

JCET COOPERATIVE AGREEMENT NNX15AT34A

YEAR 3 QUARTERLY REPORT # 1*

PERIOD COVERED: AUGUST 1 – DECEMBER 31, 2017



Dear GSFC Colleagues,

The new JCET cooperative agreement has completed the first quarter of its third year. *This report includes activities from August & September 2017, as this period was not covered in the Second Annual Report. This report describes the research of the JCET faculty, funding proposals that have been submitted the second quarter of year two, as well as education and outreach efforts of the Center, changes in personnel and upcoming events.

We are delighted to report also on the ever-strengthening partnerships between JCET, Goddard and the UMBC academic departments that relate to JCET's mission.

With great pleasure, we submit this quarterly report highlighting our ongoing partnership with NASA Goddard Space Flight Center.

Sincerely,

Belay B. Demoz, JCET Director, and the JCET team.

HIGHLIGHTS : A SUMMARY OF NEWSWORTHY JCET ACTIVITY.

AWARDS

2017 Code 610 Atmospheric Performance Awards

Jasper Lewis, Best Senior Author Publication

Citation: For an exceptional and important paper entitled “Overview of MPLNET Version 3 Cloud Detection”.

Jae Lee, Special Recognition Award

Citation: For outstanding support of the TSIS-1 mission development.

Glen Wolfe, Outstanding Performance – Technical or Field Campaign Support

Citation: For outstanding performance in design, development, and implementation of a new NASA system for quantifying carbon fluxes in the atmosphere; the CARbon Airborne Flux Experiment (CARAFE).

Yujie Wang, Outstanding Performance – Science Software Development

Citation: For excellence in supporting various aspects of development and implementation of the MAIAC algorithm.

Tamas Várnai, Best Science Highlight

Citation: For concisely and clearly summarizing an exciting and somewhat unexpected observation from very far away.

Brock Blevins, Outstanding Performance – Outreach

Citation: For his contribution to expanding the global reach of NASA earth science

NOTEWORTHY

Air Quality Campaign

John Sullivan (614/formerly JCET) and the TOLNet, Pandora, and SARP teams recently an air quality campaign in Hampton, VA based on a NASA 2017 Science Innovation Fund Award, entitled the 'Ozone Water-Land Environmental Transition Study (OWLETS)'. The first annual science team meeting was held at the Maryland Department of the Environment (MDE) in Baltimore.

JCET Postdoc joins GSFC

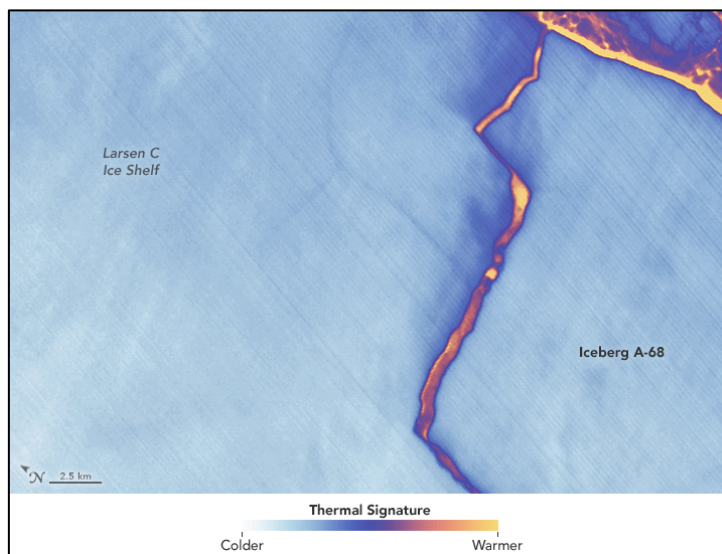
John Sullivan, formerly JCET graduate student, then JCET postdoc, has joined Goddard's Atmospheric Chemistry and Dynamics Laboratory (Code 614).

JCET Graduate joins GSFC

Daniel Miller (recent UMBC/Physics/JCET graduate) joined the Ocean Ecology Laboratory (Code 616) as a NASA Postdoctoral Fellow. He will be advised by Kirk Knobelspiesse (616) and Kerry Meyer (613).

