



ATFM/TF/3
WP/14
14/06/07

International Civil Aviation Organization

THIRD MEETING OF THE GREPECAS ATM/CNS SUBGROUP ATM COMMITTEE AIR TRAFFIC MANAGEMENT TASK FORCE – (ATFM/TF/3)

(San Andrés, Colombia, 18 to 22 June 2007)

Agenda Item 6: Other matters

PROPOSED UPDATES TO FLIGHT OPERATING PROCEDURES FOR HURRICANE HUNTER AIRCRAFT (TEAL & NOAA)

(Presented by the United States)

SUMMARY

This working paper introduces information contained in the attached briefing “The Hurricane Hunters –Flight Operations.” The briefing presents information on Aircraft Operations under the call signs TEAL & NOAA and includes a proposal for changing to continuous Instrument Flight Rules (IFR) operations.

1. Introduction

1.1 Hurricane Hunter operations are a unique flight operation that presents challenges to both aircrew and Air Traffic Control Services. The information provided by these aircraft to the National Hurricane Center is vital to the development of the Tropical Storm and Hurricane weather forecasts. In the interest of conducting safe operations the Hurricane Hunters are requesting to update their operations procedures and conduct missions using continuous IFR procedures.

2. Discussion

2.1 Due to safety concerns, the Hurricane Hunters can no longer fly “Due Regard/Operational” and are proposing to update their operational procedures to continuous IFR. Currently, the Federal Aviation Administration (FAA), the National Ocean and Atmospheric Administration (NOAA), and the U.S. Air Force are in the process of reviewing the proposed changes and will be updating the National Hurricane Operations Plan (NHOP) accordingly. As the Hurricane Hunter’s area

of operation includes the Caribbean, Gulf of Mexico, Central and Eastern Pacific, and Western Atlantic, coordination is expected with North American, Central American, Caribbean, and South American States.

2.2 The attached briefing entitled “The Hurricane Hunters Flight Operations” contains the operational considerations and safety elements for continuous IFR.

3. Recommendation


3.1 The meeting is invited to:

- a. Review the attached briefing on flight operating procedures for Hurricane Hunter Aircraft (**Appendix A**); and
- b. Develop a guideline for implementing Hurricane Hunter continuous IFR operations in the CAR/SAM regions.

APPENDIX A

The Hurricane Hunters
Flight Operations

53rd Weather Reconnaissance Squadron



Prepared by:
 Lt Col Dave Borsi
 "Teal 27"

Integrity - Service - Excellence

Missions

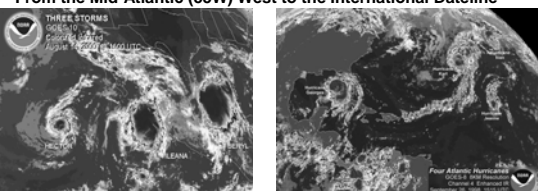
Tropical Storm/Hurricane Ops
 Low Level Investigation Flights
 Research Missions

High Altitude Synoptic Tracks
 Sea State Buoy Deployments

Search and Rescue Missions
 Airlift – Disaster Relief Supplies

Area of Operations

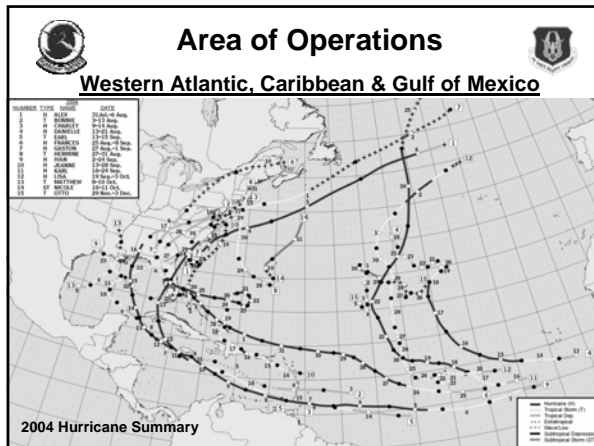
From the Mid-Atlantic (55W) West to the International Dateline

