

# Baltimore/Washington Weather Forecast Office (WFO/LWX) Aviation Users Forum

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November 8, 2023



# Welcome and Roll Call

Jim Lee, Meteorologist-in-Charge, WFO LWX

Andrew Snyder, Aviation Program Leader, WFO LWX

## ***AGENDA***

Purpose and Review Action Items

News and Updates

Using Aircraft Diversions to Determine the Most Impactful Weather at Airports

Regional Aviation Collaboration and TAF Best Practices Along the Northeast Metro Corridor

Open Forum

Review New Actions Items and Close

# Purpose & Mission

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# Forum Goals

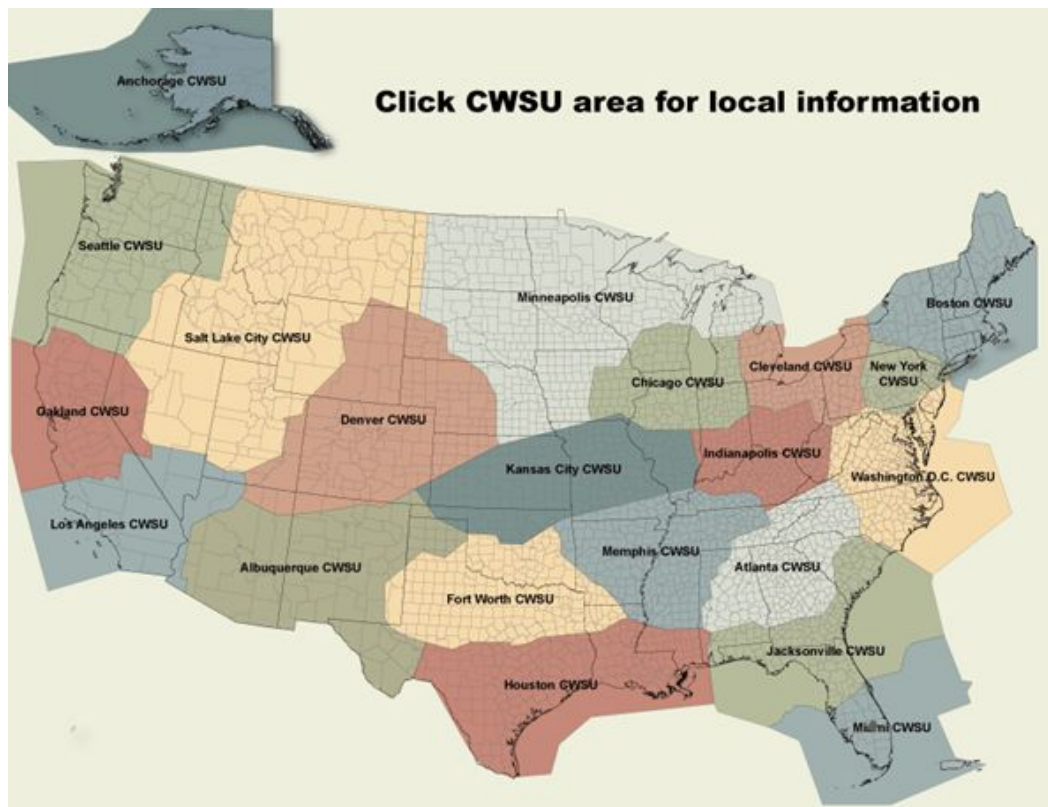
- Enhance communication and strengthen partnerships between the National Weather Service (NWS) and the mid-Atlantic aviation community
- Discuss ways to improve NWS aviation forecast operations and services in the mid-Atlantic
- Identify issues and receive feedback from aviation core customers
- Establish best practices for mid-Atlantic aviation forecasts and services

# NWS Mission

- Provide weather, water and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement of the national economy
- Vision: A Weather-Ready Nation. Society is prepared for and responds to weather, water, and climate-dependent events

