National Business Aviation Administration (NBAA)
Friends/Partners in Aviation Weather Forum (FPAW)

Summer Meeting July 17 – 18, 2018

NTSB Conference Center
L'Enfant Plaza Promenade in Washington

BIOGRAPHIES OF PRESENTERS

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Steve Abelman
American Airlines

Steve Abelman is the Manager of Weather Technology for American Airlines. Mr. Abelman will be leading the effort to integrate the latest and most relevant weather technology into American Airlines (AA) flight, dispatch, and ground operations. Mr. Abelman will lead American Airlines' Enhanced Weather Information System (EWINS) for delivery of weather information to AA operations. Other duties include leading AA's Turbulence Task Force and the development and presentation of weather training for dispatchers.

From 2011-2016, Mr. Abelman was the manager of the FAA's Aviation Weather Research Team including the direction of both the Aviation Weather Research Program and the Weather Technology in the Cockpit initiative. Mr. Abelman led FAA efforts to streamline research to operations processes and led multi-agency initiatives to coordinate and consolidate weather research for the FAA's Next Generation Air Transportation System.

Justin Barkowski
.American Association of Airport Executives (AAAE)

Justin Barkowski is Staff Vice President, Regulatory Affairs for the American Association of Airport Executives. In his role, Justin represents and advocates for AAAE's members before the U.S. Department of Transportation, Federal Aviation Administration, Environmental Protection Agency, and other agencies overseeing the U.S. aviation industry. Prior to AAAE, Justin managed regulatory and policy issues at the Aircraft Owners and Pilots Association, and began his career practicing law in California. Justin is also an instrument-rated commercial pilot.

Randy Bass
Federal Aviation Administration (FAA)

Randy Bass is the Weather Branch Manager in the FAA's Aviation Weather Division. As manager of Aviation Weather Research Program and the Weather Technology in the Cockpit program, he oversees budget, determines programs of record for funding, monitors end-to-end progress of research projects, and executes transition from research to operations of successful ventures. Before becoming manager, he led the Convective Weather Research Program, where he managed research and development programs to improve forecasting and mitigate effects of convective weather on all aspects of aviation and the National Airspace System.

Prior to his position at the FAA, Randy was a senior meteorologist for Exelis's Geospatial Systems division in Herndon, Virginia. He founded and led an environmental weather division that provided business development and support and services to internal programs and external customers. His projects ranged from development of a handling system for large environmental data files to creation of a digital platform that accesses ground-based, open source cameras across the US and extracts weather information from the imagery on a customized level.

Mr Bass retired from the Air Force in 2008 after 20 years as a weather officer. During his career, he provided weather support to bases throughout the US and to a variety of aircraft such as the B-1, KC-135, A-10, U-2 and C-5. He deployed three times to the Middle East in support of various contingencies, cumulatively spending over a year in Oman, Egypt and Saudi Arabia. Randy also has considerable experience supporting the Intelligence Community and satellite operations. He has been an active member of the American Meteorological Society (AMS) since 2003 and a member of

various local chapters since 1996. He earned the Certified Consulting Meteorologist designation from AMS in 2014.

Mr Bass earned his Bachelor's Degree in Meteorology from North Carolina State University and a Master's Degree in Meteorology from Texas A&M University.

Wil Brown
Federal Aviation Administration (FAA)
No Bio Received

Gregory J. Bowles
General Aviation Manufacturers Association (GAMA)

Gregory J. Bowles is GAMA's Vice President for Global Innovation & Policy. Having joined GAMA in 2005, Greg is responsible for developing new paths for the integration of emerging general aviation technologies and assessing technological shifts that may require changes to the way general aviation aircraft are designed, manufactured, maintained, or operated. Greg promotes the implementation of best regulatory practices in key global markets and facilitates the efficient exchange of aviation products in the global marketplace.

Greg manages the GAMA Electric Propulsion Innovation Committee (EPIC), which seeks to enable the design and operation of hybrid and electric aircraft in key aviation markets around the world. EPIC members include the leading global innovators with a common vision of enabling a new era in aviation. During his time at GAMA, Greg has led global reform efforts intended to revitalize general aviation; most notably, he has been instrumental in the implementation of new laws, rules, and policies for the design of small airplanes (up to 19,000 lbs and 19 passengers). Greg is currently chairing the global consensus body (ASTM F44, General Aviation Aircraft) that has enabled the transition from prescriptive regulations to internationally accepted standards for the design of these vehicles.

Greg previously served as GAMA's Director of European Affairs and Engineering based in the association's European office in Brussels. Greg brings a broad array of real-world engineering experience from both large- and small-scale aerospace companies. Prior to joining GAMA, Greg worked as a certification engineer at Keystone Helicopter (now part of Sikorsky). In this role Greg coordinated with the U.S. Federal Aviation Administration (FAA), European Aviation Safety Authority (EASA), and various other foreign authorities on design certification activities for rotary and fixed-wing aircraft. Greg began his career as a design engineer at Cessna Aircraft Company (now part of Textron Aviation). At Cessna he worked on the engineering design, type certification, and initial production of various Citation turbine aircraft. In this role he managed environmental design and anti-ice design, and also specialized in flight line and flight test support engineering.

