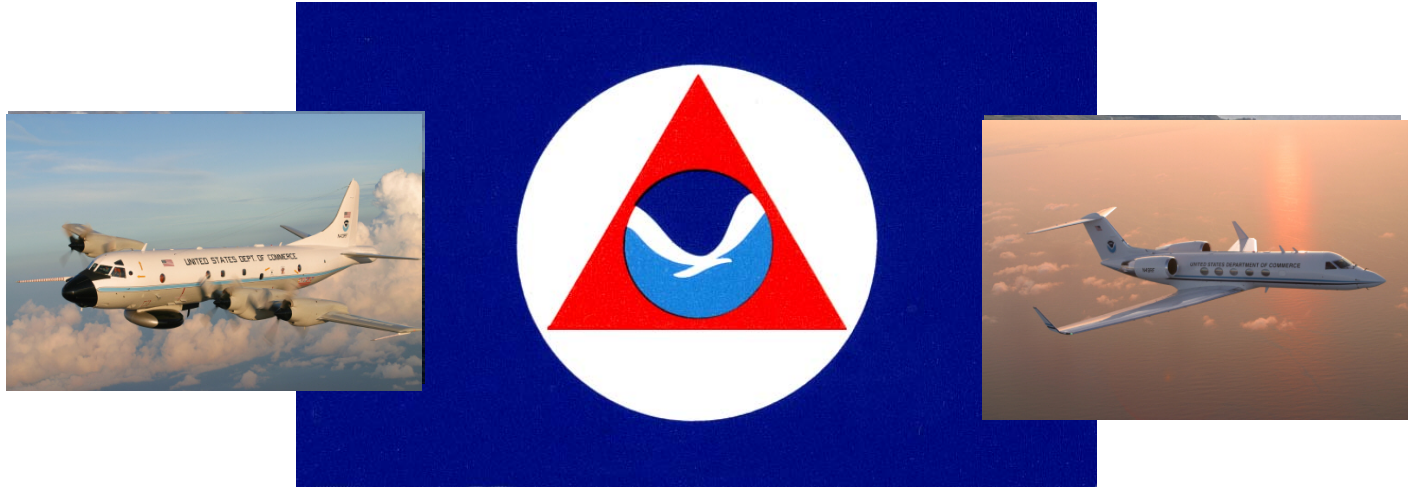


# 2013 AOC Seasonal Hurricane Summary and Future Plans



James D. McFadden and Alan S. Goldstein  
NOAA Aircraft Operations Center

CDR Devin R. Brakob  
OMA Platform Acquisition Div.



# ***AGENDA***

- **The Fleet**
- **Tasking Protocols**
- **2013 Seasonal Flight Time – 6-Yr. Comparison**
- **Reasons for the Change**
- **2014 Mitigation Plan**
- **P-3 Service Life Extension Program**





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# ***TASKING PROCOLS***

## OPERATIONAL TASKING

- P-3 Tasking by **NHC** thru CARCAH for **Recon.**
- G-IV Tasking by **NHC** thru CARCAH for **Surveillance**

## RESEARCH TASKING

- P-3 Tasking by **EMC** thru CARCAH for **TDR**
- P-3/G-IV Tasking by **HRD/OAR** for **Research**
- P-3 Tasking by **NESDIS** for **Ocean Winds**



