



Agenda Item 2

ATM Developments

2.3 Follow-up on activities relating to Air Traffic Flow Management implementation (ATFM)

**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 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.

3. Suggested Actions

3.1 The group is invited to comment on the proposed updates to flight operating procedures for Hurricane Hunter Aircraft (TEAL & NOAA) as described in the briefing and provide suggestions on implementing safe continuous IFR operations.

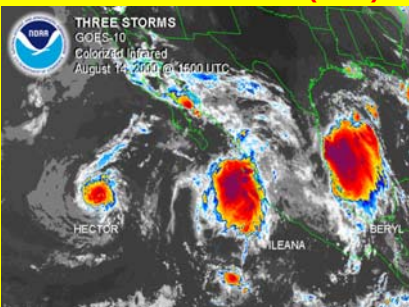
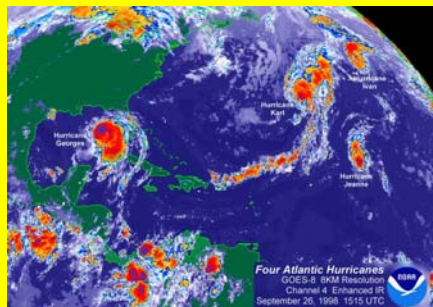




Area of Operations



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

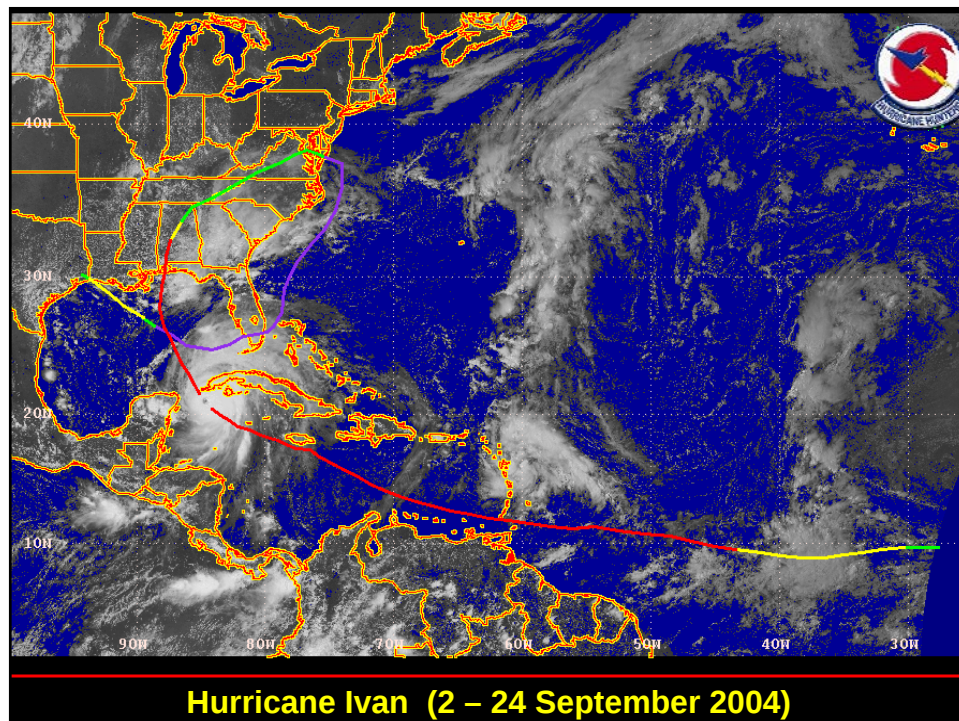
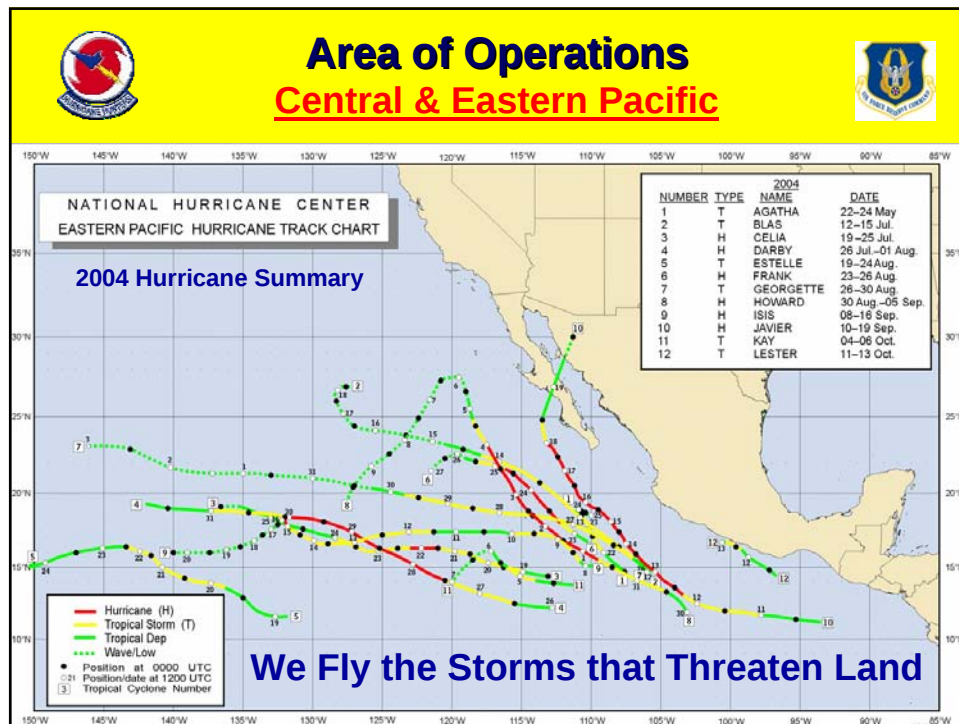