Greg holds a Bachelor of Science degree in Aerospace Engineering from Embry-Riddle Aeronautical University, a Master of Business Administration degree from Webster University, and is an elected Fellow with the Royal Aeronautical Society. Greg is an avid sailor and an active general aviation pilot operating out of the Washington, DC area.

Bruce Carmichael (Retired)
National Center for Atmospheric Research (NCAR)

Dr. Carmichael holds a M.S. from Northwestern University in Applied Mathematics and a Ph.D. from the University of Maryland in Computer Science. He has 40 years of experience spanning a number

of activities including university teaching, commercial research, government service, consulting, and academic research. His past 29 years have been involved with the aviation industry in automation of maintenance processes, air traffic control, and weather information. He has been involved in system engineering of improved FAA systems to deliver weather information to users. For the past eighteen years he has been at the National Center for Atmospheric Research, where he has acted as the Director of the Aviation Applications Program. This program is working to improve weather information for pilots, dispatchers, and controllers, particularly related to the hazards of thunderstorms, turbulence, and icing. Dr. Carmichael is also an active commercial instrument-rated pilot.

Steve Darr
Dynamic Aerospace

Mr. Darr has experience developing and implementing advanced analytical methods and aviation technology supporting system safety and capacity enhancements. Within RTCA Special Committee 206, he led the development of DO-339 Minimum Aviation System Performance Standards for Aeronautical Information/Meteorological Data Link Services. He presently leads the joint RTCA/Eurocae Combined Surveillance Committee's Weather Surveillance Subgroup, which is developing requirements for reporting meteorological data derived onboard aircraft via the ADS-B and Mode S datalinks. Mr. Darr has planned, conducted, and directed research for the FAA, NASA, airports, and commercial clients in safety and systems analysis, operations research, concept of operations development, investment decision-making, and strategic planning. He led the technical development and implementation of a research investment feasibility and risk management practice for NASA's Aeronautics Research Mission Directorate, and of a future safety risk assessment methodology for the Commercial Aviation Safety Team. He has experience in the development and implementation of advanced aviation technologies, and in aircraft design, construction, and operation and is currently involved in the development of an optionally-piloted, electrically-powered, compound helicopter. A commercial and military instrument-rated helicopter pilot with single and multiengine airplane ratings, Mr. Darr has extensive flight operations experience, including with human-powered aircraft, as an aircraft owner-operator, and as a pilot in NASA and commercial technology trials. He was a member of the NASA cohort of the ADS-B Team that won the 2007 Collier Trophy. Mr. Darr retired from military service with significant command and staff experience in addition to aviation operations and maintenance management experience.

Rune Duke
Aircraft Owners & Pilots Association (AOPA)

Rune Duke joined AOPA in 2015 as Director of Government Affairs, Airspace and Air Traffic. He has a diverse background in aviation that includes prior experience as a military air traffic controller and as a manager of a general aviation airport. He is a commercially rated pilot, a Certified Member of the American Association of Airport Executives, and has a Master of Aeronautical Science degree in Aviation Operations from Embry-Riddle Aeronautical University. He participates in the RTCA Tactical Operations Committee, Performance-based Operations Aviation Rulemaking Committee, and represents AOPA in various forums. Rune remains an active pilot, flying out of Frederick every chance he gets.

Donald Eick
National Transportation Safety Board (NTSB)

Mr. Donald Eick is a Senior Meteorologist in the Office of Aviation Safety in the Operational Factors Division (AS-30), of the National Transportation Safety Board (NTSB) where he provides technical weather analysis and documentation for accident investigations in all modes of transportation. He

has over 40 years of experience in aviation weather and has been with the NTSB since 1998. During that time has been involved in hundreds of general aviation, regional, majors, and international air carrier accident investigations.

He has also been featured in several documentaries on weather related aircraft accidents. Mr. Eick was formerly with Trans World Airlines for 14 years, where he started as an instructor in flight operations teaching meteorology, regulations, and flight procedures in their Kansas City training center. He was promoted to the position of head of meteorology at TWA's Operational Control Center located at JFK International Airport in New York, where he was responsible for providing worldwide weather support to operational control and flight dispatch, and assisted in the daily operation of the airline. He received numerous awards and has been recognized for his outstanding performance and achievements in aviation weather support.

Mr. Eick has also an extensive aviation weather training background and provides instruction at the NTSB's Basic Accident Investigation Courses (BAIC) in the aviation and marine divisions, and special military programs.

Mr. Eick earned Bachelor of Science degrees from Embry-Riddle Aeronautical University in Aeronautical Studies and from Florida State University in Meteorology. He holds a private pilot, aircraft dispatcher, and weather observer certificates, and has completed his commercial and instrument ratings.

Alicia Fernandes
Mosaic ATM
No Bio Received

Tammy Flowe
Federal Aviation Association (FAA)

Tammy holds a Bachelor of Science degree in Atmospheric Sciences with a minor in Physics from the University of Arizona. She attended graduate school at Florida State University where she earned a Master of Science degree in Meteorology with an emphasis in Climatology.

