

NEW ACTION ITEMS: 65th IHC ACTION ITEMS

NHOP Related Action Items		
1	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Airspace Use During Tropical Cyclone Missions</p> <p>WG/HWSOR Executive Secretary on Behalf of the FAA, 53rd WRS, and NOAA AOC</p> <p>The 2010 NHOP incorporated changes using “Due Regard” procedures judiciously, when necessary, to allow participating aircraft to enter, exit, and operate in the reserved airspace block.</p> <p>Due to FAA concerns, representatives from the FAA, 53rd WRS, NOAA AOC and the Executive Secretary of the WG/HWSOR met on January 12-13, 2011, to discuss the “Due Regard” procedures and review Chapter 5 of the 2010 NHOP. The result of the meeting was a complete review/update of Chapter 5, using “Track Changes.” An action item from the meeting was for representatives to review the “Track Changes” and provide any further updates. As of February 16, 2011, we received additional “Track Changes” for Chapter 5 from FAA ATCSCC and NOAA AOC.</p> <p>1. Briefly discuss the status of the “Due Regard” issue. In particular, discuss Comment [ATO8] in the first embedded document regarding paragraph 5.5.5.1.9., Participating Aircraft, 4th bullet, which states:</p> <p>“While in uncontrolled airspace, aircraft commanders are their own clearance limit authority. Participating aircraft may use the same block altitudes and will provide separation from each other and any weather instrument being released. To maintain separation, these aircraft use separate altitudes and airplane-to-airplane communication to maintain situational awareness of the other aircraft’s location in addition to using air-to-air TACAN, and TCAS.”</p> <p>Comment [ATO8] states, “I thought FAA Legal had issue with this in NHOP 2010.”</p> <p>2. After discussion of all aircraft/aircrew-related action items, representatives from the FAA, 53rd WRS (including CARCAH), and NOAA AOC meet in the <u>Jacaranda Room</u> to review the embedded documents above, and recommended changes to the NHOP in Action Items 3 and 4 below, to ensure all parties are in agreement with the recommended changes.</p> <p>A small team consisting of representatives of NOAA AOC, FAA, and 53rd WRS met on Monday, Tuesday, and 2-hours on Wednesday (February 28 – March 2) and finalized revisions to Chapter 5, which will be incorporated into the 2011 NHOP. Will be CLOSED once NHOP is updated.</p>

2	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Reconnaissance Support for Development of In-Situ Ocean Data Base for use in Initializing/Validating Navy and NOAA Operational Air-Sea Coupled Tropical Cyclone Prediction Models</p> <p>Peter Black, Naval Research Lab, Marine Meteorology Division and SAIC, Inc.</p> <p>Overcoming earlier restrictions in obtaining ocean thermal structure data via AXBT deployment, NRL has developed a Mobile Ocean Observing System (MOOS) consisting of two portable processing-receiving-recording units for use on WC-130J reconnaissance aircraft and demonstrated the capability for real-time processing and transmission of ocean thermal profiles, accomplishing data ingest into Navy TC and ocean prediction models. A supply of several thousand de-mil'd AXBT probes has been identified for future use at minimal cost for shipping and fumigation. Deployment of 1,000 of these probes over 2 years has demonstrated an overall 92% success rate. These accomplishments have overcome earlier problems with implementation of Action Item #10 from the 60th IHC (also item 08-36 from NOAA's Hurricane Conference) at a time when Navy coupled COAMPS-TC model, in addition to NOAA coupled models, has become operational requiring ocean as well as atmospheric data inputs for initialization and validation.</p> <p>53rd WRS is requested to support Navy TC coupled operational numerical model forecast development by deploying AXBT data during operational TC missions tasked by the National Hurricane Center on a not-to-interfere basis with normal reconnaissance operations for a minimum of two seasons on a trial basis. AFRC is requested to support crew augmentation by one addition loadmaster with dropsonde and AXBT deployment training.</p> <p>NOAA/NCEP/EMC is planning on operational implementation of their regional hurricane model (HWRF) coupled to HYCOM for the 2012 hurricane season. This coupled modeling system has advanced real-time ocean DA capabilities within the system. EMC and NRL are designing a work plan in collaboration with AOML and RSMAS to demonstrate impact of assimilating AXBT datasets (collected during past TC research missions and potential future deployment of AXBTs using operational and research flights of opportunity from both WC-130J and WP-3D aircraft) on hurricane intensity forecasts using their respective coupled models. NRL will work with the 53rd WRS to refine WC-130J AXBT launch and data acquisition procedures for use on requested hurricane reco flights on a not-to-interfere basis with routine mission requirements. Progress and results from this work plan will be presented during the NOAA Hurricane Conference in December 2011 and the 66th IHC in 2012.</p> <p>This item remains OPEN.</p>
3	<p>Title</p> <p>Submitter</p> <p>Discussion</p>	<p>Administrative changes to NHOP</p> <p>CARCAH and 53rd WRS</p> <p>Minor administrative changes:</p> <p>a. Page 3-6, para.3.5.2, Change telephone numbers listed in last sentence to read "DSN 597-4181/4330 <i>or Commercial</i> 228-377-4181/4330" Re: List both valid numbers for Keesler AFB command post.</p> <p>b. Page 5-16, para. 5.5.4.2.1., third bullet, third line, change "1200 Eastern Time" to "1830 UTC". Add to end of paragraph: "<i>Research missions from NOAA and other agencies may be listed as remarks if communicated to CARCAH before transmission time.</i>"</p>

	<p>Recommendation</p> <p>Action</p>	<p>Re: Improve description and make it consistent with para. 5.5.3.1.2.</p> <p>c. Page 5-16, para. 5.5.4.2.1., 4th bullet, end of paragraph add: <i>“However, CARCAH will need to have advance notification of all planned research missions in areas where operations are being conducted, including proposed flight tracks, aircraft altitudes, and locations where expendables may be deployed; this information can be e-mailed to ncep.nhc.carcah@noaa.gov or faxed to 305-553-1901 (please indicate “CARCAH” on faxed materials).”</i></p> <p>Re: state the need for outside agencies to provide CARCAH their research aircraft flight plans in advance.</p> <p>d. Page 5-17, para. 5.5.4.2.2., top of page: change “...as required” to “...if necessary.” Re: ARTCC coordination is only practiced occasionally. Note: This may be superseded by FAA/NOAA AOC/53rd WRS inputs.</p> <p>e. Page 5-29, para. 5.8.1.1, last line: change “warning areas” to “airspace constraints”. Re: more generic reason why the alpha pattern may need to be modified.</p> <p>f. Page 8-2, para. 8.2.1, third line: Insert “at least” in front of “16 hours.” <i>Re: Indicate that this is the minimum requirement for tasking lead time of a buoy deployment.</i></p> <p>Coordinate changes with previous FAA/NOAA AOC/53rd WRS changes and incorporate into 2011 NHOP.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>
<p>4</p>	<p>Title</p> <p>Submitter</p> <p>Discussion</p>	<p>Additional NHOP Changes</p> <p>CARCAH</p> <p>There are additional recommended changes that CARCAH has identified that needs to be made to the NHOP.</p> <p>1. Page 3-2, para. 3.2.2, add the following at the end of section: “Intermediate public advisories will be issued in between scheduled or special advisories when watches or warnings are in effect. They will continue to be issued when a tropical storm or hurricane is inland, even after coastal watches/warnings have been discontinued. These will retain the number of the last advisory they update plus an alphabetic designator (e.g., "HURRICANE ALLISON INTERMEDIATE ADVISORY NUMBER 20A")." <i>Re: Due to some consolidation and streamlining of material in Chapter 3 from the 2009 plan, mention of intermediate public TC advisories had been accidentally omitted from the 2010 NHOP.</i></p> <p>2. Pages 3-4, para. 3.3 & 3-5, Change header to: ”Numbering and Naming of Tropical and Subtropical Cyclones.”</p> <p>para. 3.3.1, add “Annual lists of Atlantic storm names are provided in Table 3-1.”</p> <p>para. 3.3.2, add “Annual lists of Eastern Pacific storm names are provided in Table 3-2.”</p> <p>para. 3.3.3, Add “Rotating lists of Central Pacific storm names are provided in Table 3-3.”</p>

para. 3.3.4, add “Rotating lists of Western Pacific storm names are provided in Table 3-4.”

para. 3.3.5, Add “in each basin” to the end of the first sentence.

