



International Civil Aviation Organization

CAR/SAM Regional Planning and Implementation Group (GREPECAS)

Fifteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/15)

Rio de Janeiro, Brazil, 13 – 17 October 2008

Agenda Item 2

Global and inter-regional activities

2.1 Inter-regional and intra-regional CNS/ATM activities and coordination

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

(Presented by the United States of America)

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 is a unique type of 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 ICAO operational procedures to continuous IFR. The Federal Aviation Administration (FAA), the National Ocean and Atmospheric Administration (NOAA), and the U.S. Air Force have already updated the 2008 National Hurricane Operations Plan (NHOP) accordingly. As the Hurricane Hunters’ area of operation includes the Caribbean, Gulf of Mexico, Central and Eastern Pacific, and Western Atlantic, coordination is expected with North American, Central American, and Caribbean States.

2.2 The attached briefing entitled “The Hurricane Hunters - Flight Operations” contains the operational considerations and safety elements for continuous IFR (**Appendix only in English**).

2.3
support:

The following is a synopsis of “Teal” or “NOAA” aircraft storm operations and requested

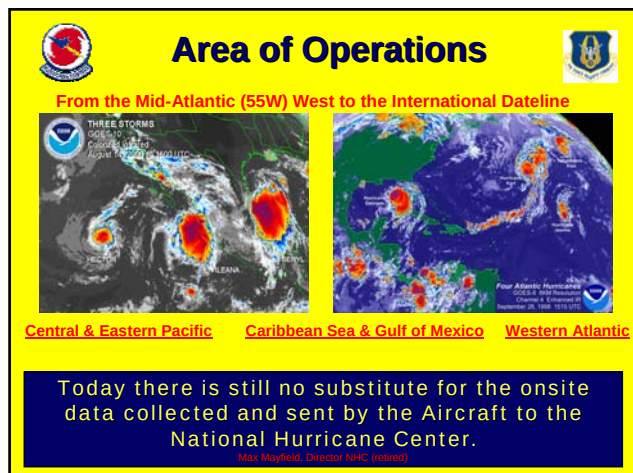
- a) The Delay Area is a weather area of interest to the Hurricane Center. In this area the aircraft’s mission is to either determine whether a low pressure weather system is developing or if there is an active tropical depression, tropical storm or hurricane in order to collect and transmit weather data to the Hurricane Center for input into their computer models. This data is used to forecast the development, movement and intensity of the weather system. The Delay Area is a geographic area defined by:
 - (i) Delay Area center coordinates.
 - (ii) NM radius around center coordinates (typically 150 NM radius with operations not conducted over land unless in direct communication with ATC and with diplomatic clearance approval).
 - (iii) Block altitude below FL150.
- b) Operating Procedures in the Delay Area.
 - (i) TEAL and NOAA aircraft will provide their own separation from each other while in the Delay Area. This separation is through a Letter of Agreement (LOA) between these operating agencies.
 - (ii) Area Control Centers (ACCs) will provide normal IFR separation for TEAL and NOAA aircraft from “other” aircraft traffic.
- c) Communication with ATC.
 - (i) Before flight – filing flight plan, communication between FAA Command Center and affected ACCs and Enhanced Traffic Management System (ETMS) flow evaluation area (FEA) input.
 - (ii) Before flight – coordination with “warning” or “restricted” Area Control Agencies.
 - (iii) In Flight - with ACC facilities while in Delay Area.
 - (iv) In flight - with “other” aircraft transiting Delay Area.
- d) Hazards to Safe Flight Operations.
 - (i) “Other” aircraft transiting Delay Area.
 - (ii) “Warning” or “restricted” areas.
 - (iii) Helicopter operations around oil platforms.
 - (iv) Environmental hazards (e.g. volcanic activity).

