

## Agenda for the Fall 2023 FPAW Meeting



**Dates:** November 14-16, 2023  
**Location:** The MITRE Corporation  
 Room 1N100  
 7515 Colshire Drive  
 McLean, VA 22102  
**Registration:** Required via [FPAW website](#)

	Day 1	Day 2	Day 3
Time (EST)	Tuesday, 11-14-23	Wednesday, 11-15-23	Thursday, 11-16-23
8:30 AM to 8:45 AM		<b>MITRE IDEA Lab Tour 1</b> 8:30 AM – 9:00 AM	<b>MITRE IDEA Lab Tour 2</b> 8:30 AM – 9:00 AM
8:45 AM to 9:00 AM			
9:00 AM to 9:15 AM			
9:15 AM to 9:30 AM			
9:30 AM to 9:45 AM	<b>Session 1a</b> <i>Climate Change and Aviation</i> 9:30 AM - 11:45 AM	<b>Session 3a</b> <i>A Day in the Life of an Input to the ANG-C6 Portal</i> 9:30 AM - 11:30 AM	<b>Session 5a</b> <i>Testbed Activities – End User Engagement in the R2O Process Part Deux</i> 9:30 AM – 11:45 PM
9:45 AM to 10:00 AM			
10:00 AM to 10:15 AM			
10:15 AM to 10:30 AM			
10:30 AM to 10:45 AM			
10:45 AM to 11:00 AM			
11:00 AM to 11:15 AM			
11:15 AM to 11:30 AM			
11:30 AM to 11:45 AM			
11:45 AM to 12:00 PM	<b>Lunch</b> 11:45 AM - 12:45 PM	<b>Lunch</b> 11:30 AM - 12:30 PM	<b>Lunch</b> 11:45 AM - 12:45 PM
12:00 PM to 12:15 PM			
12:15 PM to 12:30 PM			
12:30 PM to 12:45 PM			
12:45 PM to 1:00 PM	<b>Session 1b</b> <i>Climate Change and Aviation</i> 12:45 PM - 2:30 PM	<b>Session 3b</b> <i>A Day in the Life of an Input to the ANG-C6 Portal</i> 12:30 PM - 1:45 PM	<b>Session 5b</b> <i>Testbed Activities – End User Engagement in the R2O Process Part Deux</i> 12:45 PM - 2:30 PM
1:00 PM to 1:15 PM			
1:15 PM to 1:30 PM			
1:30 PM to 1:45 PM			
1:45 PM to 2:00 PM			
2:00 PM to 2:15 PM			
2:15 PM to 2:30 PM			
2:30 PM to 2:45 PM	<b>Break</b>	<b>Break</b>	<b>Break</b>
2:45 PM to 3:00 PM	<b>Session 2</b> <i>TCF Verification</i> 2:45 PM - 3:45 PM	<b>FPAW Planning Meeting</b> 2:00 PM – 4:00 PM	<b>Session 6</b> <i>Review of Prior FPAW Topics</i> 2:45 PM - 3:45 PM
3:00 PM to 3:15 PM			
3:15 PM to 3:30 PM			
3:30 PM to 3:45 PM			
3:45 PM to 4:00 PM			
4:00 PM to 4:15 PM	<b>Break</b>	<b>Break</b>	
4:15 PM to 4:30 PM	<b>FPAW Steering Committee Meeting</b> (Closed Session) Location TBD 4:00 PM - 5:30 PM	<b>Session 4</b> <i>FPAW Org Updates</i> 4:15 PM – 5:00 PM	Notes: <ul style="list-style-type: none"> <li>Exact session start/stop times are subject to change</li> <li>Gray blocks indicate hybrid meeting (both in-person and remote participation)</li> </ul> (r) = remote participant
4:30 PM to 4:45 PM			
4:45 PM to 5:00 PM			
5:00 PM to 5:15 PM			
5:15 PM to 5:30 PM			
After 5:30 PM	<b>FPAW Steering Committee Dinner</b> 6:30 PM - ?? Location TBD	<b>FPAW Dinner??</b> 6:30 PM - ?? Location TBD	

## Day 1 – Tuesday, November 14, 2023

### **Sessions 1a and 1b: Climate Change and Aviation**

9:30 AM – 11:45 AM and 12:45 PM – 2:30 PM, hybrid, MITRE Room 1N100

Session Leads: **Tammy Flowe** (FAA) (r) and **Tim Rahmes** (Boeing) (r)

FPAW will be holding its first ever main session to address aviation’s impact on climate as well as the impact of climate change on aviation operations. Our industry is actively engaged in research and prototyping efforts to mitigate the impact of aviation on climate. Conversely, there are many possible impacts of a changing climate on commercial aviation, such as more frequent days of high surface temperatures, colder temperatures during cruise in the stratosphere, increased probability of moderate or greater turbulence, increased dust and smoke from forest fires, changes in icing probabilities, increased convective activity (lightning, hail), and changes in migratory bird patterns, to name a few.