Re: Section deals with both numbering and naming of tropical weather systems, and Tables 3-1 – 3-4 are currently orphaned from any text reference.

3. Page 3-11, para. 3.6, Add “Table 3-5 provides the abbreviated communications headings for products issued by NHC, CPHC, and WFO Guam.”

Re: Table is not referenced in text.

4. Page 4-3, para. 4.3.3.2, Insert “and Subtropical” between “Numbering of Tropical” and “Cyclone Forecast Advisories” in the header. Change content to “All tropical cyclone forecast/advisories for each unique system in the Atlantic and Pacific will be numbered sequentially beginning with the number 1; for example: “Subtropical Depression ONE Forecast/Advisory Number 1”

Re: Provide better clarity of advisory numbering system and show an example of a subtropical TC advisory header.

5. Page 5-16, para. 5.5.4.2.1:

a. Flying Agencies, 3rd bullet, third sentence—change to: “Required operational reconnaissance missions flown by the 53 WRS and NOAA AOC will be outlined in the TCPOD.”

Re: Improve wording and make it consistent with para. 5.5.3.1.2. (Note: Need to merge/deconflict with action item #3, para 3b).

b. Flying Agencies, 4th bullet—rewrite as: “CARCAH coordination is normally restricted to what is required between the 53 WRS, NOAA AOC, NHC, and ARTCC’s in support of operational tasking. Due to staffing constraints, the CARCAH unit’s operating hours vary and often depend on the requirements levied. Its ability to coordinate non-operational missions is extremely limited. Research missions can only be considered on a non-interference basis when flown concurrently with a tasked mission or when data collected will be directly beneficial to NHC in real time. However, CARCAH will need to have advance notification of *all* planned research missions in areas where operations are being conducted, including proposed flight tracks, aircraft altitudes, and locations where expendables may be deployed; this information can be e-mailed to ncep.nhc.carcah@noaa.gov or faxed to 305-553-1901 (please indicate “CARCAH” on faxed materials).”

Re: Improve wording and content and state the need for outside agencies to provide CARCAH their research aircraft flight plans in advance. (Note: Need to merge/deconflict with action item #3, para 3c).

c. Flying Agencies, 5th bullet—change “NHOP directed” to “tasked.”

Re: Use better adjective--NHOP directed is vague.

6. Page 5-19, para. 5.5.5.1.3, In the last sentence change “...the aircraft commander...” to “...the aircraft commanders...”

Re: Grammatical correction.

7. Page 5-19, para. 5.5.5.1.9, Change the word “brief” to “provide” in the new FAA/53rd WRS/NOAA AOC revisions for this paragraph.

Re: Better verb to describe this task.

8. Page 5-30, para. 5.8.2, Change “tropical disturbances” to “tropical or subtropical disturbances.”

Re: Include both type of candidates for an invest.

9. Page 6-2, para. 6.1.1.2, In the second paragraph, third sentence—change “...can request the alternate GOES-West sounder schedule that replaced...” to “...can request an alternate GOES-W sounder schedule that replaces...”
Re: Grammar/verb tense correction.
10. Page 6-3, para. 6.1.1.6, This paragraph can probably be eliminated.
Re: GOES-10 is now defunct.
11. Page 6-3, para. 6.1.2, Change first sentence to: “Meteosat-9, launched December 21, 2005 and stationed at the Prime Meridian (0°), replaced Meteosat-8, which is stationed at 9.5° East, on April 11, 2007. It provides vital coverage...”
Re: Make locations of the satellites less confusing to the reader.
12. Page 6-3, para. 6.1.3 & page 6-4, para. 6.1.4, Update content to designate MTSAT-2 as now the operational Western Pacific/Eastern Asian/Eastern Indian Ocean operational satellite.
Re: MTSAT-2 replaced MTSAT-1, which is now secondary.
13. Page 6-4, para. 6.1.5, Check on the status of COMS with NESDIS.
Re: The satellite did not launch in April 2010 as previously planned.
14. Page 6-6, para. 6.3, Change appendix reference in last sentence from H to I.
Re: Telephone numbers are now in Appendix I.
15. Page 6-9, Table 6-2, In the “Type of Data” column for polar orbiters, change “MHS (N-18)” to “MHS (N-19).”
Re: Make consistent with text in para. 6.1.16.
16. Page G-6, Figure G-2, In the sample HDOB message, change the “999” in columns 60-63 to “///”.
Re: Reflect the new way missing data values are encoded.
17. Pages G-6 and G-7, Table G-5, Substitute “///” for “999” in the ppp field of the example. Remove the 15 July 2010 change alerts of how missing data will be displayed. Update descriptions of www, SSS, MMM, KKK, and ppp fields to only indicate “///” as missing values.
Re: Establish that missing data values are only encoded now as “///”.
18. Page G-14, Table G-6:
- a. Nationally Developed Codes: 62626, Identifier: 62626, first sentence—eliminate “XXX” after “MXWNDBND” remark.
Re: Quadrant is not indicated for max wind band.
 - b. Nationally Developed Codes: 62626, Identifier: 62626, second sentence—change “remarks” to “remark” and replace “radian from the eye center to the sonde” to “octant (degrees) sonde is located relative to eye center.”
Re: Correct grammar and description of XXX.
 - c. Nationally Developed Codes: 62626, Identifier: 62626, third sentence—change the “the value codes is 045” to “XXX is 045.”
Re: Simplify the explanation.
19. Page I-1 and I-2, Appendix I, Department of Commerce telephone listing:
- a. Consolidate “Alternate NHC (NCEP/HPC)” and the “Hydrometeorological

		<p>Prediction Center (HPC)” entries. <i>Re: Same telephone number.</i></p> <p>b. Department of Commerce telephone listing for NHC list Atlantic Forecast Operations as COM 305-229-4415, Pacific Forecast Operations as COM 305-229-4417, Admin as COM 305-229-4470, Director as COM 305-229-4402, and Admin fax as FAX 305-553-1901. <i>Re: Expand NHC listing so that it is similar to CPHC.</i></p> <p>c. Department of Commerce telephone listing--insert “/NCO” after “NCEP” and before “Senior Duty Met (Data QC)” entry. <i>Re: Indicate NCEP unit of the SDM.</i></p> <p>d. Department of Defense telephone listing—phone numbers for AFWA are COM 402-294-2586, DSN 271-2586. <i>Re: List the correct numbers.</i></p> <p>e. Department of Defense telephone listing—list Keesler AFB Command Post numbers as COM 228-377-4181/4330 and DSN 597-4181/4330. <i>Re: Make consistent with changes to para. 3.5.2.</i></p> <p>f. Department of Defense telephone listing--consolidate 53 WRS phone numbers into one entry, similar to Appendix L in the NWSOP:</p> <p style="padding-left: 40px;">Supervisor of Flying COM 228-377-2409 DSN 597-2409</p> <p style="padding-left: 40px;">Chief ARWO COM 228-377-3207 DSN 597-2409</p> <p style="padding-left: 40px;">Alternate CARCAH COM 228-597-9060 DSN 597-9060</p> <p><i>Re: Make consistent with the NWSOP.</i></p> <p>g. Department of Transportation/Federal Aviation Administration telephone listing—add Honolulu ARTCC numbers to list. <i>Re: TC reconnaissance missions are occasionally for CPHC in Hawaiian airspace.</i></p> <p>Recommendation Coordinate changes with previous FAA/NOAA AOC/53rd WRS changes and incorporate into 2011 NHOP.</p> <p>Action Accept recommendation. Will be CLOSED once NHOP is updated.</p>
5	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p>	<p>Plan of Day Coordination</p> <p>CARCAH and 53rd WRS</p> <p>Clarify that all requests for aircraft reconnaissance needs to be funneled through the NHC. Add reference to EMC as a requesting agency. Change the wording to show that the requestors will initiate the contact with NHC.</p> <p>Para 5.5.1.1., page 5-9. Change first sentence to read: “Any agency requesting aircraft reconnaissance (e.g. the NWS Environmental Modeling Center (EMC) and the Central Pacific Hurricane Center (CPHC)) should contact the National Hurricane Center (NHC) no later than 1630Z the day prior to the requirement, and within the constraints of para 5.5.2.1. NHC will compile the list of the total DOC requirements for data on</p>