# 2013 Hurricane Season



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# 2013 Hurricane Summary

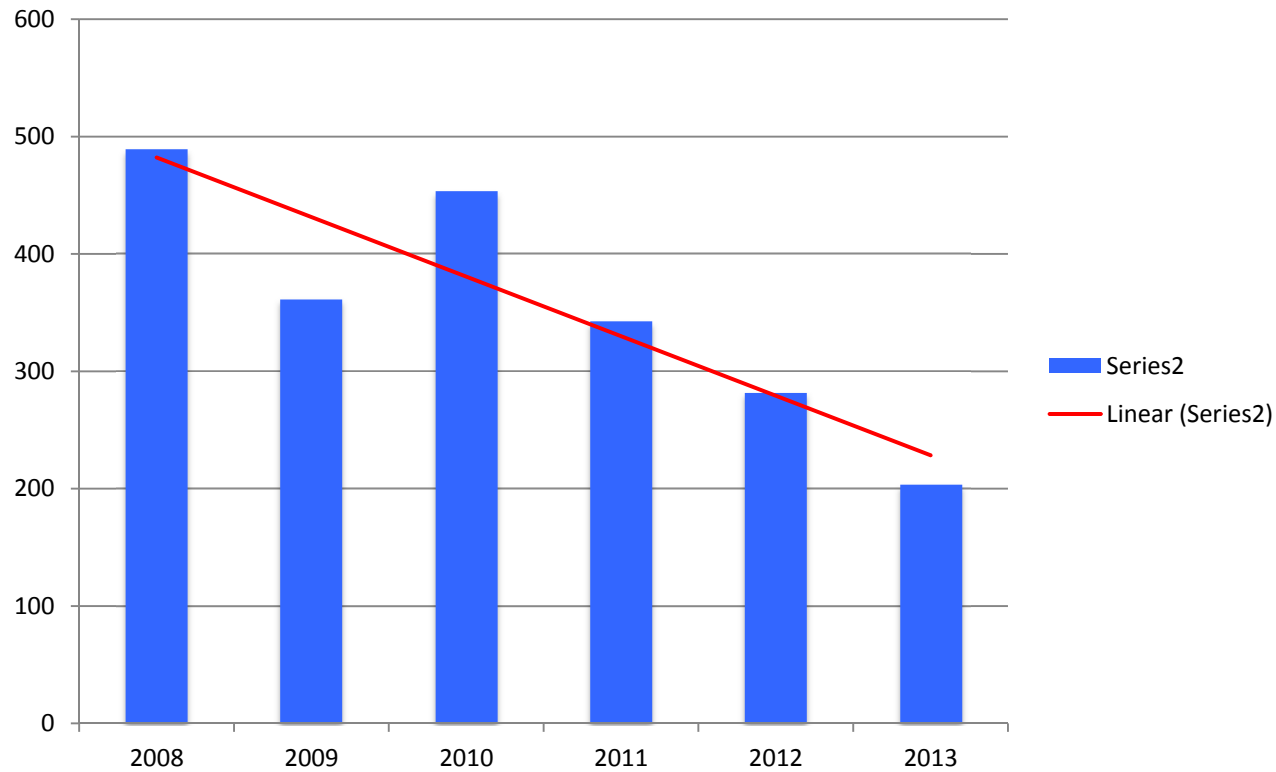
- **P-3**      **145.8 hours**
  - **G-IV**      **58.2 hours**
- 
- Total**      **204.0 hrs.**



