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# Jordan Joel Gerth, Ph.D.

**Supervisory Physical Scientist, NOAA/NESDIS**

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## Professional Experience

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- 11/2024 to Present      Supervisory Physical Scientist**  
**Branch Chief, Architecture Planning and System Innovation**  
National Environmental Satellite, Data, and Information Service (NESDIS) Office of Systems Architecture and Engineering (SAE)  
National Oceanic and Atmospheric Administration, Department of Commerce, Silver Spring, Maryland
- I formulate a budget for branch activities, including the \$20M/year Joint Venture Partnerships (JVP) program, which sponsors U.S. aerospace industry innovations with the potential for government applications and further commercialization.
  - I am responsible for maintaining the NOAA environmental satellite program continuity ("flyout") charts based on established mission plans and reliability studies.
  - I manage satellite architecture and radio frequency spectrum risks for NESDIS, including inter-agency and stakeholder coordination on potential resolutions.
  - I provide science and engineering expertise related to remote sensing applications and satellite systems, including devising and documenting requirements. I contribute to scientific and technical reports and reviews.
  - I perform supervisory responsibilities, including meeting with subordinate staff to monitor their workload and performance, and review deliverables and responses to NOAA leadership.
- 8/2019 to 11/2024      Physical Scientist**  
**NWS Leveraged Observations Lead**  
National Weather Service (NWS) Office of Observations (OBS)  
National Oceanic and Atmospheric Administration, Department of Commerce, Silver Spring, Maryland
- I was the NWS OBS subject-matter expert and primary liaison to NWS service delivery portfolios and operational/field offices for leveraged observations (those that the NWS does not collect) and environmental satellite technologies in the weather forecast process.
  - I provided technical expertise, performed scientific research, and managed programs applying remote sensing techniques and observing systems to meet NWS requirements, and establish OBS policies and priorities based on existing strategies and unique, competing needs.
  - I was the user scientist for the Geostationary Extended Observations (GeoXO) imager, and proposed the addition of a new infrared water vapor band that will capture low-level moisture.
  - I supported the OBS office director and NWS leadership decision-making for leveraged observations, environmental satellite matters, and related inter-agency and international initiatives. I served as the working-level liaison to other NOAA line offices for evaluating research program directions, and coordinated with NOAA line offices and within NWS portfolio teams on observational program, satellite mission, and scientific research development towards operations, including through the creation of Cooperative Research and Development Agreements (CRADAs) and transition plans.
  - I directed work assigned to the Total Operational Weather Readiness for Satellites (TOWR-S) team, including an effort to analyze and visualize patterns in how meteorologists and field offices use weather observations as part of routine and special operations.

- I led a team of scientists and software engineers on projects related to meteorological and remote sensing applications research and software development, assembled related proposals and budgets, and served as an advisor to the SSEC director on budget, organizational, and personnel matters.
- I managed the initial development of the open-source Satellite Information Familiarization Tool (SIFT), which visualizes geostationary satellite imagery and products.
- I conducted research and transitioned new, valuable satellite products and imagery from the Geostationary Operational Environmental Satellite R-Series (GOES-R) and Joint Polar Satellite System (JPSS) into NWS operations and through NOAA proving grounds and testbeds.
- I presented at scientific conferences and conducted numerous media interviews related to satellite meteorology, weather prediction, and spectrum use for scientific applications.
- I provided briefings to the Federal Communications Commission (FCC) and appeared before the U.S. House Committee on Science, Space, and Technology on concerns regarding spectrum allocated for Earth exploration-satellite service (EESS).

## United States Citizen, Current Career Federal Employee

**9/2011 to 12/2013**

Ph.D. Dissertation Information

Title: *Sky Cover*

Advisor: Dr. Steven Ackerman

**9/2009 to 12/2011**

**University of Wisconsin at Madison**  
*Master of Science (M.S.), Atmospheric and Oceanic Sciences*

**9/2005 to 5/2009**

**University of Wisconsin at Madison**  
*Bachelor of Science (B.S.) with Comprehensive Honors and majors in  
 Atmospheric and Oceanic Sciences, Mathematics, and Political Science*

**6/2024**

**Treasury Executive Institute**  
*Partnering While Leading Change Certificate*

7/2023

**Federal Acquisition Institute**  
Federal Acquisition Certification for Contracting Officer's Representatives (COR)  
*Level III* (Complex, greatest risk, and mission critical)

6/2022

**American Meteorological Society**  
Summer Policy Colloquium

9/2021

**Treasury Executive Institute**  
Strategic Program Management Cohort

<b>8/2018</b>	<b>National Telecommunications and Information Administration (NTIA)</b> Federal Spectrum Management Training Course
<b>9/2017</b>	<b>University of Wisconsin at Madison</b> School of Business Center for Professional and Executive Development <i>Professional Development Certificate: Advanced Management and Leadership</i>
<b>1/2015</b>	<b>Information Technology Infrastructure Library (ITIL)</b> <i>Foundation Certificate in Information Technology Service Management (ITSM)</i>
<b>11/2013</b>	<b>University of Wisconsin at Madison</b> School of Business Center for Professional and Executive Development <i>Professional Development Certificate: Technical Leadership</i>

