ICAMS Working Group for Uncrewed Aircraft Systems and Technology (WG-UAST) 2026 Update

Steve Feuer - 53 WRS/CARCAH
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2026 TCORF Meeting
24 February 2026

WHAT'S IN A NAME?

WORKING GROUP FOR UNMANNED AERIAL SYSTEMS (WG-UAS)

WORKING GROUP FOR UNCREWED AERIAL SYSTEMS AND TECHNOLOGY (WG-UAST)

- Membership wanted to have the name be more inclusive of existing and emerging autonomous aerial weather-observing platforms and instruments in the troposphere and lower stratosphere over oceanic regions

CURRENT MEMBERSHIP

Chairs: Steve Feuer - 53 WRS/CARCAH & Joe Cione - NOAA/OAR/AOML/HRD
Executive Secretary: CDR Danielle Varwig - NOAA/OMAO/USxOC/UASD
U.S. Air Force Reserve Command/53 WRS
NOAA/OMAO/AOC
NOAA/OMAO/USxOS/UASD
NOAA/OAR/AOML/HRD (CIMAS)
NOAA/NWS: NHC, CPHC, and EMC
FAA/ATO
U.S. Navy/ONR
NASA
NSF/NCAR

WORKING GROUP GOALS

- Regularly review new proposed operating plans of uncrewed aerial platforms that will be used for weather monitoring of oceanic systems, particularly when crewed reconnaissance aircraft will be operating concurrently in the vicinity
- Develop new or modify existing operating rules and deconfliction procedures cooperatively when necessary to be incorporated in Chapter 6 of the National Hurricane Operations Plan (NHOP), Chapter 3 of the National Winter Season Operation Plan (NWSOP), and any related Letters/Memorandums of Agreement
- Gather information and discuss future uncrewed aerial emerging technology that may be used for collecting observations of oceanic weather systems.
- Report on activities and accomplishments to the ICAMS Committee on Observing Systems periodically and the full WG-Tropical and WS-Winter Season bodies at their annual meetings and submit any recommended NHOP and/or NWSOP content changes for approval by the working groups
- Recommend steps and plans to transition uncrewed aerial emerging technology from research to operations leveraging agency best practices

TYPES OF UNCREWED AERIAL PLATFORMS

- Small UAS (sUAS) launched from crewed reconnaissance heavy aircraft
  - ➢ *Black Swift Technologies S0 and Anduril Altius 600*
- Surface launched sUAS
  - ➢ *Dragoon Technology Coriolis*
- Long-duration monitoring systems
  - ➢ *WindBorne balloons and StratoSolutions/Voltitude high-altitude balloons and UAS*

DEFINITIONS

Weather Reconnaissance Area (WRA)

Airspace established to support NHOP weather reconnaissance/research missions with defined dimensions and published by Notice to Airmen (NOTAM). It is normally at or below FL150 with a radius of 200 nm around a set of center coordinates. It may only be established in airspace with U.S. Flight Information Regions outside of U.S. territorial space. Only participating weather reconnaissance/research aircraft from NOAA and the USAF Reserve Command are permitted to operate within the airspace, and ATC services are not provided. *(Source: NHOP Glossary - Appendix N)*

Certificates of Waiver or Authorization (COA)

COA is an authorization issued by the Air Traffic Organization to a public operator for a specific UA activity. After a complete application is submitted, FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users. (Source: FAA/ATO website)

2025 PRIORITY ISSUES

1. Multiple/simultaneous sUAS missions during crewed reconnaissance aircraft operations

2. Deconfliction policy for sUAS activations with multiple crewed aircraft within a WRA when a system is below hurricane strength (e.g., command aircraft could be operating at a higher altitude than other participating aircraft following sUAS launch and three-minute stabilization period)

3. sUAS CONOP expansion to include sUAS that enter a WRA independent of a command reconnaissance aircraft

2025 ACCOMPLISHMENTS

- WG-UAST assigned a smaller group of volunteer members from key organizations and agencies the task of developing new operating rules, deconfliction procedures, and notification and communication protocols for the three 2025 prioritized items.
    - representatives from NOAA AOC, AFRC 53 WRS/403 WG, FAA, NOAA/OMAO UAS Division (UASD), NOAA/OMAO Uncrewed Systems Operations Center, NOAA/AOML Hurricane Research Division, and CARCAH
- Four small group meetings were held in which appropriate portions of pre-flight and mission execution sections of NHOP Chapter 6 were reviewed. The group discussed sUAS plans for 2025 and logistic considerations for the three prioritized items and addressed any issues and concerns. Sean Culbertson of Dragoon Technologies was invited to participate in a few meetings and provided valuable input.

