

Interdepartmental Hurricane Conference (IHC)

60th IHC Action Items

Open Action Items (59TH IHC)

60th IHC ACTION ITEMS

1. Title: **P-3 Availability during Hurricane Season**

Submitter: NOAA

Discussion: The following discussion, recommendation, and action are from the 59th IHC. The recommended wording was not placed in the 2005 NHOP. The NWS did take the requirement to the aircraft council via their NWS representative.

New
Recommendation: Update 2006 NHOP based upon the old discussion and recommendation below.

Old Discussion: The NOAA P-3's are the only aircraft that can currently provide Stepped Frequency Microwave Radiometer (SFMR) data. Due to other obligations, including research commitments, neither P-3 was available to provide the data TPC/NHC needed during the approach and landfall of Hurricane Charley in August 2004. This deficiency left the U.S. hurricane warning program without the data it needed at a critical time.

Old
Recommendation: Have at least one of the two P-3s operationally configured and available to respond within 24 hours to reconnaissance taskings from 1 June through 30 November. The minimum operational configuration for the P-3 includes the SFMR and the Airborne Vertical Atmosphere Profiling System. Modify the 2005 National Hurricane Operations Plan accordingly.

Action: Accept recommendation. Update NHOP (James Franklin provided input).

2. Title: **Change to NHOP – Section 5.4.1**
- Submitter: NOAA
- Discussion: It is unclear what “wind profile data” means in section 5.4.1, 5th bullet.
- Recommendation: Expand the wording read “Wind ~~profile~~ data (continuous observations along the flight track) for surface and flight level.”
- Action: Accept recommendation, deleting the word “profile.”
3. Title: **2005 Storm Names to Retire**
- Submitter: NOAA
- Discussion: Some 2005 storm names are likely to be replaced this year.
- Recommendation: Have TPC/NHC director represent NOAA on this topic at the annual WMO RA-IV meeting. It is likely that Katrina, Rita and Wilma will be retired. Forward to WMO RA-IV for final determination and then update the 2006 NHOP.
- Action: Accept recommendation. Note: May include additional major hurricanes, such as Dennis
4. Title: **Change to NHOP – Subtropical Storm (Cyclone) Definition**
- Submitter: NOAA
- Discussion: The current definition on page L-5. The NWS has adopted the definition as noted in the recommendation.
- Recommendation: Adopt the suggested definition below and forward to WMO RA-IV meeting.
- “Subtropical ~~Storm~~ Cyclone: A non-frontal low pressure system that has characteristics of both tropical and extratropical cyclones. This system is typically an upper-level cold low with circulation extending to the surface layer and maximum sustained winds generally occurring at a radius of about 100 miles or more from the center. In comparison to tropical cyclones, such systems have a relatively broad zone of maximum winds that is located farther

from the center, and typically have a less symmetric wind field and distribution of convection."

Action: Accept recommendation, changing Subtropical Storm to Subtropical Cyclone and changing the Subtropical Storm definition to: *A subtropical cyclone in which the maximum sustained surface wind speed (1-min mean) is 34 knots (39 mph) or higher.*

5. Title: **Atlantic Basin Tropical Cyclone Name List - Informational**

Submitter: NOAA

Discussion: This year's well above average tropical cyclone activity in the Atlantic Basin exhausted the name list utilized by NHC for the first time. Policy was in place for use of the Greek alphabet. However, if a storm designated with a "Greek" letter had to be retired, the question must be asked "how would that letter designation be replaced"? With above average tropical cyclone activity projected for the next 10 to 20 years, this scenario could become a problem that would need to be addressed more than once.

A simple solution to this potential dilemma is to have a floating alternate or secondary name list available that could be placed into service if the primary Atlantic Cyclone name list is exhausted. Named storms from the secondary or alternate list that require retirement could easily be replenished based on recommendations from the WMO. This recommendation will be proposed at the upcoming WMO RA-IV hurricane Committee meeting.

Recommendation: Report to IHC as informational.

Action: Once the list of names for the Atlantic and Eastern Pacific are approved by WMO RA-IV will need to update the NHOP.

6. Title: **Change Request for Vortex Message**

Submitter: NOAA

Discussion: Propose adding Storm Number Identifiers to Part P of the Vortex Message for use in facilitating automatic ingest into NHC, CPHC, and DOD Tropical Cyclone Forecast computing systems.