		<p>tropical and subtropical cyclones or disturbances for the next 24-hour period (1100 to 1100 UTC) and an outlook for the succeeding 24-hour period. This coordinated request will be considered the agency's request for assistance (RFA) to DOD and NOAA and will be provided to CARCAH as soon as possible, but no later than 1630 UTC each day in the format of Figure 5-6.</p>
	Action	Accept recommendation. Will be CLOSED once NHOP is updated.
6	Title	On Time Credit for Tropical Fix Mission
	Submitter	CARCAH and 53 rd WRS
	Discussion	Specify credit for meeting on-time criteria is given when the aircraft arrives at requested area on time but is unable to locate a center due to lack of a concentrated inner-core structure within a broad circulation. This scenario has occurred multiple times within the past couple of years. There may be some discussion from NHC specialists if they'd prefer us to take a stab at providing a "fix" in the geographic center of a large light/variable region, but that is probably better determined on a case-by-case basis.
	Recommendation	<p>Page 5-25, para. 5.6.1.1, NOTE, add the words, "broad circulation" after the word "dissipation."</p> <p>Final version will read, as follows: "NOTE: Appropriate credit will be given when the aircraft arrives in the requested area but is unable to locate a center due to storm dissipation, <i>broad circulation</i>, or rapid movement."</p>
	Action	<p>WG/HWSOR participants agreed to use the words "the absence of a fixable center" instead of "broad circulation." The final version will read: "NOTE: Appropriate credit will be given when the aircraft arrives in the requested area but is unable to locate a center due to storm dissipation, <i>the absence of a fixable center</i>, or rapid movement."</p> <p>Will be CLOSED once NHOP is updated.</p>
7	Title	Aircraft Radar Fixes
	Submitter	CARCAH and 53 rd WRS
	Discussion	Common usage is to call this a "radar fix," so re-label this paragraph to make it easier to find. Give two, updated examples to illustrate how to describe the fix, and to give coordinates in either degrees/tenths, or degrees/minutes, depending on system used (the WC-130J displays radar data in degrees/mins). Eliminate the use of "nav accuracy" as that is now a negligible source of error (usually just a few tenths of a mile).
	Recommendation	<p>Page 5-25, para 5.7.2., Title: Change "Center Fix Data" to "Aircraft Radar Fix Data". Also replace example with two examples:</p> <p>"Example 1: RADAR FIX PSBL CENTER 21.5N 83.0W, POOR RADAR PRESENTATION, SPIRAL BAND, MET ACCURACY 15NM</p> <p>Example 2: RADAR FIX EYE 21 DEG 23 MIN N 78 DEG 42 MIN W GOOD RADAR PRESENTATION CIRCULAR EYE DIAM 25 NM OPEN SW."</p>
	Action	Accept recommendation. Will be CLOSED once NHOP is updated.

8	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Backup CARCAH Procedures</p> <p>CARCAH and 53rd WRS</p> <p>Mostly administrative changes, to reorganize and reword for better clarity and also merge material from para. 5.9.4.3. into para 5.9.4.1. Eliminates need to man the 53 WRS ground station under the circumstance where the internet is out between NHC and AFWA, since the backup station will only be used as a relay platform.</p> <p>Revamp original subparagraphs 5.9.4.1 through 5.9.4.4 as follows:</p> <p>5.9.4.1. Satellite Antenna Communications Failure at NHC. If an outage is expected to be temporary, CARCAH will coordinate with the 53 WRS to have operators man the ground station located at the backup site. They will be responsible for maintaining contact with airborne reconnaissance aircraft and relaying data via land line to the CARCAH ground station. In the event communications lines between the backup site and NHC are also severed, the 53 WRS ground station will be configured to transmit data directly to the WPMDS. No procedure is currently implemented for sending the aircraft data directly to local servers at HPC or CPHC (NHC’s COOP backup site); consequently, all data or observations will need to be accessed from the WPMDS or obtained from the NWS Gateway.</p> <p>For long-term outages, CARCAH will send personnel to the backup site. They will monitor the aircraft data and ensure they are transmitted to the WPMDS, NWS servers, and external users from that location.</p> <p>5.9.4.2. Internet Communications Failure. In the event there is a long-term network communications outage between NHC and AFWA, the CARCAH ground station will still be able to receive aircraft data and send them to local NHC servers. If Internet access problems originate at NHC, the CARCAH ground station will be configured to relay the data to the backup site ground station via SATCOM. The 53 WRS ground station will in turn be configured to automatically transmit them to the AFWA WPMDS server. However, if the Internet disruptions occur at AFWA, no data can be sent to the AWN, NWS servers, and external users until service is restored.</p> <p>5.9.4.3. NHC Emergency Backup Plan. In the event NHC activates the HPC or CPHC COOP backup plan, designated CARCAH personnel will deploy to the backup site to operate the 53 WRS ground station. The reconnaissance data will be obtained at the HPC COOP site either through the WPMDS or the NWS Gateway</p> <p>Accept recommendation, but needed to add “or CPHC” in two sentences (see red font above). It should be noted that technical work needs to be done at the backup sites in order to ensure reconnaissance data can be received. Will be CLOSED once NHOP is updated.</p>
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9	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>NHC reconnaissance data needs over the next 20-30 years</p> <p>NHC</p> <p>An ongoing review of heavy aircraft alternatives by AOC has prompted NHC to conduct an analysis of its anticipated tropical cyclone observation needs for the next 20-30 years. This analysis builds on the current data requirements listed in the NHOP by adding new measurements and indicating how often current and future measurements would be required. The purpose of this information item is to initiate a dialog between the operational centers and the reconnaissance community on how these evolving needs might be met most effectively, since development of these capabilities is expected to take many years. One probable requirement is for tropical cyclone core 3-dimensional wind data from Doppler radar at 6-hour intervals, a more frequent revisit time than can be supported on an ongoing basis with current instrumentation. Additional instrumentation would be required to sample the non-rainy areas, and thermodynamic measurements in and surrounding the core will also likely be needed. NHC anticipates trying to formalize some new reconnaissance requirements at the 2012 IHC.</p> <p>Informational.</p> <p>Accept recommendation. No action required. CLOSED.</p>						
10	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Administrative Changes to NHOP</p> <p>WG/HWSOR Executive Secretary on Behalf of FAA (ATCSCC)</p> <p>During the review process regarding Action Item 2 above, the FAA also provided updates to Chapter 2, Appendix I (contact points), Appendix L (acronyms), Appendix M (definitions), Appendix N (distribution), and FSS Addresses.</p> <p>Informational.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>						
11	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint change from WFO Oxnard</p> <p>NOAA/NWS</p> <p>During a tropical cyclone exercise involving NHC and southern California WFOs it was apparent that additional breakpoints were needed north of the northernmost breakpoint as of 2010 (Point Conception). The NWS is adding two new breakpoints along the California coast, extending the northernmost breakpoint to Point Piedras Blancas for 2011:</p> <table data-bbox="418 1654 1230 1724"> <tr> <td>Point Piedras Blancas</td> <td>Latitude 35.66N</td> <td>Longitude 121.29W</td> </tr> <tr> <td>Point Sal</td> <td>Latitude 34.90N</td> <td>Longitude 120.67W</td> </tr> </table> <p>Update NHOP. Forward to RA-V Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>	Point Piedras Blancas	Latitude 35.66N	Longitude 121.29W	Point Sal	Latitude 34.90N	Longitude 120.67W
Point Piedras Blancas	Latitude 35.66N	Longitude 121.29W						
Point Sal	Latitude 34.90N	Longitude 120.67W						

