

DR. OLIVIA E. CLIFTON

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Education

Ph.D. Columbia University, Earth and Environmental Sciences, 2018.

B.S. University of Wisconsin-Madison, Mathematics, 2012.

Professional Experience

NASA Postdoctoral Program Fellow NASA Goddard Institute for Space Studies, 2021-

Advanced Study Program Postdoctoral Fellow National Center for Atmospheric Research, 2018-2021.

Intern NASA Student Airborne Research Program, 2012.

Honors & Awards

Honorable Mention Early Career Poster Prize, 16th IGAC Science Conference, 2021.

NSF Atmospheric and Geospace Sciences Postdoctoral Research Fellowship, 2021 (Declined).

Outstanding Reviewer Award, Biogeosciences, 2020.

15th Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS XV), 2019.

AMS First Place Oral Presentation, Third Conference on Atmospheric Biogeosciences, 2016.

NSF Graduate Research Fellowship, 2015 (Honorable Mention, 2014).

University of Wisconsin-Madison Holstrom Environmental Scholarship, 2012.

Peer-Reviewed Publications

1. **Clifton, O. E.**, Patton, E. G., Wang, S., Barth, M., Orlando, J., & Schwantes, R. H. (2022). Large Eddy Simulation for Investigating Coupled Forest Canopy and Turbulence Influences on Atmospheric Chemistry. *Journal of Advances in Modeling Earth Systems*. <https://doi.org/10.1029/2022MS003078>
2. Galmarini, S., Makar, P., **Clifton, O. E.**, Hogrefe, C., Bash, J., Bianconi, R., Bellasio, R., Bieser, J., Butler, T., Ducker, J., Flemming, J., Hozdic, A., Holmes, C., Kioutsioukis, I., Kranenburg, R., Lupascu, A., Perez-Camanyo, J. L., Pleim, J., Ryu, Y.-H., San Jose, R., Schwede, D., Silva, S., Garcia Vivanco, M., & Wolke, R. (2021). Technical Note – AQMEII4 Activity 1: Evaluation of Wet and Dry Deposition Schemes as an Integral Part of Regional-Scale Air Quality Models. *Atmospheric Chemistry and Physics*. <https://doi.org/10.5194/acp-21-15663-2021>
3. **Clifton, O. E.**, & Patton, E. G. (2021). Does Organization in Turbulence Influence Ozone Removal by Deciduous Forests? *Journal of Geophysical Research: Biogeosciences*. <https://doi.org/10.1029/2021JG006362> **Featured as an AGU Eos Research Spotlight**
4. He, C., **Clifton, O.**, Felker-Quinn, E., Fulgham, S. R., Juncosa Calahorrano, J., Lombardozzi, D., Purser, G., Riches, M., Schwantes, R., Tang, W., Poulter, B., & Steiner, A. L. (2021). Interactions between Air Pollution and Terrestrial Ecosystems: Perspectives on Challenges and Future Directions. *Bulletin of the American Meteorological Society*. <https://doi.org/10.1175/BAMS-D-20-0066.1>
5. **Clifton, O. E.**, D. L. Lombardozzi, A. M. Fiore, F. Paulot, & L. W. Horowitz (2020). Stomatal conductance influences interannual variability and long-term changes in regional cumulative plant uptake of ozone. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/abc3f1>
6. **Clifton, O. E.**, F. Paulot, A. M. Fiore, L. W. Horowitz, G. Correa, S. Fares, I. Goded, A. H. Goldstein, C. Gruening, A. J. Hogg, B. Loubet, I. Mammarella, J. W. Munger, L. Neil, P. Stella, J. Uddling, T. Vesala, & E. Weng (2020). Influence of dynamic ozone dry deposition on ozone pollution. *Journal of Geophysical Research: Atmospheres*. <https://doi.org/10.1029/2020JD032398>
7. Baublitz, C. B., A. M. Fiore, **O. E. Clifton**, J. Mao, J. Li, G. Correa, D. Westervelt, L. W. Horowitz, F. Paulot, R. Commane, & A. P. Williams (2020). Sensitivity of tropospheric ozone over the Southeast USA to dry deposition. *Geophysical Research Letters*. <https://doi.org/10.1029/2020GL087158>
8. **Clifton, O. E.**, A. M. Fiore, W. J. Massman, C. B. Baublitz, M. Coyle, L. Emberson, S. Fares, D. K. Farmer, P. Gentine, G. Gerosa, A. Guenther, D. Helmig, D. L. Lombardozzi, J. W. Munger, E. G. Patton, S. E. Pusede, D. B. Schwede, S. J. Silva, M. Sörgel, A. L. Steiner, & A. P. K. Tai (2020). Dry deposition of ozone over land: processes, measurement and modeling. *Reviews of Geophysics*. <https://doi.org/10.1029/2020RG000715>