Proposed addition to Part P:

P. AF302 1712A KATRINA OB 16 <Storm-ID>

Examples:

P. AF302 1712A KATRINA OB 16 AL122005
P. AF305 01CCA INVEST OB 10 AL932005

Storm Number Identifiers are formatted as **BBCCYYYY**

BB: Ocean Basin

AL - North Atlantic basin...north of the Equator

SL - South Atlantic basin...south of the Equator

EP - North East Pacific basin...eastward of 140.0W

CP - North Central Pacific basin.between
the Dateline and 140.0W

WP - North West Pacific basin...westward of the
Dateline

IO - North Indian Ocean basin...north of the
Equator between 40.0E and 100.0E

SH - South Pacific Ocean Basin and South Indian
Ocean basin

CC: Cyclone Number

Numbers 01 through 49 are reserved for tropical and subtropical cyclones. A cyclone number is assigned to each tropical or subtropical cyclone in each basin as it develops. The numbers are assigned in chronological order.

Numbers 50 through 79 are reserved for internal use by operational forecast centers.

Numbers 80 through 89 are reserved for training, exercises and testing.

Numbers 90 through 99 are reserved for tropical disturbances which have the potential to become tropical or subtropical cyclones. Although not required, the 90's should be assigned sequentially and reused throughout the calendar year.

YYYY: Four-digit year

This is the calendar year for the Northern Hemisphere. For the Southern Hemisphere, the year begins July 1, with calendar year plus one.

Recommendation: Request action completed by CARCAH, 53 WRS, and NOAA AOC prior to start of 2006 hurricane season. Make appropriate changes in NHOP.

Action: "Storm ID" will be implemented in the message title. AOC will implement for the 2006 season; implementation for the 53 WRS will be between August 1 and Nov. 15.

7. Title: **Addition of High Density Three-Dimensional Doppler Radar Data Requirements to NHOP**

Submitter: NOAA

Discussion: High density three-dimensional Doppler radar data of the tropical cyclone core circulation is needed for initialization of the NWS Hurricane Weather Research and Forecast (HWRF) modeling system. The HWRF is an advanced next generation hurricane prediction system.

Recommendation: Insert in the NHOP the following information:

A. Section 5.4.1: New bullet to be added after the 4th bullet - wind profile...: "High density three dimensional Doppler radial velocities of the tropical cyclone core circulation."

B. New Section under 5.4.2

5.4.2.x Core Doppler radar

Horizontal ~~Radial~~ resolution along aircraft track: 1.5 km

~~Vertical resolution: 100 m~~

~~Error: 2 m s⁻¹ for horizontal wind components~~

Radar beam width: 3 degrees

Radar radial resolution (gate length): 150 m

Error in radar radial velocity: 1 m/s

Range: 50 km

C. Renumber current section 5.4.5, e.g. Required Frequency, to section 5.4.6

D. Add new section 5.4.5.

"When required, TPC and EMC will coordinate to request high density three dimensional Doppler radial velocities in the tropical cyclone core for potential storms impacting the United States. EMC, TPC, and HRD will coordinate to provide specific flight plans to Chief, Aerial Reconnaissance Coordinate, All Hurricanes

(CARCAH) for coordination with the reconnaissance units.“

Action: 1. Accept recommendation. Note: Para. 5.4.2.x. updated with inputs provided by NOAA HRD (John Gamache).
2. NWS will pursue the need for additional flying hours (the new 100 percent requirement) through the PPBES process.

8. Title: **Adding Storm Identification Number to Tropical Cyclone Products - Informational**

Submitter: NOAA

Discussion: The storm identification number which is being added to the Fix message and Vortex message is also being added to the following Atlantic, east Pacific, and central Pacific products for 2006:

TROPICAL CYCLONE PUBLIC ADVISORY
TROPICAL CYCLONE DISCUSSION
TROPICAL CYCLONE POSITION ESTIMATE
TROPICAL CYCLONE UPDATE
TROPICAL CYCLONE WIND PROBABILITIES
AVIATION TROPICAL CYCLONE ADVISORY

Recommendation: Report to IHC as informational

Action: No action required.

9. Title: **Addition to NCEP's National Hydrometeorological Center (HPC) TCP Message – Informational**

Submitter: NOAA

Discussion: HPC will provide forecast points at the end of their TCP, out through 120 hours, at the same time steps as TPC, and issued at the normal advisory times, as long as the system is expected 1) to have an identifiable surface low and 2) to provide a significant precipitation threat to the continental United States. Example:

FORECAST POSITIONS

INITIAL 25/2100Z 29.0N 77.4W
12HR VT 26/0600Z 33.1N 72.6W
24HR VT 26/1800Z 39.4N 65.2W

36HR VT 27/0600Z 43.1N 58.2W
48HR VT 27/1800Z...DISSIPATED

Recommendation: Report to IHC as informational

Action: No action required.