12	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Correction to NHOP for Existing Breakpoints</p> <p>NOAA/NWS</p> <p>Add the following asterisk to the bottom of Appendix B:</p> <p>* The use of this breakpoint includes land areas adjacent to the body of water.</p> <p>Also add an asterisk to the following breakpoint in the NHOP: Lake Maurepas, LA</p> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>															
13	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint Change from WFO New Orleans</p> <p>NOAA/NWS</p> <p>During tropical cyclone situations, because of complex local geography and NWS breakpoint/zone configurations, it was difficult to effectively communicate tropical cyclone hazards for the metropolitan New Orleans area.</p> <p>The NWS is adding the following breakpoint. Include an asterisk.</p> <p>Lake Pontchartrain, LA* Latitude 30.20N Longitude 90.13W</p> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>															
14	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint change from WFO San Juan</p> <p>NOAA/NWS</p> <p>As Hurricane Earl passed to the north of mainland Puerto Rico in 2010, the need for additional flexibility to allow the issuance of separate tropical cyclone watches/warnings for the islands north and east of mainland Puerto Rico became apparent. (It is also noted that the existing Puerto Rico mainland is not included in the NHOP. The NWS requests the following breakpoints be added to the NHOP for 2011:</p> <table data-bbox="418 1522 1221 1690"> <tr> <td>Puerto Rico</td> <td>Latitude 18.22N</td> <td>Longitude 66.44W</td> </tr> <tr> <td>Vieques</td> <td>Latitude 18.12N</td> <td>Longitude 65.43W</td> </tr> <tr> <td>Culebra</td> <td>Latitude 18.32N</td> <td>Longitude 65.28W</td> </tr> <tr> <td>Saint Thomas/Saint John</td> <td>Latitude 18.33N</td> <td>Longitude 64.85W</td> </tr> <tr> <td>Saint Croix</td> <td>Latitude 17.74N</td> <td>Longitude 64.73W</td> </tr> </table> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>	Puerto Rico	Latitude 18.22N	Longitude 66.44W	Vieques	Latitude 18.12N	Longitude 65.43W	Culebra	Latitude 18.32N	Longitude 65.28W	Saint Thomas/Saint John	Latitude 18.33N	Longitude 64.85W	Saint Croix	Latitude 17.74N	Longitude 64.73W
Puerto Rico	Latitude 18.22N	Longitude 66.44W															
Vieques	Latitude 18.12N	Longitude 65.43W															
Culebra	Latitude 18.32N	Longitude 65.28W															
Saint Thomas/Saint John	Latitude 18.33N	Longitude 64.85W															
Saint Croix	Latitude 17.74N	Longitude 64.73W															

15	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint correction from WFO Morehead City, NC</p> <p>NOAA/NWS</p> <p>The NWS requests the following corrections be made to the NHOP for 2011:</p> <p>Delete the statement “The inclusion of Pamlico and Albemarle Sounds should be on a case-by-case basis.”</p> <p>Add the following breakpoints. Include asterisks for each:</p> <table border="0"> <tr> <td>North Pamlico Sound*</td> <td>Latitude</td> <td>35.26N</td> <td>Longitude</td> <td>76.04W</td> </tr> <tr> <td>South Pamlico Sound*</td> <td>Latitude</td> <td>35.24N</td> <td>Longitude</td> <td>76.04W</td> </tr> <tr> <td>Pamlico Sound*</td> <td>Latitude</td> <td>35.35N</td> <td>Longitude</td> <td>75.85W</td> </tr> <tr> <td>Albemarle Sound*</td> <td>Latitude</td> <td>36.05N</td> <td>Longitude</td> <td>76.10W</td> </tr> <tr> <td>East Albemarle Sound*</td> <td>Latitude</td> <td>36.05N</td> <td>Longitude</td> <td>75.90W</td> </tr> </table> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>	North Pamlico Sound*	Latitude	35.26N	Longitude	76.04W	South Pamlico Sound*	Latitude	35.24N	Longitude	76.04W	Pamlico Sound*	Latitude	35.35N	Longitude	75.85W	Albemarle Sound*	Latitude	36.05N	Longitude	76.10W	East Albemarle Sound*	Latitude	36.05N	Longitude	75.90W
North Pamlico Sound*	Latitude	35.26N	Longitude	76.04W																							
South Pamlico Sound*	Latitude	35.24N	Longitude	76.04W																							
Pamlico Sound*	Latitude	35.35N	Longitude	75.85W																							
Albemarle Sound*	Latitude	36.05N	Longitude	76.10W																							
East Albemarle Sound*	Latitude	36.05N	Longitude	75.90W																							
16	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint correction from WFO Mount Holly, NJ</p> <p>NOAA/NWS</p> <p>The NWS requests the following corrections be made to the NHOP for 2011</p> <p>Replace existing breakpoint for “Delaware Bay North/South of Slaughter Beach, DE” with the following two breakpoints. Include asterisks.</p> <table border="0"> <tr> <td>Delaware Bay South*</td> <td>Latitude</td> <td>38.95N</td> <td>Longitude</td> <td>75.10W</td> </tr> <tr> <td>Delaware Bay North*</td> <td>Latitude</td> <td>39.10N</td> <td>Longitude</td> <td>75.25W</td> </tr> </table> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>	Delaware Bay South*	Latitude	38.95N	Longitude	75.10W	Delaware Bay North*	Latitude	39.10N	Longitude	75.25W															
Delaware Bay South*	Latitude	38.95N	Longitude	75.10W																							
Delaware Bay North*	Latitude	39.10N	Longitude	75.25W																							
17	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Breakpoint correction from WFO Boston, MA</p> <p>NOAA/NWS</p> <p>The NWS requests the following correction be made to the NHOP for 2011:</p> <p>Delete the statement “The inclusion of the above points should be on a case-by-case basis.”</p> <p>Update NHOP. Forward to RA-IV Committee.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>																									

18	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Storm name pronunciations</p> <p>NOAA/NWS</p> <p>The NHOP has traditionally included the pronunciations for some storm names, but questions often arise about the pronunciations of other names on the lists. NHC has obtained the phonetic pronunciations of Atlantic and Eastern Pacific tropical storm names and provided to the WG/HWSOR Executive Secretary.</p> <p>Update NHOP. Forward to RA-IV and RA-V Committees.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>
19	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Formatting of header information in NHC text products</p> <p>NOAA/NWS</p> <p>NHC text products do not have a space between the Mass News Disseminator (MND) header block and the AWIPS header information, as required by NWS Instructions. This will be corrected for 2011. OS21 will issue a National Service Change Notice.</p> <p><u>Old format:</u></p> <p>WTNT31 KNHC 020232 TCPAT1 BULLETIN TROPICAL DEPRESSION ALEX ADVISORY NUMBER 26 NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL012010 1000 PM CDT THU JUL 01 2010</p> <p><u>New format:</u></p> <p>WTNT31 KNHC 020232 TCPAT1</p> <p>BULLETIN TROPICAL DEPRESSION ALEX ADVISORY NUMBER 26 NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL012010 1000 PM CDT THU JUL 01 2010</p> <p>Update the 2010 TCM example, Figure 4-1, by inserting a blank line after the current second line.</p> <p>Update the 2010 TCP example, Figure 4-2, by inserting a blank line after the current second line. Also, reformat the example to adhere to 69 characters per line.</p> <p>Forward to RA-IV and RA-V Committees.</p> <p>Accept recommendation. Will be CLOSED once NHOP is updated.</p>

