

FIREX-AQ First Post-Mission Science Team Meeting
Langley, VA March 17-20, 2020

Tuesday, March 17

SIGN-IN/ARRIVAL

8:30	Welcome: Barry Lefer and Dave Fahey	
8:45	FIREX-AQ BRIEF meeting logistics, breakouts, etc.	Crawford/Dibb/Schwarz/Warneke
9:00	FIREX-AQ BRIEF Overview Summary	Crawford/Warneke
	OVERVIEW TALKS	
9:15	Meteorology Influencing Fire Activity and Smoke Plume Evolution during FIREX-AQ	Chris Camacho
9:30	Scanning Doppler lidar measurements made from the NOAA Met Twin Otter during FIREX-AQ	Alan Brewer
9:45	Repeat Daytime and Nighttime Observations of the Same Fires and Exploring Factors Related to the Measured Organic Aerosol Mass	Ann Middlebrook
10:00	Remote Sensing Observations of Smoke Properties from the ER-2 Airborne Sensors during the FIREX-AQ/ER-2 Field Campaign	Olga Kalashnikova
10:15	BREAK	
10:30	Summary of Fire Data and Information provided for FIREX-AQ: Boise and Salina	Amber Soja
10:45	Field data? FIELD DATA! – Learning more about smoke from small fires during the NOAA/NASA FIREX-AQ campaign	Jessica McCarty
11:00	FASMEE Western Wildfire and Southwest Campaign update	Roger Ottmar
11:15	AERONET DRAGON during FIREX-AQ in the Northwest U.S.	Brent Holben
11:30	LUNCH	
11:45	LUNCH	
12:00	LUNCH	
12:15	LUNCH	
12:30	LUNCH	
12:45	An Overview of the NASA Mobile Lab Measurements and Plume Sampling during FIREX-AQ	Bruce Anderson
13:00	Trace gas and particle measurements from McCall, Idaho: Emphasis on the dying Nethker Fire	Megan Clafin
13:15	The value of the synergistic airborne observation of fire characteristics and smoke constituents during FIREX-AQ	Charles Ichoku
13:30	Critical evaluation of smoke ages inferred from different methods during FIREX-AQ	Chris Holmes
13:45	Status of the DACOM/DLH/LI-COR Data FIREX-AQ Data Set	Glenn Diskin
14:00	Four-dimensional photolysis mapping in smoke plumes	Sam Hall
14:15	WE-CAN overview	Rebecca Hornbrook
14:30	Inter-comparisons	Gao Chen
	EMISSIONS	
14:45	Rolling Correlation of Trace Gases during the 2019 FIREX-AQ Field Measurement Campaign	Hannah Halliday
15:00	NOAA PTR-ToF data analysis using PMF and findings from FireLab measurements to parameterize VOC emissions	Kanako Sekimoto
15:15	Environmental Controls on the Physical and Optical Properties of Fire Aerosols Measured during FIREX-AQ	Elizabeth Wiggins
15:30	BREAK	
15:45	BREAK	
16:00	Submicron Particle Composition and Acidity in Fire Plumes	Hongyu Guo
16:15	Volatile organic compound (VOC) emissions during FIREX-AQ: Distributions, ratios, and comparison with ARCTAS and SEAC4RS	Isobel Simpson
16:30	Exploring the emissions and chemistry of reactive VOCs from biomass burning emissions	Jessica Gilman
16:45	Non-methane organic gas emissions from wildfire and agricultural fire plumes	Georgios Gkatzelis
17:00	Potential space-based metrics of fire emission factor variability constrained by FIREX-AQ	Katie Travis
17:15	An overview of VOC measurements by TOGA-TOF during FIREX-AQ	Rebecca Hornbrook
17:30	END OF DAY	