DR. OLIVIA E. CLIFTON

doi.org/10.1029/2019RG000670 *Featured as an AGU Eos Editor's Vox Top Cited Article in Reviews of Geophysics 2020-2021.*

9. Clifton, O. E., A. M. Fiore, J. W. Munger, & R. Wehr (2019). Spatiotemporal controls on observed daytime ozone deposition velocity over Northeastern U.S. forests during summer. *Journal of Geophysical Research: Atmospheres*. <https://doi.org/10.1029/2018JD029073>
10. Fiore, A. M., E. V. Fischer, S. Pandey Deolal, O. Wild, D. Jaffe, J. Staehelin, O. E. Clifton, et al. (2018). Peroxy acetyl nitrate (PAN) measurements at northern mid-latitude mountain sites in April: A constraint on continental source-receptor relationships. *Atmospheric Chemistry and Physics*. <https://doi.org/10.5194/acp-18-15345-2018>
11. Rieder, H., A. M. Fiore, O. E. Clifton, G. Correa, L. W. Horowitz, & V. Naik (2018). Combining model projections with site-level observations to estimate changes in distributions and seasonality of ozone in surface air over the USA. *Atmospheric Environment*. <https://doi.org/10.1016/j.atmosenv.2018.07.042>
12. Clifton, O. E., A. M. Fiore, J. W. Munger, S. Malyshev, L. W. Horowitz, E. Shevliakova, F. Paulot, L. T. Murray, & K. L. Griffin (2017). Interannual variability in ozone removal by a temperate deciduous forest. *Geophysical Research Letters*. <https://doi.org/10.1002/2016GL070923>
13. Clifton, O. E., A. M. Fiore, G. Correa, L. W. Horowitz, and V. Naik (2014). Twenty-first century reversal of the surface ozone seasonal cycle over the northeastern United States. *Geophysical Research Letters*. <https://doi.org/10.1002/2014GL061378> *Featured as an AGU Eos Spotlight*
14. Fiore, A. M., J. T. Oberman, M. Y. Lin, L. Zhang, O. E. Clifton, D. J. Jacob, V. Naik, L. W. Horowitz, J. P. Pinto, & G. P. Milly (2014). Estimating North American background ozone in U.S. surface air with two independent global models: Variability, uncertainties, and recommendations. *Atmospheric Environment*. <https://doi.org/10.1016/j.atmosenv.2014.07.045>

Professional Activities

Convener Biosphere-Atmosphere Exchange of Reactive Carbon, Oxidants, and Aerosols, AGU 2022.

Co-organizer 2nd Ozone Deposition Workshop: Modeling ozone dry deposition at local-to-global scales: Synthesizing recent developments and establishing future priorities, NCAR, March 28 & 30, 2022.

Co-organizer Atmospheric Chemistry and Physics Special Issue: AQMEII4: a detailed assessment of atmospheric deposition processes from point models to regional-scale models, 2020-

Member Air Quality Model Evaluation International Initiative (AQMEII) Steering Group 4, 2018-

Primary Convener Biosphere-Atmosphere Interactions and Atmospheric Chemistry, AGU 2019.

Co-organizer Workshop on Ozone Dry Deposition (Funding from NASA, NOAA, and Lamont Climate Center), 2017.

Contributing Author IPCC Working Group 1 Chapter 11, 2013.

Reviewer ACS Earth and Space Chemistry, Agricultural and Forest Meteorology, Agronomy, Atmospheric Chemistry and Physics, Atmospheric Measurement Techniques, Biogeosciences, Elementa, Environmental Science and Pollution Research, Environmental Science and Technology, Environmental Pollution, Frontiers in Plant Science, Geoscientific Model Development, Geophysical Research Letters, Journal of Advances in Modeling Earth Systems, Journal of Geophysical Research-Atmospheres

Proposal Reviewer NASA, NOAA, NSF

Outreach & Mentoring Activities

Research Mentor Rebecca Seemann (U. of North Dakota '23), New York, NY, summer 2022.