20	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Product type line for NHC and HPC products</p> <p>NOAA/NWS</p> <p>The format for the Product Type Line in the Mass News Disseminator Header Block for NHC products is:</p> <p>(TROPICAL CYCLONE TYPE) (NAME) ADVISORY NUMBER (NN)</p> <p>When NHC writes the last advisory on a system because it has dissipated or become post-tropical, the cyclone type that appears in the product type line can cause confusion, e.g., the advisory says “TROPICAL STORM EARL ADVISORY NUMBER 23”, but the contents of the advisory indicate that Earl has become post-tropical (or dissipated). This inconsistency has occasionally been confusing to media and perhaps other users as well.</p> <p>In addition, the current Product Type Line in the Mass News Disseminator Header Block for TCP products from the Hydrometeorological Prediction Center (HPC) is:</p> <p>PUBLIC ADVISORY NUMBER XX FOR (TROPICAL CYCLONE TYPE) (NAME)</p> <p>The following changes will occur for text products issued by NHC and HPC in 2011:</p> <p>1. The format for the Product Type Line for the TCP products from NHC and HPC will always be:</p> <p>(TROPICAL CYCLONE TYPE) (NAME) ADVISORY NUMBER (NN)</p> <p>2. The Tropical Cyclone Type for all text products issued by NHC will be expanded to account for a broader range of tropical cyclone types. The full list of tropical cyclone types which will be used effective in 2011 is:</p> <p>TROPICAL DEPRESSION TROPICAL STORM HURRICANE TYPHOON SUBTROPICAL DEPRESSION SUBTROPICAL STORM POST-TROPICAL CYCLONE REMNANTS OF</p> <p>A National Service Change Notice will be issued.</p> <p>Informational. Forward to RA-IV and RA-V Committees.</p> <p>Accept recommendation. The WG/HWSOR Executive Secretary will review the NHOP to determine if any information needs to be updated. Will be CLOSED once NHOP is updated (if there are required updates).</p>
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21	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Revise the wording for overall tropical cyclone MAX WIND location in the remarks section of the VORTEX message for the 2012 season</p> <p>NOAA/AOC (Barry Damiano) and NHC (James Franklin)</p> <p>Currently, the VORTEX message contains a specific bearing and range for max surface wind inbound (item E) and max flight level wind inbound (item G). Also, the remarks section of the VORTEX message highlights the max flight level temperature with a bearing and range if that temperature value location is greater than 5 nautical miles from the tropical cyclone flight level center and likewise for a surface center that is offset by more than 5 nautical miles from the flight level center.</p> <p>However with respect to the wording in the remarks section of the VORTEX message describing the overall tropical cyclone Max Wind value and corresponding observation time, the location relative to the tropical cyclone center uses the word “QUAD” and an abbreviated cardinal heading (NE, NW, etc.). Recently, this wording has generated some confusion among neophyte meteorologists onboard the aircraft. Some individuals have interpreted the word “QUAD” to mean quadrants and subsequently a NE (northeast), SE (southeast), SW (southwest) and NW (northwest) azimuth from the tropical cyclone center. However, a bearing of 357° would indicate an azimuth of N (north) from the tropical cyclone center even though technically it is in the NW quadrant.</p> <p>To minimize confusion, provide greater precision to users, and exhibit consistency with other storm-related items, it is recommended to remove the word “QUAD” from the REMARKS section of the vortex message and replace it with the observed bearing and range of the of the overall tropical cyclone MAX WIND value. This change would go into effect for the 2012 hurricane season. See the example below:</p> <p><u>Old format:</u> MAX FLT LVL WIND 77 KTS N QUAD 1234Z MAX OUTBOUND FLT LVL WIND 77 KTS N QUAD 1234Z MAX OUTBOUND AND MAX FLT LVL WIND 77 KTS N QUAD 1234Z</p> <p><u>New format:</u> MAX FLT LVL WIND 77 KTS 357/12 1234Z MAX OUTBOUND FLT LVL WIND 77 KTS 357/12 1234Z MAX OUTBOUND AND MAX FLT LVL WIND 77 KTS 357/12 1234Z</p> <p>AOC and 53WRS will implement the new format for 2012 season. However, since software onboard 53rd WRS aircraft may need updating and the ability to update the software only occurs every 18 months, this item needs to be resolved by 30 April 2011. Therefore, by 30 April 2011, NOAA AOC, 53WRS, and NHC will determine whether revised wording for overall tropical cyclone MAX WIND location in the REMARKS section of the VORTEX message is needed, and if they are needed, finalize/agree on the exact changes to be made. Item remains OPEN.</p>
Non-NHOP Related Action Items		
22	<p>Title</p> <p>Submitter</p> <p>Discussion</p>	<p>Abbreviations for kilometers per hour in text products</p> <p>NOAA/NWS</p> <p>Varying abbreviations for kilometers per hour were used in NWS products. For 2011, the NWS will use the abbreviation of “KM/H”. The abbreviation will be used in the following products: Tropical Cyclone Update (TCU) and the Tropical Cyclone Wind Speed Probabilities. A National Service Change Notice will be issued.</p>

	Recommendation	Informational. Forward to RA-IV and RA-V Committees.
	Action	Accept recommendation. The WG/HWSOR Executive Secretary will review the NHOP to determine if any information needs to be updated. Will be CLOSED once NHOP is updated (if there are required updates).
23	Title	Issuing office for Spanish Tropical Cyclone products
	Submitter	NOAA/NWS
	Discussion	WFO San Juan translates and issues Spanish language versions of the Tropical Weather Outlook and Tropical Cyclone Public Advisories. Although the products include a remark at the bottom indicating who prepared the translation, the issuing office is not indicated in the product header block. For 2011, the following line will be added to the Mass News Disseminator Header Block for these Spanish language products TWOSPN and TCPSP/1-5/: TRANSLATION ISSUED BY NATIONAL WEATHER SERVICE SAN JUAN PR A National Service Change Notice will be issued.
	Recommendation	Informational. Forward to RA-IV Committee.
	Action	Accept recommendation. No action required. CLOSED.
24	Title	Inclusion of intensity in mph in the Tropical Cyclone Discussion
	Submitter	NOAA/NWS
	Discussion	The Tropical Cyclone Discussion (TCD) product is one that was originally intended for meteorologists, but has in recent years also received widespread usage by emergency management, media, and the general public. The current format of the TCD includes the initial intensity and five day forecast intensity in units of knots. Providing winds in mph would increase the utility of the product for the now broader user base. In addition, it is noted that occasionally winds from the TCM/TCD have been converted by outside users to mph with overly precise values to the nearest 1 mph, even though the precision of this product is to the nearest 5 kt. For 2011, the tabular portion of the TCD be modified to include the wind information in both knots and mph. A National Service Change Notice will be issued. See example below. <u>Old format:</u> WTNT41 KNHC 021452 TCDAT1 TROPICAL STORM TOMAS DISCUSSION NUMBER 18 NWS NATIONAL HURRICANE CENTER MIAMI FL AL212010 1100 AM EDT TUE NOV 02 2010 TOMAS HAS CERTAINLY BECOME BETTER ORGANIZED SINCE YESTERDAY...WITH A LARGE AREA OF DEEP CONVECTION AND INCREASED BANDING SEEN IN

CONVENTIONAL SATELLITE AND MICROWAVE DATA.