Wednesday, March 18

8:00	OA Evolution in Fire Plumes: Budgets, Chemical Evolution and Volatilization	Pedro Campuzano-Jost
8:15	TOGA observations and relevance to chemical reactivity and photochemical evolution	Eric Apel
8:30	Chemical Aging of Biomass Burning Organic Aerosol	Demetrios Pagonis
8:45	VOC Emissions from Western Wildfires and Southeastern Agricultural Fires: An exploration and intercomparison of GC instrument performance and	Aaron Lamplugh
9:00	Smoke Particle Size Distributions and Their Downwind Evolution Observed During FIREX-AQ	Rich Moore
9:15	Understanding wildfire emissions and smoke evolution from multiple sampling platforms	Vanessa Selimovic
9:30	BREAK	
9:45	BREAK	
	MODELING/COMPARISONS	
10:00	WRF-Chem Aerosol Predictions over CONUS during FIREX-AQ with the GOES-16 Fire Product	Aditya Kumar
10:15	Experimental NOAA Unified Forecasting System chemistry and aerosol forecasts during FIREX-AQ: Initial verification and results from wildfire and a	Brad Pierce
10:30	Multi-scale modeling in support of FIREX-AQ	Louisa Emmons
10:45	High-resolution Chemistry Modeling of Western U.S. Fire Campaigns	Megan Bela
11:00	Evaluation of Suomi NPP VIIRS fire and aerosol products using FIREX-AQ data	Shoba Kondragunta
11:15	Preventing Sexual Harassment in Atmospheric Field Campaigns	Meredith Hastings
11:30	LUNCH	
11:45	LUNCH	
12:00	LUNCH	
12:15	LUNCH	
12:30	LUNCH	
	CHEMISTRY/REACTIVE NITROGEN	
12:45	Box Model Assessments of Biomass Burning Smoke Oxidation and Ozone Formation from DC-8 Measurements	Matt Coggon
13:00	Signatures of (Previously) Unmeasured Reactive VOC	Glenn Wolfe
13:15	Evolution of reactive nitrogen compounds in plumes from biomass burning	Young Ro Lee
13:30	Nighttime and Late Day Chemical Transformations in Western Wildfire Plumes from the NOAA Twin Otter	Zachary Decker
13:45	Investigate the chemistry of organic peroxy radical in wildfires	Lu Xu
14:00	Ozone photochemistry as seen from the NOAA Chemistry Twin Otter from FIREX-AQ	Michael Robinson
14:15	Monitoring the evolution of nitrous acid, nitric acid and aerosol associated ions from biomass burning during FIREX-AQ	Jackson Kaspari
14:30	Tracking nitrogen oxides, nitrous acid, nitric acid, and particulate nitrate from wildfire during FIREX-AQ	Jiajue Chai
14:45	Chemical evolution of total reactive nitrogen oxides (NO _y) in fire plumes	Ilann Bourgeois
15:00	Mini-DOAS observations of early plume emission ratios of HONO, NO ₂ , and HCHO	Nathaniel Brockway
15:15	Formaldehyde evolution in wild fire plumes	Jin Liao
15:30	BREAK	
15:45	BREAK	
	AEROSOL OPTICS	
16:00	Building bridges between in situ and remote instruments: Polarimetry measurements of smoke from wildfires	Adam Ahern
16:15	Aerosol absorption budgets and their evolution downwind of wildfires	Nick Wagner
16:30	Contrasts in surface in situ aerosol optical properties among 8 fires observed from the NASA mobile lab during FIREX-AQ	Carolyn Jordan
	Effects of atmospheric processing on wildfire-emitted aerosol optical properties	Benjamin Sumlin
16:45	INJECTIONS	
17:00	Performance evaluation and intercomparison of multiple models for biomass-burning smoke forecasts: a case study for the Williams Flats Fire	Xinxin Ye
17:15	On the performance of a new plume rise model during the FIREX-AQ field experiment	Gonzalo A. Ferrada
17:30	END OF DAY	