2025 ACCOMPLISHMENTS

- The WG-UAST agreed upon content changes and additions, which were submitted to the WG-Tropical, and then published in Chapter 6 of the 2025 NHOP, including:
  - adjustments to existing pre-mission coordination procedures for CARCAH, USAF Reserve Command, and NOAA when a sUAS activation is planned in a WRA
  - new content describing CARCAH notification procedures from UASD when a sUAS launched outside a WRA is planned to subsequently enter and fly within it
  - adjustments to existing mission execution protocols and procedures in subsection 6.2.3.8 for sUAS releases from a command aircraft within a WRA prior to launch and during flight
    - maximum of two sUAS can be active within a WRA at any given time, regardless of deployment source
    - all participating aircraft within a WRA must operate at an altitude > 2500 ft above MSL
    - updates to launch notification and lost communications profile procedures
  - a new subsection, 6.2.3.9, providing operating rules, deconfliction procedures, and communications protocols for an externally-launched sUAS entering and flying within a WRA

2026 PRIORITY ISSUES

1. Multiple active sUAS platforms (> 2) within a WRA concurrent with crewed reconnaissance aircraft operations

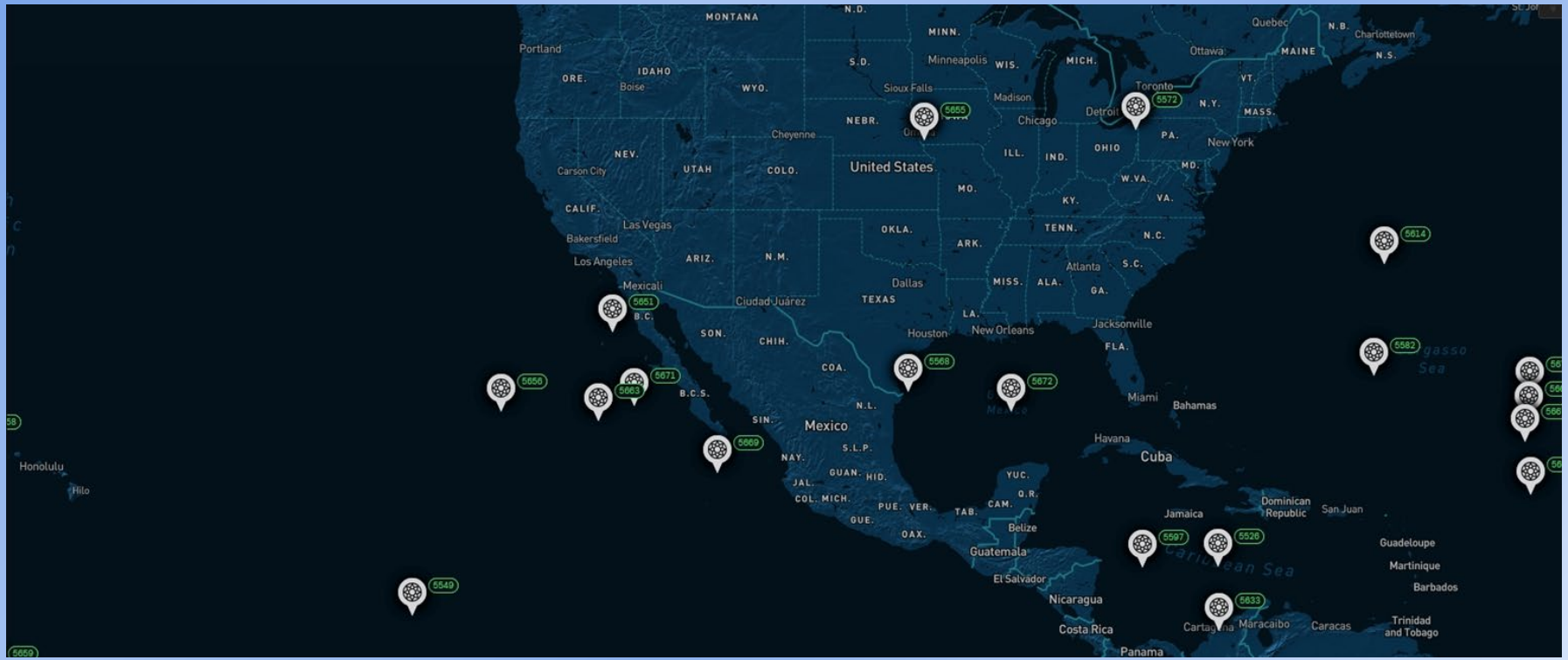
2. Higher transiting altitude for Dragoon Coriolis operations when returning from a WRA or COA area

3. Independent WRAs and WRA NOTAMS for surface-launched UAS platforms

LONG-TERM ISSUES

1. Operating rules and deconfliction procedures for UAS over oceanic regions outside, beyond, or without a WRA both within and outside of U.S.-controlled airspace
2. Comprehensive long-duration balloon policy for operations near crewed reconnaissance aircraft
3. Protocols for “micro”-dropsonde releases from uncrewed aerial platforms

WindBorne Systems Dashboard



StratoSolutions Dashboard

OTHER CONSIDERATIONS

- Scope limited to only aerial platforms–can a similar ICAMS CObS working group be established for uncrewed oceanic observing systems?
- Maximizing the lead time for addressing new technology and new applications of existing technology and potentially transiting the uncrewed aerial observing systems to operations
- Proactively reaching out to agencies funding UAS or other remotely-operated aerial-observing research platforms that could be operating concurrently with crewed reconnaissance aircraft in the future