# Hurricane Hours Flown

## 2008-2013

- Weather
- Funding
- Agency Needs



- P-3 Tasking by **NHC** thru CARCAH for **Recon**

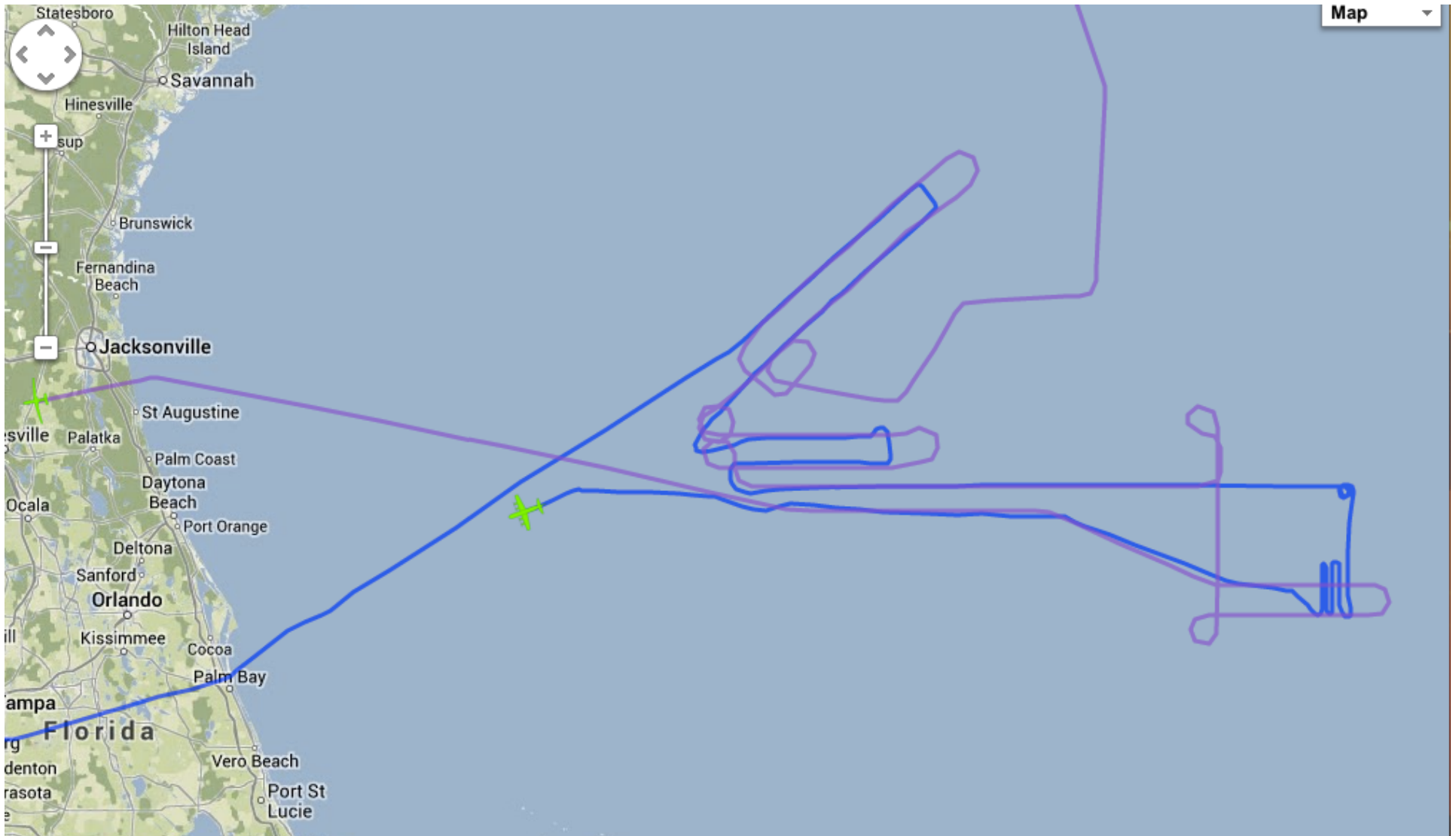
**0 Flights      0 Hours**

- G-IV Tasking by **NHC** thru CARCAH for **Surveillance**

**1 Flights      7.8 Hours**







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# NOAA G-IV Flight Track Drop Locations for KAREN ( AL122013 )