### **Scientific Publications (peer reviewed, 2018 to present only)**

- Ayala, A. C. B., **J. J. Gerth**, T. J. Schmit, S. S. Lindstrom, and J. P. Nelson. "Parallax Shift in GOES ABI Data." *Journal of Operational Meteorology* 11 (2023).  
<https://doi.org/10.15191/nwajom.2023.1102>.
- Broetzge, Jerald A., Don Berchhoff, Dana L. Carlis, Frederick H. Carr, Rachel Hogan Carr, **Jordan J. Gerth**, Brian D. Gross, et al. "Challenges and Opportunities in Numerical Weather Prediction." *Bulletin of the American Meteorological Society* 104, no. 3 (March 2023): E698–705.  
<https://doi.org/10.1175/bams-d-22-0172.1>.
- Cintineo, John L., Michael J. Pavolonis, Justin M. Sieglaff, Daniel T. Lindsey, Lee Cronic, **Jordan Gerth**, Benjamin Rodenkirch, Jason Brunner, and Chad Gravelle. "The NOAA/CIMSS ProbSevere Model: Incorporation of Total Lightning and Validation." *Weather and Forecasting* 33 (February 2018): 331–45. <https://doi.org/10.1175/WAF-D-17-0099.1>.
- Gerth, Jordan J.** "It's Not Hot Air: Using GOES-16 Infrared Window Bands to Diagnose Adjacent Summertime Air Masses." *Meteorological Applications*, March 2019, 362–68.  
<https://doi.org/10.1002/met.1767>.
- Gerth, Jordan J.** "Shining Light on Sky Cover during a Total Solar Eclipse." *Journal of Applied Remote Sensing* 12 (June 2018): 1. <https://doi.org/10.1117/1.JRS.12.020501>.
- Gerth, Jordan J.**, Raymond K. Garcia, David J. Hoese, Scott S. Lindstrom, and Timothy J. Schmit. "SIFTing through Satellite Imagery with the Satellite Information Familiarization Tool." *Journal of Operational Meteorology*, December 2020, 121–32. <https://doi.org/10.15191/nwajom.2020.0810>.
- Hurwitz, Margaret M., S. Baxter, B. Brown, J. Carman, J. Dale, C. Draper, F. Horsfall, et al. "Six Priorities for Investment in Snow Research and Product Development." *Bulletin of the American Meteorological Society* 101 (November 2020): E2025–29. <https://doi.org/10.1175/BAMS-D-20-0218.1>.
- Miller, N. B., M. M. Gunshor, A. J. Merrelli, T. S. L'Ecuyer, T. J. Schmit, **J. J. Gerth**, and N. J. Gordillo. "Imaging Considerations From a Geostationary Orbit Using the Short Wavelength Side of the Mid-Infrared Water Vapor Absorption Band." *Earth and Space Science* 9 (2022).  
<https://doi.org/10.1029/2021EA002080>.
- Palmer, R., D. Whelan, D. Bodine, P. Kirstetter, M. Kumjian, J. Metcalf, M. Yeary, et al. "The Need for Spectrum and the Impact on Weather Observations." *Bulletin of the American Meteorological Society* 102 (2021). <https://doi.org/10.1175/BAMS-D-21-0009.1>.
- Schmit, Timothy J., Jun Li, Su Jeong Lee, Zhenglong Li, Richard Dworak, Yong-keun Lee, Michael Bowlan, et al. "Legacy Atmospheric Profiles and Derived Products From GOES-16: Validation and Applications." *Earth and Space Science* 6 (September 2019): 1730–48.  
<https://doi.org/10.1029/2019EA000729>.

Schmit, Timothy J., Scott S. Lindstrom, **Jordan J. Gerth**, and Mathew M. Gunshor. "Applications of the 16 Spectral Bands on the Advanced Baseline Imager (ABI)." *Journal of Operational Meteorology* 06 (June 2018): 33–46. <https://doi.org/10.15191/nwajom.2018.0604>.

Wagner, T. J., R. A. Petersen, R. D. Mamrosh, **J. Gerth**, C. H. Marshall, and J. M. O'Sullivan. "An Analysis of the Spatial and Temporal Synergy between Profiles of Aircraft-Based Observations and Operational Radiosonde Reports over the United States." *Weather and Forecasting* 39 (July 2024), 995–1005. <https://doi.org/10.1175/waf-d-23-0205.1>.

Wimmers, Anthony, Sarah Griffin, **Jordan Gerth**, Scott Bachmeier, and Scott Lindstrom. "Observations of Gravity Waves with High-Pass Filtering in the New Generation of Geostationary Imagers and Their Relation to Aircraft Turbulence." *Weather and Forecasting* 33 (February 2018): 139–44. <https://doi.org/10.1175/WAF-D-17-0080.1>.