Media coverage of Antarctic glaciers:

Christopher Shuman (615/JCET) responded to media interest from Washington Post, USA Today, Gizmodo, and CBS.com regarding B-44, which calved on the 22/23rd of September 2017 from Pine Island Glacier, Antarctica. **Shuman** participated in an online “Climate Conversations” (Part 1) hosted by WGBH and PBS Education on September 26, 2017. **Shuman** was the speaker for the UMBC Geography & Environmental Systems Department Seminar on October 4, 2017, in which he spoke on "The recent Larsen C Ice Shelf and Pine Island Glacier calving events."



Landsat's Thermal Infrared Sensor (TIRS) helped confirm the birth of a massive iceberg in July 2017. Image credit: [NASA's Earth Observatory](#)

Noteworthy talks/presentations at Goddard:

Belay Demoz (JCET) presented a MANIAC TALK entitled “My Journey from the Horn of Africa to NASA!” September 8, 2017.

Tamás Várnai (613/JCET) presented a talks at the CERES Science Team Meeting, held at GSFC, September 26-28, 2017: “Aerosol properties in cloudy world.”

Jae Lee (613/JCET) and Lazaros Oreopoulos (613) gave an update on the Aqua mission and presented “Changes in OLR over Arctic as Depicted by AIRS, CERES, and MERRA-2” at the NASA Sounder Science Team Meeting, in Greenbelt MD, October 24 2017.

Jae Lee (613/JCET), Joel Susskind (610) and Lena Iredell (610/SAIC) presented “Recent Global Warming as Observed by AIRS and Depicted in GISSTEMP and MERRA-2,” at AIRS Science Team Meeting, in Greenbelt, MD, October 25, 2017.

Tianle Yuan (613/JCET) presented a Cloud Precipitation Center seminar entitled “MODIS effective radii may be right after all: Comparison of in situ (PDI) observations and MODIS retrievals,” November 28, 2017.

External interactions (HQ, universities, other Gov’t organizations, etc.)

Ali Tokay (612/JCET) and GPM Team members Walt Petersen (MSFC), Christopher Williams (U. Colo.), and David Wolff (610W) served on the organizing committee for the session “Quantitative Precipitation Estimation and Hydrology 2: Improvements and Application of Radar-Based QPE” at the 38th Conference on Radar Meteorology in Chicago, IL, August 28-September 1, 2017.

Brock Blevins (614/JCET) and Elizabeth Hook (613/SSAI) coordinated a hands-on ARSET training coordinated with the University of California, Riverside, “Satellite Remote Sensing of Air Quality,” from September 19-21, 2017. UC Riverside hosted the training in partnership with South Coast Air Quality Management District (SCAQMD). Over the course of three days, 32 participants from 21 organizations attended the training. The ARSET program is managed by **Ana Prados (614/JCET)**.

Valerie Casasanto (610/JCET) chaired the first Hands-on education session at the 68th International Astronautical Congress (IAC) meeting in Adelaide Australia, September 25-29, 2017. She also presented the “Motion in the Ocean” hands-on activity and the ICESat-2 mission.

Petya Campbell (618/JCET) participated in the 2017 Summit of the Global Observation of Forest and Land Cover Dynamics Regional Networks (GOFC-GOLD RNs) on September 13 – 15, 2017, in Tbilisi, Georgia. Campbell represented the South Central and Eastern European Regional Information Network (SCERIN).

Valerie Casasanto (610/JCET) took part in an ICESat-2 – GLOBE Program webinar with a group of teachers who will serve as beta-testers for an ICESat-2- modified Biometry Tree Height Measurement and GPS protocols, October 2, 2017.

Kevin Turpie (616/JCET), Petya Campbell (618/JCET) and Fred Huemmrich (618/JCET) attended the NASA-sponsored workshop entitled “Earth Imaging Spectroscopy and Thermal Infrared Measurements (HyspIRI),” which was held at CalTech in Pasadena, California, October 16-19, 2017.

