THOR'S NOTAM

United States Air Force
Weather Airman's Magazine

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COVER PHOTO CREDIT:

Lt Col Matthias Radochla, HQ USAF/A3W

German Exchange Officer

Views of the dissipating stratus over the snowy Vosges region of France.

WE WANT TO HIGHLIGHT YOUR TALENTS!

IF YOU WOULD LIKE TO CONTRIBUTE ARTWORK OR DESIGN IDEAS FOR THE NEXT VOLUME'S COVER, SEND YOUR IDEAS TO HAF/A3WT.

af.a3wt.af-a3wt-weather.force.management@us.af.mil

Table of Contents

Electronic version can be found on the AF/A3W AF Portal page.

HAF/A3W Leadership—The Director's Corner

Weather Warriors,

I am absolutely honored to introduce myself as your new Director of Weather. For nearly 27 years, I have worked alongside many of you and am always impressed by the incredible contributions you make to our service and the Joint Force. I spent the bulk of the last six years in non-weather positions but never took my eye off the important work being done throughout the AF Weather community to enhance lethality and optimize our nation's combat capabilities. I'm excited to be back "home," ready to roll up my sleeves, and humbled to lead during this dynamic time.

My priorities are simple – we are going to aggressively pursue the strategic shift needed to achieve the DAF's *Vision for Weather Operations 2024*. If you haven't read the new vision, signed by the Secretary of the Air Force last September, I encourage you to do so. For several years the DoD has talked about pivoting towards the Pacific and preparing for a fight where air, space, cyber, and technological superiority is far from given. Our service, and our weather enterprise, must adapt – the time for talk has passed, the time for action is now!

Colonel Geoffrey D. Dawson
Director of Weather

What does this change look like? We will **dramatically increase our integration** – early and often – in planning, targeting, and exercise development. We will double down on our capability to **exploit adversary limitations and responses** to environmental conditions. We will be laser-focused on our mission, our commanders' intent, and **generating decision advantage**. I look forward to talking in more specifics in the coming months about the policy, digital transformation, and force development initiatives we are undertaking to facilitate this pivot.

There is a lot of change happening across the federal government, but I ask you to keep focused on the end state. We need to fight through the turbulence and noise around us because the stakes are too high to do otherwise.

Every member of the weather team – officer, enlisted, civilian, and contractors – play a pivotal role in our success. Thank you for what you do every day!

Finally, thank you to Colonel Pat Williams for his successful two years in the Director's seat. I wish him the best in retirement after a distinguished 27-year career! I am excited to pick up the ball, and work hard for you, as we face the threats and challenges ahead.

Let's do it!

HAF/A3W Leadership—The Chief's Corner

Weather Warriors,

It is an incredible honor to step into the role of Enlisted Career Field Manager for Air Force Weather. As I assume this responsibility, I want to take a moment to acknowledge the remarkable legacy of Col Patrick Williams and CMSgt John Rosario. Their vision, dedication, and leadership have laid the foundation for the transformation of our career field. As they transition into retirement, we remain charged with advancing Air Force Weather into its next era.

Building on a Legacy of Excellence: Col Williams spoke of truths that guided him throughout his career, and these resonate deeply as I step into this role. His mantra - Think Big, Start Small, Scale Fast - is a mindset we must all embrace. Innovation is at the heart of progress, and every Airman has the power to shape our future. CMSgt Rosario reinforced this philosophy by spearheading the most significant upgrade to our tech training in over three decades. This modernization ensures we are equipping the next generation of weather warriors with the tools and expertise necessary to meet the high-end threat.

A Competency-Based Approach to Training: To ensure every weather Airman is mission-ready, we are shifting towards competency-based training. This approach focuses on measurable skills and proficiency rather than task-based training. By aligning training with real-world operational demands, Airmen will be able to apply critical thinking and problem-solving skills in dynamic environments. This shift ensures that every weather warrior not only understands the science but also how to leverage their tradecraft to drive mission outcomes.

This transformation emphasizes progressive skill mastery, ensuring Airmen develop expertise in key competencies before advancing to the next level. Through scenario-based learning, hands-on application, and real-time assessments, we are preparing Airmen to seamlessly integrate into missions at all echelons.

Expanding Educational Opportunities: We are entering the third year in the Education With Industry (EWI) program and seeing phenomenal results. The second cohort of fellows will be finishing their partnerships and headed to their next unit this summer, imparting all the experience they have gained and investing back into our career field.

Eligible enlisted members now have the opportunity to attend the National Intelligence University and obtain an advanced academic degree. This program will ensure our Airmen weave our methods, technologies, and techniques into strategic operations. The first students from this initiative will graduate in Summer 2026, further strengthening our force's ability to impose weather warfare.

A Call to Action: The weather career field is at a pivotal moment. The transformation toward weaponizing weather is well underway, but there is still much work to do. We must continue refining how we integrate into strategic, operational and tactical operations. We are warriors in our own right - leveraging atmospheric conditions to predict, influence, and dominate the battlefield and impose a cost on the enemy.

Our mission extends beyond traditional forecasting; we are force multipliers and strategic assets. What does this mean for an Airman at an AOC, detachment or flight? It means understanding that the information you provide, whether it's a Mission Execution Forecast for a pilot launching from Barksdale or as part of a targeting working group at an Army Division, directly impacts mission outcomes. Your forecast is the first link in a chain that can determine when the enemy cannot move, when they will hunker down, when we should attack, dictate refueling tracks, optimize RPA operations, and so on. Your skill will allow commanders to exploit windows of opportunity to our advantage, even deny enemy action. Your expertise helps commanders make decisions with weather impacts in mind *and* exploit the weather to our advantage. You are not just 'cranking out' products; you are providing a critical warfighting capability. Every Airman in our career field must recognize their role in this larger vision. Continue to build upon our foundation of excellence and push boundaries.

I am committed to ensuring that our enlisted force has the tools, training, and opportunities needed to thrive in this new environment. But this effort is not mine alone, it belongs to each of you. Your innovation, expertise, and leadership will define the future of Air Force Weather.

Step forward with confidence, take ownership, and drive us toward excellence. Together, we will continue to elevate Air Force Weather to new heights.