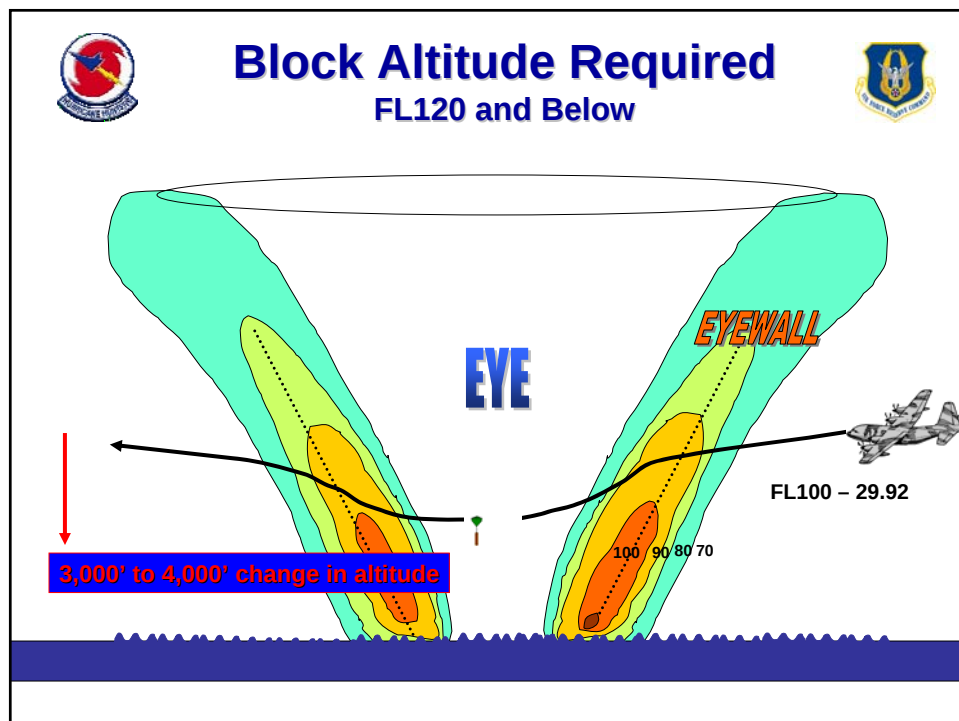
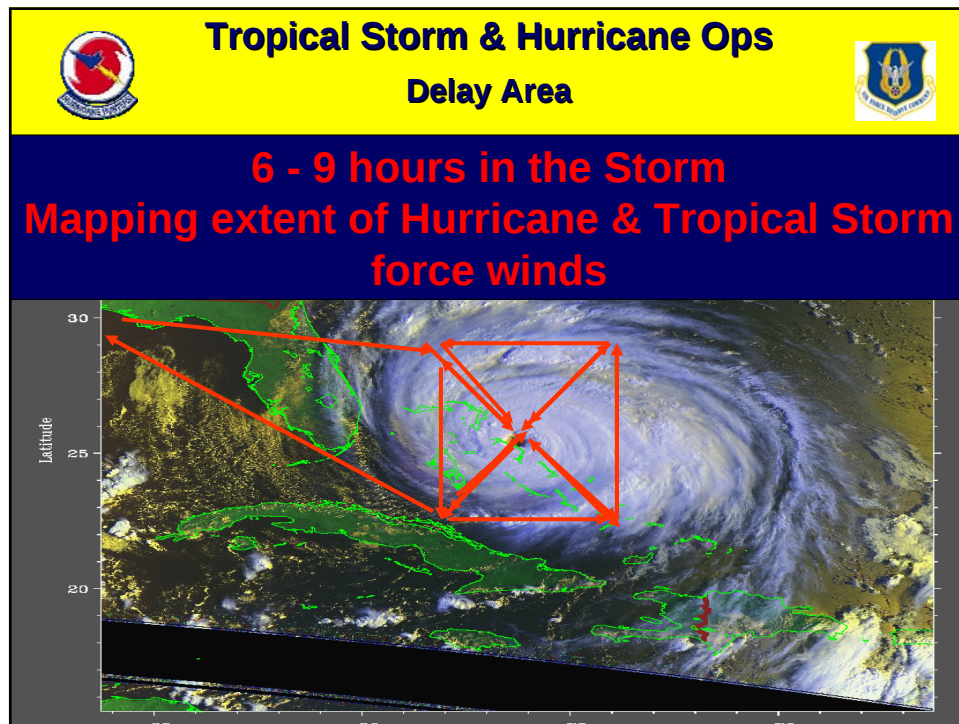
Central & Eastern Pacific Caribbean Sea & Gulf of Mexico Western Atlantic