NEW TASKS:

Task 164

Sponsor Tom Dixon (427)

JCET Personnel: J. Vanderlei Martins, L. Remer, D. Ceilsak, R. Borda, and K. Townsend

This task will support NASA GSFC in the following areas: (1) provide a fully integrated and functionally tested HARPP for integration onto the PACE spacecraft, (2) participate in instrument

integration, checkout and post launch commissioning activities. (3) share existing algorithms and data product concepts with the PACE Project. These activities will be conducted at GSFC and UMBC and will include participation in regular meetings and telecons, analysis of instrument performance data and documentation review in an effort to ensure the HARPP instrument will meet performance requirements.

Task 165

Sponsor Robert Swap (614)

JCET Personnel: Lena Shalaby, Research Analyst

This task will support the research and development of operationalization scheme related to the roll out of the generation of the Pandora Project.

Task 166

Sponsor Robert Swap (614)

JCET Personnel: Joe Robertson, Research Analyst

This task will support the research and development of operationalization scheme related to the larger Pandora Project.

Task 167

Sponsor Steven Platnick (610)

JCET Personnel: Frank Werner, Postdoctoral Research Associate

This task supports the development of numerical codes and methodologies for evaluating the impact of cloud heterogeneity in NASA cloud retrieval algorithms used to produce MODIS, VIIRS and other imaging sensor products. Emphasis will be on low marine boundary layer water clouds, using both dynamic model cloud realizations and observations from the high spatial resolution ASTER imager that flies with MODIS on the Terra platform. Campaign data (e.g., SEAC4RS, PODEX, ORACLES) using the eMAS and RSP sensors also will be used as appropriate.

PROPOSALS: LISTING OF PROPOSALS AWARDED AND SUBMITTED

AWARDED

Agency	UMBC Role	Name	Solicitation/Sponsor	Title
NASA	PI	Campbell, Petya and Huemmrich, Fred	LCLUC	Coordinated Multi-Instrument UAS Constellations to Monitor Biophysical Traits, Function and Structure in Operational Field Environments
NASA	Co-I	Nicholls, Steven	Morgan State	Feedbacks Between Wind-Driven Surface Fluxes and Cloud Population Evolution During MJO: A Combined Satellite and Modeling Study
NASA	PI	Remer, Lorraine	Unsolicited, NOAA	SNPP VIRS Aerosol Product Calibration and Validation Activities
NASA	PI	Strow, Larrabee	Unsolicited, NOAA	Full Spectral resolution Fast Radiative Transfer

				Modules for CrIS
SSAI NASA	PI	Zhai, Penwang	ROSES A.37	Optical Study of Particulates in the Ocean. An Innovative Aerosol Correction Method Task

SUBMITTED

Agency	UMBC Role	NAME	Solicitation	Title
EPA	PI	Delgado, Ruben	Unsolicited, SSAI/EPA	Mixing Layer Height Algorithm for Environmental Protection Agency Photochemical Assessment Monitoring Sites
NSF	PI	Hoban, Susan (Sr Personnel)	NSF 17-558	A National Supercomputing Accelerator Complex: An MSI Improbable Dream."
NASA	Co-I	Lee, Jae	ROSES A.19	Comprehensive Analysis of SORCE/TSIS Total and Spectrally Resolved Irradiances
NASA	PI	Remer, Lorraine	Unsolicited, NOAA	SNPP VIRS Aerosol Product Calibration and Validation Activities
NASA	PI	Strow, Larrabee	Unsolicited, NOAA	Full Spectral resolution Fast Radiative Transfer Modules for CrIS
NASA	PI	Sullivan, John	ROSES A.36	Analyses of Tropospheric Ozone Profiles within Complex Environments in Support of TEMPO

MEETINGS AND FIELD WORK ATTENDED: *LISTING OF MEETINGS, TRAVEL*

September

Traveler	Destination	Travel Begin	Travel End	Trip Purpose
Tokay, Ali	MD to Chicago, IL	8/27/17	9/1/17	Present at the AMS Radar Conference.
Guimond, Steven	MD to Chicago, IL	8/27/17	9/3/17	Present at the AMS Radar Conference.
Kruchten, Catherine	MD to Cherry Hill, NJ	9/1/17	9/5/17	NASA's BEST Professional Development.
Kruchten, Catherine	MD to NYC/CT	9/10/17	9/14/17	NASA's BEST Professional Development.
Campbell, Petya	MD to Tbilisi, Georgia	9/10/17	9/17/17	Present/represent SCERIN at GOFC-GOLD Regional Info Network Summit.