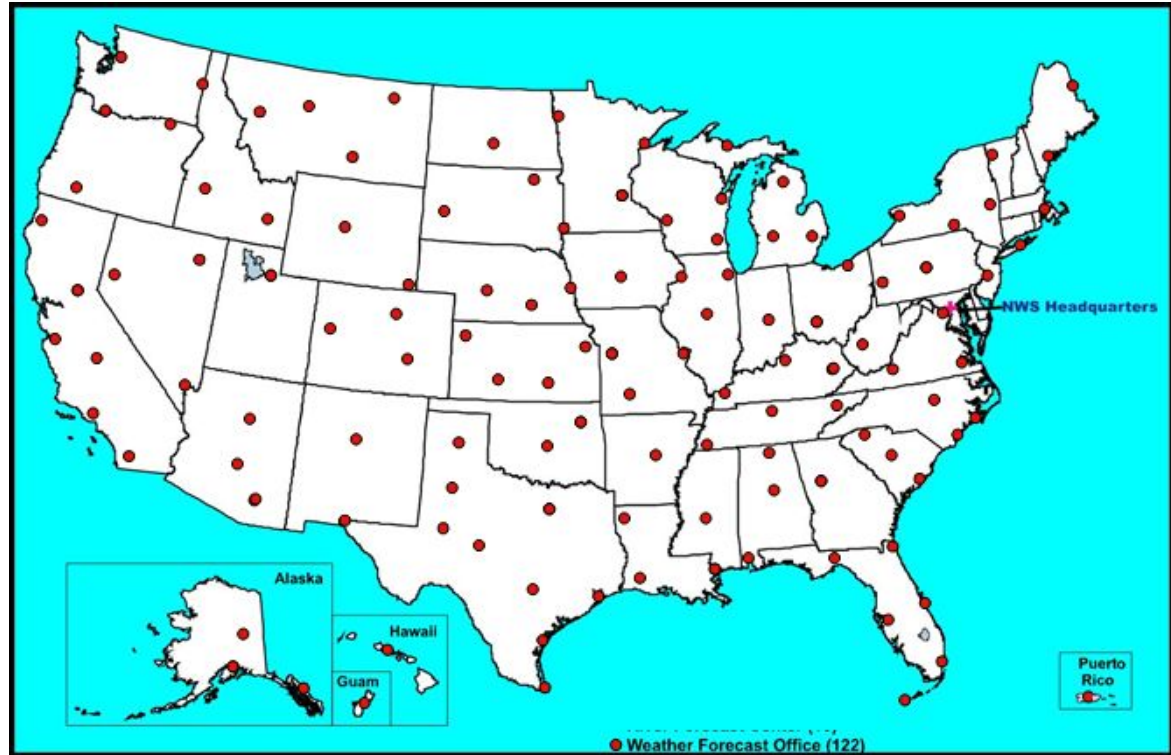
# NWS Structure

21 Center Weather Service  
Units

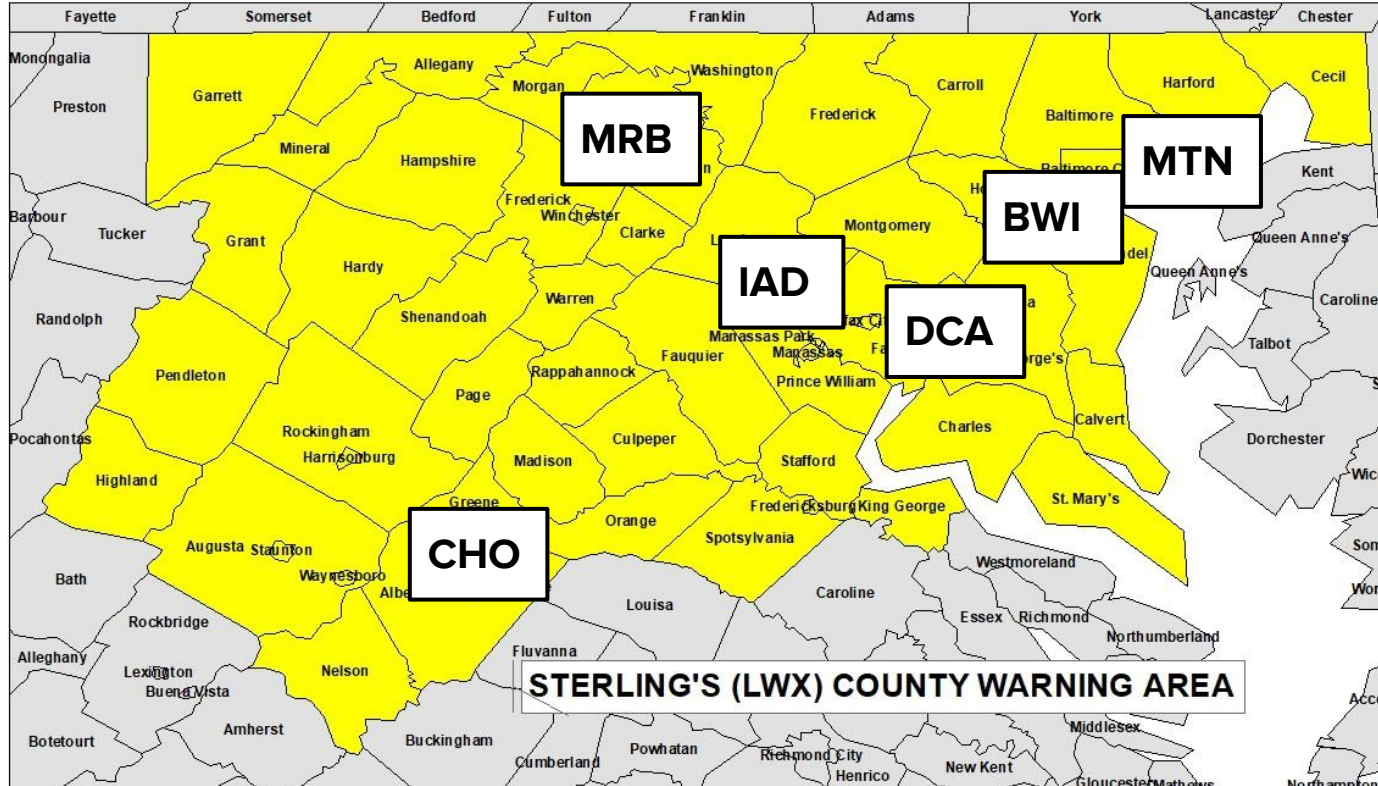


# NWS Structure

122 Weather Forecast Offices



# Terminal Aerodrome Forecasts





# Area Forecast Discussion

- Discussion of conditions within the valid TAF period
  - Basic description of what is driving weather and expected flight conditions
  - Range of possible timing for changes in conditions
  - Confidence level / where the TAF might go wrong
  - Model guidance sources
  - Why TAF was written a certain way
- “Sound bites” of important weather through Day 5
- Updated around 4:00 AM, 10:30 AM, 3:00 PM, 9:30 PM

```
.AVIATION /15Z THURSDAY THROUGH MONDAY/...  
Low pressure south of Long Island this morning will race  
northeastward today away from the terminals. A gusty northwest  
breeze will relax this afternoon and tonight as high pressure  
nudges toward the terminals. The broken stratocumulus deck in  
place to the northwest is much less impressive than originally  
thought, with most terminals observing few or scattered clouds.  
Clouds will move back in later this afternoon and evening as a  
disturbance approaches from the west. However, conditions will  
remain VFR.  
  
High pressure will build over the terminals Friday through  
Saturday with dry conditions and VFR conditions. Light northerly  
winds will turn more southerly Saturday and Saturday night as  
the high shifts offshore and a return flow sets up.  
  
VFR conditions expected Sunday and Monday.  
  
&&
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# Local Aviation Website

<https://www.weather.gov/lwx/aviation>

or Forecasts drop down → Aviation

Aviation Forecast Discussion

Hourly weather details

Hourly TAF details/impacts

At the bottom:

CWSU links

Weather maps

Wind rose data

Other links

**NWS Sterling Aviation Page**  
Weather.gov > Baltimore/Washington > NWS Sterling Aviation Page

Baltimore/Washington  
Weather Forecast Office

Current Hazards   Current Conditions   Radar   Forecasts   Rivers and Lakes   Climate and Past Weather   Local Programs

**Latest Aviation Discussion:**

AVIATION /20Z SUNDAY THROUGH FRIDAY/... VFR and dry conditions expected at the terminals through Tuesday night. Winds will diminish entering into tonight. Winds will gradually turn around to a southerly flow late Monday and continue through Tuesday. VFR conditions under light winds expected Wednesday and Wednesday night. A cold front will move across the terminals on Thursday, turning winds northerly but not bringing much in the way of precipitation as VFR continues. AVIATION...BKF/KLW

This discussion and more can be found in the [Area Forecast Discussion](#).

**Aviation Forecasts**

The National Weather Service (NWS) Weather Forecast Office (WFO-LWX), in Sterling, VA has responsibility for six Terminal Aerodrome Forecasts or TAFs in Virginia, Maryland and the eastern West Virginia panhandle. Click on each map below to view the latest decoded TAF *Note: maps are not for official aviation use. FAA VFR charts are available [here](#).*

**REAGAN NATIONAL (DCA)**

**TERMINAL FORECAST (DCA)**

24 HRS. OF OBSERVATIONS

FAA DETAILS

TABULAR FORECAST

DCA TAF BOARD

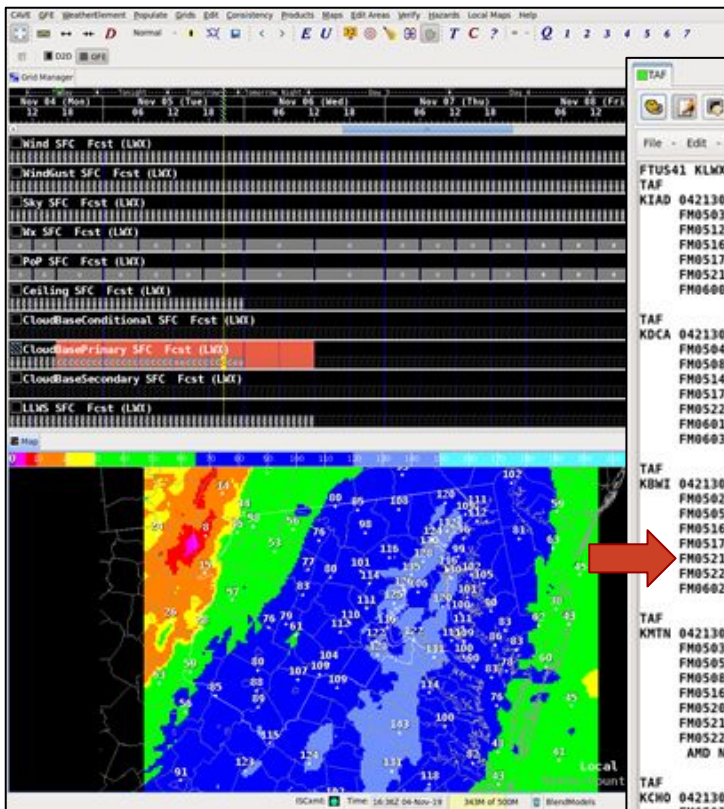
**DULLES (IAD)**

**TERMINAL FORECAST (IAD)**

# TAF Creation

## Digital Aviation Services

- One common digital forecast database
- Formatter code samples database at TAF grid points, creates hourly forecast
- Code deletes lines through a “ranking system”
- Forecaster QC’s/ modifies before transmission



