Final Agenda: Spring 2022 FPAW Meeting

Location

The MITRE Corporation, MITRE 1 Auditorium (Room 1H220)
7515 Colshire Bridge Drive
McLean, VA 22102

Dates/Times

Tuesday, April 19, 2022, 8:00 AM – 5:00 PM EDT
Wednesday, April 20, 2022, 8:00 AM – 5:00 PM EDT

Planning Meeting

Tuesday, April 19, 2022, 8:00 AM – 12:00 PM EDT
(Session Leads: Matt Fronzak/MITRE, Matthias Steiner/NCAR)

Description

The Spring 2022 FPAW Planning meeting will be used to set the date and planned location, and identify the preliminary agenda and session leads of the Fall 2022 FPAW Meeting. In addition, we will begin to assemble topics, and identify potential session leads, dates, and candidate locations for the Spring 2023 FPAW Meeting.

Note: We are very hopeful that this half-day session will go so quickly that we'll have plenty of time to reconnect with friends and colleagues that we haven't seen IN-PERSON in over two years.

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
8:00 AM	9:15 AM	75 minutes	**Group discussion: Next Meeting** We will determine the dates, location, session topics and session leads for the Fall 2022 FPAW Plenary meeting (*Matt Fronzak/Matthias Steiner*)
9:15 AM	9:45 AM	30 minutes	***BREAK and RECONNECT***
9:45 AM	11:00 AM	75 minutes	**Group discussion: Next +1 Meeting** We will identify preliminary dates, session topics and session leads, and potential locations, for the Spring 2023 FPAW Plenary meeting (*Matt Fronzak/Matthias Steiner*)
11:00 AM	11:30 AM	30 minutes	***BREAK and RECONNECT***
11:30 AM	12:00 PM	30 minutes	**Group discussion Any other business** (if none, we will break early for lunch) (*Matt Fronzak/Matthias Steiner*)

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Plenary Meeting, Session 1

Tuesday, April 19, 2022, 1:00 PM – 5:00 PM EDT
(Session Leads: Ralph Stoffler/Raytheon Technologies, Gary Pokodner/FAA)

Session 1a: Low Altitude Weather

This three-hour session will focus on the lowest portion of the atmosphere, and help set direction for needs in future low altitude weather policy, sensing and forecasting. Each presentation in this session will be approximately five minutes in length, followed by 10-15 minutes of Q&A or panel discussion. The session will start by providing basic definitions of low altitude weather, along with the ways that natural terrain and man-made features impact weather in this stratum. The largest block of time will focus on how this weather impacts aviation operating in the lower altitudes. While the

focus will be on drones and future autonomous operations, it will also address fixed-wing, rotary-wing, and EVTOL aircraft as well as traditional large aircraft transiting through the layer. Emerging policy, roles of industry and government and emerging performance standards for weather data will be discussed.

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
1:00 PM	1:10 PM	10 minutes	**Opening remarks** (Ralph Stoffler)
1:10 PM	1:25 PM	15 minutes	**Presentation and Discussion**: ***What is Low Altitude Weather*** (Gordy Rother/Kevin Johnston)
1:25 PM	1:40 PM	15 minutes	**Presentation and Discussion**: ***Local Influences on Low Altitude Weather*** (Don Berchoff)
1:40 PM	1:55 PM	15 minutes	**Presentation and Discussion**: ***Drones*** (Lt. Col. Breen Williams)
1:55 PM	2:10 PM	15 minutes	**Presentation and Discussion**: ***EVTOLs*** (Marilyn Pearson)
2:10 PM	2:25 PM	15 minutes	**Presentation and Discussion**: ***Helicopters*** (Claudia McKnight)
2:25 PM	2:35 PM	10 minutes	**QUICK UP 'n DOWN BREAK**
2:35 PM	2:50 PM	15 minutes	**Presentation and Discussion**: ***Fixed Wing*** (Ralph Stoffler/Claudia McKnight)
2:50 PM	3:00 PM	15 minutes	**Presentation and Discussion**: ***Aircraft Transiting through Low Altitude Weather*** (Don Berchoff)
3:00 PM	3:15 PM	15 minutes	**Presentation and Discussion**: ***Vertiport Instrumentation*** (Ralph Stoffler)
3:15 PM	3:30 PM	15 minutes	**Presentation and Discussion**: ***Training*** (Marilyn Pearson)
3:30 PM	3:50 PM	20 minutes	**Presentation and Discussion**: ***Performance Standards*** (Don Berchoff)
3:50 PM	4:00 PM	10 minutes	**Summary and Closing Remarks** (Ralph Stoffler)

Session 1b: The Role of Weather in Enhancing Aviation Efficiency and Reducing Carbon Emissions

This one-hour session will feature discussions centered on weather-related causal factors of excessive fuel burn and carbon emissions in flight operations. The panel will be composed of a mix of pilots, researchers, dispatchers, and air traffic controllers. The objective of the session will be to develop a prioritized list of weather-related causal factors that can provide the biggest bang for the resolution buck based on the complexity of the issue and the potential reduction in emissions. The session will also include brief presentations on current FAA efforts aimed at reducing emissions. Please save oral questions for the very end of the session, to make sure everyone has time to present, but if someone does not want to forget their question or it will help understand the presentation, they can ask at the end of an individual presentation.

