

US Air Force Reserve Command Perspective on AR Recon: Past, Present, and Future



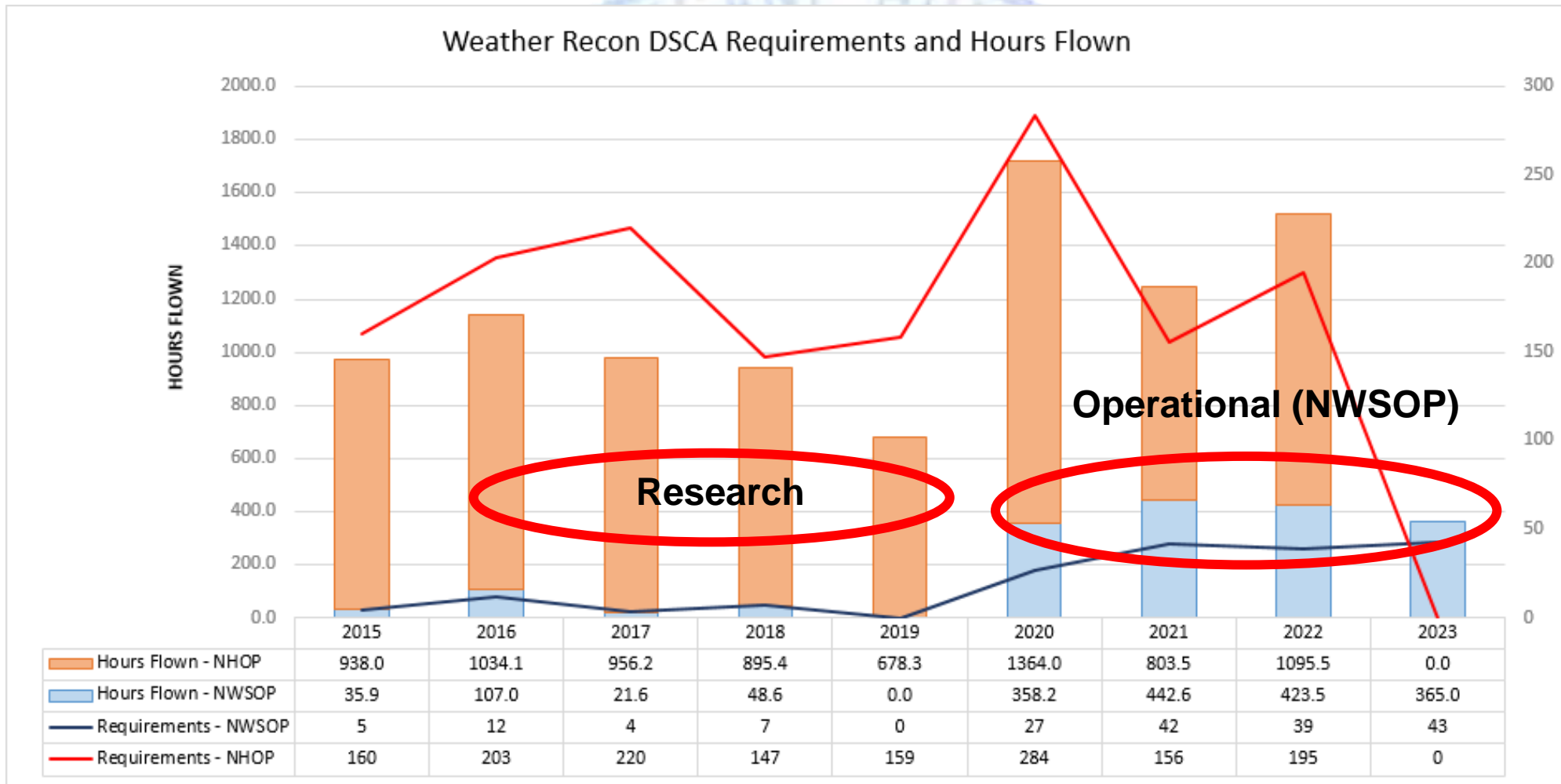
Lt Col Ryan Rickert





WC-130J Utilization Over Time

2022 NHOP and year-round flying hours was the 2nd highest over the last 8 years.



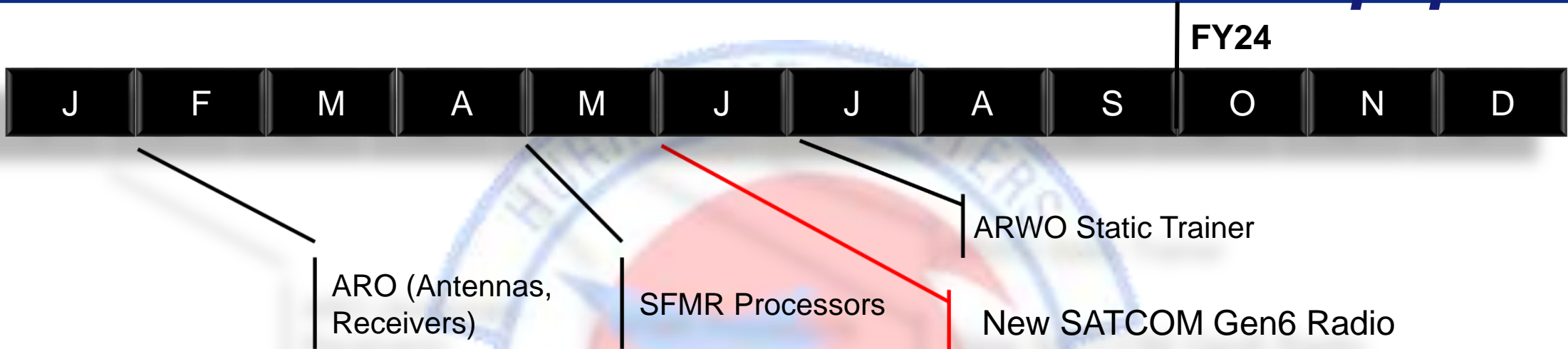


'22-'23 Winter Season Recap

- **10 aircraft (10 full-time crews, 10 part-time crews)**
 - 10 month operational season (May – March) 2 month down time for Mx, calibrations, awareness, upgrades, etc...
 - Original design for the unit did not necessarily account for 10 month operational season and increased demand for weather reconnaissance and intelligence essentially year round
- **2023 Issues**
 - Buoys: Temporary Flight Restriction (TFR)
 - Weather at Mather, enroute wx (turb & icing & route of track), warning areas, direction of travel (education)
- **Winter Community – equipment roadmap (ARE WG)**
 - Cross Collaboration – (w/TCORF Community – collaborate on sensors, data collection and assimilation)
- **Needs from the Winter Season Community?**
 - What Parameters (ie. Ocean data, BUFR) → defines requirements
 - Testing and transitioning → Operational
 - Work within the DoD construct for approvals/implementation → Expedite
 - Buy-in → Education (in person or teleconference visits by CW3E/NCEP)



2023-2024 Winter Season: Personnel & Equipment



Expected Challenges:

- Experience level (all crew positions)
- Buy-in & resources (Personnel – ops, mx, aircraft – supply, money)
- Communications – ARC210Gen6, KA/KU Band
- Hygrometers – poor performance

Updates:

- VHF 3
- Mini Sondes & High Altitude AXBT launcher



WC-130J Systems Overview



US Air Force Inventory: 10 aircraft at Keesler AFB
Current Sensing Capabilities:

Sfc Winds	FL Dew Pt	Storm Structure	Vertical Profiling	Ocean Sensing
RD-41 Sonde SFMR ARWO	Chilled Mirror Hyg.	APN-241 Acft Radar	RD-41 Sonde	AXBT

Key Projects:

- 1. Broadband Access:** Increase our data flow
- 2. Doppler Radar:** Higher resolution data
- 3. Sensor Pods:** Custom data to meet user need

Science and Technology Partnerships:

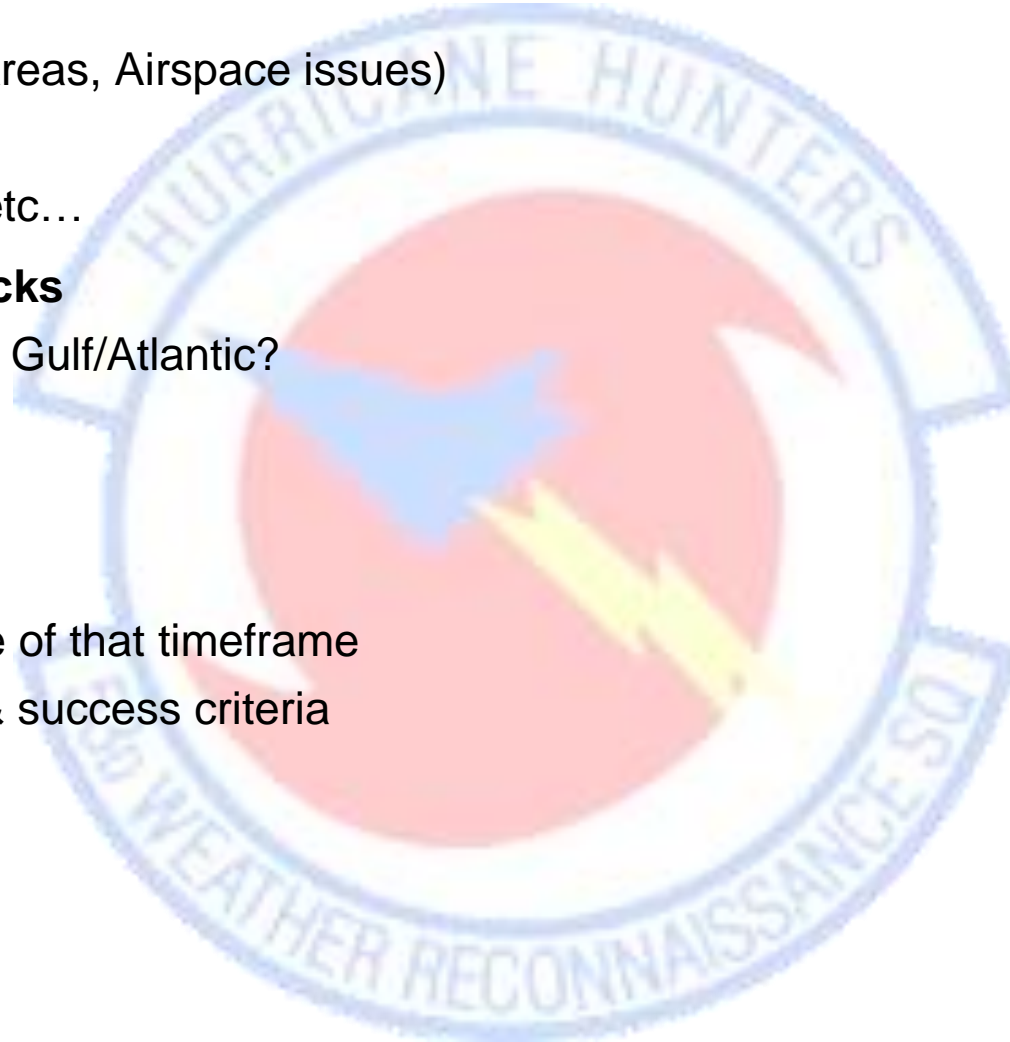
NHC NRL UCSD EMC USNA
 NCAR HRD NAVOCEANO AFRL

Current technologies being evaluated

Upgraded Radios	Wideband	AXCP/AXCTD	EM-APEX
SFMR Processors	BUFR	WSRA	Dual Pol Radar
Telemetry Chassis	Nose Radar	LIDAR	sUAS
nRD-41	AXBT Receiver	IWRAP	
AXBT Tube	Hygrometers		
VHF 3			
ARO			



- **LOAs**
 - 3 FAA LOAs (Warning Areas, Airspace issues)
 - 1 LOA Windborne
 - 1 LOA NCEP, Scripps, etc...
- **Staffing of Customized tracks**
 - Planning Nav/ARWO for Gulf/Atlantic?
 - How are they initiated?
- **On-station**
 - Dates and how long?
 - RP or availability outside of that timeframe
 - Capture need/demand & success criteria
- **Locations**
 - Mather?
 - Other locations?





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Questions?



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