```
TAF
FTUS41 KLMX 042130
TAF
KIAD 042130Z 0500/0606 17006KT P6SM SCT250
FM050300 19005KT P6SM FEW250
FM051200 21004KT P6SM SCT250
FM051600 24004KT P6SM SCT200
FM051700 26005KT P6SM BKN150
FM052100 28005KT P6SM SCT090
FM060000 30006KT P6SM SCT250=

TAF
KCOA 042130Z 0500/0606 17006KT P6SM SCT250
FM050400 19005KT P6SM FEW250
FM050800 VRB03KT P6SM SCT250
FM051400 22005KT P6SM SCT250
FM051700 25005KT P6SM BKN150
FM052200 28005KT P6SM SCT090
FM060100 30006KT P6SM SCT100
FM060300 31007KT P6SM FEW250=

TAF
KBWI 042130Z 0500/0606 16006KT P6SM SCT250
FM050200 18004KT P6SM FEW250
FM050500 21004KT P6SM SCT250
FM051600 24006KT P6SM SCT250
FM051700 26006KT P6SM BKN250
FM052100 28005KT P6SM BKN090
FM052200 28005KT P6SM SCT090
FM060200 30007KT P6SM FEW150=

TAF
KNTN 042130Z 0500/0524 16008KT P6SM FEW250
FM050300 18006KT P6SM FEW250
FM050500 20005KT P6SM SCT250
FM050800 22004KT P6SM SCT250
FM051600 23006KT P6SM BKN250
FM052000 26006KT P6SM BKN250
FM052100 27006KT P6SM BKN100
FM052200 27006KT P6SM SCT100
AMD NOT SKED 02/12=

TAF
KCHO 042130Z 0500/0524 20005KT P6SM FEW250
FM050200 VRB03KT P6SM FEW250
FM051500 23004KT P6SM SCT200
FM051800 25005KT P6SM SCT130
FM051900 25005KT P6SM SCT090=

TAF
KNRB 042130Z 0500/0524 17006KT P6SM SCT250
FM050200 19005KT P6SM SCT250
FM051100 VRB03KT P6SM SCT250
FM051300 VRB03KT P6SM BKN250
FM051600 25004KT P6SM BKN200
FM051800 27005KT P6SM BKN100
FM051900 27005KT P6SM BKN100
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# Review Previous Action Items

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# 2022 Meeting

***Andrew will follow up with Nikolaus Wagenfeiler and Mike Graf to further investigate the reliability of MTN AWOS observations transmitting overnight***

- One known issue lies with third party server
  - Out of NWS control
- Unknown if related to semi-rare prolonged outages
  - Once or twice a year
  - FAA rectifies but does not report cause

# 2019 Action Items Still Getting Attention

- Request for TAF consistency from WFO-to-WFO, especially in regard to thunderstorms and use of VCTS
- Stress collaboration among AWC, NAMs @ ATCSCC, CWSUs, and WFOs, particularly with thunderstorm forecasting (TCF)
- Produce updated ER WFO/CWSU Aviation Best Practices
- Place aviation grids on all ER WFO websites