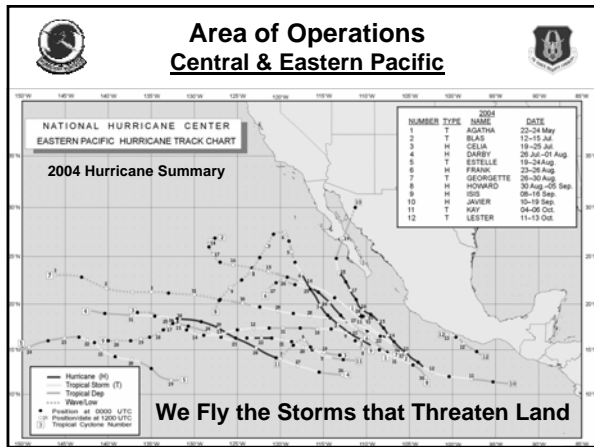


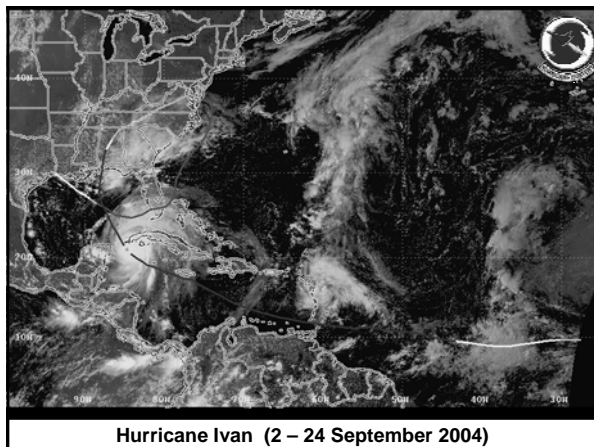
Central & Eastern Pacific Caribbean Sea & Gulf of Mexico Western Atlantic

Today there is still no substitute for the onsite data collected and sent by the Aircraft to the National Hurricane Center.

Max Mayfield, Director NHC (retired)







Tropical Storm & Hurricane Ops
Delay Area

6 - 9 hours in the Storm
Mapping extent of Hurricane & Tropical Storm
force winds

Block Altitude Required
FL120 and Below

Low Level Invest
Delay Area

Low Pressure System or a Wave?

Low Level Invest
Searching for the low pressure system

Radius - 150nm

Block Altitude Svc to 2,000'

Proposed Center Coordinates
 N2530 W07530

Airspace Required

South of The Bahamas

Eye Of Hurricane Isabel on September 12, 2003
What's It Like?

EYE OF HURRICANE ISABEL 12 SEP 03 13:04 UTC UM/CISS

Challenges to Safe Flight Operations

- Maintaining IFR Clearance with ATC Center
- Flexibility to Change Delay Area as Storm Changes
- De-conflicting with other Air Traffic (Planes & UAV)
- Operating in "Warning" or "Restricted" Areas
- Operating between 2 different Center's Airspace

IFR Operations

Cannot fly "Due Regard/Operational" anymore

Maintain continuous IFR operations in:

- Controlled Airspace (Class A – E)
- Uncontrolled Airspace (Class F or G)
- Night or Day (24/7 ops)
- IMC or VMC
- En route or in Delay Area



Normal ATC Services

Normal IFR Separation from "Other" Aircraft and Traffic Advisories

- En route and Descent into Delay Area
- During Delay Operations
- Recovery and Climb out of Delay Area



Description of Delay Area

Defined by

- Center Coordinates
- Block Altitude
- Radius

Operation between 2 ARTCCs



Operating Procedures in Delay Area

Flexibility to Change or Move Delay Area

- Center Coordinates
- Block Altitude

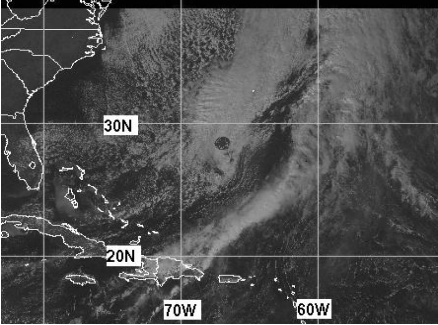
Receive ATC Clearance to Change Delay Area

No Position Reports but "Ops Normal" calls

Aircrews are responsible for Obstacle Clearance when below Minimum IFR Altitude (MIA)



Where's the Hurricane?