### **Invited Panelist, Professional Conferences / Programs**

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#### *Public Service Leaders as Citizens*

American University's Key Leadership Program and Treasury Executive Institute, May 2023

#### *Root Causes of Interference*

Spectrum Policy Initiative Conference, Silicon Flatirons, Colorado Law, October 2022

#### *The Road to GeoXO*

AMS 102<sup>nd</sup> Annual Meeting, January 2022

#### *Spectrum Policy, 5G, and Environmental Satellites: A Risky Mix for the Earth Science Community?*

AGU Fall Meeting, December 2021

#### *Is Spectrum Shifting the Playing Field for the Weather Enterprise? Spectrum Considerations for Weather Satellite End Users*

Joint Satellite Conference, October 2019

#### *The Wizard Behind the Curtain?—The Important, Diverse, and Often Hidden Role of Spectrum Allocation for Current and Future Environmental Satellites and Water, Weather, and Climate*

AMS 99<sup>th</sup> Annual Meeting, January 2019

#### *Societal benefits of user-focused communication of satellite data, products and services, "Are we meeting user needs?"*

EUMETSAT Meteorological Satellite Conference, September 2013

For select presentations, including beyond these, visit <http://cimss.ssec.wisc.edu/~jordang/overflow.html>

### **Special Recognition**

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#### **2024 – NESDIS Collaboration Award**

For exceptional efforts as a member of the One-NOAA Space Weather Core Team [dedicated to] raising awareness, building momentum, and driving toward significantly improved space weather outcomes. (With team)

#### **2023 – NOAA Administrator's Award**

For developing the novel GOES-18 split post-launch test campaign and interleave data distribution capability to restore GOES-West imagery. (With NESDIS-NWS team)

#### **2022 – NWS Director's Award**

For exceptional leadership and execution of tasks that will lead to harnessing cutting-edge satellite science and technology.

#### **2022 – U.S. Department of Commerce Bronze Medal Award**

For ensuring that NOAA's next generation geostationary satellite system will meet the most critical observing needs for our nation and partners. (With NOAA team)

**2022 – NASA Group Achievement Award (to GeoXO Program Science Working Group)****2021 – NESDIS Collaboration Award**

For demonstrating excellent collaboration across multiple thematic communities (Fire, Agriculture, Human Health, Weather Forecasting, and Oceans), and for holding five workshops where user needs were collected and translated into requirements for GeoXO instrument selection. (With team)

**2021 – U.S. Department of Commerce Bronze Medal Award**

For development and implementation of the GOES-17 Advanced Baseline Imager cooling timeline, thereby enabling its sole operation as GOES-West. (With NESDIS-NWS team)

**2020 – NWS Isaac M. Cline Award for Program Management/Administration - Region/Office**

For expertly organizing and executing the first-ever Office of Observations Annual Operating Plan meeting in a virtual environment. (With NWS team)

**2019 – National Weather Association Larry R. Johnson Award**

For outstanding efforts in educating operational meteorologists on the uses and benefits of the new GOES series of satellites. (With colleague Scott Lindstrom)

**Professional Leadership and Organization Membership**

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**American Geophysical Union (AGU)**, Member since 2018

**American Meteorological Society (AMS)**, Member since 2003

- Committee on Radio Frequency Allocations – Chair (2018 to Present), Member (2016 through 2017)
- Board on Enterprise Communication – Chair (2024 to Present), Member (2017 through 2023)
- Committee on Satellite Meteorology, Oceanography, and Climatology – 2009 through 2023

**National Weather Association (NWA)**, Member since 2002

- Professional Development Committee – 2009 through 2014
- Strategic Planning Committee – 2014 through 2016

**SSEC Advisory Council**, 2018 and 2019, Elected by peers

**Organizer or Planning Committee, Professional Conferences**

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- AMS Summer Community Meeting, 2017, 2021, 2022, 2023, 2024, and 2025 (Program Chair)
- NOAA Satellite Conference, 2017 and 2022
- AMS Satellite Meteorology, Oceanography, and Climatology Conference, 2016, 2019, 2022 (Program Chair), and 2024
- NWA 37<sup>th</sup> Annual Meeting, 2012 (Program Chair)

**Professional Specialties and Other Experience**

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My specialties include satellite meteorology, satellite data acquisition, research to operations, operational meteorology, and meteorological systems engineering. I have

- participated on NASA, NOAA, and National Science Foundation (NSF) review panels of programs, research proposals and budgets, satellite missions, and organizations;
- served as a peer reviewer of manuscripts intended for publication in scientific journals;
- contributed to the development and execution of AMS and NWS short courses;
- published an essay on wireless frequency sharing in AGU's *Eos* (2018);
- designed components of numerical weather prediction models, implemented applicable numerical techniques, including optimization, and utilized the Weather Research and Forecast (WRF) model framework in research projects;
- expertise in data management, including scientific storage formats; and
- used, developed, and enhanced atmospheric science software applications.