10. 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.

11. Title: **New Format for HDOB/MINO B Data**

Submitter: NOAA

Discussion: High density flight-level observations from NOAA P-3 and AFRES C-130 reconnaissance aircraft currently are transmitted using different formats (MINOB and HDOB, respectively), although the content of these messages are extremely similar. With the addition of SFMR data to the Air Force aircraft, the required redesign of the C-130 HDOB message offers an excellent opportunity to settle on a single format for these data.

Recommendation: NOAA and AFRC (53 WRS) should use a single message format for the transmission of high-density flight-level data. A proposed format for the new HDOB message is attached that would replace NHOP Figures G-2 and G-3 and Table G-3 and G-4. Eliminate all references to "MINOB" in the NHOP.

Action: Implementation of the new HDOB message was deferred until the 2007 season. NOAA/AOC, 53 WRS, and TPC/NHC will coordinate to finalize the required formatting and processing of the message by May 1, 2006, to ensure the information is available for the WC-130J contractor.

12. Title: **CARCAH Manning**

Submitter: AFRC

Discussion: Historically, the CARCAH positions have been funded by the Air Force. The number of individuals assigned has varied and as technology has changed from voice HF to SATCOM data communications, the number of positions has been reduced to three. One Chief and two data monitors. The Air Force has funded these positions since most of the data in the past has been from Air Force Aircraft. In recent years, the NOAA P-3 and G-IV have flown an increasing number of operational missions and the job responsibilities of the position have changed to a more multiagency monitoring role with CARCAH personnel handling Air Force and NOAA data monitoring duties and other duties at the NHC. Funding for these positions should be shared as well.

Recommendation: Air Force and NOAA should develop a plan to share the funding costs of the CARCAH positions which is more representative of the actual division of duties, i.e., if 70% of the CARCAH duties involve Air Force missions and 30% involve NOAA missions the Air Force should fund 70% and NOAA 30% of the cost of these positions.

- Action: NOAA representative could not commit to the recommendation, citing legal prohibitions on the transfer of funds for the stated purposes but will provide a HQ NOAA point of contact for further discussions.
13. Title: **Caribbean Hurricane Awareness Tour (CHAT)**
- Submitter: AFRC
- Discussion: The Caribbean Hurricane Awareness Tour (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 East Coast Awareness Tour and the WC-130 for the CHAT since the configuration of the aircraft makes it more efficient to use in these theaters. 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 visited.
- Through the NHOP, the DOD, DOC, and DOT have agreed to cooperate on arranging and executing this trip, the cost of the CHAT has steadily increased while the Air Force Reserve budget has been continuously reduced.
- Recommendation: Develop a plan where the DOD and DOC share the expense of the CHAT. Proposal is for the DOD to cover the flying hours, landing fees, and crew funding costs and for DOC to provide funding for billeting and transportation.
- Action: NOAA representative could not commit to the recommendation, citing legal prohibitions on the transfer of funds for the stated purposes but will provide a HQ NOAA point of contact for further discussions. In addition, NOAA will work with the 403rd Wing to request financial support from U.S. Southern Command which has responsibility for liaison and outreach in the CHAT area.
14. Title: **Changes to NHOP, Table 6-2**
- Submitter: Air Force Weather Agency (AFWA)
- Discussion: Update Table 6-2 for DMSP Equator crossing times

Page 6-12, Table 6-2 Update local equator times:

- DMSP F-12, to “0422D/1622A”
- DMSP F-13, to “0633D/1833A”
- DMSP F-14, to “0621D/1821A”
- DMSP F-15, to “0830D/2030A”
- DMSP F-16, to “0814D/2014A”

Recommendation: Update NHOP

Action: Accept recommendation.

15. Title: **NHOP Changes**

Submitter: 53RD Weather Reconnaissance Squadron (53 WRS)

Discussion: NHOP Chapter 5 requires updating.