We were in quite a bit of clouds when we made the fix, with no view of the surface.

was never supposed to turn into a Hurricane



HURRICANE ADRIAN
17-21 MAY 2005

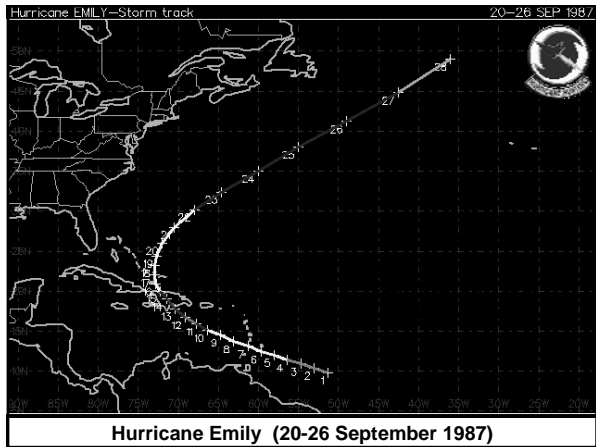


**Hurricane Hortense,
Nova Scotia,
Sept 15, 1996**

Normal leg lengths are
105nm from the eye.

Every Storm is different

In HORTENSE we went
over 200nm to the NE
looking for the end of
HURRICANE force
winds.



Operating Procedures in Delay Area

Flexibility to Change Delay Area


- Center Coordinates
- Block Altitude

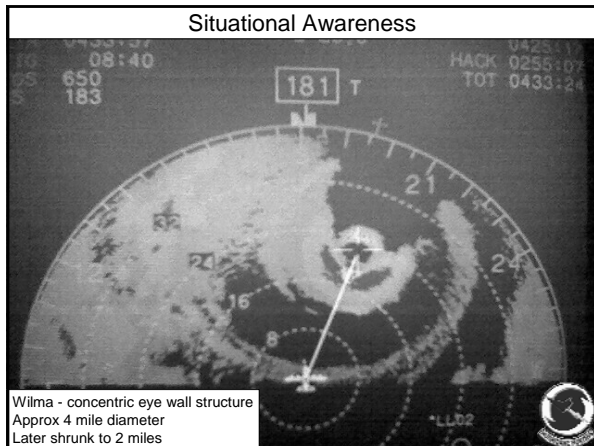
TEAL and NOAA aircraft will

- Provide own separation from each other while in the Delay Area

Aircraft Separation between

- TEAL or NOAA aircraft and
- "Other" aircraft





Communication with ATC

Before Flight – Filing Flight Plan

Before Flight – Coordination with “Warning” or “Restricted” Area Control Agencies

With ARTCCs while in Delay Area

- “Ops Normal” Calls
- VHF or Sat Phone
- HF direct or ARINC relay

With “Other” Aircraft transiting Delay Area

Hazards to Safe Flight Operations


“Other” Aircraft transiting Delay Area

“Warning” or “Restricted” Areas

Helicopter Operations around Oil Platforms

Goals:

- Continuous IFR Operations
 - Maintaining Active IFR flight plan
 - Operating between 2 different Center's Airspace (ex. Merida & CENAMER)
- Continuous Communications with ATC
 - VHF, Sat Phone, HF direct or ARINC relay
- Flexibility to Change Delay Area
 - Location, Radius, & Block Altitude
- Reduce Hazards to Safe Flight operations
 - De-conflicting with other Air Traffic
 - Helicopter Operations (PEMEX)
 - Warning & Restricted Areas
 - Airways & Airports



*On Behalf of the Hurricane Hunters
Thank You*



Special Agent David D. ...