These topics and more will be explored in this fascinating, interactive session.

9:30 AM – 9:45 AM	<b>Opening Remarks:</b> Matt Fronzak (MITRE), Matthias Steiner (NCAR), Mike Robinson (MITRE), Tammy Flowe (r), Tim Rahmes (r)
9:45 AM – 10:15 AM	<b>Increased Turbulence Probability:</b> Paul Williams (University of Reading) (r):
10:15 AM – 10:30 AM	Break
10:30 AM – 10:45 AM	<b>Primer on Persistent Contrails:</b> Tim Rahmes (r)
10:45 AM – 11:15 AM	<b>Contrail mitigation decisions:</b> Ted Thrasher (MITRE):
11:15 AM – 11:45 AM	<b>Open Discussion:</b> And Now What?
11:45 AM – 12:45 PM	Lunch
12:45 PM – 1:15 PM	<b>Climate projections and high impact weather:</b> James Done (NCAR) (r)
1:15 PM – 1:45 PM	<b>Use of Sustainable Aviation Fuel (SAF), Contrail Modeling, Measurements, and Mitigation:</b> Nicole Didyk-Wells (FAA)
1:45 PM – 2:00 PM	Break
2:00 PM – 2:25 PM	<b>Open Discussion:</b> And Now What (Part Two)?
2:25 PM – 2:30 PM	<b>Closing Remarks:</b> Tammy Flowe (r), Tim Rahmes (r)
2:30 PM – 2:45 PM	Break

### **Session 2: TCF Verification: What Do the Metrics Tell Us?**

2:45 PM – 3:45 PM, hybrid, MITRE Room 1N100

Session Leads: **Jason Baker** (FAA) (r) and **Matt Wandishin** (NOAA GSL)

The TFM Convective Forecast (TCF), the successor to the Collaborative Convective Forecast Product (CCFP), has been objectively verified from Day 1. Those verification statistics tell a very interesting story and raise some fundamental questions about the state of the science of convective weather forecasting and the most effective path forward for convective forecasts used operationally in the NAS.

After an introduction by Jason Baker, Matt Wandishin and Kevin Stone (NWS) will provide a brief overview of the TCF and the mechanics of the verification process. That will lead to the presentation of TCF statistics. Those stats will cover year-to-year trends of standard meteorological accuracy scores like probability of detection (POD), false alarm rate (FAR), and critical success index (CSI).

To make the statistics come to life (and avoid “Death by PowerPoint Statistics ☺), TCF parameters such as polygon coverage and the overall size of polygons will also be explored. Using case studies from the last convective season, feedback will be sought from FPAW participants on questions such as “Do users of the TCF prefer smaller polygons that communicate rough locations of expected trouble within in a larger area, or a larger polygon that is more likely to capture the fuller extent of the storms present?” and the related query “Do TCF users want information about areas very likely to be a problem, or about areas very likely NOT to be a problem?”.

We hope and expect that these case studies will generate healthy, engaged discussion with the FPAW audience.

2:45 PM – 2:55 PM	<b>Opening Remarks, Background and Motivation:</b> Jason Baker (r)
2:55 PM – 3:25 PM	<b>TCF Verification Metrics:</b> Matt Wandishin and Kevin Stone (NOAA NWS)
3:25 PM – 3:45 PM	<b>Open Discussion:</b> What Do the Metrics Tell Us, and What Should We Do About It?

This will conclude the first day of the Fall 2023 FPAW Meeting for all but the FPAW Steering Committee members.

### **FPAW Steering Committee Meeting**

4:00 PM – 5:30 PM, hybrid, MITRE Room 1N100

Members of the FPAW Steering Committee members will meet to discuss matters of its organization, mission, and best ways to impactfully guide the FPAW movement going forward. It will be a closed session for FPAW Steering Committee members only.