Coastal Office  
(Eastern Region)  
Aviation Meetings

National Initiative

# News from the Forecast Office

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# FY23 TAF Verification (IFR and below)

\* Does not include amendments

## Overall

	<b>POD</b>	<b>FAR</b>	<b>CSI</b>
<b>Goal</b>	0.65	0.38	
<b>Nat'l</b>	0.65	0.358	0.477
<b>ER</b>	0.701	0.345	0.512
<b>LWX</b>	0.689	0.364	0.494

POD = Probability of Detection, higher is better

FAR = False Alarm Ratio, lower is better

CSI = Critical Success Index, higher is better

$$\text{CSI} = \frac{1}{1/(1-\text{FAR}) + (1/\text{POD}) - 1}$$

Goal = National performance metric set as part of Government Performance and Results Act



# FY23 TAF Verification (IFR and below)

\* Does not include amendments

## By Issuance Time

	POD	FAR	CSI
<b>Goal</b>	0.65	0.38	
<b>00Z</b>	0.75	0.365	0.524
<b>06Z</b>	0.69	0.401	0.472
<b>12Z</b>	0.656	0.299	0.513
<b>18Z</b>	0.666	0.382	0.472

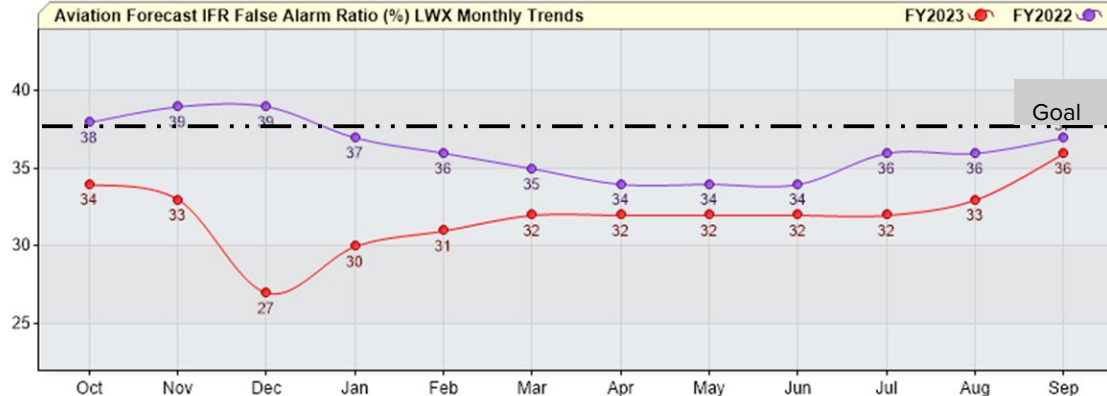
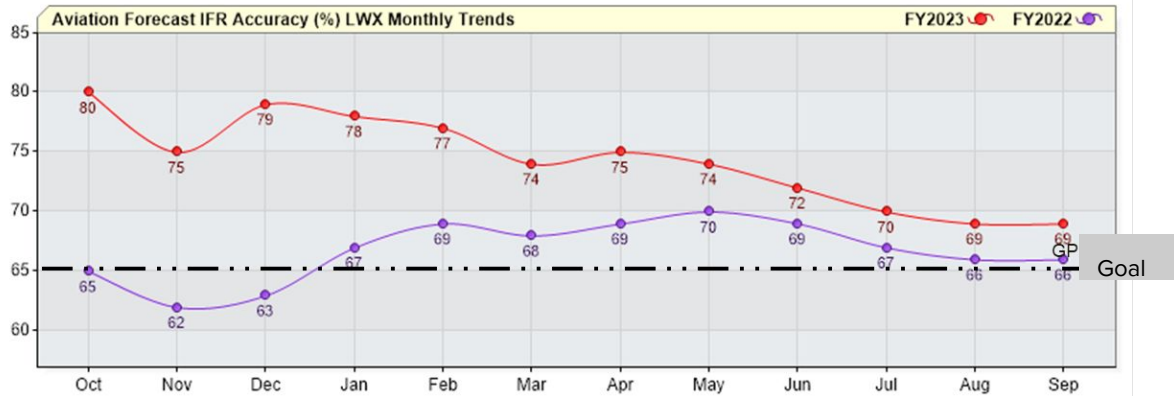
Green is best performer