She served for 11 years as a Weather Officer in the U.S. Air Force. Her positions included that of Special Projects Team Chief and Special Support Plans Officer at Air Force Global Weather Central in Omaha, Nebraska, and Wing Weather Officer for the 86th Tactical Fighter Wing and Command Briefer for the Commander in Chief, United States Air Forces Europe at Ramstein Air Base, Germany. Her military aviation weather experience includes staff and operational support to fighter and airlift units, exercise and special mission support, and accident investigation.

After leaving the Air Force, Tammy worked as an Editorial Assistant for the American Meteorological Society's Journal of the Atmospheric Sciences. She began her current position as a Research Meteorologist for the Federal Aviation Administration NextGen Organization's Aviation Weather Division in January of 2008, and serves as the FAA's Turbulence Subject Matter Expert and Lead for the Turbulence and Airborne Observations projects. In addition, she was selected in 2016 to participate in the FAA's Program for Emerging Leaders (PEL).

Bryce Ford
SpectraSensors

Bryce Ford is the SpectraSensors VP of Atmospheric Programs and is based in Bethesda, Maryland. He leads the Water Vapor Sensing System (WVSS-II) product line, used in Public-Private Partnership programs between National Meteorological Services and the aviation industry, supporting the WMO Aircraft Based Observations Programme (ABOP).

Bryce brings experience in the weather and aviation communities including executive management, program management, business development, functional management, systems and software engineering. Previously Bryce served at Lockheed Martin for 9 years as Business Development Manager and Engineering Project Manager for global meteorological/hydrological programs. He served at Harris Corporation for 16 years, supporting FAA, defense, and commercial customers with weather information systems and data services. He began his career in 1978 as a Boeing research engineer in Wichita, Kansas.

Bryce is a Council person of the international association of Hydro-Meteorological Equipment Industry (HMEI), an associate-member of the WMO CBS Expert Team on Aircraft Based Observing Systems, an associate-member of the WMO CIMO Expert Team on Aircraft-based Observations, and a member of the Global Weather Enterprise Coordination Group. He served on RTCA SC-206-SG4 regarding aircraft meteorological datalink standards, the Board of Directors of a joint venture company in Beijing, China, and supported the U.S. NWS at WMO EC in 2008. Bryce holds a B.S. in Physics from Eastern Illinois University.

Paul Freeman
Harris Corporation

Paul is the Deputy Program Manager at Harris Corporation of the Surveillance & Broadcast Services (SBS), responsible for Design & Development of all the SBS systems: ADS-B, ADS-R, TIS-B, FIS-B, WAM, etc. He has been with the company for over 10 years, coming onboard shortly after our predecessor company won the SBS contract. Over those 10 years, he has participated in the design, testing, and buildout of our national SBS system, which is today the world's largest ATC sensor system, integrating data from over a thousand sensors (over 600 Harris SBS radio stations & over 400 FAA radar systems).

Paul has been particularly involved as a System Engineer & Program Manager in the development & expansion of our FIS-B system. This has included serving as Co-Chair from 2014 to the present of RTCA Special Committee 206's Subgroup 5, which was responsible for the publication in 2016 of DO-358 (FIS-B Minimum Operational Performance Standards), and will be publishing an expanded DO-358A in 2019.

Paul also has 15 years of experience in the military/civil flight simulator industry, having performed software development & testing on flight simulators for the F/A-18, V-22, B-1B, AH-64, CH-53, CitationJet, Citation II, UH-1, CH-46, T-34C, and others.

Paul has a Bachelor's Degree in Aerospace Engineering from the University of Maryland. He lives in Ashburn VA. He has been a general aviation private pilot since 1993, and thus is also an active end-user of the FIS-B system.

Matt Fronzak
MITRE

Matt Fronzak is the Weather Portfolio Advisor and a Principal Aviation Systems Engineer in MITRE's Center for Programs and Technology (CPT). His primary focus is on foundational ATM-Weather Integration research and analysis. He is involved in a variety of projects revolving around traffic flow management (TFM) decision-making in the face of weather constraints. Additionally, Matt coordinates weather-related activities across the MITRE Center for Advanced Aviation Systems Development (CAASD) portfolio, and contributes to a variety of CAASD projects as either a weather, aircraft dispatcher or operations control subject matter expert.

Prior to joining MITRE, Matt spent 34 years at Delta Air Lines working in a variety of operational and management roles, primarily at Delta's Operations Customer Center (OCC). He accrued extensive practical experience as both an aviation meteorologist and FAA-licensed aircraft dispatcher during this time. In between Delta and MITRE, he had a short stint with Rockwell Collins as a marketing manager supporting that company's airborne weather radar products. Matt holds a B.S. - Meteorology from the University of Massachusetts, Lowell and a Master of Aeronautical Science from Embry-Riddle Aeronautical University with specialties in Operations and System Safety.