On 2013100412 the storm was centered at 25.4;-89.4

30N

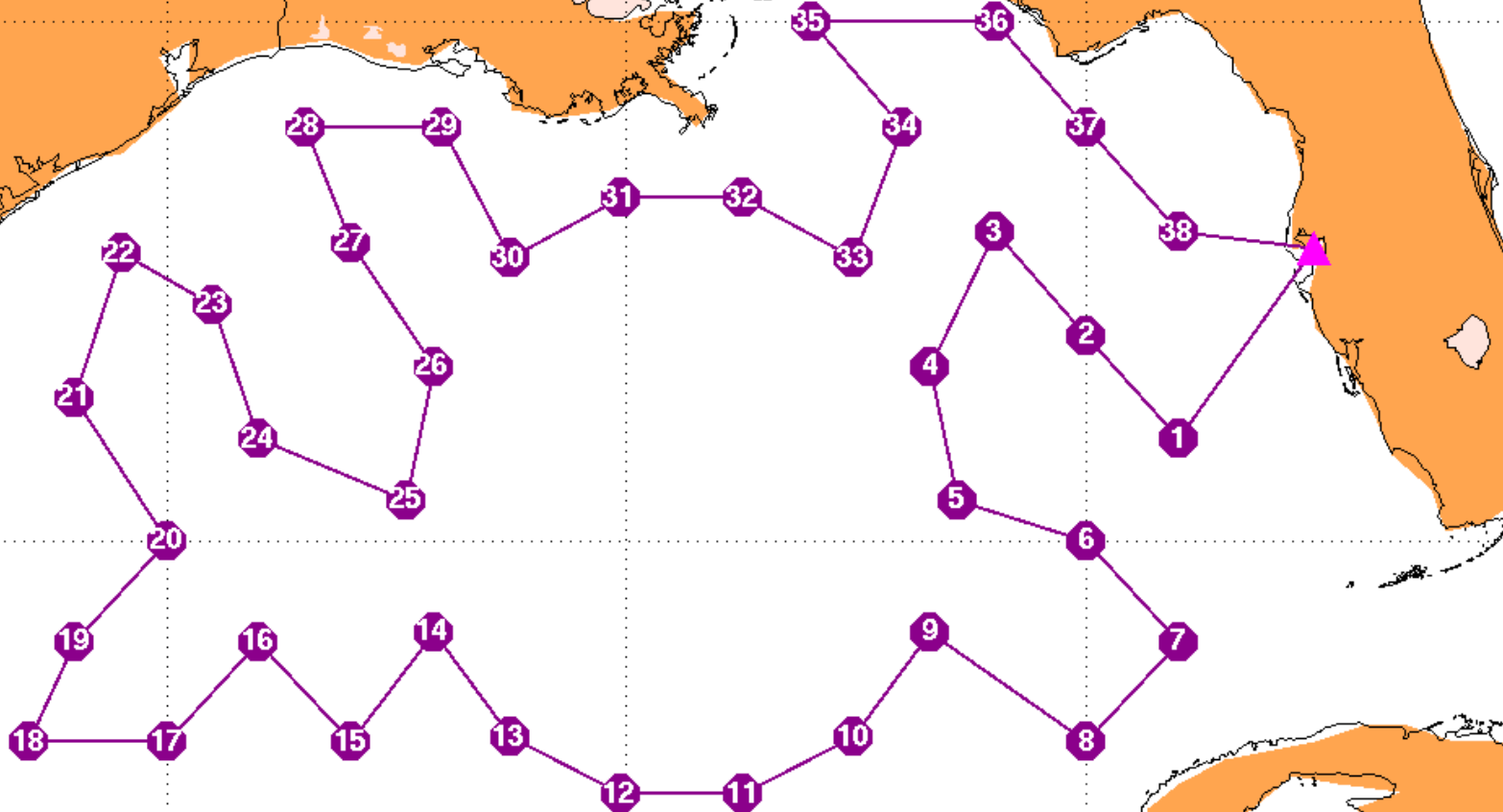
25N

95W

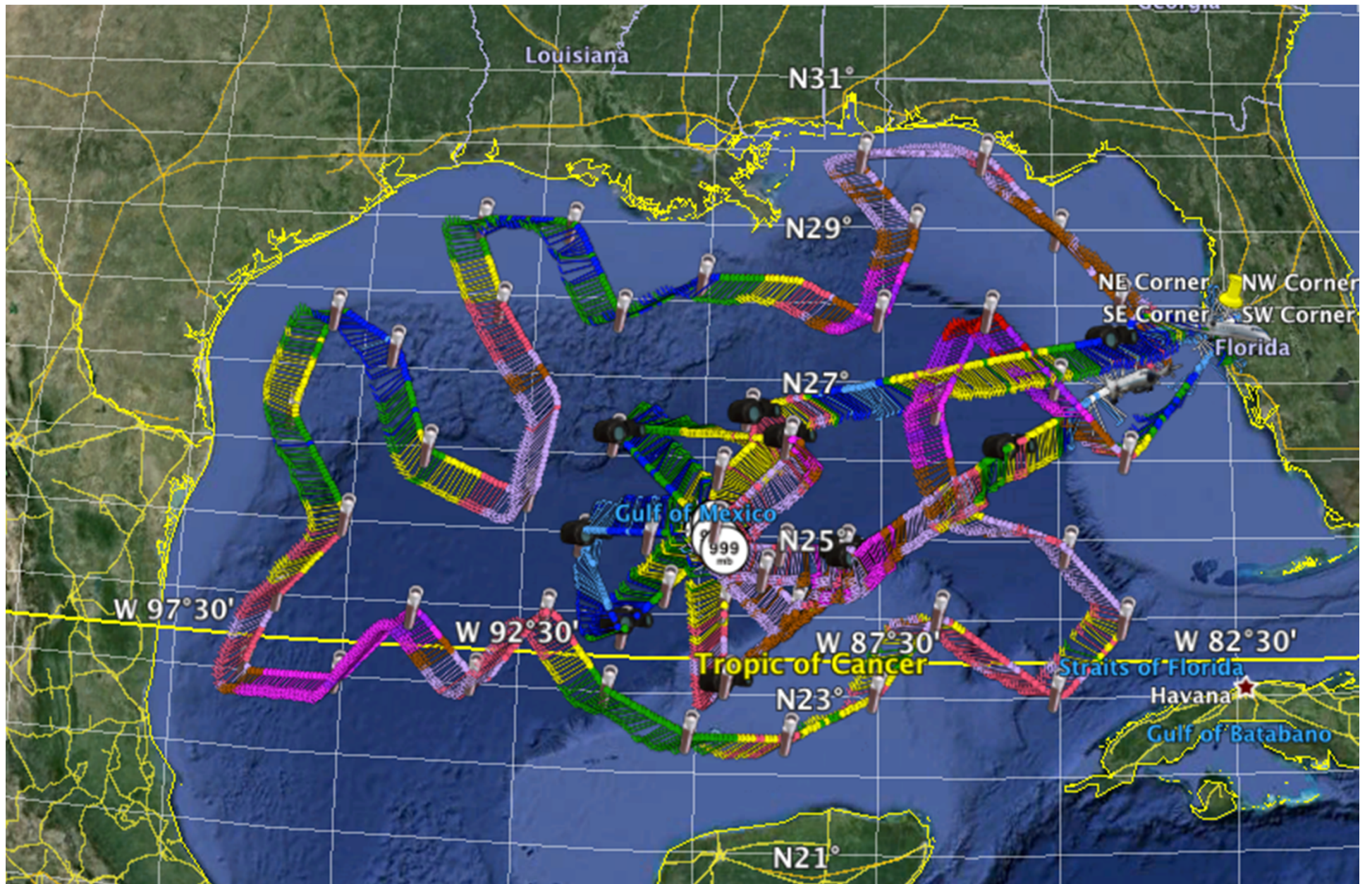
90W

85W

80W



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# 2014 Hurricane Season



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## FY14 Aircraft Allocation Plan - February 24, 2014