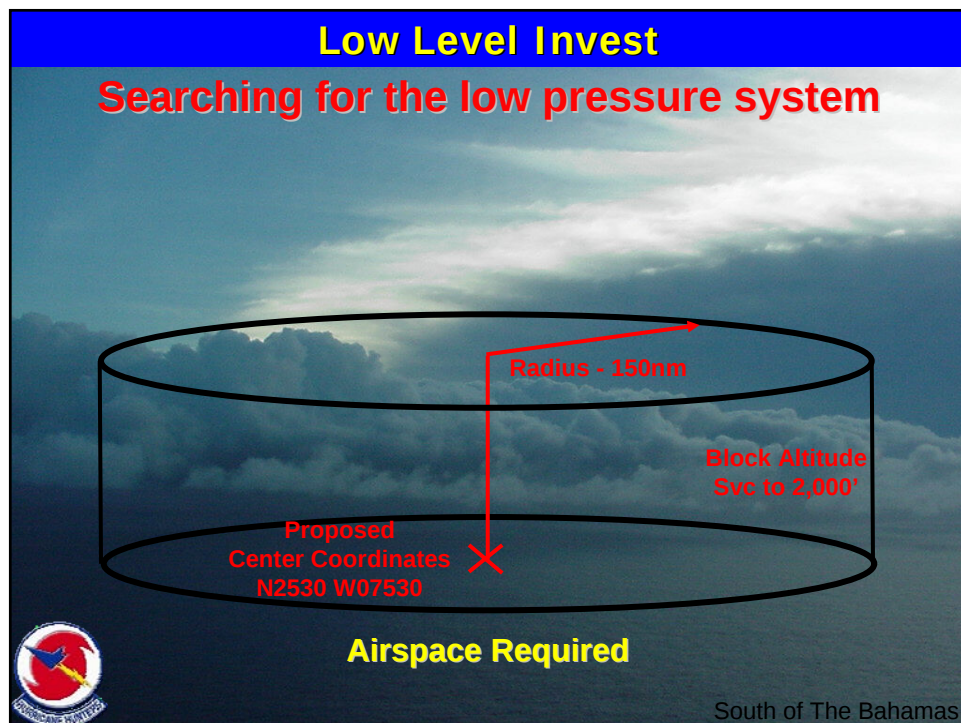
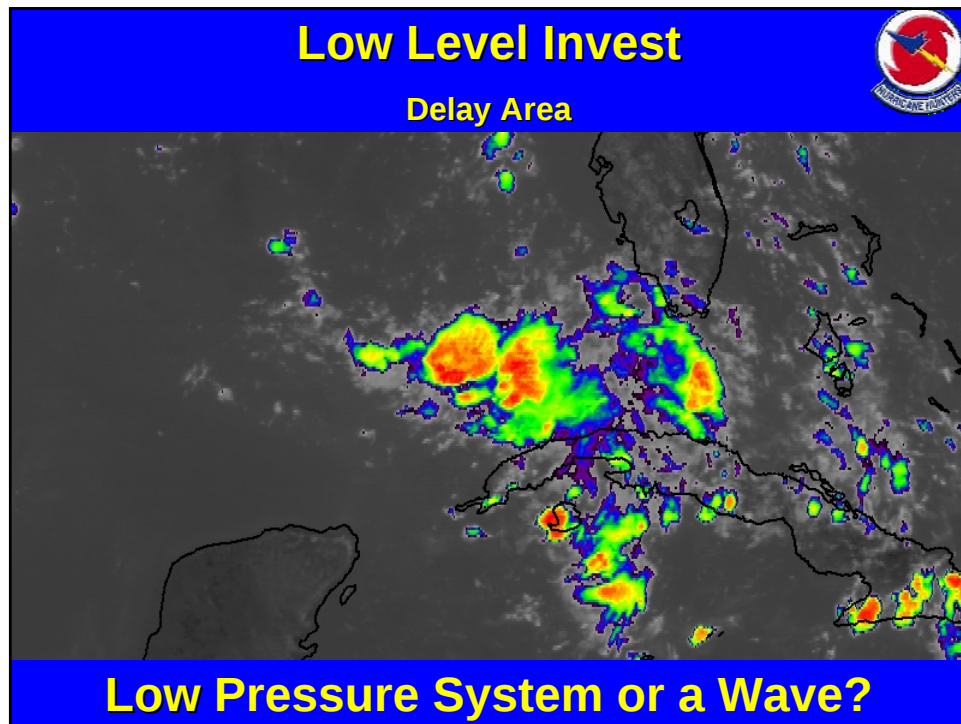
Today there is still no substitute for the onsite data collected and sent by the Aircraft to the National Hurricane Center.