Panelist AGU Atmospheric Science Section Early Career Committee webinar series, 2021.

Organizer NCAR Postdoc Discussion Group on Racism and Anti-Racism, 2020-2021.

Member NCAR Postdoc Writing Club Committee (2021) and NCAR ASP Thompson Lecture Series Committee (2020) and Professional Development Committee (2018-2019).

Member 2020 International Global Atmospheric Chemistry Early Career Short Course Organizing Committee (Invited), 2019-2021.

Panelist NCAR Professional Development Series for interns on proposal writing, 2020.

Volunteer NCAR Explorer Series, Boulder, CO 2019.

Lunchtime Mentor Lamont Secondary School Field Research Program, Palisades, NY 2014, 2016, 2018.

Research Mentor Eleanor Pressman (Columbia College '19), Palisades, NY 2017.

DR. OLIVIA E. CLIFTON

Presenter Lamont Open House, Palisades, NY 2014, 2016, 2017.

Presenter Career Day, Public School 180, New York, NY 2017.

Organizer Women In Science at Columbia Workshop for NSF Graduate Res. Fellowship, 2017.

Member Lamont Colloquium Committee, 2014-2016.

Presenter Columbia University EESC UN2100 Field Trip to Lamont, Palisades, NY 2015, 2016.

Presenter Earth2Class, Palisades, NY 2016.

Panelist Inspiring Voices: STEAM Working Professionals Panel, Connelly School of the Holy Child, Potomac, MD 2015.

Presenter Pascack Hills High School Girls' Climate Stewards Club, Palisades, NY 2014.

Exhibitor Princeton Plasma Physics Laboratory Young Women's Conference, Princeton, NJ 2014.

Experimental Leader Women In Science at Columbia Girls' Science Day, New York, NY 2013.

Presenter Expand Your Horizons, Madison, WI 2012.

Teaching Experience

Guest Lecturer Atmospheric Aerosols, Columbia University, 2018.

Guest Lecturer Introduction to Atmospheric Chemistry, Columbia University, 2017.

Teaching Assistant Earth's Environmental System: Climate, Columbia University, 2016.

Teaching Assistant Quantitative Models of Climate-Sensitive Natural and Human Systems, Columbia University, 2014.

Teaching Assistant Introduction to Atmospheric Chemistry, Columbia University, 2014.

Invited Talks

1. [Forthcoming] ACS Spring 2023 National Meeting, Bridging the Interfaces of Atmospheric Chemistry Symposium, March 26-30, 2023, Indianapolis, IN.
2. Maryland Department of the Environment, Modeling and Data Analysis Coordination Call, Sept. 15, 2022
3. Task Force on Hemispheric Transport of Air Pollution Spring 2022 Meeting, May 19, 2022
4. National Atmospheric Deposition Program 2022 Spring Meeting, April 19, 2022
5. University of Illinois Urbana Champaign, Civil and Environmental Engineering 595AG, Mar 11, 2022
6. Florida State University Department of Earth, Ocean, & Atmospheric Science, Meteorology Seminar, Oct 21, 2021
7. NASA Sciences and Exploration Directorate Director's Seminar, Oct 1, 2021
8. NASA Goddard Institute for Space Studies, Lunch Seminar, New York, NY, Jul 14, 2021
9. University of Utah, Department of Atmospheric Sciences Seminar, Salt Lake City, UT, Apr 7, 2021
10. North Carolina State University, Department of Marine, Earth, and Atmospheric Sciences, Raleigh, NC, Nov 22, 2020
11. Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS) Early Career Scientists' Conference: Air Quality-Ecosystem Interactions, Boulder, CO, Oct 17, 2019
12. Colorado State University, Atmospheric Chemistry, Fort Collins, CO, Oct 4, 2019
13. NCAR Climate and Global Dynamics. Seminar, Boulder, CO, Sept 17, 2019
14. Fourth Conference on Meteorology and Climate-Modeling for Air Quality, Davis, CA, Sept 12 2019
15. Stony Brook University, Topics in Atmospheric and Oceanic Sciences Seminar, Stony Brook, NY, Aug 28, 2019
16. Jet Propulsion Laboratory Climate Center Workshop on Air Quality — Ecosystem Interactions, Pasadena, CA, Jan 29, 2019
17. NCAR Atmospheric Chemistry Observations and Modeling and Mesoscale Microscale Meteorology Seminar, Boulder, CO, Jan 14, 2019
18. Long-term Biosphere-Atmosphere Chemical Flux Workshop, Irvine, CA, Nov 2017
19. Global Decadal Hydroclimate Predictability, Variability and Change, Palisades, NY, May 2014

