Updated: January 2021

Adam W. Sisco

Curriculum Vitae

Department of Atmospheric and Environmental Sciences
University at Albany, State University of New York
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EDUCATION

M.S., Atmospheric Science Expected May 2021
University at Albany, State University of New York; Albany, NY
Advisor: Ryan D. Torn

B.S., Geoscience (summa cum laude); Concentration, Professional Meteorology 2016
Mississippi State University; Mississippi State, MS

Non-degree graduate coursework, University of Alabama in Huntsville
ATS 782: Professional Development Fall 2018
Proposal writing, time management, research ethics, budget preparation

ESS 509: Applications of Computers in Meteorology Fall 2017
Tenets of scientific programming, data types, array manipulation, program design

Interests:

- Operational product development, predictability of extreme precipitation events, synoptic-dynamic meteorology, data provenance and stewardship

PROFESSIONAL EXPERIENCE

University at Albany, State University of New York; Albany, NY August 2019–present
Graduate Research Assistant, Department of Atmospheric and Environmental Sciences (DAES)

- Perform research investigating the impact of winter baroclinic cyclogenesis on downstream predictability
- Assess the sensitivity of western U.S. precipitation forecasts to upstream atmospheric rivers in support of Atmospheric River Reconnaissance (AR Recon)
- Provide daily forecast sensitivity briefings to AR Recon partners to help identify regions for targeted dropsonde deployment
- Present research results in oral/poster presentations and in refereed journals

University of Alabama in Huntsville; Huntsville, AL January 2017–July 2019
Research Associate, NASA Interagency Implementation and Advanced Concepts Team (IMPACT)

- Led the Data Curation for Discovery project, tasked with (1) designing and implementing systematic plans to assist other agencies in incorporating NASA Earth observation data into their workflows and (2) improving the discoverability of NASA Earth science data and other curated Earth observation data in federated search catalogs

- Served on the Analysis and Review of CMR team, tasked with systematically improving the completeness, consistency, and accuracy of Earth Observing System Data and Information System metadata holdings in the NASA Common Metadata Repository (CMR)
- Prepared and presented oral/poster presentations at meetings and conferences

Oak Ridge National Laboratory; Oak Ridge, TN 2016
Research Intern, Computational Sciences and Engineering Division
Advisor: Olufemi A. Omitaomu

- Performed research with the Geographic Information Science and Technology group as part of the DOE Office of Science's Science Undergraduate Laboratory Internship
- Used GIS modeling to assess the risk coastal hazards pose to U.S. populations and infrastructure systems
- Prepared and presented oral/poster presentations on research results at on-site symposia

TECHNICAL SKILLS

Programming proficiencies:	Python, R, NCAR Command Language, Linux shell scripting, GrADS
Datasets:	GEFS Reforecast v2, GEFS v11, GFS, CFSR, ERA5, NCEP Stage IV, RSS SSM/I and SSMIS products, NYS Mesonet surface observations
Data formats and software:	netCDF, GRIB, binary, wgrib2, cfgrib
Version control:	Git, Github
Document preparation:	LaTeX, R Markdown
Numerical weather prediction:	WRF-ARW
GIS:	ArcGIS, QGIS
Platforms:	Linux, Mac, Windows

PROFESSIONAL ACTIVITIES AND SERVICE

Departmental Service

- Graduate Student Association (GSA) Assembly Representative
  - Elected to serve for the 2020–2021 academic year; represent the Atmospheric Science Graduate Student Organization as a member of the GSA Assembly, the legislative branch of the graduate student government
- Member of the DAES graduate program subcommittee on GRE admission requirements
  - Served as a graduate student representative and advised the department in its decision to change the GRE requirement for admission to the M.S. and Ph.D. programs
- Student rapporteur for the 2020 AMS Annual Meeting Presidential Forum Sessions
  - Collaborated with a team of rapporteurs in taking notes and drafting summary reports
- DAES Graduate Program Committee First Year Representative
  - Elected to serve for the 2019–2020 academic year; facilitated communication between graduate students and faculty members of the Graduate Program Committee