Thursday March 19

8:00	1-minute poster introductions followed by poster session (SESSION 1)	
8:15	1-minute poster introductions followed by poster session (SESSION 1)	
8:30		
8:45		
9:00		
9:15		
9:30		
9:45	1-minute poster introductions followed by poster session (SESSION 2)	
10:00	1-minute poster introductions followed by poster session (SESSION 2)	
10:15		
10:30		
10:45		
11:00		
11:15		
11:30	LUNCH	
11:45	LUNCH	
12:00	LUNCH	
12:15	LUNCH	
12:30	Analysis of the Williams Flats PyroCb Event and other Pyroconvective Clouds During FIREX-AQ	Dave Peterson
	BROWN CARBON	
12:45	Molecular Characterization and Chemical Imaging of Biomass Burning Particles from FIREX-AQ Field Study	Alexander Laskin
13:00	Brown Carbon measured on the DC8 with filters and Mist Chamber	Linghan Zeng
13:15	Single-particle analyses of aerosol particles using a transmission electron microscope	Kouji Adachi
13:30	Aerosol chemical composition and optical properties measurements from the Chem-Twin Otter. What are the differences between day and night?	Ale Franchin
13:45	Coarse mode aerosol in biomass burning aerosol layers during FIREX-AQ	Manuel Schoeberl
14:00	Brown Carbon Aerosol Absorption Measured During FIREX-AQ	Rebecca Washenfelder
	REMOTE SENSING/TRACE GASES	
14:15	Overview of Suomi-NPP and NOAA-20 operational meteorological and trace gas products	Chris Barnet
14:30	Using satellite soundings to diagnose fire weather and plume transport during FIREX-AQ	Rebekah Esmaili
14:45	Linking satellite, ER-2, and in situ gas-phase measurements to improve NO ₂ retrievals from space	Hannah Kenagy
15:00	Wildfire-Induced CO Plume Observations from NAST-I	Dan Zhou
15:15	Determining Smoke Particle Properties and Evolution with a Combination of Satellite and Aircraft Data	Ralph Kahn
15:30	BREAK	
15:45	BREAK	
16:00	FUELS BREAKOUT: moderators Amber Soja, Roger Ottmar	
16:15		
16:30		
16:45	REMOTE SENSING BREAKOUT: moderators Charles Ichoku, Jochen Stutz	
17:00		
17:15		
17:30	END OF DAY	

Friday March 20

	TRANSFORMATIONS/EMISSIONS	
8:00	Emissions of SO ₂ from biomass burning during FIREX-AQ	Pamela Rickly
8:15	Observations of Gas-Phase Organic Compounds Emitted from Wildland Fires during the FIREX-AQ Field Campaign	Paul Van Rooy
8:30	Rapid formic acid production in wildfire plumes during FIREX-AQ	Andy Neuman
8:45	Formaldehyde and Ethane Emissions and Evolution during FIREX-AQ and Comparisons with Previous Studies	Alan Fried
9:00	Filter Based (Slow) Impression of Production of Particulate NO ₃ , C ₂ O ₄ , and NH ₄ in Smoke Plumes from Western Wild Fires Sampled by the DC-8	Jack Dibb
9:15	Fire Radiative Power Measurements onboard the NOAA Met Twin Otter	Ru-Shan Gao
9:30	Satellite remote sensing of nighttime aerosol optical depth and fire combustion efficiency during FIREX-AQ	Jun Wang
9:45	BREAK	
10:00	CROSS-PLATFORM BREAKOUT: moderators Steve Brown, Carolyn Jordan, Olga Kalashnikova	
10:15		
10:30		
10:45	BOX MODELING BREAKOUT: moderators Glenn Wolfe, Matt Coggon	
11:00		
11:15		
11:30	LOOK TO THE FUTURE: Data publication issues, analyses and coordination, meetings	
11:45		
12:00	END OF MEETING	