Text continues...

FORECAST POSITIONS AND MAX WINDS

INITIAL	02/1500Z	13.5N	72.6W	45	KT
12HR VT	03/0000Z	13.7N	73.8W	55	KT
24HR VT	03/1200Z	14.1N	75.0W	65	KT
36HR VT	04/0000Z	14.6N	75.8W	70	KT
48HR VT	04/1200Z	15.2N	76.0W	80	KT
72HR VT	05/1200Z	17.2N	74.9W	90	KT
96HR VT	06/1200Z	20.0N	72.0W	65	KT
120HR VT	07/1200Z	22.5N	69.5W	60	KT

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FORECASTER CANGIALOSI/BROWN

New format:

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WTNT41 KNHC 021452

TCDAT1

TROPICAL STORM TOMAS DISCUSSION NUMBER 18
NWS NATIONAL HURRICANE CENTER MIAMI FL AL212010
1100 AM EDT TUE NOV 02 2010

TOMAS HAS CERTAINLY BECOME BETTER ORGANIZED SINCE
YESTERDAY...WITH A
LARGE AREA OF DEEP CONVECTION AND INCREASED BANDING SEEN IN
CONVENTIONAL SATELLITE AND MICROWAVE DATA.

Text continues...

FORECAST POSITIONS AND MAX WINDS

INIT	13/0900Z	20.5N	86.0W	80	KT	90	MPH
12H	13/1800Z	21.2N	85.9W	90	KT	105	MPH
24H	14/0600Z	22.0N	85.7W	95	KT	110	MPH
36H	14/1800Z	22.8N	85.6W	100	KT	115	MPH
48H	15/0600Z	23.7N	85.5W	105	KT	120	MPH
72H	16/0600Z	25.4N	85.2W	115	KT	135	MPH
96H	17/0600Z	27.1N	85.0W	120	KT	140	MPH
120H	18/0600Z	28.8N	84.7W	105	KT	120	MPH

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FORECASTER CANGIALOSI/BROWN

Informational. Forward to RA-IV and RA-V Committees.

Recommendation

Action

Accept recommendation. The WG/HWSOR Executive Secretary will review the NHOP to determine if any information needs to be updated. Will be **CLOSED** once NHOP is updated (if there are required updates).

25	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Status of 10-90 percent Storm Surge Exceedance Products for 2011</p> <p>NOAA/NWS</p> <p>The NWS has decided the products will become operational for 2011.</p> <p>Informational. Forward to RA-IV Committee.</p> <p>Accept recommendation. No action required. CLOSED.</p>
26	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Elimination of conference calls for storms away from land</p> <p>NOAA/NWS</p> <p>Now that all advisory information is contained within an electronic worksheet on the internet and HPC/OPC no longer provide forecast input over the phone, there is not a need to have conference calls for tropical cyclones away from land whose 5-day forecast track is not near or over the U.S. and its dependencies. This call is not necessary because there is no pre-coordination required for advisory information.</p> <p>End regular advisory conference calls on systems that do not require coordination between NHC and NCEP/NWS offices. Advisory information will be still be posted by 2 hours after synoptic time on the Internet worksheet. The NHC will continue to have conference calls for tropical cyclones that have forecast points south of 20°N and west of 60°W, any forecast points west of 70°W, on the first advisory, special advisories, if the advisory information is not available on the electronic worksheet by 2 hours, or upon request.</p> <p>Accept recommendation. No action required. CLOSED.</p>
27	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p> <p>Action</p>	<p>Change in time of daily medium range coordination call</p> <p>NOAA/NWS</p> <p>The daily NHC – HPC medium range coordination call will be changed from Noon (Eastern) local time to 1700 UTC.</p> <p>Informational</p> <p>Accept recommendation. No action required. CLOSED.</p>
28	<p>Title</p> <p>Submitter</p> <p>Discussion</p>	<p>CPHC Backup of NHC for Eastern Pacific Basin</p> <p>NOAA/NWS</p> <p>HPC currently serves as the backup office for NHC tropical cyclone products and forecasts. It was the intent of CPHC to assume backup responsibility for NHC tropical cyclone products and forecasts in the eastern Pacific Ocean prior to the start of the 2010 hurricane season and this was pushed back to the 2011 season. CPHC is committed to assuming this backup responsibility prior to the start of the 2011 hurricane season which is May 15 for the eastern Pacific. HPC will provide CPHC with a copy of current documentation regarding HPC backup procedures for NHC in the eastern Pacific. CPHC</p>

	<p>Recommendation</p> <p>Action</p>	<p>will also coordinate with NHC to arrange training for CPHC hurricane specialists.</p> <p>Informational. Forward to RA-IV and RA-V Committees</p> <p>Accept recommendation. The WG/HWSOR Executive Secretary will review the NHOP to determine if any information needs to be updated. Will be CLOSED once NHOP is updated (if there are required updates).</p>																																			
<p>29</p>	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p>	<p>Expanded use of discrete Mission Identifiers for non-tasked NOAA research flights</p> <p>NOAA/AOC</p> <p>The 2010 NHOP (page 5-28, Table 5-3, “Elements of the Mission Identifier,” already contains a provision for the use of a more descriptive Mission Identifier for non-tasked NOAA research missions than the standard NOAA_ WXWXA TRAIN used for training, testing, and repositioning flights. See the last entry in the current NHOP excerpt below:</p> <p style="text-align: center;">Table 5-3. Elements of the Mission Identifier</p> <table border="1" data-bbox="435 739 1360 1115"> <thead> <tr> <th data-bbox="435 739 613 789">AGENCY/ AIRCRAFT</th> <th colspan="4" data-bbox="613 739 1360 789">Mission Storm System Indicator</th> </tr> <tr> <th data-bbox="435 789 613 869">Agency + Aircraft Number¹²</th> <th data-bbox="613 789 786 869">Sequential number of mission in this storm</th> <th data-bbox="786 789 1013 869">Two-digit depression number or two letter identifier if not a depression or greater³</th> <th data-bbox="1013 789 1159 869">Location A, E, C, or W⁴</th> <th data-bbox="1159 789 1360 869">Storm name or mission type (i.e., CYCLONE or INVEST)</th> </tr> </thead> <tbody> <tr> <td colspan="5" data-bbox="435 869 1360 894" style="text-align: center;">-EXAMPLES-</td> </tr> <tr> <td data-bbox="435 894 786 953">AF306 0201C CYCLONE</td> <td colspan="4" data-bbox="786 894 1360 953">USAF aircraft 5306 on the second mission for Tropical or Subtropical Depression One in the Central Pacific. Mission type can be fix or surveillance, as specified in the TCPOD.</td> </tr> <tr> <td data-bbox="435 953 786 1012">AF307 0403E CARLOS</td> <td colspan="4" data-bbox="786 953 1360 1012">USAF aircraft 5307 on the fourth mission for the third classified tropical or subtropical system that formed in the Eastern Pacific and acquired the name Carlos.</td> </tr> <tr> <td data-bbox="435 1012 786 1054">NOAA2 01BBA INVEST</td> <td colspan="4" data-bbox="786 1012 1360 1054">NOAA aircraft 42RF on the first mission to investigate the second unclassified suspect area in the Atlantic, Gulf of Mexico, or Caribbean.</td> </tr> <tr> <td data-bbox="435 1054 786 1115">NOAA3 WX01A AGNES</td> <td colspan="4" data-bbox="786 1054 1360 1115">NOAA aircraft 43RF on a non-tasked mission into the first tropical or subtropical system that formed in the Atlantic basin and acquired the name Agnes.</td> </tr> </tbody> </table> <p>However, as written above, there is no way to distinguish each flight in a succession of missions into a particular storm or research missions into numbered suspect areas that have not yet become tropical cyclones. AOC, in coordination with CARCAH, has been using Mission IDs tailored to non-tasked research settings on a flight-by-flight basis. The naming scheme proposed below will make it much easier for users to correlate transmitted SATCOM messages to a particular flight in a sequence of missions into a system that makes the progression from disturbance to depression to named storm.</p> <p>Modify NHOP to formalize use of Mission Identifiers for non-tasked tropical research flights using the following scheme (use of W to begin the second group will continue to distinguish these flights from tasked missions scheduled in the POD):</p> <p>A sequence of three research flights (designated by WA, WB, WC) into a numbered suspect area (i.e., AL92):</p> <p>1st flight: NOAA9 WAWXA AL92</p> <p>2nd flight: NOAA3 WBWXA AL92</p> <p>3rd flight: NOAA9 WCWXA AL92</p> <p>Once the disturbance becomes a depression, following W_ in the second group to denote the flight number in the continuing sequence, use the same tropical cyclone number assigned to tasked missions:</p> <p>4th flight: NOAA3 WD13A CYCLONE</p> <p>Once the depression acquires a name:</p>	AGENCY/ AIRCRAFT	Mission Storm System Indicator				Agency + Aircraft Number ¹²	Sequential number of mission in this storm	Two-digit depression number or two letter identifier if not a depression or greater ³	Location A, E, C, or W ⁴	Storm name or mission type (i.e., CYCLONE or INVEST)	-EXAMPLES-					AF306 0201C CYCLONE	USAF aircraft 5306 on the second mission for Tropical or Subtropical Depression One in the Central Pacific. Mission type can be fix or surveillance, as specified in the TCPOD.				AF307 0403E CARLOS	USAF aircraft 5307 on the fourth mission for the third classified tropical or subtropical system that formed in the Eastern Pacific and acquired the name Carlos.				NOAA2 01BBA INVEST	NOAA aircraft 42RF on the first mission to investigate the second unclassified suspect area in the Atlantic, Gulf of Mexico, or Caribbean.				NOAA3 WX01A AGNES	NOAA aircraft 43RF on a non-tasked mission into the first tropical or subtropical system that formed in the Atlantic basin and acquired the name Agnes.			
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NOAA3 WX01A AGNES	NOAA aircraft 43RF on a non-tasked mission into the first tropical or subtropical system that formed in the Atlantic basin and acquired the name Agnes.																																				