- Capital Region of New York 2019 AMS Research, Internship, and Fellowship Night
    - Spoke with undergraduate students about internship and early career opportunities

Activities

- AMS Early Career Leadership Academy Class of 2019

Memberships

- American Meteorological Society

FIELD WORK AND VOLUNTEER EXPERIENCE

VORTEX Southeast Spring 2016

- Worked with a team of Mississippi State University faculty and students to perform mobile sounding launches during VORTEX-SE IOPs

Huntsville-Madison County Emergency Management Agency Volunteer Summer 2015

- Assisted with daily EMA operations in the operations center and in the field
- Collaborated on disaster preparedness strategies with neighboring EMAs, local law enforcement, and the Alabama Department of Public Health
- Monitored severe weather to support social media alerts and warning siren activation
- Calibrated and serviced EMA equipment according to regulations
- Compiled a summary of major hazardous weather events impacting Madison County, AL

HONORS AND AWARDS

NASA Group Achievement Honor Award 2019
For unceasing commitment to innovation, collaboration, and teamwork which have enhanced the quality of NASA data systems in furtherance of MSFC's Earth Science mission.

NASA Science and Technology Office Peer Award 2018
For cultivating and maintaining a strong relationship with the Department of the Interior and other federal agencies in support of the Data Curation for Discovery project.

Best Abstract 2016
Oak Ridge Institute for Science and Education Fall 2016 Poster Session
Oak Ridge National Laboratory

Best Poster 2016
Oak Ridge Institute for Science and Education Fall 2016 Poster Session
Oak Ridge National Laboratory

Best Cumulative Forecast Score, Team Standings 2016
Spring 2016 WxChallenge Forecasting Competition
Mississippi State University

President's List (GPA ≥ 3.8) 2012–2016
Mississippi State University

INVITED PRESENTATIONS

le Roux, J., K. Bugbee, V. Dixon, **A.W. Sisco**, P. Staton, I. Garcia-Solera, and R. Ramachandran, 2018: A metadata curation approach to improve the discoverability and accessibility of NASA Earth science data. *Developing Innovative Tools and Services to Enable Data Use across Broad User Communities*, Washington, D.C., Amer. Geo. Union, IN51A-03.

Sisco, A. W., S. Ramdeen, J. Davidson, L. Duffy, and K. Bugbee, 2018: Extending the Climate Data Initiative data collection to Geoplatform.gov. *Collaboration and Sharing Through GeoPlatform Communities*, Reston, VA, Joint HIFLD/GeoPlatform Session 2018.

Sisco, A. W., K. Bugbee, J. le Roux, P. Staton, B. Freitag, and V. Dixon, 2018: Collaborative metadata curation in support of NASA Earth science data stewardship. *2018 Earth Science Data System Working Group Meeting*, Annapolis, MD.

ORAL PRESENTATIONS

Bugbee, K., **A. W. Sisco**, and J. le Roux, 2019: The alchemy of centralized repositories. *Establishing Trust in Centralized Repositories*, North Bethesda, MD, 2019 Earth Science Information Partners Winter Meeting.

Sisco, A. W., S. Ramdeen, K. Bugbee, J. Davidson, L. Duffy, P. Neal, T. O. Dabolt, A. Whitehurst, and R. Ramachandran, 2018: Extending the Climate Data Initiative to Geoplatform.gov. *Towards Networks of Trusted Data Repositories in the Earth and Space Sciences*, Washington, D.C., Amer. Geo. Union, IN24B-07.

Bugbee, K., V. Dixon, R. Ramachandran, D. Shum, J. le Roux, **A. W. Sisco**, P. Staton, and B. E. Hernández, 2018: NASA's collaborative metadata curation activity to improve Earth science data discovery. *Metadata, Data Models, Semantics, and Collaboration*, Vienna, Austria, European Geosciences Union, EGU2018-11152.