Chief Master Sergeant Sara C. Roger
1W Career Field Manager
AF/A3W Senior Enlisted Leader

Vision Implementation Workshop & Leadership Orientation

By Col Bryan Mundhenk, Division Chief, HQ USAF, A3WX

On two unseasonably warm February days in Omaha, Nebraska, leaders and stakeholders from the Air Force Weather functional community gathered to establish a shared understanding of the Secretary of the Air Force-signed Vision for Air Force Weather Operations. Through a mix of presentations, discussions, and targeted activities, attendees shaped the Vision implementation framework and committed to contribute to follow-on efforts. Two themes persisted throughout the event: the time-sensitive nature of the imperative to change and that every member of the community has a role in attaining the Vision.

The workshop was held consecutively with the Leadership Orientation (WX400), which is hosted annually for incoming commanders and senior enlisted leaders. This combined effort allowed for interaction with senior leaders from across the enterprise while getting the chance to hear first-hand where AFW is going in the future.

Special shout out to the 557th Weather Wing for hosting!

Ice Rescue Training: Bolstering Arctic Mission Readiness

Det 1, 23 SOWS

Overview: Detachment 1, 23d Special Operations Weather Squadron (Det 1, 23 SOWS) Airmen partnered with the U.S. Coast Guard (USCG) National Ice Rescue School (NIRS) to learn advanced cold water survival skills and ice rescue techniques. Training included open water survival, self-recovery procedures, and victim extraction methods directly from USCG curriculum. This training opportunity also emphasized seamless joint interoperability and communication TTPs between training participants. Training occurred in Madison, WI before the start of a recent 160th Special Operations Aviation Regiment (160th SOAR) exercise.

160th SOAR and Det 1, 23 SOWS teammates braving the cold water and frigid conditions during the USCG Ice Rescue Course

SrA Figueroa applies victim extraction TTPs to "save" SrA Lachowsky

Highlights: Det 1 Airmen effectively integrated with their 160th SOAR counterparts to obtain vital cold weather personal protective equipment (PPE) at Fort Campbell before departing for training. This challenging course equipped 160th SOAR and Det 1, 23 SOWS teammates with the confidence and skills required to overcome life-threatening cold weather and ice submersion emergencies. This training postures Det 1 Airmen to effectively exploit weather intelligence for 160th SOAR missions in cold weather AORs and the Arctic, enhancing lines of effort in the Department of Defense's 2024 Arctic Strategy.

Potential Applications: Det 1 Airmen are ready to respond to cold water submersion emergencies when conducting austere sensor emplacements and supporting 160th SOAR ice HLZ operations at forward arming and refueling points

USCG MH-65 crew showcases its hoist capabilities during a TTP demonstration

Getting to Know Our Airmen

SrA Margaret G. Szukala

56 OSW 5 WS, Luke AFB , AZ

Job Title: Weather Journeyman

Years in the AF: 4

Family/Hometown: Temple, TX ; NF-V McLean, Mary K. (mother), 2Lt Szukala, Alexandra P. (twin sister), GS-11 MacLean, Marianna E. (older sister)

Hobbies: Reading, Gaming, Art, Hiking

Who is your role model? My twin sister

What accomplishment are you most proud of? Receiving a coin by the 1W Career Field Manager, CMSgt Rosario

If you won a million dollars, what is the first thing you would buy: Russian Blue Cat

What is an item on your bucket list? Hike Ben Nevis Mountain Track, Highlands, Scotland

Getting to Know Our Airmen

SrA Dylan Burrier

20 OSS, Shaw AFB, SC

Job Title: Weather Forecaster

Years in the AF: 4

Hometown: Panama City, FL

Hobbies: Hiking & fishing.

Where do you see yourself in 10 years? Working at a tech company with a completed masters degree.

Who is your role model? My dad.

What accomplishment are you most proud of? Finishing my associates degree.

If you won a million dollars, what is the first thing you would buy? A boat.

What is an item on your bucket list? Scuba diving.

(Left) Dylan is currently deployed and leads weather support for the 77 FS with one other forecaster.

(Below) (S)Sgt Burrier partners with the Thai Military Weather Unit to build relations and to collaborate weather services, forecasts, and products for exercise COBRA GOLD (CG25).

CG25 press release information if you want to learn more: https://th.usembassy.gov/exercise-cobra-gold-2025-to-begin-february-25-2025/

Getting to Know Our Airmen

SrA Isaac Bernal

1 CWS/WXO, Joint Base Lewis-Mcchord, WA

Job Title: Weather Journeyman

Years in the AF: 3.5

Family/Hometown: Plainview, Texas/ Engaged, one of seven siblings; third youngest.

Hobbies: Lifting weights, running, snowboarding, motorcycles, gaming, Paintballing, hiking.

Where do you see yourself in 10 years? In the Air national guard, furthering my education, with a family.

Who is your role model? My older brothers.

What accomplishment are you most proud of? Earning my Bachelor of Science in Biology.

If you won a million dollars, what is the first thing you would buy: I would invest half of it and then remodel my parents' house. Next on the list would be a truck and motorcycle.

What is an item on your bucket list? Sky diving, snowboard the Swiss Alps, learn to surf.

After a full day of physical activity and trivia about the unit, SrA Bernal earns his spurs with the 4-6 Air Cavalry Squadron.

Getting to Know Our Airmen

SSgt Cory Leatherman

2 CWSS, Hurlburt Field, FL

Job title: RAWS Craftsman

Years in the AF: 7

Hometown/Family: Bastrop, TX

Hobbies: Running and losing money on parlays.

Where do you see yourself in 10 years? Working for the FAA as a technician.

What accomplishment are you most proud of? Finishing a marathon.