Dennis Kamin
Federal Aviation Administration (FAA)

Dennis Kamin is currently a Sr. Electronics Engineer in the Weather Sensors and Display System Group of the Weather Systems Group within the FAA. In his current role, he is the Subject Matter Expert for non-Federal Automated Weather Observing Systems (non-Fed AWOS) and other weather monitoring systems. He is the custodian and primary author/editor of the non-Federal AWOS Advisory Circular, 150/5220-16, and is a key contributor to the Federal AWOS siting order, 6560.20. He is the lead evaluator for vendor requests for type certification of new non-Federal AWOS as well as requests to modify existing type certified systems.

Mr. Kamin joined the FAA in 2007 after serving as an FAA contractor since 1994 for the Low Level Windshear (LLWAS) and AWOS programs. Prior to serving as an FAA contractor, he was involved on the provider side of the table for LLWAS and safety monitoring systems for nuclear power plants.

He received a Bachelor of Science Degree in Electrical Engineering and Computer Science and a Master of Science Degree in Nuclear Engineering from the University of Illinois as well as a Master of Science Degree in Computer and Information Systems from Rensselaer Polytechnic Institute.

Mr. Kamin is a registered Professional Engineer and holds a private pilot SEL and LTA free balloon certificate.

While he has been known to wear many hats, Mr. Kamin does not have two heads.

John Kosak
National Business Aviation Association (NBAA)

John Kosak received his Private Pilot's license in early 1991 while attending the Flight Program at Northwestern Michigan College in Traverse City Michigan where he also received his associate's degree. Flying within the Great Lakes region is how John first gained a healthy respect for, and growing interest in aviation weather.

While John's life veered from aviation for a short period, he used the time to acquire his Aircraft Dispatcher License in early 1999 and later that year he joined a fractional aircraft company that was growing exponentially. John worked in numerous aspects of the business including logistics, dispatch, flight planning, operations training and operations management. As one of the first FAA licensed dispatchers working at Flight Options, John became the ad hoc weather specialist. Working in the Flight Options Operations Control Center gave him an appreciation for how weather impacts everything from a single flight to the entire operation.

After seven years at Flight Options, John joined the National Business Aviation Association's Air Traffic Services at the FAA's Air Traffic Control System Command Center, now located in Warrenton, VA. As an Air Traffic Management Specialist working for NBAA members, John helps business and general aviation aircraft navigate the complex National Airspace System (NAS) and serves as a general aviation advocate during daily planning conference calls attended by Centers, TRACONs, Towers, and other operators throughout the NAS. In addition to daily duties at the desk, John also writes documents for the weekly NBAA Update e-newsletter and stories for the "Business Aviation Insider," the official Member magazine of the NBAA. He facilitates presentations about weather and traffic management at the annual NBAA Business Aviation Convention & Exhibition, the Schedulers and Dispatchers and the Business Aviation Regional Forums, and in online webinars. John also assisted with the concept and implementation of a national program called File Smart, aimed at helping pilots understand the benefits of filing early, filing accurately, and checking the NAS—including weather forecasts—before flying.

While completing Penn State University's Weather Certificate course, John became the NBAA general aviation representative on the FAA's Collaborative Decision Making

Weather Evaluation Team (WET) in 2008. He began participating in the Friends and Partners of Aviation Weather (FPAW) meetings in the summer of 2010. Both of these groups work with government, industry, academic, and private sector companies to design better weather products as well as systems for delivering them to operators. John was one of the driving forces behind the NBAA implementation of a weather specific committee that will pursue the organization's members' interests while working with the FAA and the National Weather Service as well as the FPAW and WET groups.

Recently he was promoted to Program Manager, Weather, for NBAA's Air Traffic Services.
When he is not working, John can be found giving tours of the National Air and Space Museum's Steven F. Udvar-Hazy Center where he is a Docent, photographing the action at air shows throughout the eastern US, or when he is not on the ice himself, photographing his favorite sport, ice hockey.

Beth Krajewski
The Weather Company

Elizabeth Krajewski Aviation Operation Leader at The Weather Company, an IBM Business.
In her current role, Elizabeth is responsible for managing forecast teams working both in airline operation centers and well as groups that provide remote forecasting support. She works closely with airline customers, as well as industry and government organizations to deliver products that help airlines meet set regulations. She also works with developers to enhance forecaster toolsets to ensure the latest science and technology is available to improve forecast accuracy and efficiency.

Previously, Elizabeth served as an operational meteorologist for 10 years, joining the company in 2001. Elizabeth received her Bachelor of Science in Meteorology and Master of Science in Atmospheric Science from University of Massachusetts Lowell.

Jack May
AvMet Applications, Inc.

Jack is a Senior Meteorologist for AvMet Applications, Inc. During the last eleven years, Jack has contributed to the FAA development of several NextGen Weather Concepts including the first NextGen Weather Operational Concept, NextGen Weather Requirements, and development of requirements for the NextGen Weather Processor and the Aviation Weather Display. Jack also led the FAA development of Research Evolution Plans for a variety of aviation weather phenomena.