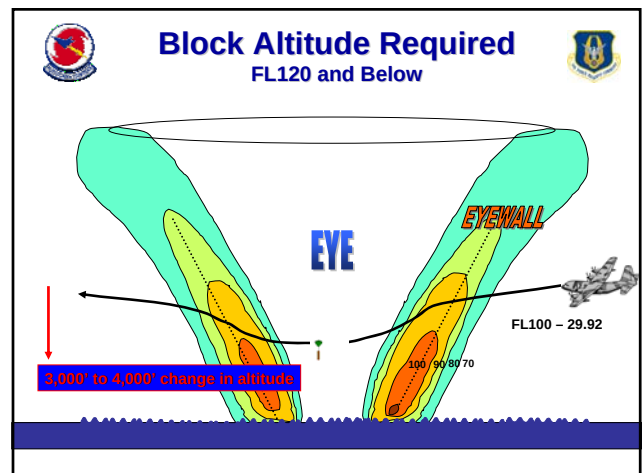
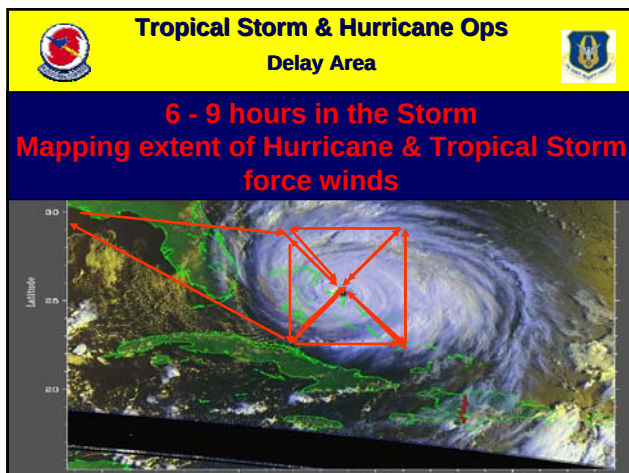
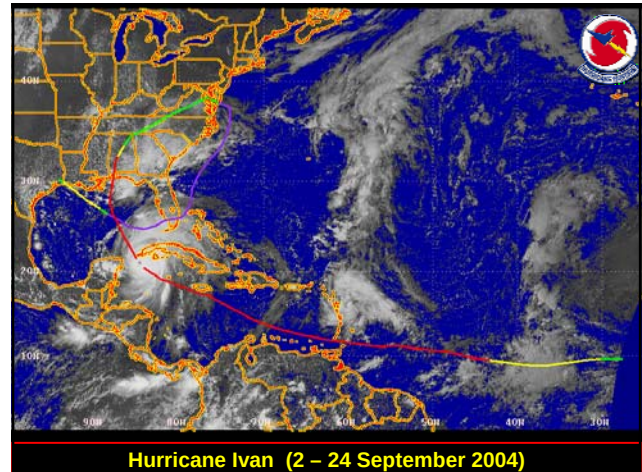
- e) Goal - reduce hazards to safe flight operations through the use of:
 - (i) Continuous IFR operations – en route, while in delay area, exiting delay area.
 - (ii) Continuous Communications with ATC facilities (VHF, HF and SAT phone).
 - (iii) Flexibility to change Delay Area quickly.
 - (iv) After the mission is complete or in case of an aircraft emergency the ability to receive a revised flight plan clearance to return to destination or divert field.
- f) Requested support.
 - (i) Contact phone numbers – Directly to ACC, Terminal Control Facilities, and Warning Area Controlling Agencies. These numbers will be used before flight and while airborne during operations.
 - (ii) Meetings with ACC agencies to coordinate operational requirements and procedures.
 - (iii) Written procedures approving or coordinating any unusual or unique aspect of Hurricane Hunter aircraft operations in support of the United Nations World Meteorological Organization, Caribbean and Central American Nations and the United States National Hurricane Center's efforts to provide accurate and timely forecasts for the region.
- g) National Hurricane Operations Plan is available on the web: <http://www.ofcm.gov/nhop/08/nhop08.htm>. Please reference chapter 5, paragraphs 5.5.4 and 5.5.5 for current FAA and aircraft operations coordination and operating procedures.