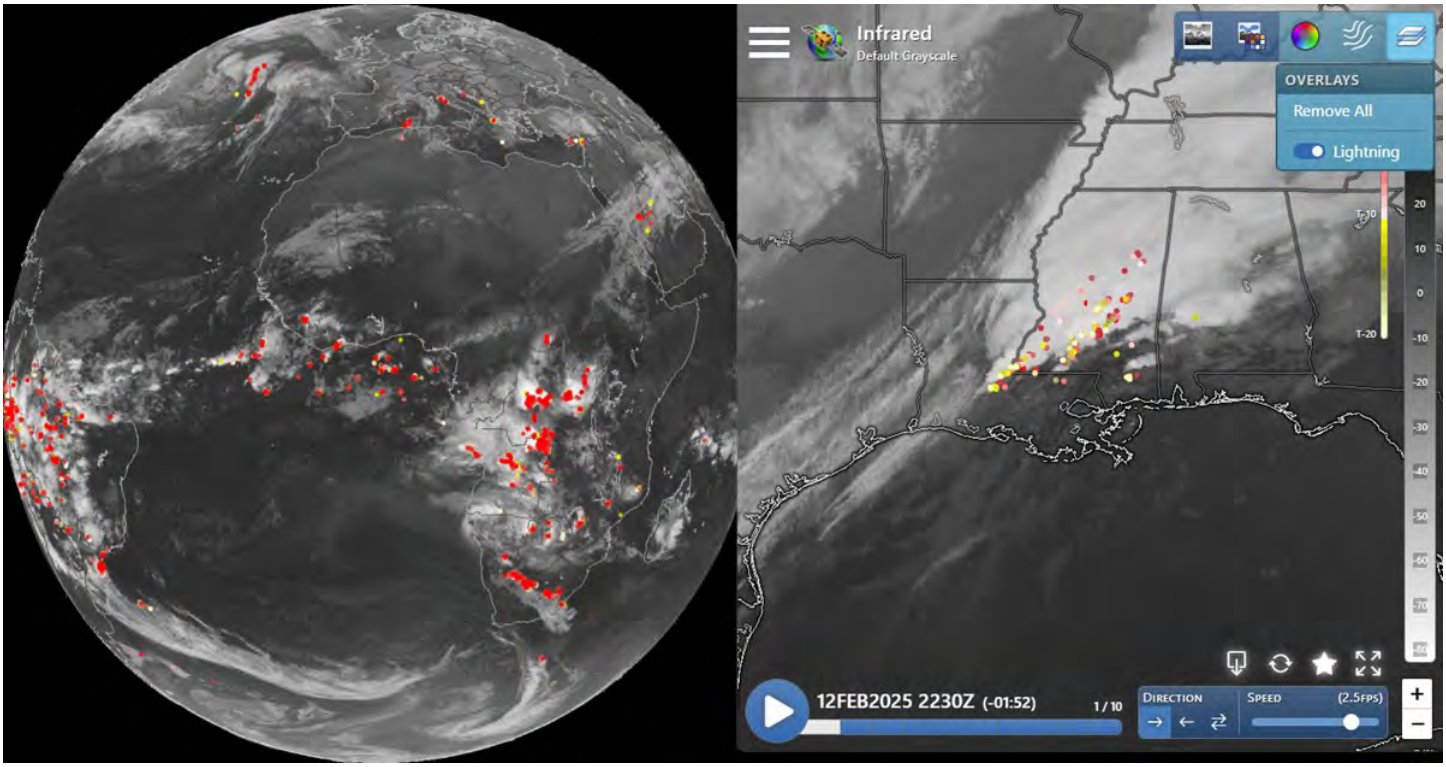
Who is your role model? David Goggins

If you won a million dollars, what is the first thing you would buy? A Ford Bronco.

What is an item on your bucket list? Going to a Superbowl.

MARK IV-B New Features and News

By Rick Anstett, MARK IV-B Meteorologist and Engineer, Lockheed Martin Space



The MARK IV-B has new features everyone should know about. First, the new MARK IV-B Viewer software version 12.00.0600.0900 is ready for USAF, USSF release. DoD Weather users can go to https://markivb.external.lmco.com/ and complete the registration fields to receive a one-time use download link of the new MARK IV-B forecaster viewer application software. This version requires a valid .mil email address and requires an admin to install the software. It offers the ability to recenter existing loops to follow features, and an enhancements favorites list.

Second, EUMETSAT declared the first Meteosat Third Generation satellite operational in Dec 2024 and re-named it Meteosat-12. If you haven't noticed MET-12's imagery and lightning data at the Kapaun and Ali Al Salem sites, then look for the folders named 'PRIME'. The older MET-10 is listed under 'MET PRIME'. MET-12 provides better imagery every 10 minutes and its lightning data is overlaid on both PRIME and MET PRIME visible and infrared images (figure 1 left). These overlaid products are found in the multispectral folders for both PRIME and MET PRIME. The lightning data is overlaid in two groups to match imager scans; the most recent lightning group is shown in red shades and the previous group in yellow for continuity. Desktop Viewer lightning flashes can be interrogated for flash time and latitude/longitude values and can be looped with the image frames.

Speaking of lightning data: The web browser Viewer (https://markivb.us.af.mil/) has recently gained GOES-R and MTG lightning strike overlays. This can be turned on/off using the 'Overlays' icon in the top right corner (figure 1 right) with the Web Viewer showing lightning strikes over GOES East infrared. Lightning tiles can be overlaid on any Web Viewer image – channels or multispectrals – but they are easier to see over the gray scale channels. Unfortunately, the Web Viewer lightning tiles are for visualization only and cannot be interrogated for flash time and location.

The DoD's WSF-M polar orbiting satellite was also added to the MARK IV-B but its microwave imagery and environmental data must wait until it reaches IOC in April. DMSP and older NOAA and Metop satellites also offer microwave imagery, which can show precipitation over data-sparse or data-denied areas. Look under the DMSP and NOAA 'Multispectral' folders.

If you or your operational customers use MARK IV-B on SIPR, please be advised it is currently planned for termination on 30 September. The unit who's trusted guard we use is moving and can't take us with them. We push METSAT data to a trusted guard that moves the data to MARK IV-B servers on SIPR. Although the MARK IV-B NIPR userbase has a requirement for near real-time satellite data, there is no such requirement on SIPR . If you have or know of a trusted guard and SIPR connection that can support adding MARK IV-B servers to ensure we stay running on SIPR please contact the MARK IV-B PM, Jenny Valentine at jennifer.valentine.2@spaceforce.mil.

New Space Weather Support Capability to the DoD & IC

By Lt Col Kevin Eaton, Chief, Space Weather and Environmental EM Effects, AF/A3WX

Space weather support to the Department of Defense (DoD) and the Intelligence Community (IC) will undergo a drastic change in early 2025. While the responsibility for space weather operations and forecasting still belongs to the United States Air Force (USAF), life-cycle-management of all space environmental ground systems, space-based observing systems, and characterization/exploitation efforts were transferred to the United States Space Force (USSF) as of October 2023.