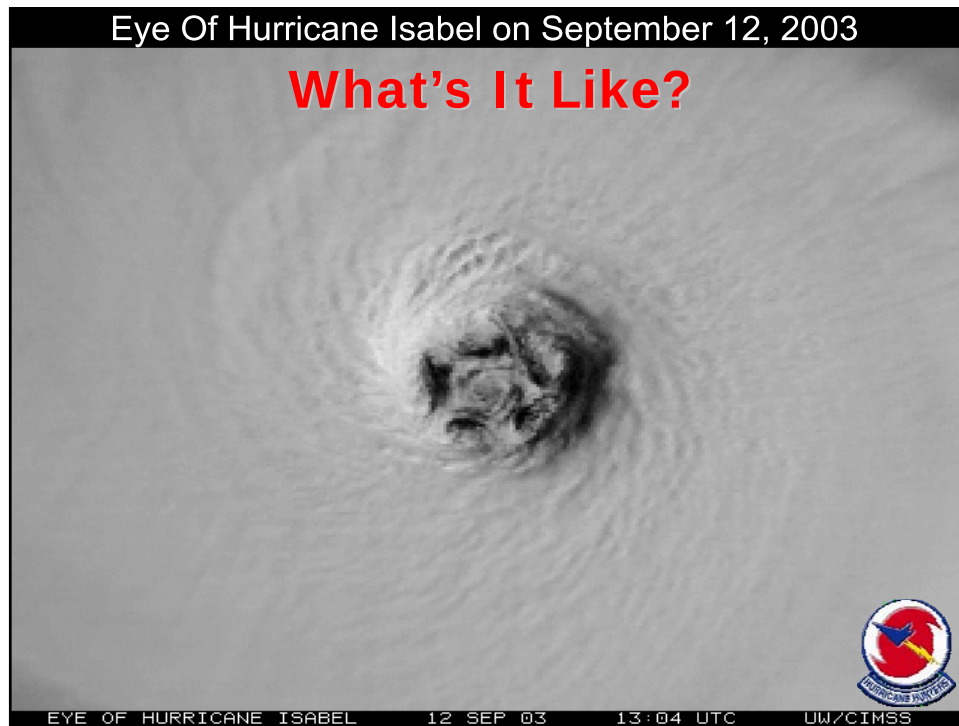
Max Mayfield, Director NHC (retired)