### **FPAW Steering Committee Dinner**

6:30 PM - ??, in-person only, [Lost Dog Café](#), 1690 Anderson Rd., McLean, VA

## **Day 2 – Wednesday, November 15, 2023**

### **Tour of the MITRE IDEA Lab**

8:30 AM – 9:00 AM, in-person only, POC **Matt Fronzak** (MITRE)

The first tour of the MITRE IDEA Lab will take place on Wednesday morning, November 15, 2023, starting at 8:30 AM. **Sign up will be required for the tours, as there will be a maximum of 20 people each day. Sign-up sheets will be in the main meeting location, Room 1N100.**

### **Sessions 3a and 3b: A Day in the Life of an Input to the ANG-C6 Weather Needs Portal**

9:30 AM – 11:30 AM and 12:30 PM – 2:00 PM, hybrid, MITRE Room 1N100

Session Leads: **Matt Eckstein** (Delta Air Lines) and **Becky Kotten** (FAA)

With apologies to The Beatles, this session, which came out of a very interesting conversation that took place at the FPAW Planning Meeting in Kansas City last May, will show what happens when someone submits a suggestion to the FAA ANG-C6 (Aviation Weather Division) Weather Needs Portal.

The Office of NextGen, Aviation Weather Division, Policy and Requirements Services Branch (ANG-C64) oversees input and processing of inputs to the Weather Needs Portal. The intent of the portal is to be a clearinghouse for aviation stakeholders to submit and track weather-related needs. Needs are reviewed, prioritized, and validated by ANG-C64 based on several factors including complexity, funding and resource availability, and impacts to the NAS. This session will provide an overview of the Weather Needs Portal, the processes used to review and validate each need, and the various FAA Lines of Business procedures for prioritizing and developing requirements.

At the conclusion of this session, attendees will have a much better appreciation of the challenges associated with successfully turning a good aviation weather idea into reality.

9:30 AM – 9:45 AM	<b>Opening Remarks:</b> Matt Fronzak, Matthias Steiner, Matt Eckstein, Becky Kotten
9:45 AM – 10:15 AM	<b>Overview of the Aviation Weather Division (ANG-C6):</b> Randy Bass (FAA)
10:15 AM – 10:45 AM	<b>Current ANG-C64 Requirements Process:</b> Becky Kotten and Brandon Smith (FAA)
10:45 AM – 11:00 AM	<b>Break</b>
11:00 AM – 11:30 AM	<b>Aviation Weather Research Program (AWRP) R2O Process:</b> Danny Sims (FAA) (r)
11:30 AM – 12:30 PM	<b>Lunch</b>
12:30 PM – 12:40 PM	<b>The NWS Requirements Process:</b> Kevin Stone (NWS)
12:40 PM – 1:05 PM	<b>Overview of Active ANG-C6 Weather Needs Portal Inputs:</b> Matt Eckstein, Becky Kotten
1:05 PM – 1:25 PM	<b>Overview of Closed-Out ANG-C6 Weather Needs Portal Inputs:</b> Matt Eckstein, Becky Kotten
1:25 PM – 1:40 PM	<b>Open Discussion and Q&amp;A</b>
1:40 PM – 1:45 PM	<b>Closing Remarks:</b> Matt Eckstein, Becky Kotten
1:45 PM – 2:00 PM	<b>Break</b>

### **FPAW Planning Meeting**

2:00 PM – 4:00 PM, hybrid, MITRE Room 1N100

Session Leads **Matt Fronzak** (MITRE) and **Matthias Steiner** (NCAR)

The location, dates, and target session topics for the Spring 2024 FPAW Meeting will be discussed and decided upon. Potential locations, dates, and session topics will be similarly reviewed and catalogued for the Fall 2024 FPAW Meeting. Proposed topics that are submitted to <https://fpaw.aero/form/submit-a-topic> will be included in these discussions.

2:00 PM – 4:00 PM	<b>FPAW Planning Meeting</b>
4:00 PM – 4:15 PM	<b>Break</b>

### **Session 4: FPAW Organizational Update**

4:15 PM – 5:00 PM, hybrid, MITRE Room 1N100

Session Leads **Matt Fronzak** (MITRE) and **Matthias Steiner** (NCAR)

We will provide pertinent updates from the FPAW Steering Committee and its activities, to include the introduction of the 2023-2024 FPAW Steering Committee.