		<p>5th flight: NOAA9 WE13A KARL 6th flight: NOAA3 WF13A KARL and so on....</p> <p>CHANGE REQUIRED TO NHOP: Table 5-3 be modified as follows:</p> <p>The fourth row under “Examples” be replaced by the following:</p> <p>NOAA9 WAWXA AL92 (in the left column)</p> <p>With the following description in the right column:</p> <p>NOAA aircraft N49RF on the first flight of a sequence of non-tasked research missions into Atlantic suspect area AL92.</p> <p>A fifth row be added as follows:</p> <p>NOAA3 WF13A KARL (in the left column)</p> <p>With the following description in the right column:</p> <p>NOAA aircraft N43RF on the sixth flight of a sequence of non-tasked research missions into the system that developed from suspect area AL92 into the thirteenth tropical or subtropical cyclone in the Atlantic Basin and acquired the name Karl.</p> <p>Action Accept recommendation. Will be CLOSED once NHOP is updated.</p>
30	<p>Title</p> <p>Submitter</p> <p>Discussion</p> <p>Recommendation</p>	<p>Tropical cyclone dropwindsonde data</p> <p>NOAA/HRD</p> <p>The Hurricane Research Division (HRD) of NOAA’s Atlantic Oceanographic and Meteorological Laboratory has collected and made available to the community an archive of all dropwindsonde data obtained in and near tropical cyclones globally since 1997. The types of data that are available are: (1) raw D-files, (2) transmitted TEMPDROP messages, (3) high-resolution operationally processed data, and (4) post-processed (research-quality) data. These data are currently available publicly at ftp://ffp.aoml.noaa.gov/pub/hrd/data/dropsonde.</p> <p>The raw and low-resolution transmitted data are routinely available after each flight, and the various agencies have sent the raw data to HRD after each season. Until 2010, high-resolution data were saved during NOAA P-3 flights when EDITSONDE was used to process the raw data. Many researchers use the high-resolution data in studies of small-scale features, turbulence, and air-sea interaction. The new version of ASPEN (ASPEN-QC) will have the capability of outputting high-resolution data, and this will be the default.</p> <p>So that researchers will not necessarily need to reprocess all dropwindsonde data to obtain the high-resolution output, HRD requests that other government agencies:</p> <ol style="list-style-type: none"> a. Run the new version of ASPEN-3.0, when available, so that the high-resolution operationally processed data are output (the default). The format will be agreed upon by the agencies that deploy and use dropwindsondes. b. Make the raw D-files and operationally processed high-resolution data available to HRD for archive at their convenience (not necessarily real-time). Formal

		mechanisms for this transfer will be agreed upon by the agencies that deploy and archive dropwindsondes.
	Action	Accept recommendation. CLOSED.
OLD ACTION ITEMS: FROM 64th IHC		
10	Title	Advanced Tasking of Reconnaissance and Surveillance Missions
	Submitter	NOAA/NWS
	Discussion	<p>By prior agreement among the WMO RA-IV, NHC, the 53WRS, and AOC, the eastern boundary to initiate tropical cyclone reconnaissance has been moved, requiring a modification to the NHOP, page 5-9, paragraph 5.5.1.3.1. Change the eastern boundary of Atlantic reconnaissance fix requests from 55°W to 52.5°W. This change is consistent with the recent change to extend the watch and warning lead times.</p> <p>Surveillance missions conducted by NOAA/AOC and the 53WRS are intended to provide environmental data to the numerical guidance and to NHC forecasters in time to influence the watch/warning decision process for potential land-falling hurricanes. The 12-h increases in lead time associated with the new watch/warning definitions mean that surveillance missions will generally need to be tasked 12 h earlier than in previous years.</p> <p>A tasking for a mission takeoff for the following afternoon can be expected when the storm at 1200 UTC is within about 102 h of projected landfall. This timeline gets the mission data into the models that the forecaster sees roughly 42 h later, or 60 h prior to landfall. While this is a general guideline, actual requests for surveillance flights in any particular situation may occur either earlier or later than this, as conditions warrant.</p>
	Recommendation	Informational. Change NHOP, page 5-9, paragraph 5.5.1.3.1 as indicated above.
	Action	<p><i>Two actions resulted from discussions:</i></p> <p><i>- NHC will use climatological data to estimate the average annual additional support that would be levied on the 53rd WRS to support the Atlantic reconnaissance fix requests if the eastern boundary moved from 55°W to 52.5°W. Forward the information as follows:</i></p> <p><i>TO: Col Brian "Bear" Kraemer (22 AF A5A8) (Brian.Kraemer@dobbins.af.mil)</i></p> <p><i>CC: Lt Col Rob Stanton (403 OG/CD) (Robert.Stanton@keesler.af.mil)</i></p> <p><i>Mark Welshinger (OFCM) (Mark.Welshinger@noaa.gov)</i></p> <p><i>- Col Kraemer will forward the information provided by NHC to Higher Headquarters to determine if moving the eastern boundary from 55°W to 52.5°W is supportable.</i></p>
	Status (03/22/2010)	NHC forwarded the climatological data to Col Kraemer and the other addressees on 3/15/2010.
	Status (01/18/2011)	Item remains open.
Status (03/09/2011, after 65th IHC)	AFRC to elevate for high-level decision; AFRC will support for 2011 hurricane season, resources permitting. Item remains OPEN.	