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

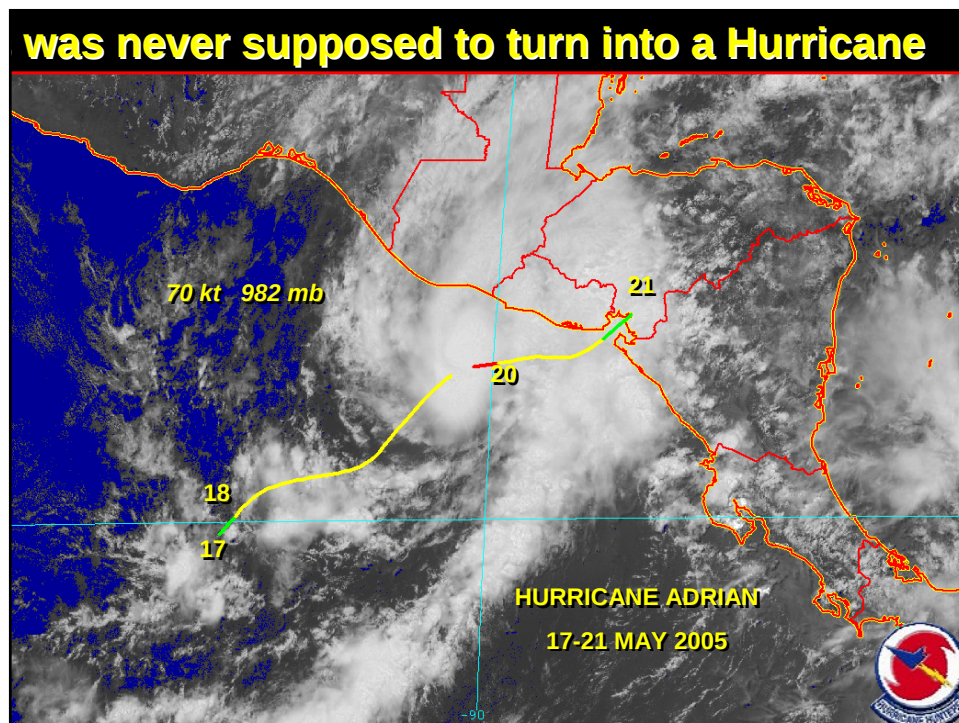
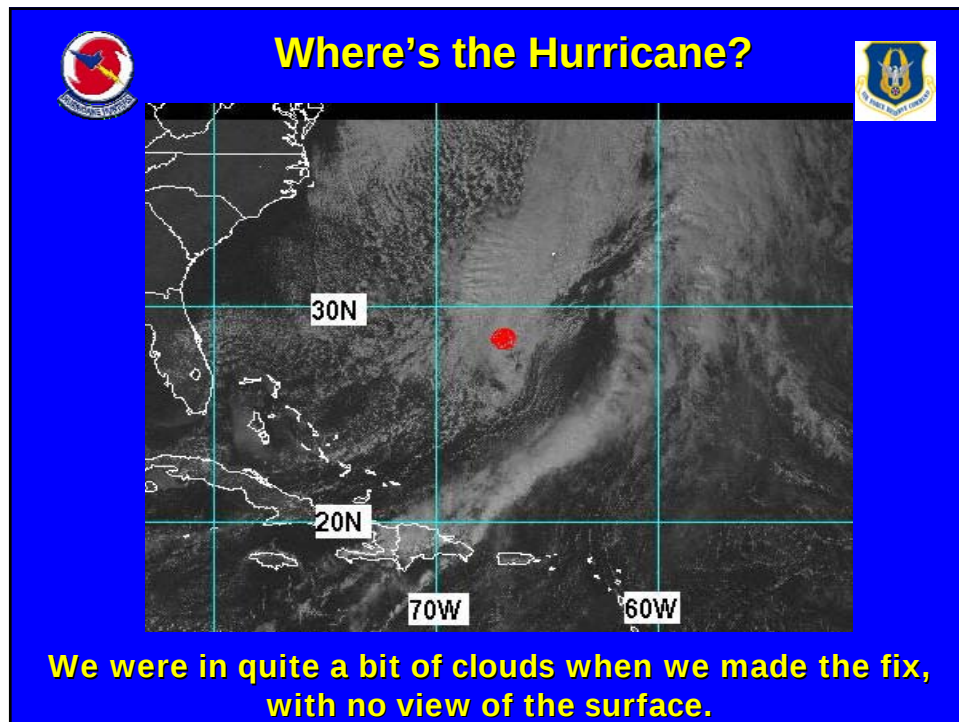
- Center Coordinates
- Block Altitude