First-Author Presentations (P for poster)

20. 21st AeroCom/10th AeroSAT Workshop, Oslo, Norway, Oct. 10 2022
21. 2nd Ozone Deposition Workshop, Boulder, CO, Mar. 28, 2022

DR. OLIVIA E. CLIFTON

22. American Meteorological Society's 24th Conference on Atmospheric Chemistry, Houston, TX, Jan. 25, 2022
23. American Geophysical Union Fall Meeting, New Orleans, LA, Dec. 17, 2021 (P)
24. 16th International Global Atmospheric Chemistry Science Conference Sept 2021 (P)
25. 5th Conference on Atmospheric Biogeosciences, Minneapolis, MN, June 21, 2021
26. Ameriflux Land-Atmosphere Interactions Workshop, June 11, 2021 (P)
27. American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 7, 2020
28. American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 10, 2019 (P)
29. Gordon Research Conference on Atmospheric Chemistry, Newry, ME, August 1, 2019 (P)
30. 15th Atmospheric Chemistry Colloquium for Emerging Senior Scientists, Brookhaven National Laboratory, NY, July 26, 2019
31. NCAR MUSICA Kick-Off Meeting, Boulder, CO, May 21, 2019
32. NCAR/NEON Workshop on Predicting Life in the Earth System: Linking the Geosciences and Ecology, Boulder, CO, April 10, 2019
33. NCAR Chemistry-Climate Working Group Meeting, Boulder, CO, Feb. 21, 2019
34. NCAR Land Model and Biogeochemistry Working Group Meeting, Boulder, CO, Feb. 13, 2019
35. American Geophysical Union Fall Meeting, Washington, DC, Dec. 14, 2018 (P)
36. American Geophysical Union Fall Meeting, New Orleans, LA, Dec. 2017
37. MIT Civil and Environmental Engineering The Rising Stars Workshop, Cambridge, MA, Oct. 2017
38. Lamont Climate Center Workshop on Ozone Dry Deposition, Palisades, NY, Oct. 2017
39. 5th Integrated Land Ecosystem-Atmosphere Processes Study Science Conference, Oxford, UK, 2017
40. New York City Metro Area Energy and Air Quality Data Gaps Workshop, Palisades, NY, 2017 (P)
41. Annual Harvard Forest Ecology Symposium, Petersham, MA, 2017 (P)
42. International Global Atmospheric Chemistry Science Conference, Breckenridge, CO, 2016 (P)
43. International Summer School on Atmospheric and Oceanic Sciences: Advanced Programming Techniques for the Earth System Science, L'Aquila, Italy, 2016 (P)
44. 3rd Conference on Atmospheric Biogeosciences, Salt Lake City, UT, 2016
45. European Geophysical Union 2016 Conference, Vienna, Austria, 2016
46. NASA Air Quality Applied Sciences Team 7 Meeting, Cambridge, MA, 2014 (P)
47. 3rd Chemistry-Climate Modeling Initiative Workshop, Lancaster, UK, 2014 (P)
48. American Geophysical Union Fall Meeting, San Francisco, CA, 2013 (P)
49. New York State Energy Research and Development Authority Environmental Monitoring, Evaluation and Protection in New York: Linking Science and Policy Conference, Albany, NY, 2013 (P)
50. American Geophysical Union Fall Meeting, San Francisco, CA, 2012 (P)
51. NASA Student Airborne Research Program, Irvine, CA, 2012
52. NASA Air Quality Applied Sciences Team 3 Meeting, Madison, WI, 2012 (P)