	Aircraft Services Base Hours	Program Hours	Reimbursable Hours	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
P-3 N42RF	418 Hrs		40 Hrs	Arctic Flux 93 Base Hrs	Phase Maint.		Ocean Winds Winter 90 Base Hrs.		Engine Testing - 40 R. Hrs			Hurricane Ops/Research (cont.) - 175 Base Hrs Ocean Winds Summer - 60 Base Hrs.				
N43RF	202 Hrs		31 Hrs	Hurr. Ops / Resch. Ocean Winds		EcoSAR Install		EcoSAR (NASA) 31 R.			HAT 12B	Hurricane Ops/Research (cont.) - 190 Base Hrs				
G-IV N49RF	438 Hrs			Hurricane Surveillance/Research				Atmos. Rivers 90 B. Hrs.		Ops 2/Paint work		Hurricane Surveillance/Research 260/88 Base Hrs.				
Twin Otter N46RF	182 Hrs	120 Hrs		Corrosion Inspection / Paint					SE AMAPPS 120 Prog. Hours		Snow Survey / Water Resources 182 Base Hrs.					
N48RF	328 Hrs	75 Hrs		Snow Survey / Water Rscs			Snow Survey / Water Resources 218 Base Hrs.				Fugitive Emission 110 B. Hrs				Coastal Map Eval 75 Pgm Hrs	
N56RF	50 Hrs	565 Hrs					SERW 300 Prog Hrs			Coastal Mapping LIDAR 125 Prog Hrs		Steller Sea Lion 60 Prog Hrs	Arctic Strat 50 B.		Harbor Seals 80 Program Hours	
N57RF		520 Hrs	75 Hrs		NE Right Whale 150 Prog. Hrs	Event		Event	NE AMAPPS 120 Program Hrs		NE Right Whale 250 Prog. Hrs	Event	Event	Event	Event	
King Air N68RF	550 Hrs			Coastal Mapping/Em. Response 400/150 Base Hours												
Jet Prop N45RF	500 Hrs	200 Hrs		150 hr/AMOC/Avionics			Snow Survey / Water Resources 500 Base Hours						GRAV-D 200 Prog Hrs	Snow Surv. (cont.)		
UAS Puma 0481				Manufacturer Type Certification					SEGOA		SBNMS	OCNMS		CINMS		FXNMS
UAS Puma 0482					CINMS						CINMS			PMNM*	MBNMS	
Quadrocopter				Specific Projects To Be Determined								OCNMS				
Subtotal Hours:	2668 Hrs	1480 Hrs	146 Hrs													

TOTAL 4294 Hrs

Legend:

Healthy Oceans
Resilient Coastal Communities and Economies
Climate Adaptation and Mitigation
Weather-Ready Nation
Other

NOTES - Flight hours allocated for Q2-4. Plan based on current budget guidance and is subject to change.  
Arctic Flux remaining funds reallocated to other projects. Other hours unused in Q1 will carry forward for use later in the FY.  
Project beginning and end dates subject to change to accommodate instrumentation, transit and maintenance as necessary.  
\* - Project depends on getting ship time - dates may shift to accommodate.

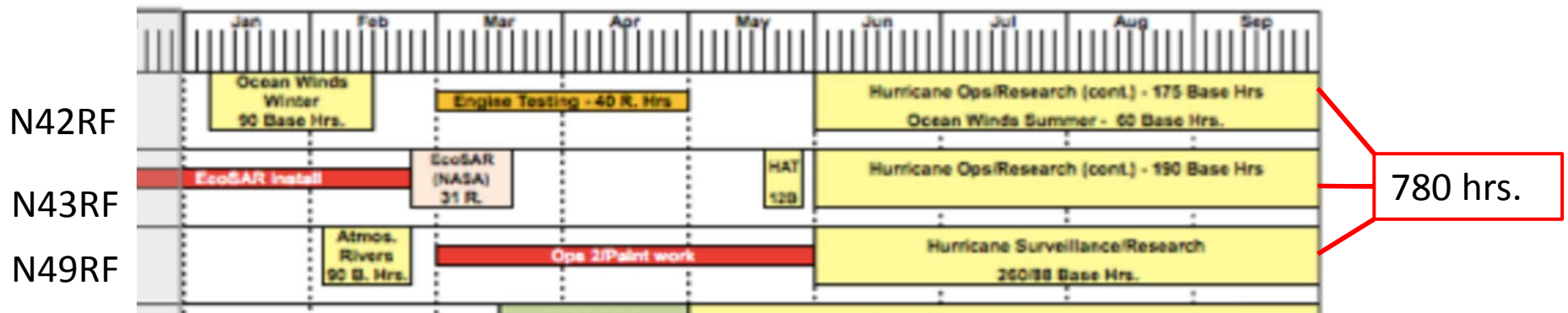
Approved by:

NESDIS	Date	NMFS	Date	NOS	Date
NWS	Date	OAR	Date	OMAO	Date



# Office of Marine and Aviation Operations

# FY14 Heavy Aircraft Flight Hours



**WP-3D  
SEERVICE  
LIFE  
EXTENSION**





# WP-3D Service Life Extension – Executive Summary

- \$326M to NOAA to Address Sandy Mitigation Efforts (\$42.3M to OMAO after sequestration)
- OMAO: Four (4) multi-year projects requiring collaboration with multiple governmental groups and commercial industry
- Project Areas:
  - WP-3D Re-Wing Kits
    - Outer Wing
    - Horizontal Stabilizer
  - Re-Wing Kit Installation
  - T56-A-14 Engine Refresh
    - Overhaul to Zero Time
    - Series III Reliability Enhancements
    - Series 3.5 Engine Enhancement Package
  - Avionics Upgrades



# WP-3D Service Life Extension – Rewing Kits

## Scope

- New Outer wing assemblies
- New Center Wing front and rear beam and upper surface
- New Horizontal Stabilizer
- Digital Fuel Quantity System
- New EF5992 Fuel Tank Sealant

## Timeline

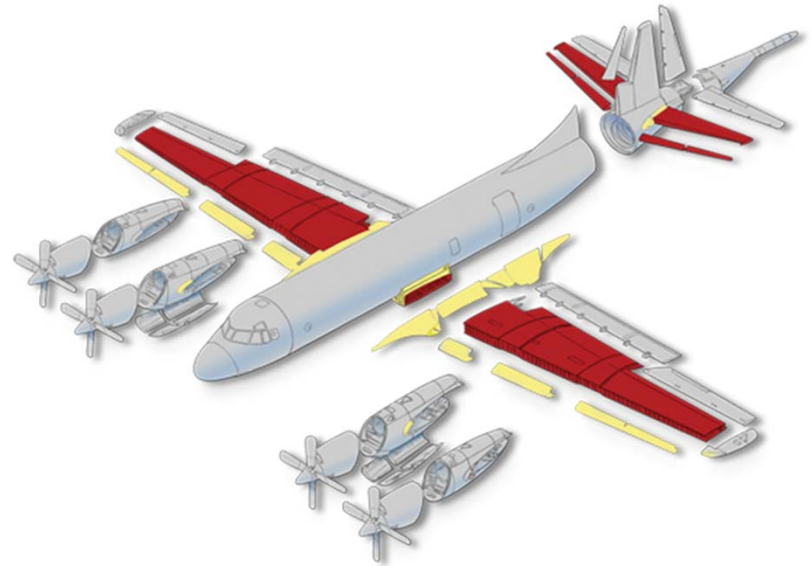
- Rewing Kit #1 Delivery December 2014
- Installation on N42RF January 2015-January 2016
- Rewing Kit #2 Delivery NLT July 2016
- Installation on N43RF August 2016-August 2017

## Partners

- NAVAIR PMA-290 (Interagency Agreement for Assisted Acquisition) for Contracting
- L-3 Systems for Rewing Kit Build
- Navy Fleet Readiness Center Southeast for Installation

## Benefits

- Additional 7,500 Flight Hours
- Additional 15-20 years of Service Life
- Elimination of extra Special Structural Inspections (SSI)
- Reduce future costs of Depot Level Maintenance events



# WP-3D Service Life Extension – Engine Upgrade

## Scope

- Completely overhauled “zero time” engines
- Series III Reliability Enhancements
- Series 3.5 Enhancement Package

## Timeline

- Overhauled and Upgraded Test Engine – February 2014
- Test Program Instrumentation – March 2014
- Ground Testing – April 2014
- Flight Testing – April/May 2014
- Airworthiness Determination – September 2014
- Overhaul, upgrade and install on N43RF complete – March 2015
- Overhaul, upgrade and install on N42RF complete – October 2015