Orange is worst performer

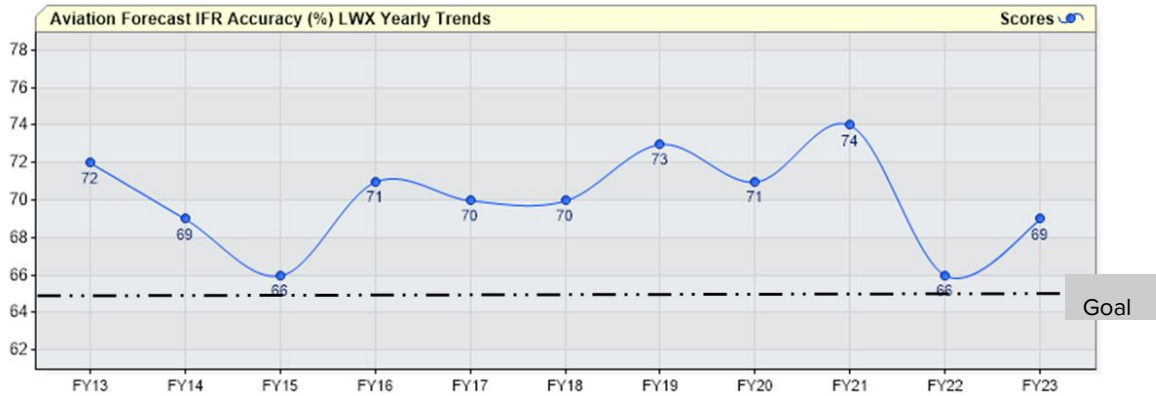
## By Airport

	POD	FAR	CSI
<b>Goal</b>	0.65	0.38	
<b>BWI</b>	0.714	0.366	0.506
<b>CHO</b>	0.653	0.319	0.500
<b>DCA</b>	0.657	0.408	0.452
<b>IAD</b>	0.748	0.315	0.557
<b>MRB</b>	0.705	0.368	0.500
<b>MTN</b>	0.659	0.412	0.451

# 2023 vs. 2022 Monthly Verification Trends



# Annual Verification Trends



# Aviation Goals for this Fiscal Year

- Consider making MTN a full time TAF (remove overnight AMD NOT SKED)
- Consider adjustment to “baseline recommendations” for how to include thunderstorms in the TAF in coordination with other Eastern Region offices
  - Including possible implementation of PROB30
- Join east coast metro WFOs in sending a “heads up” collaboration message to AWC NAM ahead of 12Z and 18Z TAF issuances.

# Aviation Outreach

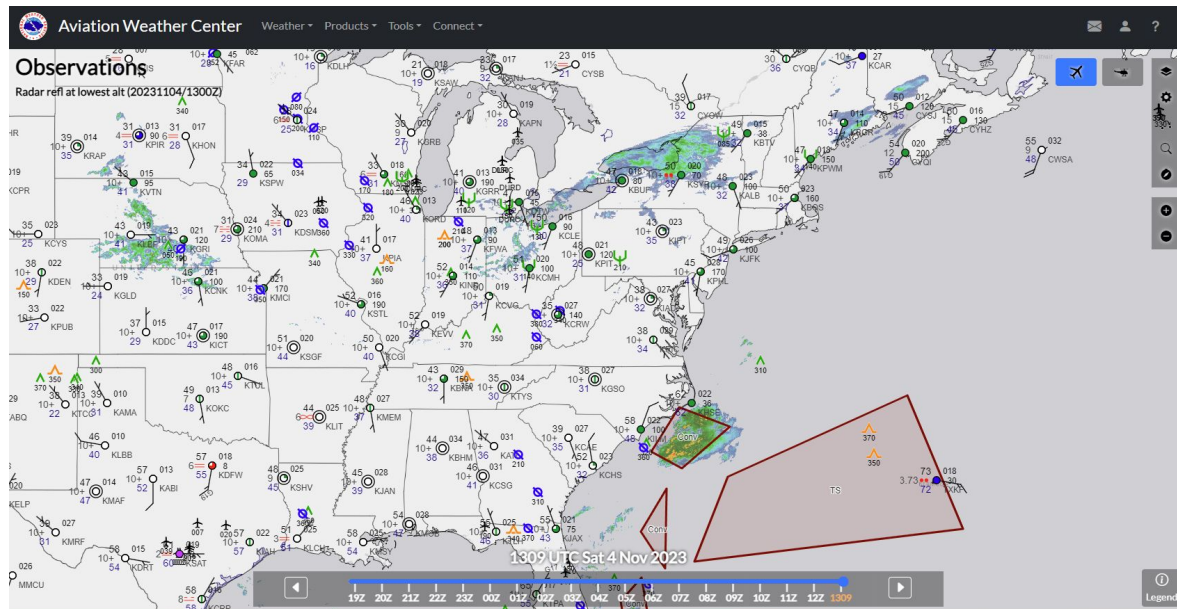
- In the past 15 months, WFO and/or CWSU staff has visited:
  - BWI, CHO, DCA, MRB, MTN towers (you're next, IAD!)
  - Potomac TRACON and AWC NAMs @ ATCSCC
- “Weather refresher training” for controllers at Potomac TRACON (with CWSU)
- Manassas Regional Airport open house
- Participation in Dulles Users Meetings
- Explore participating in Leesburg Airshow next September