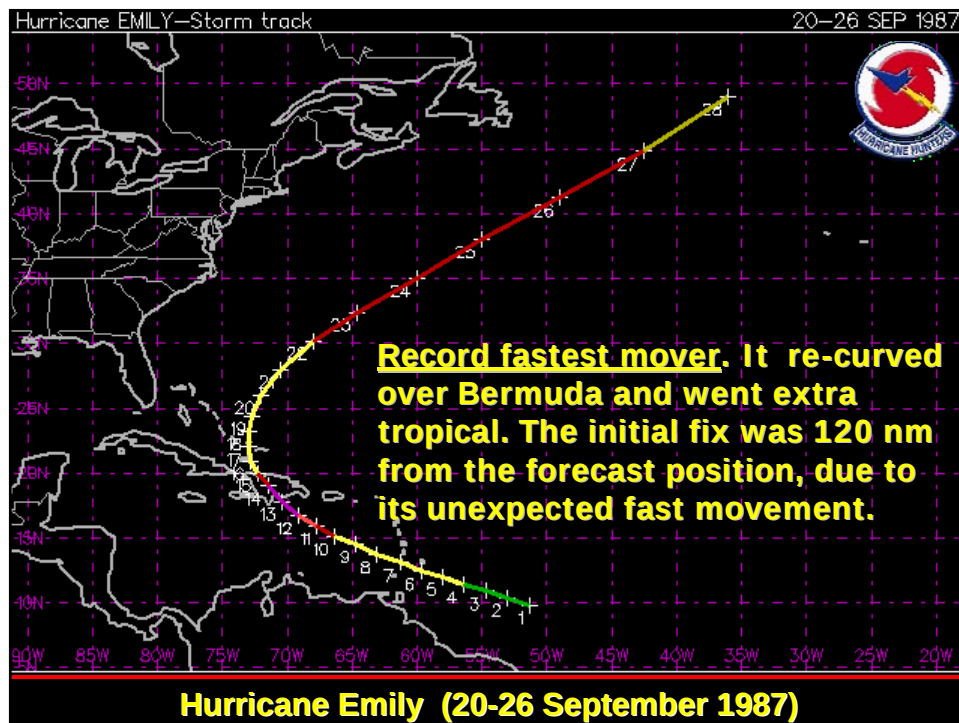
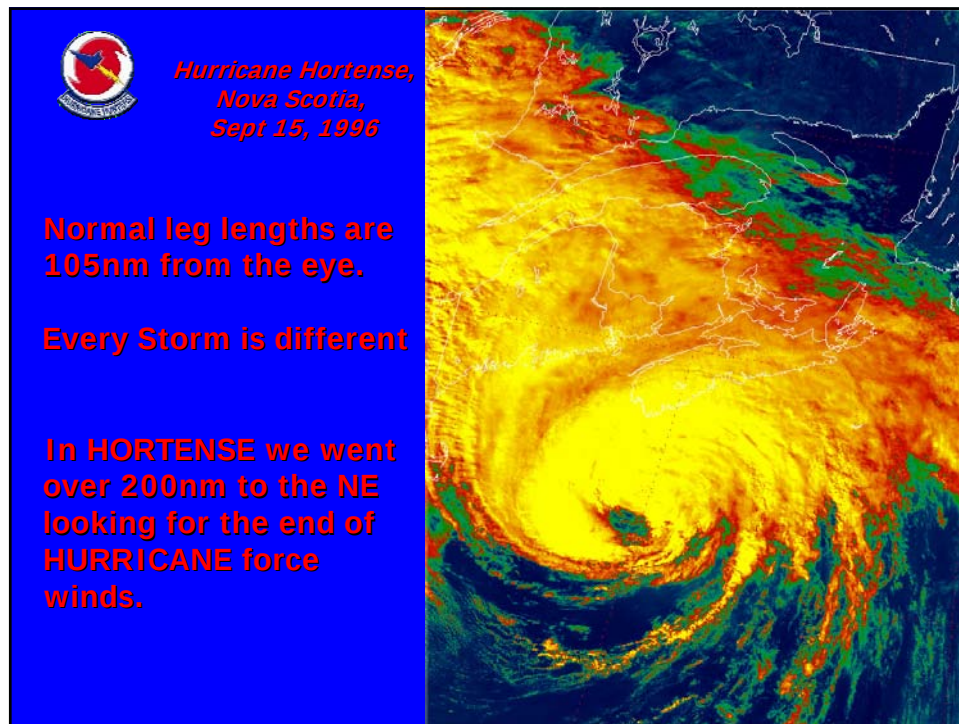
Receive ATC Clearance to Change Delay Area

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



Situational Awareness



Wilma - concentric eye wall structure
Approx 4 mile diameter
Later shrunk to 2 miles

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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www.HurricaneHunters.com