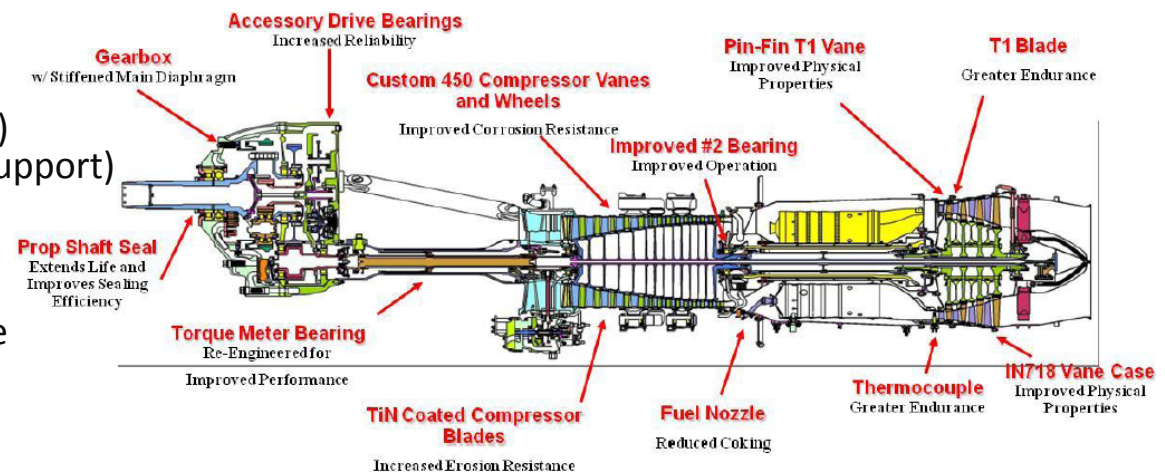


## Partners

- Rolls-Royce (Engine OEM)
- Lockheed Martin (Aircraft OEM)
- Segers Aero (Engine Overhauls)
- USAF Test Squadron (Technical Support)
- NAVAIR (Technical Support and Flight Support)

## Benefits

- 10% Increase in Fuel Efficiency
- 10% Increase in Operational Flight Time
- 20% Reduction in Maintenance Costs
- NOAA leading the P-3 community



# WP-3D Service Life Extension – Avionics Upgrades

## Scope

- Replace aging, obsolete, and high maintenance subsystems with systems that will be sustainable for the extended airframe life.
- Four main focus areas:
  - Communications Systems – HF Radios, High Speed Iridium Satcom, Intercom Replacement, ADS-b (traffic avoidance/awareness)
  - Avionics Infrastructure – Scientific power upgrade, Cloud Physics Pylons, Equipment rack replacement, Floor load enhancement
  - Flight Instruments – Flight display replacement, Autopilot replacement, Flight data recorders, Nose radar replacement, Wing monitoring system
  - Scientific Radar – Tail Doppler Radar Upgrade, Lower Fuselage Radar replacement

## Timeline

- Funding available – March 2014
- Acquisitions complete – July 2015
- Installation – some during re-winging, some sooner

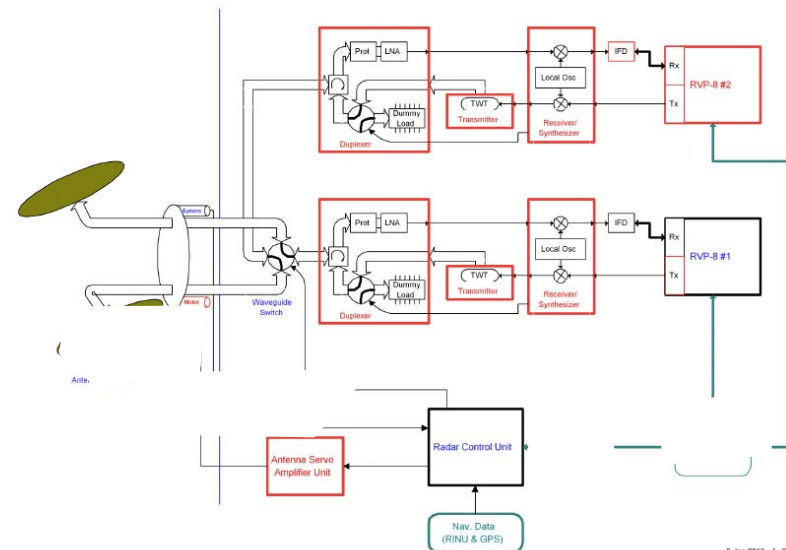
## Partners

- P-3 Sustainment Community (Navy, Customs, IOSC)
- Research and Operational Users (NWS, OAR)

## Benefits

- Long term viability
- Reduced Maintenance Cost
- Improved Scientific Capabilities