# New Aviation Weather Center Website

- Mobile friendly
- Most tools and products combined into GFA display
- Dark mode
- Canadian airports added to winter dashboard
- Most users won't need an account
- Old bookmarks will **not** work

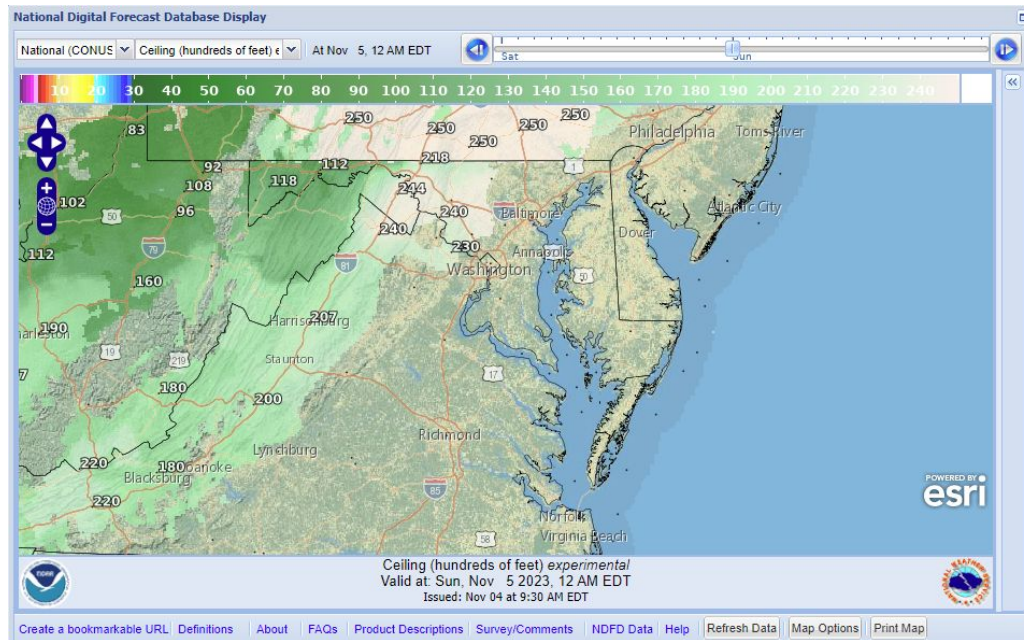
<https://aviationweather.gov/>

Tutorials: <https://www.youtube.com/@nwsawc207/videos>



# Availability of Gridded Aviation Forecasts

- Still “experimental”
- Viewable at <https://digital.mdl.nws.noaa.gov/>





# SLACK COMMUNICATION - COLLABORATION

On July 12, 2022 NWS signed a contract to use Slack as the next generation of the NWSChat service. Slack will serve as both a forecast collaboration and communication platform, allowing NWS forecasters to discuss and share information with each other and core partners during high impact weather. Became operational August 2023.

## What can SLACK do for the NWS:

Security and Compliance

Custom Bots and Automations

External Collaboration

Incident Management

Data Analysis and Visualization

Mobile Access

Documentation and Knowledge Sharing

Notifications and Alerts

Integration with Weather Tools

Real-time Communication - Huddles

Information Sharing

Collaborative Decision-Making



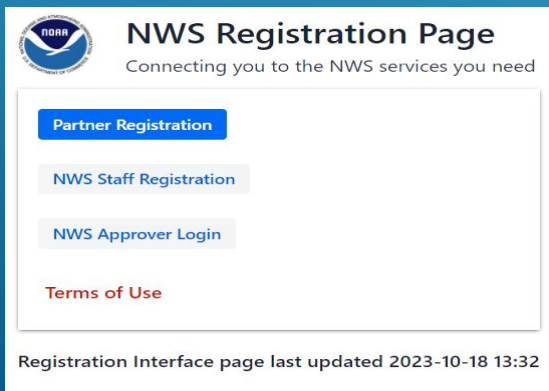



# SLACK

Customized channels exist or can be created for all NATIONAL CENTERS/WFO's/CWSU's/RFC's.