In 2007, Jack retired from a 33 year career with the National Weather Service. During the last seven years of his career he was the Director of NOAA's Aviation Weather Center. Previous assignments include: meteorologist intern at Albany, NY and Raleigh, NC; forecaster at Portland, ME and Cleveland, OH; Eastern Region manager of the Automated Forecast and Operations System (AFOS); Deputy Meteorologist-in-Charge at Cleveland, OH; Area Manager for the state of Kansas; and Deputy Director for the Central Region of the National Weather Service. During college, Jack also worked in private industry at Weather Corporation of America in St. Louis.

Jack has a Bachelor's Degree in Aeronatucial Meteorology from Parks College of Aeronatucial Technology of Saint Louis University; and a Masters Degree in Public Administration from Kansas University.

Jack is a native of Rome, NY and currently resides Williamson, NY near Rochester. Jack's son David recently retired as a pilot in the United States Air Force. His uncle Ed is a retired captain for United Airlines.

Michael McPartland
MIT Lincoln Laboratory

Michael McPartland is a Technical Staff member in the Air Traffic Control Systems Group at MIT Lincoln Laboratory. He received BS, MS, and PhD degrees in Aerospace Engineering from SUNY Buffalo. Michael leads research in the areas of NextGen capabilities such as 4D-TBO and the effects of weather information on these capabilities as well as on UAS autonomy. He is a member of RTCA SC-206, Meteorological Data Link Services, and former sub-group co-chair on Wind Guidance. Prior to joining MIT Lincoln Laboratory, he has had appointments at George Washington University and Harvard Medical School. He has worked in the aerospace industry in the DOD and GA sectors and immediately prior to joining the laboratory as a lead software engineer having produced a variety of certified avionics

Alfred Moosakhanian
Federal Aviation Administration (FAA)

Alfred is the Manager of NextGen Weather Systems in the Program Management Organization (PMO). He is a PMP and FAA Senior Level Certified Program Manager. He currently manages The NextGen Weather Programs, Common Support services - Weather (CSS-Wx) and NextGen Weather Processor (NWP). He also manages all the Legacy programs tat include Corridor Integrated Weather System (CIWS), and Weather and Radar Processor (WARP), Integrated Terminal Weather System (ITWS), and WIFS. He manages the development of the advanced weather platforms for the NAS as well as the development of Weather Information Exchange Model (WXXM) and the International Civil Aviation Organization (ICAO) IWXXM for international adoption.

He has over 30 years of engineering and management experience in the Industry and FAA working on numerous programs involving advanced Communications, Weather, and Automation technologies, from concepts to full scale development and system operation. Alfred has MS in Electrical Engineering, MS in Engineering Management, and BS in Electrical Engineering.

M. Patrick Murphy
Federal Aviation administration (FAA)

Michael Pat Murphy possesses 25 years of experience in operational forecasting and promulgating policies and requirements to meet the meteorological information needs of aviation decision-makers. Currently he is the manager of the Policy and Requirements Branch in the Federal Aviation Administration's (FAA) NextGen Aviation Weather Division. Mr. Murphy, and the staff of the NextGen Aviation Weather Division, work collaboratively with the FAA's Air Traffic Organization, Aviation Flight Standards Service, and Aircraft Certification Service in conducting the analyses necessary to validate user needs for aviation weather information, develop weather information requirements to meet those needs, and validate the requirements with subject matter experts and through modeling and simulation techniques. This entails assessing the needs and developing the concept of operations and roadmaps for new meteorological services in support of international air navigation, including information for space weather events, volcanic ash clouds, release of radioactive material, meteorological warnings (e.g., SIGMETs), aerodrome observations (e.g., METARs) and forecasts (e.g., TAFs), and World Area Forecast System (WAFS) en-route meteorological significant weather information (e.g., clear air turbulence severity).

Mr. Murphy possesses 20 years of direct professional experience in operational forecasting, including 10 years at the NOAA/NWS Aviation Weather Center, which is one of two ICAO-designated World Area Forecast Centers, and one of three U.S. Meteorological Watch Offices. In this capacity, Mr. Murphy routinely created and issued every type of aviation weather forecast in the U.S., with over 10 years specifically focused on the relationship between meteorological information and air traffic management, flight operations, and aerodrome operations. He is also knowledgeable about aeronautical information management, communications and navigation related to meteorological information, quality management, safety risk management, and regulatory oversight.

In addition, Mr. Murphy possesses significant experience representing the U.S. at various ICAO and World Meteorological Organization (WMO) meetings and fora. Mr. Murphy serves as the U.S. member to the ICAO Meteorology Panel (METP) and is the Rapporteur of the METP's Working Group for Meteorological Information Service Development. He is the primary U.S. expert on the ICAO METP Working Group on Meteorological Information Exchange and Working Group on Meteorological Operations. Mr. Murphy is also an advisor to the U.S. member on the ICAO Information Management Panel and the FAA lead for the implementation of the ICAO Meteorological Information Exchange Model (IWXXM). Previously, Mr. Murphy was a member of the U.S. delegation to the WMO Commission for Aeronautical Meteorology (CAeM) and a co-chair of the WMO-CAeM Expert Team on Education, Training, and Competence.