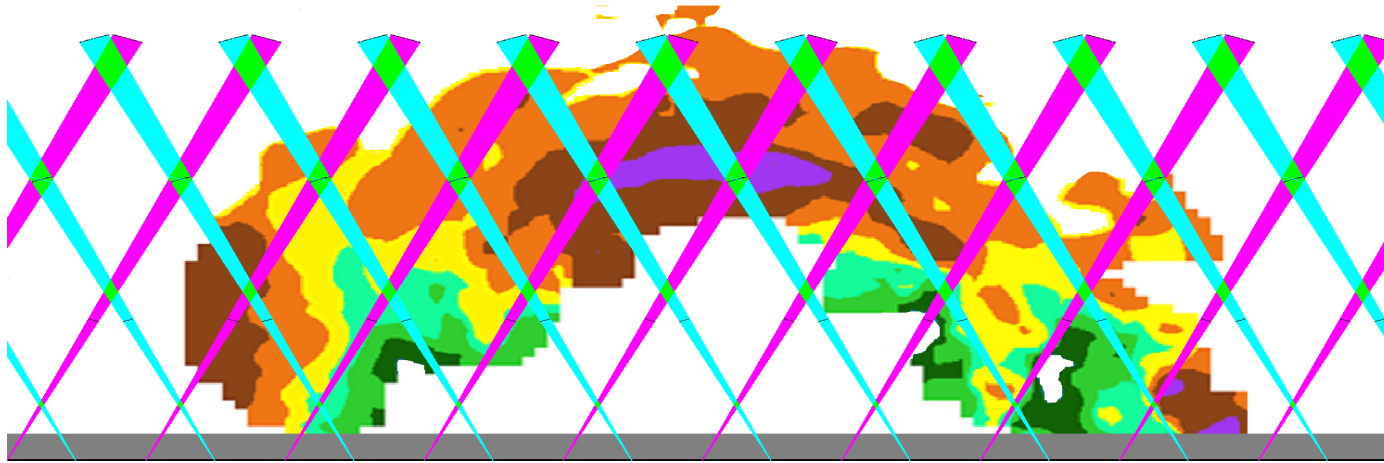
P-3 Tail Radar System - Proposed TWT and Drive Motor Upgrade



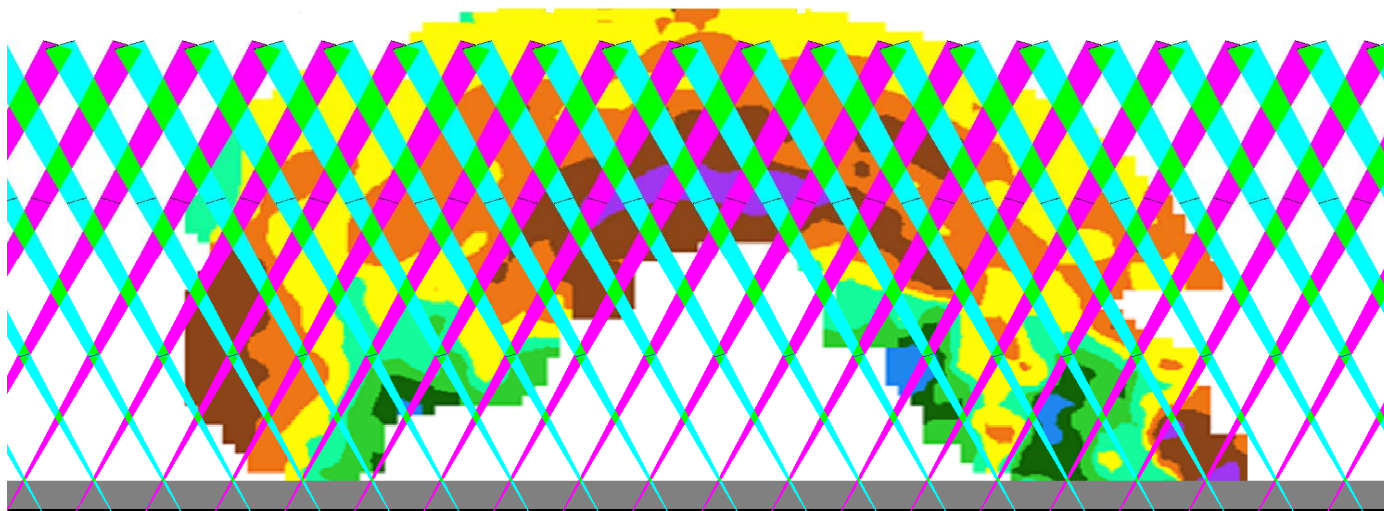


N42RF

# Tail Doppler Radar Upgrade



Current System  
1500 m spacing  
~5 dBz sensitivity



Proposed System  
750 m spacing  
<0 dBz sensitivity



# QUESTIONS?



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