Getting started is easy – Need to review a guide for steps on how to register and join us in the new platform.  
<https://partnerservices.nws.noaa.gov/registration/>

**After** review [partner video series](#) (can find link in Slack channel)

A screenshot of the NOAA NWS Registration Page. The page has a white background with a blue header. On the left is the NOAA logo. The main heading is "NWS Registration Page" in bold black text, followed by the subtitle "Connecting you to the NWS services you need". Below this is a white box containing four buttons: "Partner Registration" (highlighted in blue), "NWS Staff Registration", "NWS Approver Login", and "Terms of Use" (in red text). At the bottom of the page, it says "Registration Interface page last updated 2023-10-18 13:32".

 **NWS Registration Page**  
Connecting you to the NWS services you need

[Partner Registration](#)

[NWS Staff Registration](#)

[NWS Approver Login](#)

[Terms of Use](#)

Registration Interface page last updated 2023-10-18 13:32



# SLACK

Search National Weather Service

**NWSChat 2.0**

- Unread mentions
- # cwsu-boston
- # cwsu-cleveland
- # cwsu-jacksonville
- # cwsu-memphis
- # cwsu-new-york
- Channels
- # awc\_nas\_impacts 1
- # announcements-all
- # aviation-weather-center
- # awc-convective-sigmets
- # awc-datafeed
- # awc-nam-chat
- # awc-pireps
- # awc-tcf-collab-chat
- # cwsu-new-york-exercises
- # cwsu-washington**
- # cwsu-washington-bots
- # eastern-region-roc
- # feedback
- # space-weather-prediction-c...
- # tropical-collaboration1
- # tropical-collaboration2
- # welcome
- # wfo-balt-wash-dc
- # wfo-mount-holly-nj
- # wfo...
- Unread mentions
- Add channels

**# cwsu-washington**

+ Add a bookmark

image.png

**HIGHLIGHTS**  
Weak frontal boundaries cross through ZDC with light rain.

**ZDC Day 2 Forecast** - Valid: 12Z -00Z Thu 10/31/2023  
From the 2023-2024 Outlook (Z)

**ENROUTE / TERMINAL IMPACTS**

**NWS - CWSU Washington - Shane Snyder** 3:03 PM  
PM Briefing Sheet: <https://www.weather.gov/media/zdc/brief/BRIEF.pdf>

Today

**NWS - CWSU Washington - Michael Mathews** 6:31 AM  
AM Wx Brief: <https://www.weather.gov/media/zdc/brief/BRIEF.pdf>

**NWS - CWSU Washington - Michael Mathews** 9:24 AM  
image.png

**HIGHLIGHTS**  
Light snow possible in the WFO area with otherwise VFR conditions.

**ZDC Day 2 Forecast** - Valid: 12Z -00Z Wed 11/1/2023  
From the 2023-2024 Outlook (Z)

**ENROUTE / TERMINAL IMPACTS**

B I U Link Embed Bold Italic Code

Message #cwsu-washington



# LOCAL SLACK CHANNELS

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**#wfo-balt-wash-dc:** Interactive chat for the WFO

**#wfo-balt-wash-dc-datafeed:** Bot feed for WFO products, including TAFs (not monitored)

**#cwsu-washington:** Briefing sheets and any interactive messaging

**#cwsu-washington-bots:** Bot feed of products, including TAFs (not monitored)

# Using Aircraft Diversions to Determine the Most Impactful Weather at Airports

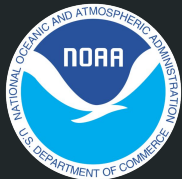
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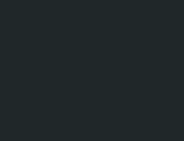
Michael Mathews, CWSU ZDC



# Regional Aviation Collaboration and TAF Best Practices Along the Northeast Metro Corridor

Melissa DiSpigna, Eastern Region Aviation Meteorologist

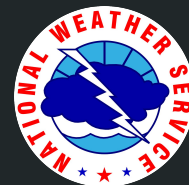




# Open Forum

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Questions, comments, concerns



# Your Feedback for Us

1. Are we meeting your needs with what we are currently doing?
2. How can we improve on our forecasts & services?
3. Are there any unmet needs of forecasts and/or services?
4. Do you feel the communication lines between the users and our office leadership open 365 days/year?

# Review New Action Items

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# Thank you for attending!

Plan for an annual meeting in late fall/early winter time frame

Contact information:

- Jim Lee, LWX Meteorologist-in-Charge: [james.e.lee@noaa.gov](mailto:james.e.lee@noaa.gov)
- Rick Winther, ZDC Meteorologist-in-Charge: [richard.winther@noaa.gov](mailto:richard.winther@noaa.gov)
- LWX Science and Operations Officer (vacant)
- Andrew Snyder, LWX Aviation Program Leader: [andrew.snyder@noaa.gov](mailto:andrew.snyder@noaa.gov)
- 24/7 operations floor: 571-888-3501