Zachary Noble
Helicopter Association International (HAI)

Zac joined HAI in March of 2017 as the Deputy Director of Flight Operations and Technical Services. He has an extensive background in aviation. He has been serving in the aviation field for 35 years starting out as a helicopter mechanic in the Marine Corps, and particularly maintaining the helicopters of the Presidential Helicopter Squadron, HMX-1. After satisfying the maintenance itch, he transferred to the US Army where he attended rotor wing flight training. Upon graduation from flight school he

served as an AH-1 Cobra Pilot, AH-64 Apache Pilot and Instructor Pilot and Instrument Examiner. Later in his career he was also trained and served as a King Air 200 Pilot for VIP transport flying missions across the United States and Central and South America. Zac has a degree in Aviation Technology and is a dual rated Airline Transport Pilot; Multiengine Airplane and Helicopter, a dual rated Certified Flight Instructor/Instrument Instructor; Airplane and Helicopter, and he is also a Certified Airframe and Powerplant Mechanic with Inspection Authorization privileges.

Mark Phaneuf
Airlines Pilot Association

Mark Phaneuf is a senior staff engineer with the Air Line Pilots Association providing technical staff support to the Engineering and Air Safety department in the areas of accident investigation, dangerous goods, cargo and weather. ALPA represents and advocates for more than 60,000 pilots at 34 U.S. and Canadian airlines, making it the world's largest airline pilot union to promote and champion all aspects of aviation safety throughout all segments of the aviation community. Prior to ALPA, Mark was an FAA contractor for over 15 years with AvMet Applications and served as Chief Operating Officer. AvMet is a leading provider of aviation weather consulting and engineering services for the public and private sectors. AvMet provides its customers with in-depth, practical, technical, and operational expertise in a wide variety of areas including aviation, meteorology, weather systems, systems engineering, modeling and simulation. Mark led many projects in support of AvMet's FAA customers in Weather Policy and Standards and Traffic Flow Management Weather Programs. Mark has over 30 years of aviation experience and holds a bachelor's degree in Aeronautical Science from The Ohio State University. He is a commercially licensed and instrument rated pilot, and a retired military flight crewmember with over 7000 hrs combined military and civilian time.

Gary Pokodner
Federal Aviation Administration (FAA)

Since graduating from Lehigh University as an electrical engineer, Gary Pokodner has worked in design, reliability, development, test, and acquisition of avionics. Gary came to the FAA in January 2011 after working for ARINC for 25 years on military avionics acquisition programs. Gary is the FAA's Weather Technology in the Cockpit (WTIC) Program Manager. In this role, Gary has been working to identify new research efforts related to bringing weather information into the cockpit to address near term needs and to enable various mid and far term NextGen concepts.

Nathan Polderman
United Airlines

Nathan is the Sr. Manager of Meteorology and Turbulence Mitigation Strategy in the Network Operations Division at United Airlines where he manages United's Enhanced Weather Information Systems (EWINS) programs and serves as the primary business lead for all of United's cross-divisional turbulence injury mitigation initiatives. He began his airline career in 2005 as a Dispatcher for Pinnacle Airlines, and since 2007 has worked in several capacities for Continental/United Airlines most recently as the Sr Manager Dispatch Training from 2011-2017. Nathan has actively participated in and led numerous internal weather and turbulence-related initiatives and industry groups since 2008. Nathan holds an M.S. degree in Atmospheric Science from Indiana University and a B.A. in Geography from Calvin College. Prior to entering aviation, he spent two years teaching Weather & Climate to college undergraduate students as a Lecturer at Indiana University-Purdue University in Indianapolis.

Leslie Riegle
American Association of Airport Executives (AAAE)

Leslie Riegle is responsible for AIA's civil aviation policy matters, especially activity related to technical regulatory issues and aviation safety. She has experience guiding our members through complex environmental issues, including noise and chemicals, as well as handling emerging technologies/new entrants.
Riegle came to AIA after working at the American Association of Airport Executives (AAAE) where she focused on airport environmental issues as well as airport operations and safety.

Prior to AAAE, Riegle was a legislative and public policy advisor at the law firm Arnold & Porter LLP, handling aviation, energy and the environment. She also worked with the U.S. Department of Transportation, Office of the Inspector General, in the areas of competition and economic analysis.

In addition, Riegle worked as a senior consultant for Eclat Consulting, where she contributed to various economic and financial analyses for airports and airlines. She also advised the Federal Aviation Administration and major airlines on the financial aspects of labor negotiations.

Riegle has a bachelor's degree with honors from Western Michigan University and a MBA degree from Embry-Riddle Aeronautical University in Florida.

Gordon (Gordy) Rother
Federal Aviation Administration (FAA)

Mr. Rother has been with the FAA since September 2001.