POSTER SESSION 1	
Instrument/Model Evaluation/Development	
Measurement of Aerosol Optical Properties in Support of FIREX-AQ	Rajan Chakrabarty
Investigating Possible Biases of Filter Measurements of Submicron Inorganic Salts onboard the NASA DC-8	Ben Nault
Airborne Extractive Electrospray Ionization Mass Spectrometry (EESI-TOF)	Demetrios Pagonis
Quantifying Burn Area of Wildfires from satellite Active Fire Detections	Melinda Berman
Updates of NASA GEOS High Resolution Reanalysis in support of FIREX-AQ	Xiaohua Pan
Strengths and Limitations of the LARGE Aerosol Dilution System used during FIREX-AQ	Elizabeth Wiggins
Mini-DOAS observations during FIREX-AQ: From spectra to trace gas columns	Jochen Stutz
Pattern Recognition Analysis of Gaseous Organic Carbon Emissions from Biomass Burning (FIREX Phase: Fire Lab 2016 & Field Campaign 2019)	Christos Stamatis
Measurements of nitric oxide using a new single photon laser induced fluorescence instrument during FIREX-AQ	Drew
Characterization of glyoxal, NO ₂ and HONO in fire plumes measured by the NOAA Airborne Cavity Enhanced Spectrometer	Carrie Womack
On the tentative detection of low vapor pressure organic compounds in the gas-phase by a modified PTR-MS Instrument	Felix Piel
Performance of the NOAA Los Gatos Research CO/N ₂ O/H ₂ O analyzer during FIREX-AQ	Jeff Peischl
The Rapid Ozone Experiment (ROZE)	Reem Hannun
S-HIS Trace Gas Vertical Profile Retrievals for FIREX-AQ	Elizabeth Weisz
Evaluation of the Sizing Performance of the Laser Aerosol Spectrometer (LAS) and Ultra High Sensitivity Aerosol Size Spectrometer (UHSAS) Using DMA-Classified Aerosols of Varying Refractive Index	Rich Moore
Utilizing GOES16/17 FRP observations to develop a high time-resolution fire emission dataset for use in FIREX-AQ analysis	Elizabeth Wiggins
Observations of Trace-gas Column Abundance from Wildfires During the FIREX-AQ Mission	Scott Janz
The Scanning High-resolution Interferometer Sounder (S-HIS): Instrument Overview and a Summary of FIREX-AQ Observations	Joe Taylor
Characterization of smoke aerosols sampled in continental USA using ion chromatography and size exclusion chromatography with ultraviolet-visible detection	Lisa Azzarello
Atmospheric chemistry modeling for FIREX-AQ using CAM-chem-SE with Regional Refinement	Wenfu Tang
Selected hydrocarbon and halocarbon emissions during FIREX-AQ: Comparison to previous campaigns	Nicola Blake
Characterizing Ammonia Emissions from Wildfires	Eric Keim
Ground Measurements of Volatile Organic, Sulfur and Terpene Compounds during FIREX-AQ in the Northwest and Implications on Human Health	Nancy Johnston
POSTER SESSION 2	
Observations/Early Analyses	
Campaign support forecasting facilitates information based deployment decisions	Pius Lee
STRAWS AND THE CAMEL'S BACK: VOC/NO _x SENSITIVITY AND OZONE PRODUCTION POTENTIAL IN BIOMASS BURNING PLUMES DURING THE 2019 FIREX-AQ CAMPAIGN	Alex Jarnot
Regional variability of greenhouse gas emissions over different landscape during FIREX-AQ campaign	Yonghoon Choi
Results from the mini-DOAS instrument during FIREX-AQ	Katie Tuite
FIREX 2018/2019 volatile organic compound (VOC) measurements: emissions, factor analysis and aging from mobile proton transfer reaction mass spectrometer	Francesca Majluf
Overview of Blackwater River State Forest ground data	Holly Nowell
Fire Emissions: FIREX-AQ Boise and Salina	Amber Soja
Spectral effects of smoke and BrC on actinic flux and photolysis rates	Kirk?
The microphysics of black carbon in pyrocumulonimbus smoke	Joe Katich
Lidar Measurements of Optical Properties and Plume Heights of Smoke and Mixed Layer Heights made during FIREX-AQ using the DIAL-HSRL instrument	John Hair
MASTER and eMAS Overview	Jeffrey Myers
Imaginary Refractive Index Comparison of Water- and Methanol-soluble Brown Carbon Aerosol from western US Wildfires	Pai Liu
What controls the spatial and temporal distribution of NO ₂ and CH ₂ O in wildfire plumes?	Hannah Kenagy
Evaluating GEOS-Chem and satellite biomass burning emission inventories with FIREX-AQ aircraft observations of prescribed fire and wildfire emissions	Charley Fite
Temporal changes in optical properties of atmospheric tar balls from wildfires in western United States	Nishit Shetty
Evolution of black carbon coatings in biomass burning plumes during FIREX-AQ	Brady Mediavilla
A Preliminary Analysis of the Nocturnal and Diurnal HONO and Phenolics Emissions and Evolution from Western U.S. Wildfires During WE-CAN and FIREX-AQ	Carley Frederickson
Airborne Sampling of Wildfire Plumes over the Western U.S.: Evolution of Accumulation Mode Particle Size downwind	Ming Lyu
Chemical evolution of biomass burning plume	Siyuan Wang
Ammonia measurements from the DC-8 using a modified PTR-MS instrument	Laura Tomsche
Evaluating WRF-Chem forecasted plume heights against DIAL-HSRL observations	Laura Thapa
Investigating fire types using radiocarbon measurements of aerosol, satellite observations of fire activity, and atmospheric modeling	Audrey Oduwor
Simultaneous Retrieval of Atmospheric Temperature, Water Vapor, and Trace Gas Profiles from NAST-I	Xu Liu
Retrieval of aerosol properties from eMAS during FIREX-AQ using the Dark Target algorithm and comparison with satellite products	Robert Levy