On 1 April 2025, the space weather production software, the Space Weather Analysis and Forecast System (SWAFS) 1.0, was replaced with a cloud-based stand-alone website named the Space Domain Awareness Environmental Toolkit for Defense (SET4D). Access to SET4D is available to any Common-Access Card (CAC) holder with an approved System Authorization Access Request (DoD Form 2875) with initial capability limited to the unclassified domain as SIPRNet and Top Secret/SCI capability will be delivered at a future date. In addition, all space weather data is currently being transitioned to the USSF cloud-based Unified Data Library (UDL).

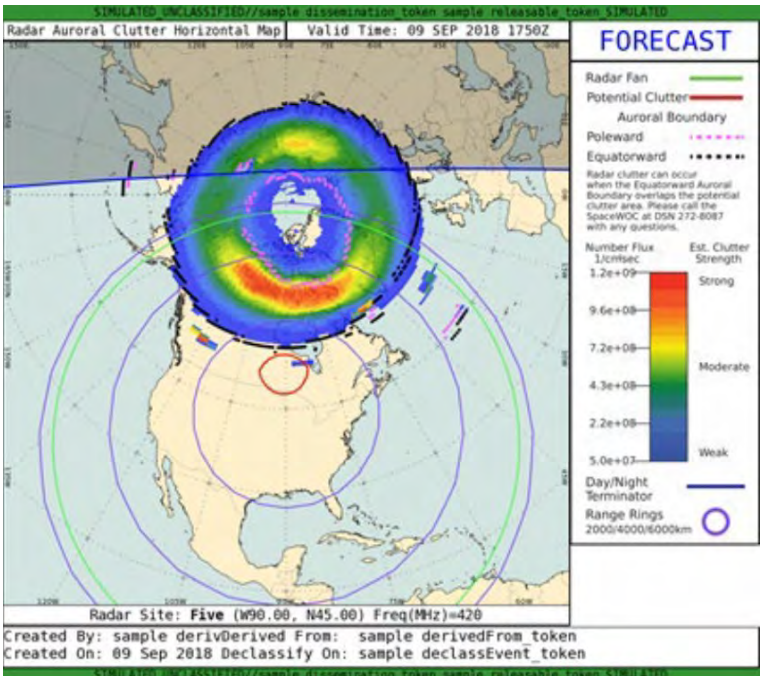
As for capabilities, SET4D will improve upon current SWAFS static products created on rigid time intervals and will deliver more operationally relevant environmental monitoring using updated criteria to have more relevance to operational user systems.

Key features include, but are not limited to:

•On-orbit assessment of satellite anomalous behavior

•Allow tactical and theater operators the ability to evaluate communications interference caused by the natural environment, versus intentional or unintentional jamming

Energetic Charged Particle – Hazard Assessment System (ECP-HAS) tool. Designed to provide satellite drivers, space operations centers, and environmental providers a single application that can evaluate environment effects to spacecraft in any orbit



A forecast radar auroral clutter map showing the overlap of the radar and solar flux intensity.

•Provide the ability to determine false echo returns on radar systems

•Aid in precision, navigation, and timing error calculations that utilize satellite positioning services

SET4D has been designed to be intuitive enough that extensive training is not expected to be necessary. A SET4D user's guide will be made available by USSF once access to the system has been granted.

So…how does this apply to USAF weather Airmen? Eventually, every weather Airman will need to individually log in and create an account in SET4D to access space weather products. Additionally, current products available and produced by the 557th Weather Wing on the AFW-WEBS Space Weather page will change to better communicate space weather impacts and forecasts. More information will be disseminated on the future of 2 WS products as it becomes available.

I encourage every Airmen to keep abreast of SWAFS 2.0 implementation and 557 WW mission changes related to space weather capabilities. If any Airman notices operational impacts or requirements not being met during SET4D implementation, please direct all questions to the USSF requirements office, SpOC/S3/5/7 S35SE, SpOC.S357.S35SEWorkflow@spaceforce.mil.

Time on Station Testimonials

2d Lt Kyle Forsberg - Det 1, 23 SOWS Alumni, Former NCOIC of Garrison Operations, currently a Nuclear Missile Operations Officer

Whether you're joining the team as a junior enlisted, NCO, or officer, being a part of AFSOC's only Combat Weather Team is a career-defining experience and presents a myriad of unique opportunities, including, but not limited to, highly sought-after placement in several of the Army's most popular schools (Airborne, Air Assault, Pathfinder), world-class training specific to the AFSOC weather mission (American Avalance Institute, INTAC, Griffin Group, SERE 97/98A, Arctic SERE), as well as countless TDY opportunities. For example, we don't just learn about mountain weather forecasting through a CBT, we fly to Jackson, WY for a week to get real-world instruction while traversing the Tetons. Coastal and tropical forecasting techniques aren't mastered in the Midwest, we honed our skills on-site by operating at some of the world's most beautiful coastal and island locations, just to name a few.

Detachment 1 is the answer to any 1W that's been asking themselves "How can I be better?" "Where can I go to impact the mission directly?" "What's the best step for me to take right now to set myself up for success in the future?" Det 1 champions the current DAF Priorities and is on the cutting edge of modernization, growing strong leaders, and strengthening our partners' alliance through joint efforts. The unit executes a no-fail mission that is unique to the entire Air Force. You'll be working side-by-side with your peers in a joint environment, and not just the service branches within the DOD, but aviation and METOC personnel from all around the world.

My time with Detachment 1 has been nothing short of a rewarding experience. It is a dynamic, diverse, high-speed environment, rich in heritage and esprit de corps. With total active-duty personnel at nearly 30 members split across three geographically separated locations, I have never felt a stronger connection to my fellow Airmen and leadership. Due to the Det's unique mission and standard of excellence, recognition is easy to find and I strongly feel that anyone walking away from this assignment will stand out above their peers, both in-person and on paper.

S(S)gt Clay Smith - Det 1, 23 SOWS, Weather Craftsmen, Parachutist

Serving at Detachment 1, 23d Special Operations Weather Squadron (SOWS) is, in my opinion, the most fulfilling experience a US Air Force Weather Forecaster can have. As a key member of this close-knit team, I am immersed in a mission that leverages my skills and expertise to drive tactical decision-making. Collaborating closely with the renowned 160th Special Operations Aviation Regiment (Airborne), I work alongside the world's top rotary wing pilots, providing critical weather insights that inform their operations and ensure mission success.

The unique demands of this assignment require creativity, adaptability, and a commitment to excellence. In return, weather forecasters like myself are afforded the opportunity to push the limits of our profession, driving innovation and advancing the art of weather forecasting in support of the most critical and high-stakes operations.