Recommendation: Update NHOP as follows:

- Page 5-1, Para. 5.1, Second sentence. Delete “(see Figure 5-1)”.
- Page 5-1, Para. 5.2.1. Add to end of first bullet “(see Figure 5-1)” Re: Where the reference should be
- Page 5-2, Replace Fig 5-1 with a J model picture. I’ll try to get a nice one. Re: Self explanatory
- Page 5-5, Table 5-1, HDOB column. All 3 blocks should read “30-sec interval”. Re: Standard procedure
- Page 5-6, Para. 5.5.1.3, 3rd sub-bullet. Delete the Note.
RE: The 5 sortie requirement for the 53rd is contained in paragraph 5.1.
- Page 5-12, Figure 5-6. Delete WC-130H message examples. Also delete the reference to the WC-130H in the figure title.
Re: No longer operating H models
- Page 5-21, Para. 5.7.6. Add a footnote number 3 after “Two-digit depression number or two-letter identifier if not a depression or greater”. The footnote at the bottom of the page should read “The letters CC should not be used in an invest identifier.”
RE: This will circumvent a software issue on the WC-130J...The CCA in the identifier is being misinterpreted as an ob correction.

- Page 5-21, Para. 5.7.6. Change the existing footnote 3 to 4 at the bottom of the page and change the number 3 in the Location section to a 4.
RE: See item 7 about adding another footnote
- Page 5-21, Para. 5.7.6. Change the example NOAA2 01CCA INVEST to NOAA2 01BBA INVEST. Also change “third suspect area” to “second suspect area”.
RE: See item 7
- Page 5-27, Figure 5-13. Change the Box in the bottom of the figure from ADWS/Tinker to WPMDS/Offutt.....also, delete “with IWRS” below WC-130.
RE: Data no longer flows thru Tinker , but rather goes straight to Offutt and is distributed by the Weather Product Management and Distribution System. IWRS is a relic of the H-models.

Action: Accept proposed changes and update NHOP

16. Title: **NHOP Changes to Clarify/Correct Role of WFO Guam in the Northwest Pacific**

Submitter: NOAA/CPHC

Discussion: NHOP has the incorrect name for WFO Guam and requires clarification of WFO Guam’s role in the Northwest Pacific

Recommendation: Requested changes to the NHOP listed below be incorporated.

1. All “WSFO” should be changed to “WFO” and the same change made to the Glossary.
2. Page 2-2, 4th double bullet, last line: Add after “...prepared by JTWC.” the following “as guidance.”
3. Page 2-4, last bullet, line 3: Insert “, wind distribution” between “intensity” and “and” (...concerning location, intensity, wind distribution and forecast movement...).
4. Page 3-6, section 3.1, 2nd paragraph last sentence, add “name” after “...(RSMC) Tokyo”.
5. Pages 3-6 and 3-7, first paragraph of sections 3.3.1 and 3.3.2.1, add the following sentence to the end of the first paragraph of each: “In the Western Pacific, WFO Guam will use the JTWC cyclone number for all non-named systems. For RSMC Tokyo named systems, WFO Guam will use the RSMC Tokyo name with the associated JTWC number in parentheses.”

6. Page 3-8, section 3.4.2, change title to: “**CPHC to JTWC/(RSMC, Tokyo)/WFO Guam.**” Add: “and WFO Guam” after “...RSMC Tokyo”.
7. Page 3-8, section 3.5.1, under PRIMARY, last line: Change “NWSO Tiyan, Guam” to “WFO Guam”.
8. Page 3-8, section 3.5.2., Sentence 2: Reword as: “JTWC will advise CPHC, TPC/NHC and WFO Guam of...”.
9. Page 3-13, Section 3.6.2 Pacific Headings add:
WTPQ51-55 PGUM Tropical Cyclone Position Estimate (West Pacific)
10. Page 4-1, Section 4.3.2., lines 4-5: Change “NWSO Tiyan, Guam” to “WFO Guam”.
11. Page 6-2, Section 6.1.1.3. Update to reflect new MTSAT-1R.

6.1.1.3: MTSAT-1R. MTSAT-1R was launched for the Japanese Meteorological Agency (JMA) on February 26, 2005 and replaced the GMS-5 (and temporary placement of GOES-9) over the Western Pacific at 140° East.

12. Page 6-4, Section 6.1.3. Update for MTSAT.

6.1.3: MTSAT-1R. MTSAT-1R was launched for the Japanese Meteorological Agency (JMA) on February 26, 2005 and replaced the GMS-5 (and temporary placement of GOES-9) over the Western Pacific at 140° East. MTSAT-1R provides imagery for the Northern Hemisphere every thirty minutes and has added a new low-light infrared channel in addition to the four already existing channels (one visual and three infrared) that were previously on the GMS-5. JMA makes data from the MTSAT-1R available to 27 countries and territories in the region.