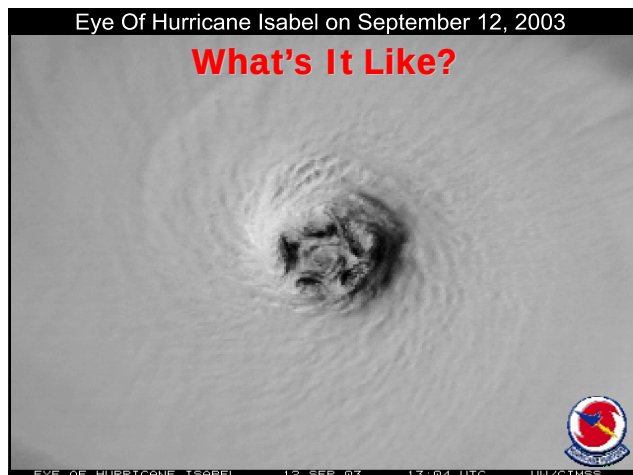
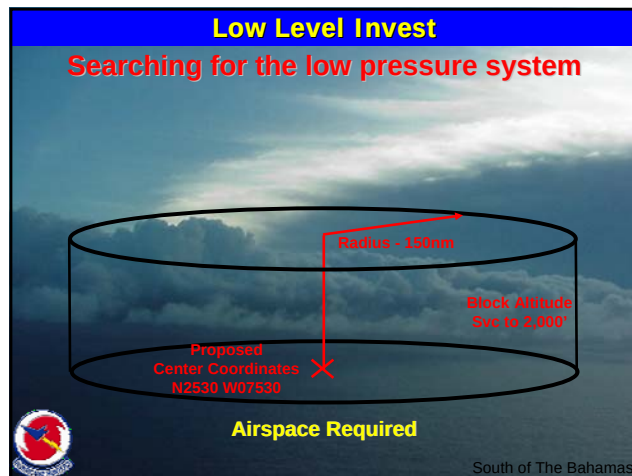
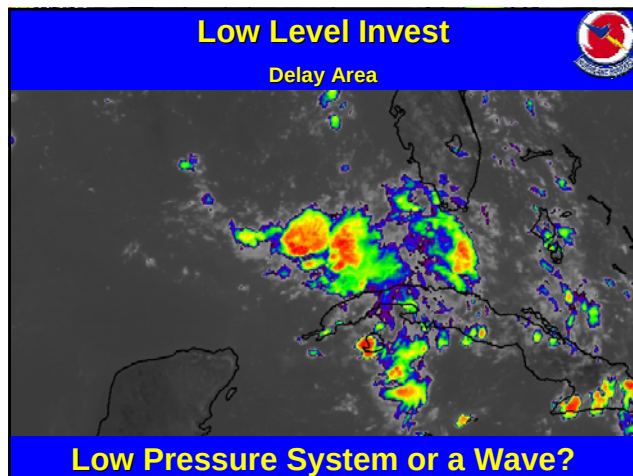
3. Action of the GREPECAS

3.1 States are invited to:

- a) Comment on the proposed updates to flight operating procedures for Hurricane Hunter Aircraft (TEAL & NOAA) as described in the briefing;
- b) Provide suggestions on implementing safe continuous IFR operations in the Appropriate GREPECAS Sub Groups.