SrA Cayleigh Weissinger - Det 1, 23 SOWS, Weather Journeyman

Being a forecaster with this team, has been an exceptional experience. The unique role of providing weather insights that directly impact high-stakes missions has given me a sense of purpose and pride that supersedes anything else I've done in my 4 years of service. It’s an environment where precision and expertise are crucial, knowing my forecasts contribute to the success of such elite teams has been both challenging and rewarding. I've had the opportunity to work with and learn from the most skilled forecasters in our career field, accelerating my personal and professional growth while shaping me into a more resilient, resourceful individual.

Expeditionary Meteorology Program Office

By Kyle Vanyo, CTR – Astrion, Meteorology SME, ExMet Program, Photo courtesy of Atmo.ai

The Team:
The Expeditionary Meteorology (ExMet) program office, part of the Air Force Weather Systems Program Management Office at Hanscom AFB, MA in partnership with Atmo.ai.

The Mission:
We are working to develop a new artificial intelligence/machine learning (AI/ML) weather modeling capability that will work on an edge computing device. The goal is to provide a high-resolution, regional model that will be able to run with limited observations/initialization, continuing to produce forecast data even without a network connection by utilizing input from tactical weather (TACMET) sensors.

Why It Matters:
Typically, forecasters seeking to access weather model output must rely on access to a network connection. With Neural Intelligent Meteorology for Base and Unit Support, or NIMBUS, forecasters will have the ability to access an extremely high-resolution model over an AOI of their choice, without reliance on network connectivity. AI/ML weather models can run 45,000 times faster than physics-based models, allowing them to be operated using smaller, personal devices. This perfectly fits the Agile Combat Employment (ACE) concept by allowing weather teams to bring a device the size of a laptop or smaller to a deployed location, set up an area of interest (AOI), receive tailored weather forecast products. NIMBUS's full capability is unlocked when connected to the network (e.g., NIPRNet), allowing it to download global initialization data and produce lengthier forecasts, but it can also receive local TACMET data from sensors such as the Integrated Weather Observing System (IWOS) or Advanced Micro Weather Sensor (AMWS), allowing it to continue to produce forecasts in denied, disrupted, intermittent, and limited (DDIL) environments. This ensures no gap in the ability to produce mission-ready forecast products in combat scenarios.

More information and updates on the development process are always available in the ExMet monthly stakeholder meetings. The following link will allow you to join the Weather Program Office User Working Group on Teams. From there, you will see the ExMet monthly stakeholder meeting invite in the subchannel "ExMet Systems – IWOS-AMWS-TMQ-53."

https://dod.teams.microsoft.us/l/channel/19%3Adod%3A832f68c12e954498a7bd9005c9b498e7%40thread.skype/ExMet%20Systems%20-%20IWOS-AMWS-TMQ-53?groupId=a7afd19f-111e-459f-923e-39e7ed6f5d16&tenantId=8331b18d-2d87-48ef-a35f-ac8818ebf9b4

56th Operations Support Squadron/OSW, Luke AFB, AZ

By SrA Margaret G. Szukala

The Team: (CAO Jan 2025)

Capt Alston, Chandler
MSgt Long, Ahmad
TSgt Gehl, Justin
TSgt Padilla, Aaron
SSgt Smith, Christopher
SSgt Quintana-Olmos, Alysia
SrA Sanders, Aleah
SrA Schlabach, Jessica
SrA Stewart-Johnson, Damani
SrA Szukala, Margaret
SrA Terry, Dylan
A1C Mumfrey, Blaise
A1C Smith, Kathryn
A1C Spencer, Matthew
Mr. Horton, Alan

The Mission:

We train the world's greatest fighter pilots and combat-ready Airmen. The weather flight works closely with the fighter squadrons to deliver environmental intelligence to optimize training missions.

Why It Matters:

The weather support provided for Luke AFB and the fighter pilot training program is crucial for several reasons such as mission planning, training, and operational safety. Recently, the team has been busy with the development of new integration practices, allowing us to support 12 flying squadrons during our most recent LFE (IP War Day). The weather support provided during the exercise enabled joint training for local F-35's, Italian, Norwegian, Dutch, Danish, and Marine partners throughout southern Arizona, preparing for future fights on a Russian front. The successful integration was also a proof-of-concept for support to be provided to our diverse flying squadrons during the upcoming monsoon season. The team furthered integration efforts by collaborating with Navy Information Warfare Training Group to incorporate "Builder" (next generation Tactical Decision Aid) in MDMP and training scenarios for our 5th generation fighters. Meanwhile, TSgt Padilla learned tactics of multiple AFSC's and trained 53 personnel, to include the 13 CABS leadership team on manual observing techniques while TDY to Tyndall AFB. Sgt Padilla was also recognized for his real-world lightning forecasts which identified a window of opportunity for local runway repair and safeguarded CE and the CABS' MRA during the exercise, preparing for deployment this fall. Ultimately, the weather support provided by the 56 OSW is a key factor in the success of the F-35 training program at Luke AFB. By providing pilots with the environmental intelligence they need to operate safely and effectively in a variety of weather conditions, our weather flight is helping to shape the next generation of fighter pilots. As we continue to push the boundaries of flight training, it's clear the 56 OSW will remain a vital piece in our mission to produce the world's most lethal fighter pilots.

609th Air Operations Center/WST, Al Udeid AB, Qatar

By Capt Matthew Wetmore

The Team:

The 609 AOC Weather Specialty Team (WST) has a dynamic skillset with a myriad of operational experience. Capt Matthew Wetmore is the Team Chief and SSgt Nathan Norvell is the Team NCOIC. 1st Lt Braeden Ede directs the team's operations, while 1st Lt Caroline Keith specializes in managing ISR integration, and 1st Lt Christopher Russell specializes in managing planning integration. SSgt Ryan Hoseth and SSgt Drake Ellis tailor short-term forecasts and brief combat operation decision makers. SrA Alexander LeDuc tailors ISR and long-term forecasts.

(From L-R) SrA Alexander LeDuc, SSgt Nathan Norvell, 1st Lt Caroline Keith, 1st Lt Braeden Ede, SSgt Ryan Hoseth, SSgt Drake Ellis

The Mission:

609 AOC/WST is the principle METOC team that advises the USCENTCOM/CC on AOR-wide daily aviation operations and integrates weather intelligence into each AOC Division, an ISR Research and Development Task Force, as well as joint and coalition partners to achieve the AFCENT/CC's objectives. The team ensures current METOC and climatological conditions are considered in strategic and operational-level planning and execution by assessing impacts to enemy and friendly capabilities, targeting, ISR, and air mobility. On the Combat Operations floor, the team is ready to directly support dynamic targeting, Personnel Recovery missions, air and missile defense operations, and national decision makers.