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
4:00 PM	4:03 PM	3 minutes	**Introduction and Overview** (Gary Pokodner)
4:03 PM	4:08 PM	5 minutes	**Presentation**: ***Overview of Remote Oceanic Meteorological Information Operational (ROMIO) Demonstration*** (Jason Craig)
4:08 PM	4:19 PM	11 minutes	**Presentation**: ***Global Oceanic Model Benefits Analysis of ROMIO*** (Toni Trani)
4:19 PM	4:24 PM	5 minutes	**Presentation**: ***Global Weather Notification and Technical Transfer Conference*** (Jason Craig)
4:24 PM	4:34 PM	10 minutes	**Presentation**: ***Air Force Operational Energy – Weather Planning Impact*** (James Olden)
4:34 PM	4:46 PM	12 minutes	**Presentation**: ***Wind optimal and weather avoidance operations; Climate impact and aircraft emissions tradeoff; Collaborative Weather Research and Development*** (Hok Ng)
4:46 PM	4:56 PM	10 minutes	**Presentation**: ***Sustainability Perspectives: Flight Plan Optimization, Collins Sustainability Initiatives*** (Elizabeth Krajewski)
4:56 PM	5:00 PM	4 minutes	**Questions and Wrap-up** (Gary Pokodner)

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Plenary Meeting, Session 2
Wednesday, April 20, 2022, 8:00 AM – 12:00 PM EDT
(Session Leads: Joel Siegel/Booz Allen Hamilton, Tom Ryan/AvMet Applications)

Session 2a: Translating Weather Information for Non-Meteorologists

As meteorologists, we are used to going to conferences to learn more about meteorological advances in technologies and forecasting techniques. But how do we communicate the nuances to our customers and end users for use in their daily operations? This session will bring together different experts in the field of translating weather information in the aviation industry. We will dive into the reasons why effective translation is critical to flight operations, and then explore the impacts of human factors when communicating this information. The goal of our session is to engage with the audience to begin exploring potential efforts to improve weather translation in the future.

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
8:00 AM	8:05 AM	5 minutes	**Introductions and Opening Remarks** (Joel Siegel)
8:05 AM	9:00 AM	55 minutes	**Panel Presentations/Discussion: *Once Upon a Time, there was a Pilot*** On this panel, we will outline the general users, such as airline pilots, general aviation pilots, and sUAS operators and what challenges they face with the current sources of weather data (Mark Eden, Mark Phaneuf, Debbie Kowalewski, Colleen Reiche, Joel Siegel)
9:00 AM	9:30 AM	30 minutes	**Panel Presentations/Discussion: *We're only Human*** For this discussion, two human factors experts will discuss how pilots perceive information and how they apply that understanding to the risks of their current flight (Ian Johnson or Gary Pokodner, Meredith Carroll)
9:30 AM	9:40 AM	10 minutes	**QUICK UP 'n DOWN BREAK**
9:40 AM	10:20 AM	40 minutes	**Panel Presentations/Discussion: *Teaching the Right Information, the Right Way*** We will hear from airline and general aviation experts on the current way we are teaching weather in the industry, and visit topics from cross-training to the free resources on FAASafety.gov (Mark Eden, Mark Phaneuf, Debbie Kowalewski, Joel Siegel)
10:20 AM	11:00 AM	40 minutes	**Discussion: *Setting Ourselves up for Blue Skies and Tailwinds*** We have heard from industry experts about the challenges and safety implications relating to poorly translated weather information. Now let us come together to try to get a good idea of where the solutions conversation starts. Come prepared to discuss your ideas, as we will be engaging with the audience for ideas on how to move forward! (Joel Siegel, Colleen Reiche)

Session 2b: Ongoing FPAW Topic Review – 5G and Aviation

This one-hour follow-up session from the Spring 2021 FPAW meeting will be devoted to a single topic, namely the effects of the 5G rollout on aviation operations. Two perspectives will be offered: one from the international aviation community, and another from that of the FAA.