St. Clair, Jason	MD to Palmdale, CA	9/10/17	9/17/17	Support for the first test flight of the ATom-3 aircraft campaign.
Shalaby, Lena	MD to Los Angeles, CA	9/17/17	9/21/17	Dismantle instrumentation from multiple sites to send back to MD from the SARP campaign.
DeSouza-Machado, Sergio	MD to Germany	9/17/17	9/23/17	Attend summer course, meet instructor who is an expert in climate time series and extremes, with view to collaborations.
Abuhassan, Nader	MD to Toronto, CAN	9/20/17	9/21/17	Provide update of the potential Pandora deployments at the TOLNET meeting.
Casasanto, Valerie	MD to Adelaide, Australia	9/22/17	9/30/17	To attend and present at the International Astronautical Congress.
Kruchten, Catherine	MD to NYC/CT	9/24/17	9/26/17	NASA's BEST Professional Development.
Campbell, Petya	DC to Lincoln, NE	9/25/17	9/29/17	Participation in the Airborne Fluorescence Workshop

October

Traveler	Destination	Travel Begin	Travel End	Trip Purpose
Yuan, Tianle	MD to Tokyo, JP	9/23/17	10/13/17	Attend CFMIP Conference in Tokyo.
Hannun, Reem	MD to Christchurch, NZ	9/24/17	10/14/17	Operating ISAF instrument during ATom-3 field campaign.
Huemmerich, Karl	MD to Lincoln, NE	9/25/17	10/2/17	To attend Fluorescence workshop and workshop for ABoVE project.
Pavlis, Erricos	MD to Riga, Latvia	9/29/17	10/6/17	Attend the 2017 ILRS Technical Workshop.
Delgado, Ruben	MD to Boulder, CO	10/3/17	10/4/17	Presenting at National Renewable Energy Laboratory POWER-US Technology Workshop Partnership for Offshore Wind Energy in the United States.
Wolfe, Glenn	MD to Palisades, NY	10/4/17	10/6/17	Attend LDEO Ozone Deposition Workshop.
Bian, Huisheng	MD to Finland	10/7/17	10/14/17	Attend AeroCom and AeroSat workshops.
Tokay, Ali	MD to San Diego, CA	10/15/17	10/20/17	Attend NASA PMM Science Team Meeting.
Townsend, Hamilton	MD to Palmdale, CA	10/15/17	10/20/17	AIrHARP Integration for ACEPOL Campaign.
Shie, Chung-lin	Dulles to San Diego, CA	10/15/17	10/20/17	To attend/present at the PMM 2017 Science Meeting.
Turpie, Kevin	MD to Pasadena, CA	10/15/17	10/23/17	Present/participate in the 2017 Annual HypsIRI Science Workshop.

Borda, Roberto	MD to Palmdale, CA	10/15/17	10/25/17	Integration for ACEPOL campaign
Olson, William	MD to San Diego, CA	10/15/17	10/26/17	Attend NASA PMM Science Team Meeting.
Cieslak, Jan	MD to Palmdale, CA	10/15/17	10/27/17	Technical support for ACEPOL mission.
Campbell, Petya	VA to Pasadena, CA	10/16/17	10/20/17	Participation in the HyspIRI Workshop 2017.
Huemmrich, Karl	MD to Pasadena, CA	10/16/17	10/20/17	Participation in the HyspIRI Workshop 2017.
Martins, Jose V.	MD to Hefei, CH	10/21/17	10/27/17	Participation in the APOLO workshop.
Hepplewhite, Christopher	La Grange, IL to Greenbelt, MD	10/23/17	10/26/17	NASA AIRS Science Team Meeting.
Strow, Larrabee	Claysville, PA to Greenbelt, MD	10/23/17	10/27/17	NASA Air Science Team Meeting.
Tangborn, Andrew	MD to Tucson, AZ	10/25/17	10/29/17	Seminars and meetings at the University of Arizona.