13. Page 6-5, Section 6.2.2.2 **Satellite Interpretation Message.** Make first existing sentence paragraph “a)”, and add “b) WFO Guam issues these message two times a day to describe synoptic features and significant weather over the Micronesian waters.”
14. Page 6-7 Table 6-1. Communication headings for satellite tropical weather discussions add:
ATPQ40 PGUM 0300, 1500 UTC Over Micronesia, western North Pacific
Equator to 25°N from 130°E to 180.
15. Page 6-9, Table 6.2: Remove GOES-9.
16. Page 7-3, under DEPARTMENT OF DEFENSE:
Add: “Andersen AFB, Guam ,WSR-88D,13°27’N 144°49’E”

Remove: “US Gulf and Atlantic Coast”

17. Page 9-2, Section 9.3.3., line 4: Add “, Commonwealth of the Northern Mariana Islands” after “Guam”.
18. Under APPENDIX K, ACRONYMS/ABBREVIATIONS, add:
 - CNMI - Commonwealth of the Northern Mariana Islands
 - FSM - Federated States of Micronesia
 - MTSAT-1R - Japanese Geostationary Satellite
 - PGUM - ICAO identifier for Tiyan, Guam
 - TCE - Tropical Cyclone Position Estimate
 - TCP - Tropical Cyclone Public Advisory
 - TRMM - Tropical Rainfall Measurement Mission
 - UAV - Unmanned Aerial Vehicle
 - WFO - Weather Forecast Office

(remove: WSFO term. It is no longer used)
19. Under APPENDIX I, TELEPHONE LISTING, Change name “NWSO Tiyan, Guam” to “ WFO Guam”. Change phone number to “COM 671-472-0950/1/2” Add ‘B’ in TTY column (to indicate AWIPS).
20. Under APPENDIX L, GLOSSARY, add under Hurricane Season:
 - Western Pacific July 1 to December 31 (However, tropical cyclones can occur during any month of the year in this basin.)
21. Page M-6, Department of Homeland Security/Federal Emergency Management Agency, add “FEMA Region IX 20 copies”
22. Under APPENDIX M, DISTRIBUTION, add at end
 - MICRONESIA
 - Department of Homeland Security/Office of Civil Defense, Guam, 2 copies
 - Emergency Management Office (s):
 - Commonwealth of the Northern Mariana Islands (CNMI), Saipan, 1 copy
 - Republic of Palau, Koror, 1 copy
 - Republic of the Marshall Islands, Majuro, 1 copy
 - Federated States of Micronesia (FSM), Pohnpei State, Kolonia 1 copy
 - Federated States of Micronesia (FSM), Yap State, Colonia 1 copy
 - Federated States of Micronesia (FSM), Chuuk State, Weno Island 1 copy
 - Federated States of Micronesia (FSM), Kosrae State, Tofol 1 copy

Action:

Accept proposed changes and update NHOP.

17. Title: **Access to Operational Storm Surge SLOSH Output**
- Submitter: NOAA
- Discussion: When tropical cyclones are forecast to make landfall within a predetermined period, TPC produces, resources permitting, operational storm surge SLOSH model runs for potentially affected basins. The model output is stored on TPC's anonymous ftp server for partners and users to download. The anonymous ftp server is connected to the internet world via T1 lines. During the busy season of 2005, the internet traffic to TPC's ftp server for various data was so overwhelming that some agencies had to spend more than 20 minutes to download SLOSH output.
- The access time by federal, state, and local government agencies could be reduced significantly if they can go to other servers outside of NCEP and TPC network to download those files.
- Recommendation: DOD sets up an ftp server for DOD agencies to access SLOSH data. DHS/FEMA sets up an ftp server for all federal, state, and local emergency management offices to download SLOSH data. TPC will update the SLOSH data on both servers.
- Action: OFCM will coordinate with the Air Force/AFWA, Navy, and DHS/FEMA to investigate the identification of ftp servers to speed access to SLOSH data for the individual agencies.
18. Title: **NOAA Advanced Microwave Sounding Unit (AMSU) Tropical Cyclone Estimates - Informational**
- Submitter: NOAA/TPC
- Discussion: Tropical Cyclone intensity and wind radii estimates derived from NOAA AMSU data are scheduled for distribution on dedicated NCEP data servers. These estimates, derived from accepted JHT projects, will be available at fixed schedules using the latest NOAA microwave data available at the time. Projected implementation is scheduled to commence on May 15, 2006 and intensity and wind radii information will be provided for all active global tropical cyclones pending availability of NOAA AMSU data. Detailed information can be obtained from TPC cognizant technical focal points.
- Recommendation: Report to IHC as informational

Action: No action required. Point of contact for additional information is Chris Sisko, TPC/NHC. E-mail address: chris.a.sisko@noaa.gov.