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
11:00 AM	11:05 AM	5 minutes	**Introduction and Opening Remarks** (Tom Ryan)
11:05 AM	11:25 AM	20 minutes	**Presentation: *FAA Radio Altimeters and 5G C-Band Deployment*** (Christina Clausnitzer)
11:25 AM	11:45 AM	20 minutes	**Presentation**: ***Radio Altimeters and 5G, A European Perspective*** (Stefano Prola)
11:45 AM	12:00 PM	15 minutes	**Discussion** (All) and **Closing Remarks** (Tom Ryan)

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Plenary Meeting, Session 3
Wednesday, April 20, 2022, 1:00 PM – 5:00 PM EDT
(Session Leads: Le Jiang/IMSG, Bill Bauman/FAA, Matt Fronzak/MITRE, Matthias Steiner/NCAR)

Session 3a: NextGen Weather: Past, Present and Future

The first part of this session will feature a review of the original visions of NextGen Aviation Weather and ATM-Weather integration (Past). Eight former members of the Research, Engineering and Development Advisory Committee (REDAC) Weather-ATM Integration Work Group (WAIWG), several of whom were also contributors to the Joint Planning and Development Office (JPDO) NextGen Weather CONOPs, will comprise the panel. They will discuss the ideas that were proposed in the early days of NextGen, and discuss several resultant examples. Part 2 will examine the status of current Aviation Weather and ATM-Weather Integration efforts, including those that follow or deviate from this vision. Panelists from the FAA, the research community, and industry will exchange the practical constraints, difficulties, and lessons learned (Present). The final part of this session will provide updates and discussion of the future direction of Aviation Weather and ATM-Weather Integration, in the context of ever-evolving core technologies and science (Future).

Start	Stop	Duration	Activity (*Discussion Leaders/Presenters/Panel Members*)
1:00 PM	1:05 PM	5 minutes	**Introductions and Opening Remarks** (Le Jiang)
NextGen Weather (Past): What Happened to ATM-Weather Integration? (Matt Fronzak)			
1:05 PM	1:20 PM	15 minutes	**Presentation:** ***Review of the NextGen Weather CONOPS, the Weather-ATM Integration Work Group (WAIWG) Report and several resultant efforts*** (Matt Fronzak, Jim Evans)
1:20 PM	1:45 PM	25 minutes	**Panel and Audience Discussion** (Bruce Carmichael, Jim Evans, Matt Fronzak, Rick Heuwinkel, Kevin Johnston, Bill Leber, Phil Smith, Gene Wilhelm)
1:45 PM	1:55 PM	10 minutes	**QUICK UP 'n DOWN BREAK**
NextGen Weather (Present): Status of Current Aviation Weather and ATM-Weather Integration Efforts (Bill Bauman)			
1:55 PM	2:30 PM	35 minutes	**Presentations:** ***On Developing Useful Decision Support Tools*** (Bill Bauman), ***TPOG – An ATM-Weather Integration Success Story*** (Mike Emanuel), ***Current NWS Efforts Tailored to Aviation Weather*** (Joshua Scheck)
2:30 PM	2:45 PM	15 minutes	**Panel and Audience Discussion** (Bill Bauman, Mike Emanuel, Joshua Scheck)
2:45 PM	2:55 PM	10 minutes	**QUICK UP 'n DOWN BREAK**
NextGen Weather (Future): What is the Future of Aviation Weather from Where it is Today? (Le Jiang)			
2:55 PM	3:40 PM	45 minutes	**Presentations:** ***Aviation Weather Forecasts as Actionable Information: Support of Current and Future ATFM*** (Phil Smith), ***Findings from FAA's Aviation Weather Research Program (AWRP) on Stakeholder Needs*** (Randy Bass), ***Opportunities brought by Evolving Technology (Big Data, Cloud Computing, AI)*** (Bill Bauman), ***The Future Direction of Aviation Weather as We Head to 2035*** (Alfred Moosakhanian)
3:40 PM	3:55 PM	15 minutes	**Panel and Audience Discussion** (Phil Smith, Randy Bass, Bill Bauman, Alfred Moosakhanian)
3:55 PM	4:00 PM	5 minutes	**Closing Remarks** (Le Jiang)

Session 3b: FPAW Organizational Update

A significant FPAW organizational change proposal will be up for discussion during this conversation led by FPAW's co-chairs. This session may be very important to the future of FPAW; everyone is encouraged to stick around for it, listen carefully and provide feedback.

Start	Stop	Duration	Activity (***Discussion Leaders/Presenters/Panel Members***)
4:00 PM	4:50 PM	50 minutes	**Presentation and Discussion**: ***FPAW Steering Committee*** (Matt Fronzak/Matthias Steiner)
4:50 PM	5:00 PM	10 minutes	**Closing Remarks** (Matt Fronzak/Matthias Steiner)