November

Traveler	Destination	Travel Begin	Travel End	Trip Purpose
St. Clair, Jason	MD to Christchurch, NZ	10/5/17	11/4/17	Support for the NASA ATOM aircraft campaign.
McBride, Brent	MD to Palmdale, CA	10/15/17	11/14/17	AirHARP research and operational support during ACEPOL campaign.
De Melo Jorge Barbosa, Henrique	MD to Palmdale, CA	10/15/17	11/10/17	Participation in the ACEPOL Flight campaign.
McBride, Brent	MD to Palmdale, CA	10/15/17	11/14/17	AirHARP research and operational support during ACEPOL campaign.
Sullivan, John	MD to Marseille, FR	10/30/17	11/15/17	Deployment for ozone lidar intercomparison at the Observatory at Haute Provence.
Yurganov, Leonid	MD to Moscow, RU	11/2/17	11/13/17	ISIRA workshop.
Abuhassan, Nader	MD to Austria/Jordan	11/2/17	11/19/17	Meeting in Austria with the ESA team to discuss instruments, deployments and data processing protocols. Participation in the World Science Forum in Amman/Jordan.
Turpie, Kevin	MD to Palmdale, CA	11/14/17	11/16/17	To meet with the ER-2 team at AFRC in support of the air-LUSI mission.
Gadsden, Stephen A.	Toronto to California	11/14/17	11/17/17	To meet with the ER-2 team at AFRC and inspect ER-2 aircraft and science pod.

Casasanto, Valerie	MD to Minneapolis, MN	11/14/17	11/18/17	To present a workshop for Native American educators on ICESat-2.
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December

Traveler	Destination	Travel Begin	Travel End	Trip Purpose
DeSouza-Machado, Sergio	MD to Dharmstadt, GERMANY	11/27/17	12/6/17	Present talk at ITOVS-21 and meeting between 29 Nov-5 Dec
Mehta, Amita	MD to Foz Iguazu, Brazil	11/27/17	12/6/17	Conduct NASA ARSET - UNESCO training.
Robinson, Joseph	MD to Munich/Innsbruck, GERMANY	12/2/17	12/11/17	Support of the GSFC Pandora Project to engage with the ESA Pandonia team.
Shalaby, Lena	MD to Munich/Innsbruck, GERMANY	12/2/17	12/11/17	Support of the GSFC Pandora Project to engage with the ESA Pandonia team.
Borda, Roberto	MD to Salt Lake City. UT	12/5/17	12/8/17	Support for HARP project.
Martins, Jose V.	MD to New Orleans, LA	12/8/17	12/17/17	Attend/present at the AGU Fall Meeting.
McBride, Brent	MD to New Orleans, LA	12/9/17	12/15/17	Attend/present at the AGU Fall Meeting.
Song, Hua	MD to New Orleans, LA	12/10/17	12/13/17	Attend/present at the AGU Fall Meeting.
Caicedo, Vanessa	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Gao, Meng	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Hannun, Reem	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Lewis, Jasper	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Mehta, Amita	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Pavlis, Erricos	MD to New Orleans, LA	12/8/17	12/15/17	Attend AGU and Committee Meetings.
Remer, Lorraine	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Zhai, Pengwang	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Abuhassan, Nader	MD to New Orleans, LA	12/10/17	12/15/17	Attend AGU Fall Meeting.
St. Clair, Jason	MD to New Orleans, LA	12/10/17	12/15/17	Attend/present at the AGU Fall Meeting.
Blevins, Brock	MD to New Orleans, LA	12/10/17	12/16/17	Attend/present at the AGU Fall Meeting.
Casasanto, Valerie	MD to New Orleans, LA	12/10/17	12/16/17	Attend/present at the AGU Fall Meeting.
Puthukkudy,	MD to New Orleans, LA	12/10/17	12/16/17	Attend/present at the AGU Fall Meeting.