**FPAW Dinner?** 6:30 PM - ??, in-person only, [The Italian Oven](#), 6852 Old Dominion Dr., McLean, VA

Our first FPAW dinner went so well this past spring that we’re going to do it again. Join us at the Italian Oven for a relaxing evening of stories (some even true), drinks and excellent Italian food from the restaurant’s a la carte menu. **Sign-up sheets will be in the main meeting location, Room 1N100.**

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**Day 3 – Thursday, November 16, 2023**

**Tour of the MITRE IDEA Lab**

8:30 AM – 9:00 AM, in-person only, POC TBD (MITRE)

The second tour of the MITRE IDEA Lab will take place on Thursday morning, November 16, 2023, starting at 8:30 AM. **Sign up will be required for the tours, as there will be a maximum of 20 people each day. Sign-up sheets will be in the main meeting location, Room 1N100.**

**Sessions 5a and 5b: Testbed Activities – End User Engagement in the R2O Process Part Deux**

9:30 AM – 11:30 AM and 12:30 PM – 2:30 PM, hybrid, MITRE Room 1N100

Session Leads: **Sonia Alvidrez** (FAA) (r) and **Ian Johnson** (FAA)

FPAW attendees will learn about and provide input to three separate research areas being explored by the FAA:

- Utility of a Cockpit Cognitive Assistant (Digital Copilot)
- LAMP Flight Category Onset/Cessation Forecasts
- Automated Precipitation Type and Intensity Changes

This session will begin with an overview of the planned activities. The group will then be exposed to each of three research areas, and be provided an opportunity to help steer the direction that these research areas will take, through both interactive surveys (Pro Tip – keep your smart phone handy) and open discussions both during after each research area presentation.

9:30 AM – 9:45 AM	<b>Opening Remarks:</b> Matt Fronzak, Matthias Steiner, Sonia Alvidrez (r)
9:45 AM – 10:15 AM	<b>Overview of the MITRE Cockpit Cognitive Assistant (Digital Copilot):</b> Matt Pollack (MITRE)
10:15 AM – 10:30 AM	<b>Results of the FAA WTIC Study that Used the MITRE Cognitive Assistant:</b> Ian Johnson
10:30 AM – 10:45 AM	<b>Open Discussion:</b> Future of Cockpit Cognitive Assistants and Aviation Weather
10:45 AM – 11:00 AM	Break
11:00 AM – 11:30 AM	<b>LAMP Flight Category Onset/Cessation Forecasts:</b> Sonia Alvidrez (r)
11:30 AM – 11:45 PM	<b>Open Discussion:</b> Utility of Flight Category Onset/Cessation Forecasts
11:45 AM – 12:45 PM	Lunch
12:45 PM – 2:15 PM	<b>Automated Precipitation Type and Intensity Changes:</b> Victor Passetti (FAA)
2:15 PM – 2:25 PM	<b>Open Discussion:</b> Utility of Automated Precipitation Type and Intensity Improvements
2:25 PM – 2:30 PM	<b>Closing Remarks:</b> Ian Johnson
2:30 PM – 2:45 PM	Break

**Session 6: Review of Prior FPAW Topics**

2:45 PM – 3:45 PM, hybrid, MITRE Room 1N100

Session Lead: **Steve Darr** (Dynamic Aerospace) (r)

This session will feature two updates. The first will be from Randy Bass (FAA) concerning the FAA Weather Community of Interest (Wx COI), where there have been some interesting recent developments. The second will be from Steve Darr regarding the ADS-B Wx effort. If all goes well, the FPAW Steering Committee will have reviewed and decided how to act upon a draft ADS-B Wx white paper two days before, the results of which Steve will include in his update.

2:45 PM – 2:50 PM	<b>Opening Remarks:</b> Matt Fronzak, Matthias Steiner, Steve Darr
2:50 PM – 3:15 PM	<b>FAA Wx COI Update:</b> Randy Bass
3:15 PM – 3:40 PM	<b>ADS-B Wx Update:</b> Steve Darr (r)
3:40 PM – 3:45 PM	<b>Closing Remarks:</b> Matt Fronzak, Matthias Steiner

This will bring the Fall 2023 FPAW Meeting to a close.