dat should include HFSA or HFAI -and- HFSB or HFBI. This means NNIC is getting the HAFS data it needs. NNIC output (which can run without HAFS) will be in:   
      /lfs/h1/ops/[env]/com/nhcg/v4.1/storm-data/${stormid}/a${stormid}.dat
      * grep for “NNIC” - there should be multiple lines