Why It Matters:

609 AOC/WST minimizes environmental impacts to the daily Air Tasking Order maintaining global security and freedom of navigation for more than one-third of global container traffic and one-fourth of global oil exports through the region. Partnerships with regional security coalitions within the Gulf Cooperation Council and among states in the region improve intelligence collection and advanced warning for threats against coalition forces. Additionally, partner collaboration works to expose Iranian gray zone operations and disrupt top-tier Violent Extremist Organization threats that endanger vital U.S. national interests. Finally, through these actions, we defend the U.S. as the regional "Partner of Choice" against Russia.

28 OWS Systems and Integration Flight, Shaw AFB, SC

By Maj Stuart Miller / SMSgt Marlyn Daust / MSgt Adam Miller

The Team:
28th OWS/Systems & Integration Flight

The Mission:
In coordination with AFCENT weather staff, synthesize operational-level environmental information produced by 28 OWS forecasters to provide timely, accurate and relevant decision-grade data to enhance the service component's multi-domain planning and targeting activities in support of theater campaigns and operations, maximizing lethality and influencing behavior throughout the USCENTCOM battlespace.

Why It Matters:
The Systems and Integration Flight is formalizing 28 OWS' capabilities and role within the AFCENT Intelligence Enterprise (AIE). This enterprise is comprised of elements of AFCENT/A2, 609 AOC/ISRD, 363 ISRW, and 480 ISRW. Specifically, the team is embedding in AIE Target Vulnerability Studies and Target Development Working Groups in support of CFACC lines of effort in theater. This will optimize existing 28 OWS theater air defense environmental impact assessments and is paving the way for the squadron's holistic integration into AFCENT planning and targeting cycles.

The team has also been key to efforts within AFCENT/A39 Operations in the Information Environment branch. They participated in planning for the first global deployment of a $3M radio frequency deception capability, collaborating with three CCMDs to direct logistics, establish on-site operations, and deliver a groundbreaking asset to the CCDR. In coordination with AFCENT weather staff, the team analyzed and mitigated atmospheric limitations to expand the frequency range from 33 km to 1.2K km and provided long-range environmental analyses to identify optimal operational windows for successful test activities. In addition, they delivered weather analyses to service component planning staffs for a POTUS-approved operation targeting five Houthi underground weapons storage sites in Yemen. This assisted three MAJCOMs deploying precision airpower with B-2 bombers, marking the AOR's first operational use of the platform in decades and eliminating threats to civilian and military vessels.

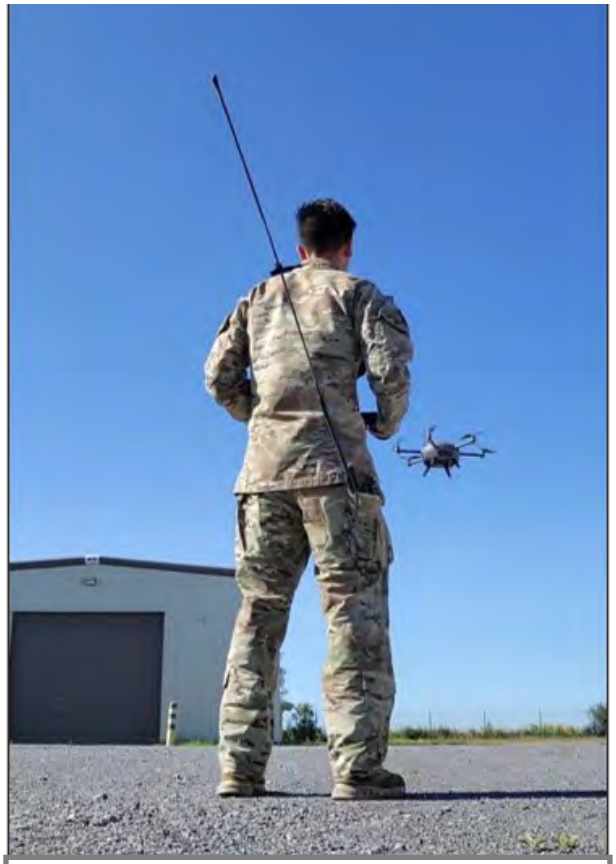
1st JSOAC METOC Directorate, Fort Bragg, NC

By SMSgt Kyle Marshall

The Team: The1 1st Joint Special Operations Air Component Meteorology and Oceanography Directorate is located at Fort Bragg, North Carolina, and serves as the lead weather unit for all Joint Special Operations Command (JSOC) activities. Our team is comprised of 13 assessed and selected joint personnel (8 Air Force, 3 Navy, 2 Army Civilian) that provide accurate, timely, and relevant decision grade environmental analysis across the full spectrum of special operations mission profiles.

The Mission: Our mission statement is to prepare assigned, attached and augmentation forces and, when directed, conduct special operations against threats to protect the Homeland and U.S. interests abroad. While mission specifics reside at higher classification levels, our specialized unit is trusted with America's hardest problems and no-fail missions. JSOC brings together highly skilled individuals and teams from all branches of the military to address unique challenges that require tactical expertise with a strategic mindset and advanced technologies to achieve objectives crucial to national security.

In garrison the METOC team is by and large an operational level staff entity that enables a 3-star command to make informed decisions, mitigate risks, and maximize mission effectiveness. While deployed, we operate at the tactical level in support of missions with national-level impacts. Our forecasters are experts in their craft with access to supplemental, non-standard training courses to advance their acumen in every environmental domain. The stakes are higher here than anywhere else in the DoD. Our member's meteorological skills directly influence the safety and success of critical operations, which offers us unrivalled training opportunities within the 1W and AG career fields and rates, respectively.



SSgt Matthew Camacho, 1st JSOAC METOC, launches the Meteodrone unmanned aerial system during a joint special operations forces exercise.