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

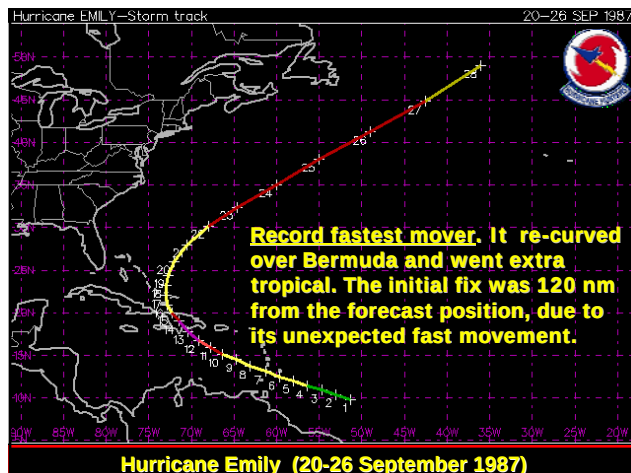
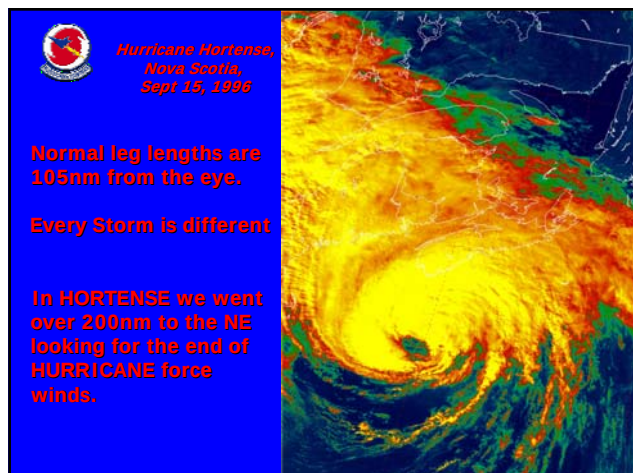
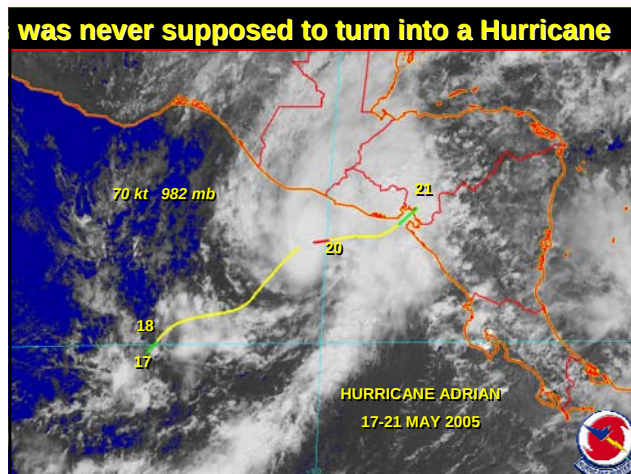
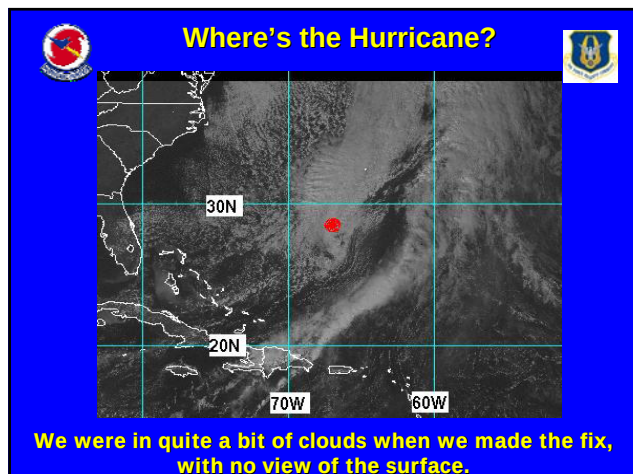
- Center Coordinates
- Block Altitude

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)





Operating Procedures in Delay Area

Flexibility to Change Delay Area

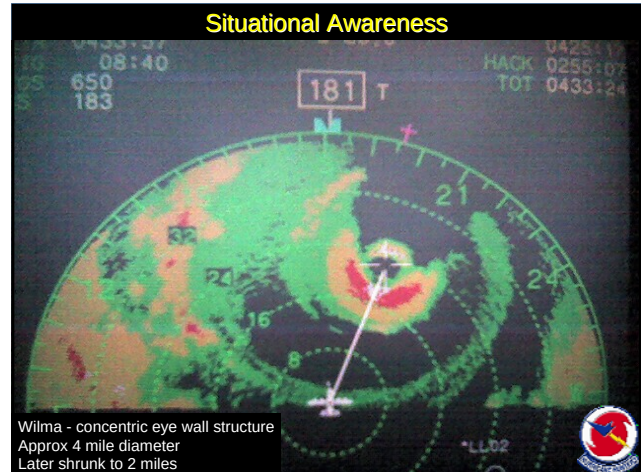
- Center Coordinates
- Block Altitude

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*



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