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Werner, Frank	MD to New Orleans, LA	12/10/17	12/16/17	Attend/present at the AGU Fall Meeting.
Mukherjee, Lipi	MD to New Orleans, LA	12/10/17	12/17/17	Attend/present at the AGU Fall Meeting.
Evans, Keith	MD to New Orleans, LA	12/10/17	12/18/17	Attend/present at the AGU Fall Meeting
Varnai, Tamas	MD to New Orleans, LA	12/11/17	12/14/17	Attend/present at the AGU Fall Meeting.
Herman, Jay	MD to New Orleans, LA	12/11/17	12/15/17	Attend/present at the AGU Fall Meeting
Lee, Jae	MD to New Orleans, LA	12/11/17	12/15/17	Attend/present at the AGU Fall Meeting
Olson, William	MD to New Orleans, LA	12/11/17	12/16/17	Attend/present at the AGU Fall Meeting
Delgado, Ruben	MD to Boston, MA	12/14/17	12/15/17	Attend Massachusetts Research Partnership Workshop for Offshore Wind Energy at Northeastern University.

EDUCATION AND OUTREACH: *LISTING OF OUTREACH, GRADUATE SEMINAR, COURSES TAUGHT AND ADVISEMENT, AND STUDENT ACCOMPLISHMENTS.*

Recent Affiliations: G. Wolfe and J. St. Claire were re-affiliated with the Chemistry Department (effective November 1, 2017 – December 31, 2019).

Courses taught by JCET Faculty & Staff in Fall 2017:

GES 311: Weather & Climate, Tokay (3 credits)

JCET Seminar:

The 2017-18 cohort of eight JCET graduate students presented an update on their research projects. The presentations and background materials are available at the links given below. The JCET Seminar has become an important component in the professional development of these young scientists. The seminar series is open to the public and is led and organized by Dr. Susan Hoban, Associate Director of JCET.

Link to [Seminar schedule](#)

Link to [Seminar Website](#)

A new strategy is being pilot tested in Spring 2018. JCET faculty member, Dr. Bill Olson, will deliver a one-credit course in Precipitation Science. This course will be listed as PHYS 650.

JCET Student Activities:



Reed Espinosa (advisor Martins) and Daniel Miller (advisor Zhang) successfully defended their PhD dissertations in October 2017. Both Espinosa and Miller have been awarded NASA Postdoctoral Fellowships at Goddard. Pictured with Miller and Espinosa is Alexandra St. Pé, another JCET student who recently received her PhD (July 2017, advisor Delgado/Halverson). Dr. St. Pé has gone to work for E.ON Climate and Renewables, a wind-energy company in Austin, TX.

JCET GRA Minority University Outreach

The JCET graduate students participated with the NASA grant project with Howard University, entitled “NASA Early Opportunities Program for Underrepresented Minorities in Earth and Space Sciences,” in a trip to the National Weather Service in Sterling, VA on September 26, 2017. A tour of the facility was provided and participants were able to view a weather balloon launch. The Howard Students were in attendance as well as six JCET graduate students and one undergraduate student from UMBC; thus, furthering our objective of connecting the Howard undergraduates with UMBC students for near peer mentoring.



REPORTED PUBLICATIONS : LISTING OF REPORTS AND ARTICLES

- Edwards, P. M., Aikin, K. C., Dube, W. P., Fry, J. L., Gilman, J. B., de Gouw, J. A., Graus, M. G., Hanisco, T. F., Holloway, J., Hubler, G., Kaiser, J., Keutsch, F. N., Lerner, B. M., Neuman, J. A., Parrish, D. D., Peischl, J., Pollack, I. B., Ravishankara, A. R., Roberts, J. M., Ryerson, T. B., Trainer, M., Veres, P. R., **Wolfe, G. M.**, Warneke, C., Brown, S. S. (2017). Transition from high- to low-NO_x control of night-time oxidation in the southeastern US. *Nature Geosci*, advance online publication. <http://dx.doi.org/10.1038/ngeo2976>
- Espinosa, W. R., Remer, L. A.,** Dubovik, O., Ziemba, L., Beyersdorf, A., **Orozco, D.**, Schuster, G., Lapyonok, T., Fuertes, D., **Martins, J. V.** (2017). Retrievals of aerosol optical and microphysical properties from Imaging Polar Nephelometer scattering measurements. *Atmospheric Measurement Techniques*, 10, 811-824.
- Kim, D., Chin, M., **Remer, L. A.**, Diehl, T., **Bian, H.**, Yu, H., Brown, M., Stockwell, W. (2017). Role of surface wind and vegetation cover in multi-decadal variations of dust emission in the Sahara and Sahel. *Atmospheric Environment*, 148, 282-296.
- Koss, A., Yuan, B., Warneke, C., Gilman, J. B., Lerner, B. M., Veres, P. R., Peischl, J., Eilerman, S., Wild, R., Brown, S. S., Thompson, C. R., Ryerson, T., Hanisco, T., **Wolfe, G. M., St. Clair, J. M.,** Thayer, M., Keutsch, F. N., Murphy, S., de Gouw, J. (2017). Observations of VOC emissions and photo chemical products over US oil- and gas-producing regions