In addition to our forecasting responsibilities, we are funded to lead Research, Development, Testing, and Evaluation (RDTE) for novel METOC technologies. Our efforts not only advance USSOCOM's capabilities but also directly contribute to answering future conventional requirements, such as our pioneering work with the Micro Weather Sensor. We recently operationalized the Meteodrone, a hex copter which flies in a vertical column up to 500mb and back in 20 minutes to provide real-time atmospheric soundings. Our current efforts are the RDTE of a 50-pound man-portable Doppler RADAR and a common launch tube-compatible dual-use dropsonde/buoy, with initial versions fielded for testing this calendar year.

Why It Matters: As powerful adversaries rise to assert their influence around the globe, our nation's defense requires an organization that is ready to address threats now while constantly innovating for the future. JSOC is that organization, and our ethos of being *what our nation needs us to be* is more fitting today than ever before.

An assignment with 1st JSOAC METOC is fast-paced and rewarding, with the nature of our work requiring highly professional and adaptable personnel. If a challenge like this excites you, please contact our recruiting office at JSOCRecruiting@socom.mil for more information.

1st Combat Weather Squadron/WXO

By Lt Alexandra Barker

The Team:
The team of Staff Weather Officers from the 1st Combat Weather Squadron headquarters who supported Warfighter and Yama Sakura 87 at the I Corps-level and as the Joint Meteorological Officers for this multilateral exercise. The SWO team pictured (group photo) from top-left to bottom-right is 2nd Lt Alexandra Barker, Capt Erin Burns, Maj Marcela Pineda, SSgt Jace Harter, TSgt Josiah Gevry, Lt Col Emily Graves (CAC SWO), and not pictured is SrA Jonah Gasch

The Mission/ Why It Matters:
As part of the U.S. Army Pacific Operation Pathways, WARFIGHTER 25 and YAMA SAKURA 87 is the largest and complex U.S. Army and Japan Command Post exercise to date. Participants from the Japan Ground Self Defense Force (JGSDF) and Australian Defense Force (ADF) Army train together with Soldiers from the U.S. Army I CORPS, 25th Infantry Division, 11th Airborne Division, 3rd Multi-Domain Task Force, U.S. Army Japan, U.S. Army Reserve and Army National Guard in a joint environment with service members from Marine Corps Pacific, 3rd Marine Division and U.S. Navy Seventh Fleet.The goal of the exercise is to strengthen multi-domain and cross-domain interoperability and readiness between the U.S.-Japan-Australian alliance to ensure a free and open Indo-Pacific.

This consisted of a 10-day multi-echelon operational exercise, where geographically separated units were required to communicate across multiple time zones and languages. Yama Sakura 87 was utilized to provide commanders the opportunity to execute mission command and test C4I systems in a WARSIM-driven exercise stressing decision making, staff procedures, and warfighting skills. The Staff Weather Officer (SWO) training objectives were to enhance the working relationship of the I Corps G2 and 1st Combat Weather Squadron (1 CWS) SWOs, to deeper integrate with Japan/Australian's SWO-counterparts, and to exercise SWOs' ability to provide accurate and timely enviromental intelligence to supported Army Commanders. The success of the SWO team was defined by their ability to inject decision grade weather intelligence at pivotal moments for commanders to take decisive action.

HQ ACC Air Operations Squadron Weather Shop

By Captain Ryne Noska and MSgt Asa Terry (HQ ACC AOS/WX)

The Team, as of January 2025

Capt Ryne Noska – Chief, Weather Operations
MSgt Matthew Semder – Senior Enlisted Leader
MSgt Asa Terry – Flight Chief, Weather Operations
TSgt Jesse Collins – NCOIC, Mission Weather Integration
SSgt Nicholas Denton – Weather Craftsman
SSgt Brendan Howley – Weather Craftsman
SSgt Sarah Brown – Weather Craftsman
SSgt Marquise King – Weather Craftsman
SrA Nicholas Skalla-Corlett – Weather Journeyman
SrA Christopher Burton – Weather Journeyman
Mrs. Richelle Greer – Weather Technician

The Mission

Assigned underneath the Headquarters Air Combat Command Directorate of Operations (ACC/A3), the Air Operations Squadron (AOS) is the only fighter aircraft delivery agency in the Department of Defense (DoD). No matter the fighter type, origin, or destination, the AOS is highly effective in planning, coordinating, and executing delivery of fighter aircraft around the world by supporting both routine and emerging requirements. It regularly delivers United States Air Force, Navy, and Marine Corps coronets and facilitates foreign military sales (FMS) to partner nations. These movements are directed by various levels from the President of the United States to the Major Commands. Our motto is simple…We Deliver!

The Weather Shop (AOS/WX) is an integral component of the AOS, serving as the Lead Weather Unit for all DoD transoceanic fighter movements by collecting, analyzing, tailoring, and integrating timely, accurate, and actionable geoscientific intelligence. AOS/WX also enhances global environmental situational awareness for ACC staff and operations by providing contingency, severe weather, and tropical outlooks.

Why It Matters

AOS/WX enables every level of US military strategy from National Security Strategy to Secretary of the Air Force priorities. Atmospheric, oceanic, and terrestrial conditions are analyzed and communicated in a tailored manner for approximately 300 coronets and 10,000 missed refueling bases annually, thereby ensuring the safe delivery of 2,000 sorties through 20,000 flight hours and 3,500 aerial refuelings and enabling global power projection. The Shop covers all deployment rotations and highlights most favorable spatiotemporal windows for mission execution. All participation in international combined exercises also funnels through AOS/WX such as the longstanding RED FLAG series; RIMPAC, the world's largest international maritime warfare exercise; TARANG SHAKTI, the first Indian-hosted multinational air combat exercise; and PITCH BLACK, the largest military exercise in the Southern Hemisphere. Additionally, AOS/WX allows the strongest possible coalition of nations to be developed through military modernization by identifying weather hazards during FMS and ferrying missions to nineteen allied nations across five Combatant Commands. These actions ready our alliances for Great Power Competition and help prioritize the People's Republic of China challenge in the Indo-Pacific and the Russia challenge in Europe. Finally, the Shop provides meteorological overwatch for combat aircraft transport to and from international airshows, inspiring and emboldening our partners in the face of large-scale threats.

The Shop contributes significantly to ACC operations and staff situational awareness, especially upon activation of the Crisis Action Team, by informing evacuation, response, and recovery efforts for catastrophic events such as Hurricanes Helene and Milton and the Los Angeles Wildfires. Forecasters provide worldwide briefs to the ACC Commander and his staff indicating regions of adverse weather events with potential asset impacts. Finally, mission maps create a visual representation of all upcoming missions and associated weather hazards with multi-day lead-time ensuring optimal resource implementation, integrating weather early into the planning process and fulfilling the Department of the Air Force Vision for Weather Operations.