- Currently he works as the Flight Standards AFS-220 Air Carrier Operations, working with Air Traffic, NOAA, NWS, AWC and industry on weather related issues.
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- From 2015 to 2017 he worked as the Aviation Weather Subject Matter Expert in AFS-430 Future Flight Technologies Branch.
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- From 2011to 2015 he worked as a dispatch, navigation, Aircraft Performance, ETOPS and flight planning Subject Matter Expert in AFS-240.
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- From 2009 to 2011, he worked as a Safety Inspector in the MSP FSDO on the Mesaba Airlines and Sun Country Airlines certificate management teams. He was assigned team lead for the merger between Colgan Airlines and Mesaba Airlines.
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- He started his career in the FAA in the Northwest Airlines Certificate Management office in 2001where he worked through 2009. During that period, he instructed both the Dispatch Functions course and the Oceanic and International Operations course in Oklahoma City. He was involved in the merger of Delta and Northwest operations as an SME to the Joint Transition Team. Mr. Rother was also involved in the FAA Landing Performance Team investigating the Southwest Airlines flight 1248 overrun at Chicago, Midway Airport in December 2005. He participated in the development of FAA SAFO guidance for landing on contaminated runways. He was then assigned as the team lead to the 121 subcommittee for the Takeoff And Landing Performance Aviation rulemaking team.

Mr. Rother came to the FAA in 2001 after 15 years of air carrier Dispatch and Management experience, which included both domestic and international operations. Mr. Rother held positions as

Assistant Dispatcher, Dispatcher, Supervisor/Training Dispatcher, Chief Dispatcher and Director of Systems Operations Control for three 121 airlines.(Spirit of America, Mesaba Airlines, and Sun Country Airines,) He holds a Private Pilot SEL certificate and Aircraft Dispatcher Certificate.

Joshua Scheck
National Oceanic and Atmospheric Administration (NOAA)

Dr. Joshua W. Scheck is the Aviation Support Branch Chief at NOAA Aviation Weather Center (AWC). The AWC is the National Weather Service (NWS) global forecast center for aviation weather. He leads around 20 employees responsible for aviation training, web development, transition of research and technology to operations, IT infrastructure, and data flow. After receiving a B.S. degree in meteorology at Northern Illinois University, Dr. Scheck earned his M.S. and Ph.D. degrees in meteorology from Saint Louis University. He became a forecaster at the NWS Hydrometeorological Prediction Center in Camp Springs, Maryland in 2004. He focused on QPF and winter weather forecasting before helping to establish the Alaska medium range forecasting desk. Dr. Scheck transferred to NWS Bismarck, North Dakota in 2008, and was promoted to Science and Operations Officer in 2010. In 2014, Dr. Scheck spent four months as Acting Chief, Scientific Services Division at NWS Central Region Headquarters. He led training, research, and research to operations initiatives at regional and national levels. Dr. Scheck served on the National Weather Service Operations Advisory Team to support GOES-R satellite user readiness in 2014-2015, and was named a Cooperative Institute for Research in the Atmosphere (CIRA) Fellow in 2016. During his time in Saint Louis, Missouri he met his wife, Aimee. Married in 2003, they have two amazing sons, Adler (b. 2010) and Abram (b. 2012). He enjoys hunting, fishing, and hiking with his family and Labrador retrievers, Clyde and Amos, and volunteers to support wildlife conservation and nature activities for children.

Michael Schoen
FAA Contract Support

Michael J. Schoen, Esq.* has worked as a support contractor for the FAA's the Non-Federal Program for the past eight years. He is constantly adapting his role to the changing needs of the program. As a result, his responsibilities include internal/external outreach, public speaking, program management analysis, legislative research/alerting services, writing, graphic design, and website management – to name just a few.

A passionate aviation enthusiast, Michael recently participated in a six-mile foot race on and around Dulles International Airport's Runway 19R. Reportedly, he was the only person among 2,500 race participants who slowed down to admire the airport's NavAids and automated weather systems.

David Silver
Aerospace Industries Association (AIAA)

David Silver is the Vice President for Civil Aviation at the Aerospace Industries Association (AIA). Silver joined AIA with over 20 years of experience in aviation, most recently serving as the Director of Engineering & Regulatory Affairs for the Boeing Company in Washington D.C. where he worked extensively with both regulatory and legislative committee leadership. He also has an array of experience in working and collaborating with a variety of international organizations involved in certification and validation programs.

Silver also served as the 787-8 Deputy Fleet Chief for the introduction of aircraft into commercial operations. Silver worked with airline customers, regulators and airplane program chief engineers on model-specific technical and safety issues affecting the in-service fleet to increase reliability and

ensure smooth operations for the airlines. Silver also has vast experience working Airplane Systems for airplane programs such as the 777 and 767.

Silver served for 22 years in the Army National Guard as an Engineer Officer, with successive leadership roles culminating in Battalion Command and Assistant G3 for Washington State. Silver received the Legion of Merit and retired as a Lieutenant Colonel in 2014.

Silver holds a B.S. in engineering and B.A. political science from Arizona State University and a M.S. in Engineering Management from Washington State University. He is also a graduate of the U.S. Army Command and General Staff College, and a Fellow of the Royal Aeronautical Society.

Geoffrey Stano
NASA SPoRT / ENSCO, Inc.