Sisco, A. W., K. Bugbee, D. Shum, K. Baynes, V. Dixon, and R. Ramachandran, 2017: Improving access to NASA Earth science data through collaborative metadata curation. *Approaches for Curation to Data Discovery in the Era of Big Data Variety*, New Orleans, LA, Amer. Geo. Union, IN13D-05.

Sisco, A. W., and O. A. Omitaomu, 2016: A climate adaptation framework for resilient coastal communities. *Fall 2016 Oak Ridge Institute for Science and Education Research Symposium*, Oak Ridge, TN, Oak Ridge National Laboratory.

POSTER PRESENTATIONS

Sisco, A.W., and R. D. Torn, 2021: The impact of North Pacific and North Atlantic winter cyclones on predictability of the downstream midlatitude flow. *20th Annual AMS Student Conference*, Virtual, Amer. Meteor. Soc.

Sisco, A. W., K. Cook, K. Bugbee, J. Davidson, L. Duffy, T.O. Dabolt, A. Whitehurst, and R. Ramachandran, 2019: Changing climate, changing data: Exposing climate data to new users through GeoPlatform.gov's Resilience community. *Communities, Tools, and Policies That*

Enable Integration of Earth, Space, and Environmental Data and Cyberinstrastructures, San Francisco, CA, Amer. Geo. Union, IN33B-0822.

le Roux, J., K. Bugbee, **A. W. Sisco**, P. Staton, C. Woods, A. S. Kaulfus, K. Cook, J. Wood, and R. Ramachandran, 2019: Metadata deep dive: Results from a detailed quality assessment of NASA's Earth observation metadata. *Improving Error Assessment and Ensuring FAIR Uncertainty Information for Earth Science Observations*, San Francisco, CA, Amer. Geo. Union, IN11C-0675.

le Roux, J., K. Bugbee, **A. W. Sisco**, R. Ramachandran, P. Staton, I. Garcia-Solera, C. Woods, A. Kaulfus, J. Miller, B. Freitag, and P. Cheng, 2019: Eliminating science friction: A metadata quality framework for the Earth sciences. *Establishing Trustworthiness and Suitability of Data Products and Services with Content-Rich, Interoperable and Findable Quality Descriptive Information*, Vienna, Austria, European Geosciences Union, EGU2019-10985.

Sisco, A. W., S. Ramdeen, K. Cook, K. Bugbee, J. Davidson, L. Duffy, P. Neal, T. O. Dabolt, A. Whitehurst, and R. Ramachandran, 2019: Improving accessibility of federal Earth science data and services through GeoPlatform.gov. *NASA MSFC Science, Technology, and Engineering Jamboree*, Huntsville, AL, NASA Marshall Space Flight Center.

le Roux, J., K. Bugbee, V. Dixon, **A.W. Sisco**, P. Staton, I. Garcia-Solera, and R. Ramachandran, 2019: A metadata curation approach to improve the discoverability and accessibility of NASA Earth science data. *NASA MSFC Science, Technology, and Engineering Jamboree*, Huntsville, AL, NASA Marshall Space Flight Center.

Hernández, B.E., K. Bugbee, J. le Roux, T. Beaty, M. Hansen, P. Staton, and **A.W. Sisco**, 2017: From the inside-out: Retrospectives on a metadata improvement process to advance the discoverability of NASA's earth science data. *Approaches for Curation to Data Discovery in the Era of Big Data Variety*, New Orleans, LA, Amer. Geo. Union, IN12B-0041.

Sisco, A. W., and O. A. Omitaomu, 2016: Developing an analytical risk assessment model for resilient coastal communities. *Science Education Programs at ORNL Fall 2016 Poster Session*, Oak Ridge, TN, Oak Ridge National Laboratory.