19. Title: **Tropical Cyclone (TC) Hazards - Forecasting and Depicting for Operational Aviation Use**

Submitter: 25th Operational Weather Squadron (25 OWS) (USAF)

Discussion: NHC/TPC provides significant related guidance on various aspects of TCs. Our need is for a concept or a[n] template[s] of meteorologically correct 3-dimensional presentations of the hazards associated with TCs for aviation use. Hazards to clarify include [1] area of coverage of thunderstorms, [2] intensity and levels of turbulence, and [3] threat for icing outside thunderstorm activity. Based on NHC/TPC forecasts out to 72hours, these products will reflect in kind hazards.

Recommendation: Develop a concept or template for use across the Air Force to ensure forecasters and aviators are properly informed of hazards associated with tropical cyclones.

Action: Informational—no action required; however, the 25 OWS representatives were able to use the IHC to acquire needed input and advice, regarding the development of TC-related hazards products.

OPEN ACTION ITEMS (59TH IHC)

12. Title: **Utilization of new UBLOX and existing GPS121 dropsondes for tasked reconnaissance and surveillance missions**
- Submitter: NOAA
- Discussion: A new GPS receiver module, manufactured by UBLOX, is currently being incorporated into the production version of the dropsonde. In tests made during the 2004 hurricane season, the UBLOX dropsonde has proven to be more reliable in reporting low-level winds in the eyewall of intense (Cat. 3-5) hurricanes than the previous GPS121 sonde. Another advantage of the UBLOX sonde is that it is not subject to interference from microwave transmissions (e.g., radar systems) which has resulted in some wind failures from GPS121 dropsondes released along the coastlines of the US and Caribbean islands. Except for these two primary advantages, the performance of the UBLOX and GPS121 sondes are very similar. NOAA and the Air Force has a large inventory of GPS121 sondes that need to be utilized before becoming unreliable beginning in 2006 because of possible interference from the upcoming deployment of the Galileo satellite array.
- Recommendation: During the 2005 Atlantic Hurricane Season, UBLOX dropsondes are to be used in the eyewall of intense (Cat. 3-5) hurricanes and in drop locations adjacent to land on any reconnaissance or surveillance flights. GPS121 dropsondes should be used elsewhere to deplete the current inventory of these sondes before becoming obsolete.
- Action: Adopt recommendation. Coordination is ongoing between TPC/HRD/AOC/53 WRS.
- Current Status:* UBLOX dropsondes are in full production and coordination on their use will continue through the 2006 season.
13. Title: **Support for Dropsonde Redesign Efforts**
- Submitter: NOAA
- Discussion: Engineers at AOC and NCAR have identified the following immediate needs concerning engineering support for the GPS dropsonde:

- Completing the testing and manufacturing switch-over to the Ublox GPS. This is now a hard requirement due to implementation of the Galileo satellite system beginning in 2006, and the existing codeless GPS module will not be reliable when Galileo satellites are active.

- New regulations relating to shipping hazardous materials will complicate shipping sondes with the existing Lithium battery pack. Engineering design effort to reduce the size or type of the sonde battery pack is required.

- A number of components in the dropsonde and the telemetry chassis have been discontinued by their manufacturers. Engineering design effort to identify and integrate replacement circuitry is needed.

- The PTU module is scheduled to be discontinued. A replacement PTU module has been identified, but engineering and design effort to integrate the new PTU module is required.

Recommendation: The OFCM facilitate the identification of engineering support for necessary design, testing and replacement of components of the GPS dropsonde.

Action: The OFCM will facilitate the development of an implementation strategy to pursue the development and procurement of the next-generation dropwindsonde.

Current Status: UBLOX sondes will be available for purchase through the 2007 season. Supplemental funding has been received to complete the design and prototyping of the next-generation dropwindsonde. NOAA/AOC is the lead on the project and will advise on future budgetary or availability issues, regarding dropwindsondes. A progress report on the development effort will be available following the spring AVAPS meeting.