Dr. Geoffrey Stano has been involved in developing applications for total lightning observations for nearly 15 years. His initial work focused on lightning safety at Kennedy Space Center / Cape Canaveral Air Force Station and Kodiak Launch Complex, Alaska. In 2007, he joined the NASA Short-term Prediction Research and Transition (SPoRT) team, becoming a senior member of SPoRT's total lightning activities with a focus on National Weather Service collaborations. His focus is on applications related research, primarily with lightning safety, severe weather decision support, and aviation applications, especially in preparation for the Geostationary Lightning Mapper (GLM). Since 2009, Dr. Stano works in SPoRT's GOES-R Proving Ground activities for the GLM and was invited to serve on the GOES-R Proving Ground Satellite Training and Advisory Team (STAT; 2015-present) and as the GLM satellite liaison for the National Weather Service (2016-present). In these roles Dr. Stano aids in bridging activities between research and operational implementation in National Weather Service. Training has been a major component of these activities. He has developed GLM training for the National Weather Service, such as the GOES-R Foundational Course, the SOO / DOH GOES-R Prep Course, and STAT material. Also, he has created GLM short-course sessions for the American Meteorological Society, Canadian Meteorological and Oceanographic Society, and the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) supported EUMeTrain. He is currently involved in the pre-operational assessment of the GLM. Beyond training, Dr. Stano is developing capabilities to visualize and utilize the GLM observations. This includes work for both National Weather Service and non-National Weather Service users, such as the emergency management community and early efforts to establish collaborations with the aviation and international communities. Much of the focus with the emergency management community has focused on easy to use and access visualizations of GLM observations in support of lightning safety. Dr. Stano has served as a member of the American Meteorological Society's Scientific and Technological Activities Committee for atmospheric electricity (2016-2017) and was elected the chair of the committee and will serve in this capacity from 2018-2020. Outside of work, Dr. Stano is an avid science fiction reader and working to read all of the Hugo awards for best science fiction novel. He is also a strategy game designer and writer, although he should not quit his day job. He and his wife enjoy hiking and trips to the beach. Most importantly, they enjoy following the adventures of their son (three) and daughter (one).

Justin Towles
Ascension Group Global

Justin Towles is a Founding Partner of Ascension Group, LLC and brings nearly 20 years of experience to serve clients on regulation, policy, governance, partnership development, and industry engagement in the areas of transportation, aerospace, unmanned aircraft systems, autonomy and artificial intelligence. Immediately prior to launching the Ascension Group,

Justin served as Vice President of Regulatory and Legislative Affairs for the American Association of Airport Executives, where he represented the interest of every commercial service airport and many general aviation members across the country to the FAA, DOT, NASA, EPA, FCC, Congress, and the White House. Justin is widely known throughout the industry as a thought leader in advanced aviation technology, and has built a reputation for identifying attainable cross-sections between innovation and safety.

Relevant Experience:

· **Federal Aviation Administration – Rulemaking Efforts.** Served on the Unmanned Aircraft Systems (UAS) Registration Aviation Rulemaking Committee (ARC), the Small UAS Flight over People ARC, the Part 101 ARC, and as a steering committee member and working group lead on the UAS Remote ID and Tracking ARC.

· **Federal Aviation Administration – Industry Engagement.** Participated as a member of the Federal Drone Advisory Committee (DAC) Subcommittee and in leadership roles on task groups 1 and 2, covering the roles and responsibilities of various levels of government in integration and integration funding requirements. Also serve as a current member of the FAA Unmanned Aircraft Safety Team (UAST).

· **Aviation Industry – Coalition Building.** Founded and Chaired the 26 Coalition for UAS Safety. The 26 Coalition is a group of 28 manned aviation associations which meets regularly to share information, make recommendations and take policy positions to ensure that safety remains the top priority in UAS integrations efforts.

· **Federal Aviation Administration –Safety Initiatives.** Actively served on a number of key safety focused groups to include the FAA Runway Safety Council, the Root Cause Analysis Team (RCAT), the Research, Engineering, & Development Advisory Committee (REDAC), Runway Safety Call to Action initiative, Safety Risk Management Panels

· **AAAE – Public Private Partnership Development.** Engaged regularly with a number of airports in identifying and pursuing public private partnerships (P3s) to enhance operations and enable greater infrastructure investment. Also, was a member of the industry's infrastructure working group, which was led by the National Association of Manufacturers.

Heidi Williams

National Business Aviation Association (NBAA)

Heidi J. Williams joined the National Business Aviation Association in December of 2016 where she serves as the Director, Air Traffic Services & Infrastructure. In her current role, she is responsible for NBAA's policy and coordination with the FAA, state and local officials, and association members relating to air traffic control, air traffic management/design activities, Nextgen, and oversees the NBAA Air Traffic Services at the FAA Air Traffic Control Command Center. Prior to joining the NBAA team, Ms. Williams served as the UAS lead for Lockheed Martin and as Vice President, Air Traffic Services for AOPA. She has been actively engaged in the industry for nearly twenty years and is a commercial pilot and flight instructor.