using high-resolution H₃O⁺ CIMS (PTR-ToF-MS). *Atmos. Meas. Tech.*, 10, 2941-2968. www.atmos-meas-tech.net/10/2941/2017/

- Liu, X., Huey, L. G., Yokelson, R. J., Selimovic, V., Simpson, I. J., Müller, M., Jimenez, J. L., Campuzano-Jost, P., Beyersdorf, A. J., Blake, D. R., Butterfield, Z., Choi, Y., Crounse, J. D., Day, D. A., Diskin, G. S., Dubey, M. K., Fortner, E., Hanisco, T. F., Hu, W., King, L. E., Kleinman, L., Meinardi, S., Mikoviny, T., Onasch, T. B., Palm, B. B., Peischl, J., Pollack, I. B., Ryerson, T. B., Sachse, G. W., Sedlacek, A. J., Shilling, J. E., Springston, S., **St. Clair, J. M.**, Tanner, D. J., Teng, A. P., Wennberg, P. O., Wisthaler, A., Wolfe, G. M. (2017). Airborne measurements of western U.S. wildfire emissions: Comparison with prescribed burning and air quality implications. *Journal of Geophysical Research: Atmospheres*, n/a-n/a. <http://dx.doi.org/10.1002/2016JD026315>
- Marvin, M. R., **Wolfe, G. M.**, Salawitch, R. J., Canty, T. P., Roberts, S. J., Travis, K. R., Aikin, K. C., de Gouw, J. A., Graus, M., Hanisco, T. F., Holloway, J. S., Hübler, G., Kaiser, J., Keutsch, F. N., Peischl, J., Pollack, I. B., Roberts, J. M., Ryerson, T. B., Veres, P. R., Warneke, C. (2017). Impact of evolving isoprene mechanisms on simulated formaldehyde: An inter-comparison supported by in situ observations from SENEX. *Atmospheric Environment*, 164, 325-336.
- Tangborn, A. V.**, Kuang, W. (in press). Impact of archeomagnetic field model data on modern era geomagnetic forecasts. *Physics of Earth and Planetary Interiors*.
- Várnai, T.**, Marshak, A., Eck, T. (2017). Observation-based study on aerosol optical depth and particle size in partly cloudy regions. *J. Geophys. Res.*.
- Yuan, T.** (in press). On the global character of overlap between low and high clouds. *J. Geophys. Res.*.
- Yurganov, L.**, Leifer, I., Vadakkepuliambatta, S. (2017). Evidences of accelerating the increase in the concentration of methane in the atmosphere after 2014: satellite data for the Arctic. *Current problems in remote sensing of the Earth from space*, 14(4). j.rse.cosmos.ru/?lang=eng
- Zhang, Z.**, **Werner, F.**, Cho, H.-M., Wind, G., Platnick, S., Ackerman, A. S., Di Girolamo, L., Marshak, A., Meyer, K. (2017). *A framework for quantifying the impacts of sub-pixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bi-spectral method* (1st ed., vol. 1810, pp. 030002). AIP Conference Proceedings. <http://aip.scitation.org/doi/abs/10.1063/1.4975502>

PERSONNEL CHANGES:

PROMOTIONS:

None this quarter.

HIRES:

Lena Shalaby, Research Analyst, Sponsor Robert Swap (614)
Joe Robinson, Research Analyst, Sponsor Robert Swap (614)

DEPARTURES:

Mustafa Aksoy, PostDoctoral Research Associate, August 31, 2017
Kevin Vermeesch, Research Analyst, November 15, 2017
Janet Mercer, Executive Administrative Assistant, December 11, 2017
John Sullivan, PostDoctoral Research Associate, December 25, 2017