Without AOS/WX's fighter movement expertise in data-sparse regions, the responsibility for coronets would be dispersed among all weather flights. Consistency and communication would be significantly degraded without central integration; deployment, contingency, and exercise arrival times could become chaotic and unreliable; and ACC staff would lose much of their environmental awareness. AOS/WX allows the Air Force to Fly, Fight, and Win at home and abroad.

Detachment 1. 23d Special Operations Weather Squadron (AFSOC)

By SSgt Morgan White

The Team:

Detachment 1, 23d Special Operations Weather Squadron is comprised of three geographically separated teams at Fort Campbell, KY, Hunter Army Airfield, GA, and Joint Base Lewis McChord, WA.

The Mission:

Det 1, 23 SOWS integrates accurate weather and environmental intelligence into mission planning and execution to optimize operations and create an asymmetric advantage for the U.S. Army's elite 160th Special Operations Aviation Regiment (Airborne) (160th SOAR). The 160th SOAR's mission is to organize, equip, train, resource, and employ Army special operations aviation forces globally, supporting contingency operations and combatant commanders. capable of deploying to data sparse and comms denied environments to provide weather and METOC intelligence for high priority joint special operations. missions. Det 1, 23 SOWS members are airborne qualified, and as the DoD's premier tactical weather team, are capable of deploying to data sparse and comms denied environments to provide weather and METOC intelligence for high priority joint special operations missions.

Training:

To ensure Det 1 forecasters are postured to operate in austere, contested environments, all members receive Advanced Survival, Evasion, Resistance, and Escape (SERE) training, evasive driving, off-road, and armored SUV driving training, and underwater rotary wing egress training. In addition, Det 1 provides tropical, mountain, and space weather training, focusing on how METOC impacts can be exploited to facilitate mission accomplishment. Det 1 also trains members to utilize cutting edge TACMET equipment. The team has the highest operations tempo in Air Force Weather with forecasters continuously integrating weather intelligence into worldwide operations.

Why it Matters:

Forecast accuracy and effectively integrating METOC intelligence into all stages of mission planning and execution is critically important. The 160th SOAR conducts high-speed, low-altitude missions usually during period of darkness in contested regions, so there is no room for error.

Expectations:

When we joined the Air Force most expected to be away from their families at times but being away for over half the year is normal at Det 1. Although, the mission takes us to sometimes scenic locations around the world, it often comes at the price of long hours and extreme ownership over decisions effecting the planning process for the Army's best-qualified aviators, crew members and support personnel. We dedicate 110% of our time, energy, and skill to our mission partners to ensure the success of every flight because they have a no-fail mission, no room for trying again or turning around. If you're interested in this exciting mission, we are always looking for high-speed, skilled forecasters to join our team.

Det 1 team attending a resiliency tactical pause in Nashville.

War and the Weather

Document prepared by the Military Intelligence Service, War Department, July 9, 1942

Weather being involved in both the strategic and tactical the planning process has been significant and impactful for decades. Take a look at a few of these examples from 1942!

the demonstration from Washington. *An enemy in possession of an accurate forecast of the weather on this morning could have taken advantage of our uncertainty. He might easily have disrupted our carefully planned attack, turning it into a bitter defeat.*

The strategic and tactical importance of weather predictions, both short and long range, in waging the present war cannot be over-estimated. This is particularly true in regions of the world where rapidly changing weather situations are characteristic throughout the year.

16) Attack on Dutch Harbor and seizure of Attu & Kiska, June, 1942, (Japanese):

The Japanese have successfully employed the use of shifting storm zones in their attacks on the Aleutian Islands and the weather of the region dictates such tactics throughout the summer. There is no means of adequately patrolling this area during the storm periods. *However, through a foreknowledge of the weather, one can accurately anticipate the periods when attack is possible and be prepared to meet the enemy.* These points are illustrated

WAR AND THE WEATHER

Annex To

Situation and Capabilities of the Enemy

No. 10

Prepared July 9, 1942

Military Intelligence Service, War Department

9) Movements of British warships *Repulse* and *Prince of Wales*, Dec. 10, 1941, (British):

The British Commander had expected to utilize the existing cloud cover for the movement of his ships, but when it broke open, he was exposed to the attack of enemy aircraft with disastrous results.

10 & 14) Attack on the British in Libya, Jan., 1942, (German) and Consolidation of Forces for Attack on the British near Tobruk, May, 1942, (German):

In both instances, Rommel used sand storms in the Libyan Desert to cover his movements. During these periods, British air power was ineffective and consolidation of his scattered forces in preparation for a counter-attack became possible.

11) Escape of the Gneisenau & Scharnhorst through the English Channel, February 12, 1942, (German):

The Germans made use of a narrow zone of bad weather (cold front) to move these ships through the English Channel. This prevented effective action by British surface vessels and aircraft. A detailed description of the meteorological conditions during this action may be found in the writer's report on it, published by the Army's Weather Research Center. (Vol. III, No. 2, May, 1942).

1. 7 CWS
2. 14 WS
3. 26 OWS
4. 45 WS
5. 96 WS/23 SOWS/2 CWSS
6. 53 WRS
7. 96 WS/23 SOWS/2 CWSS
8. 2 SYOS/2 WS/16 WS
9. 1 CWS
10. 17 OWS
11. 2 SYOS/2 WS/16 WS
12. 15 OWS
13. 25 OWS
14. 13 ECWS
15. 607 CWS
16. 3 CWS
17. 2 SYOS/2 WS/16 WS
18. 21 OWS
19. 28 OWS
20. 18 CWS
21. 22 ECWS
22. 96 WS/23 SOWS/2 CWSS

Air Force Weather Directory

A DIGITAL COPY OF THE DIRECTORY CAN BE FOUND ON THE AIR FORCE PORTAL A3W PAGE.
IF YOU SEE ANY DISCREPANCIES IN CONTACT INFORMATION, PLEASE SEND THE CORRECTED INFORMATION TO HAF/A3WT.

af.a3wt.af-a3wt-weather.force.management@us.af.mil

AFW Portal Page:
https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPage-Id=s6925EC1350090FB5E044080020E329A9&command=org

AF Weather's display at the Pentagon, 4th floor, corridors 7 and 8 Apex

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