Curriculum Vitae
Matthew A. Rogers, PhD

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Employment

2023-Present   Assistant Director, Outreach and Communications
                Cooperative Institute for Research in the Atmosphere,
                Colorado State University, Fort Collins, CO

2011-2023   Research Scientist II and Education and Outreach Coordinator
                Cooperative Institute for Research in the Atmosphere,
                Colorado State University, Fort Collins, CO

2008-2011   Research Scientist I,
                CloudSat Education and Public Outreach Lead
                OCO Science Team Member (1B O2-RICA Lead)
                Stephens Research Group, Department of Atmospheric Science
                Colorado State University, Fort Collins, CO

1999-2008   Graduate Research Assistant
                Stephens Research Group, Department of Atmospheric Science
                Colorado State University, Fort Collins, CO

1997-1999   Student Research Assistant
                Research Applications Program
                National Center for Atmospheric Research, Boulder, CO

Education

2002-2008   PhD, Atmospheric Science, Colorado State University / Remote Sensing
                Dissertation: Properties of the tropical hydrologic cycle as analyzed through 3-
                dimensional *k-means* cluster analysis
                Advisor: Graeme L. Stephens
1999-2002   MS, Atmospheric Science, Colorado State University / Remote Sensing
                Dissertation: Radar and optical depth retrieval of marine stratocumulus cloud
                properties using LES modelling
                Advisor: Graeme L. Stephens
1995-1999   BA, Physics, University of Colorado at Boulder / minor, Atmospheric Science
                Advisor: Uriel Nauenberg

Professional Experience

Dr. Rogers' scientific work focuses on satellite imagery development, with a broad spectrum of
applications across polar- and geostationary platforms and instruments. He has developed optical
flow techniques to generate realtime, synthetic one-minute imagery from five- and ten-minute
observations from geostationary platforms using COTS hardware. Dr. Rogers also contributes to
cross-calibration between VIIRS and ABI imagery using significant nadir overpass data
collection and has developed advection-based solar forecast products blending NWP wind data

with satellite observations, utilizing radiative transfer models to calculate insolation based on forecasted satellite cloud positions.

Previous work on NASA SMD missions include surface observations of cloud type for validation of the 2B-CLDCLASS product of CloudSat (including the use of trained student observations) and as the 1B O2-RICA product lead on the science team of the Orbiting Carbon Observatory mission, where his work consisted of numerically modelling transient bright/dark transition signals in the O2 band of the instrument to correct the residual image issue with the sensor.

Additionally, Dr. Rogers has developed a tiered outreach program at CIRA with emphasis on developing pilot projects and/or fundable education and outreach activities targeted to four primary audiences: K-12, Citizen Science, Professional Development and Graduate Research, and Public Affairs/Publicity.

Dr. Rogers' primary E&O work at CIRA focuses on the role of subject-matter-experts in teacher professional development, primarily focused on elementary and middle-school weather standards, and integrating artificial intelligence and machine learning tools for K-12 audiences as part of an NSF-funded AI2ES institute.

Dr. Rogers' team at CIRA covers a diverse spectrum of website development and IT work, University communications and marketing, cross-CI communications development for the benefit of NOAA research, and oversight of CIRA's societal benefits research program, among others.

Dr. Rogers is a member of the American Geophysical Union, American Meteorological Society, and American Institute of Physics. He serves in multiple volunteer positions, including unit leadership and merit badge advising for the Adventure West Council, Scouting America and is a Life Member of the National Eagle Scout Association.

Recent Relevant Publications and Presentations

Rogers, Matthew A., Steven D. Miller, Curtis J. Seaman, Jorel Torres, Donald Hillger, Ed Szoke, and William E. Line. 2023. "VIIRS after 10 Years—A Perspective on Benefits to Forecasters and End-Users" *Remote Sensing* 15, no. 4: 976. https://doi.org/10.3390/rs15040976

Rogers, M.A., C. Kummerow, and S. Merchant, 2022: Bridging the Gap between Minority Serving Institutions and the Federal Workforce - A Model from the NOAA Cooperative Institutes and Cooperative Science Centers. *Presentation SM25D-2007, 2022 Fall Meeting of the American Geophysical Union,* Chicago, IL.

Rogers, M.A., J. Apke, and S. Longmore, 2021: Meso-anywhere sectors from GOES-R – optical flow techniques for global 1-minute imagery. *Presentation A008-0018, 2020 Fall Meeting of the American Geophysical Union,* virtual/online.

Rogers, M.A., S.D. Miller, and K. Micke, 2020: Bringing Advanced Scientific Imagery to the Studio: Options for Scientists and Broadcasters. *48th Conference on Broadcast Meteorology,* Boston, MA

Rogers, M.A., and S. Schranz, 2017: Fire and Flood – Extending NOAA Resources to the Classroom and the Citizen Scientist for Resilient and Informed Communities. *Presentation ED53J-01, 2017 Fall Meeting of the American Geophysical Union,* New Orleans, LA

Lee, J.A., S.E. Haupt,, P.A. Jimenez, **M.A. Rogers**, S.D. Miller, and T.C. McCandless, 2017: Solar irradiance nowcasting case studies near Sacramento, *J. Applied Meteorology,* **56**(1), 85-108.

Miller, S.D., F.Wang, A.B. Burgess, T.H. Painter, M. Skiles, and **M.A. Rogers**, 2015: Satellite-based estimation of temporally resolved dust radiative forcing in snow cover. *J. of Hydrometeor.,* **17**, 1999–2011, doi: 10.1175/JHM-D-15-0150.1.