OLD ACTION ITEMS: FROM 63 RD IHC		
4	Title	Change in Organizational Name
	Submitter	NOAA
	Discussion	The approval process changing the name of the Tropical Prediction Center/National Hurricane Center to National Hurricane Center is underway.
	Recommendation	Informational. Amend the NHOP if official approval for the name change is obtained from the Department of Commerce prior to the NHOP going to the printer (~ May 15, 2009). IHC to forward to RA-IV Committee if approval is obtained.
	Action	<i>Continue to track if official approval is received. If it has been received in time for updating the NHOP, it will be CLOSED once the NHOP is updated.</i>
	Status (03/22/10)	<i>The name change is still pending. Will change TPC/NHC to NHC in the NHOP when the name change is approved.</i>
	Status (01/18/2011)	The name change has been approved http://www.nhc.noaa.gov/nhc_name_change.php?large . The new name will be reflected in the 2011 NHOP. Will be CLOSED once NHOP is updated.
OLD ACTION ITEMS: FROM 62 ND IHC		
10	Title	Update Memorandum of Agreement between United States Air Force Reserves and NOAA
	Submitter	NOAA
	Discussion	The Memorandum of Agreement (MOA) between the U.S. Air Force Reserves and NOAA was last updated in 2000, seven years ago. AOC recently received a couple of phone calls from other DOD agencies inquiring about revision and update to this MOA.
	Recommendation	Request Office of the Federal Coordinator for Meteorology (OFCM) to facilitate the update of the MOA.
	Action	<i>Accept recommendation.</i>
	Status	<i>2/24/09: MOA has been updated and completely reorganized. NOAA/NWS has signed the MOA (Dr. Jack Hayes); AFRC is reviewing the MOA.</i> <i>01/26/10: AFRC still has not signed the MOA. OPEN</i> <i>03/10/10: The Joint Staff is staffing a tasking to AFRC to take action on the MOA. OPEN.</i>
	Status (01/18/2011)	The MOA is now at USTRANSCOM, which will be the DoD signatory element. Item remains OPEN .
Status (03/09/2011, after 65th IHC)	USTRANSCOM working with AFRC to staff to signatory element. Item remains OPEN .	

17	Title	Caribbean Hurricane Awareness Tour (CHAT)
	Submitter	53 rd WRS
	Discussion	The CHAT has been flown by both the NOAA P-3 and the AFRC WC-130. Historically, the NOAA P-3 has been used for the Gulf, East Coast Awareness Tour and the WC-130 for the CHAT. These missions are important to educate the public about the threat of hurricanes and to continue an effective liaison with the weather services of the countries/areas visited.
	Recommendation	Discuss options where the DOD and DOC share the expense of the CHAT. Discuss options to rotate the responsibility of doing the Gulf, East Coast Hurricane Awareness Tour or CHAT between the main flying organizations—DOD and NOAA. This would enhance outreach and allow the public in both regions to see both the AFRC WC-130 and NOAA P-3.
	Action	<i>Accept recommendation</i>
	Status	<i>AFRC/53 WRS and NHC will explore options during 2009 CHAT.</i> <i>01/26/10: This item will remain open, pending the signing of the MOU.</i> <i>03/22/10: Attendees of the WG/HWSOR meeting during the 64th IHC agreed that the 53 WRS and NOAA/AOC should continue dialog on possibly alternating participation on the CHAT and HAT. Also, there may be an opportunity/need to include appropriate language in the MOU. OPEN.</i>
	Status (01/18/2011)	This item remains OPEN.
Status (03/09/2011, after 65th IHC)	NHC, NOAA AOC, and 403 OG / 53 rd WRS agreed to work CHAT and HAT options on a case-by-case basis. WG/HWSOR participants agreed to CLOSE this item.	

OTHER OLD ACTION ITEMS

2. Title: **Expendable Bathythermograph (AXBT) Observations on Tasked Reconnaissance Missions**
- Submitter: NOAA
- Discussion: A need has been identified by EMC for routine AXBT data to be collected on hurricane reconnaissance and research flights. The purpose of this data is to support initial testing efforts for the new HWRF coupled hurricane model. Currently there are no real time in situ ocean observations that define the upper ocean structure. EMC would like to test the usefulness of AXBT observations in coupled HWRF model runs in 2006 and beyond, beginning initially with data from the NOAA P3's and then from the AFRC

WC-130J reconnaissance aircraft after 2007, when the HWRF model is expected to become operational.

Recommendation: Request AXBT deployments (minimum of 12), using present second-hand inventory, on each WP-3D tasked reconnaissance mission.

Action:

1. NCEP/EMC, TPC/NHC, and AOC will coordinate to obtain AXBT observations on selected tasked missions during the 2006 season to help establish the requirements for upper ocean observations.
2. The NOAA HRD and AOC will investigate the development of an AXBT that can be deployed through the AVAPS system.
3. The 53 WRS will investigate the feasibility of deploying AXBT's.
4. NWS will take action to identify needed resources for upper ocean observations through the PPBES process.

Current Status:

Action ongoing pending resources. NCEP/EMC is developing the requirements document for AXBT (upper-ocean) observations, which is the driver for actions 2-4 above. Obviously, per action #4 above, the NOAA hurricane program will need additional resources for this requirement, especially for instrument costs and additional flight hours.

As discussed at the WG/HWSOR meeting during the 62nd IHC, the OFCM will coordinate with NWS and the 53rd WRS for AXBT and other associated equipment/system requirements to facilitate funding for this mission.

Status (12/22/08)

NOAA/AOML/HRD brought this issue to the 2008 NOAA Hurricane Conference. The recommendation from the conference was: "A plan for obtaining ocean data in support of operational needs should be developed in consultation with EMC and AOC. This plan should consist of a set of requirements based on known resources." **OPEN**

Status (from WG/HWSOR meeting at 63rd IHC):

WG/HWSOR agreed a plan for obtaining ocean data in support of operational needs to be developed. Team members to draft plan by June 1, 2009 were identified at the 63rd IHC meeting:

HRD: Eric Uhlhorn (lead)
EMC: Hyun-Sook Kim
NCO: Michelle Mainelli
AFRC: Mike Ammons / Jon Talbot

AOC: Jim McFadden
NRL: Peter Black
RSMAS/UM: Nick Shay

- Status (01/26/10)** A draft document has been developed and is being vetted by the identified representatives of key organizations. A summary and overview presentation will be provided at the 64th IHC. **OPEN.**
- Status (03/22/10)** Two actions resulted from the meeting of the WG/HWSOR during the 64th IHC:
- The draft document should be forwarded to NHC for their review and request for concurrence. **OPEN.**
 - A team should be formed to work the funding mechanism for this requirement. **OPEN.**
- Status (01/18/11)** (The following was extracted from NOAA Hurricane Conference, Item 08-36, 12/02/10)
- On 10/4/2010, the NHC received and reviewed draft document entitled “Statement of Operational Upper-Ocean Sampling Need for Coupled HYCOM-HWRF.” NHC cannot offer concurrence with the plan as currently proposed, as it does not appear that an operational benefit has been sufficiently established.
- As of 11/30/10: NHC and HRD agree on the need for additional research to be conducted before NHC can provide concurrence on an operational statement of need.
- Status (02/17/11)** Recommend this item be **CLOSED.**
- Status (03/09/11)** WG/HWSOR participants agreed to **CLOSE** this item. Note: a related item was introduced as 65th IHC Action Item #2.