
CIMSS
Cooperative Institute for
Meteorological Satellite Studies
Bibliometric Analysis
2020 - 2023

A Bibliometric Analysis of Peer-Reviewed Articles by Cooperative Institute for Meteorological Satellite Studies (CIMSS) Authors for the Period 2020-2023

Prepared by Helen Murphy and Brigid McCreery
Atmospheric, Oceanic, & Space Sciences Library
Space Science and Engineering Center
University of Wisconsin-Madison
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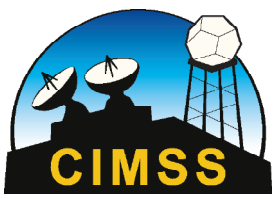
This report presents a bibliometric analysis of peer-reviewed articles published by authors affiliated with the NOAA Cooperative Institute for Meteorological Satellite Studies (CIMSS) at the University of Wisconsin-Madison for the period 2020-2023. In this report, we have analyzed and categorized scholarly publishing of CIMSS authors according to total productivity, collaborations, and other pertinent categories.

Since 1995, the AOSS Library Publications Database has served as the source for publications totals that are included in CIMSS annual reports to NOAA. Data for this report were harvested from the Web of Science (WoS) Core Collection, as well as from various other internal sources of data maintained by the previous AOSS Librarians, Jean Phillips and Katherine Johnson.

Data for the total number of journal articles published since 2000 was retrieved from the AOSS Library Publications Database, and data for other analyses from 2020-2023 were harvested from Web of Science using a combination of ResearcherIDs associated with CIMSS authors and address search strings. The search method used in this report is available on request.

Please direct questions about this report to Helen Murphy (hemurphy2@wisc.edu).



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SCHOLARLY PRODUCTIVITY

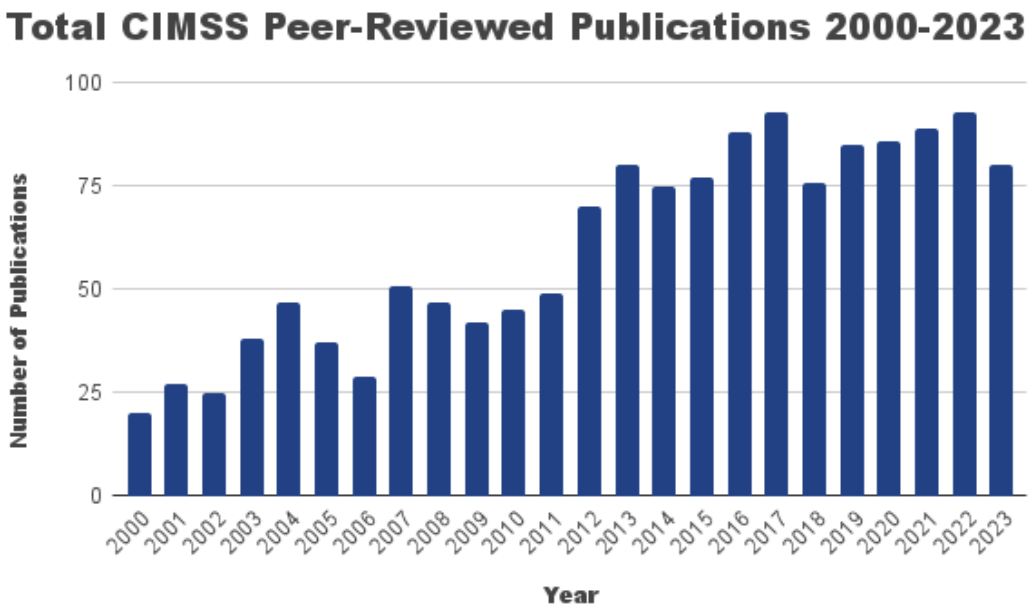


Figure 1: Total CIMSS Peer-Reviewed Publications 2000-2023

This chart represents peer-reviewed journal articles published from the year 2000 through the year 2023. Data was retrieved from the AOSS Library Publications Database CIMSS bibliography and from the Web of Science, cleaned in Microsoft Excel, and quantitatively compared to determine inclusivity.

After finding that numbers from the past few years were inaccurately low in the Library database compared to Web of Science, we elected to use the Web of Science numbers instead. Although not all years of Web of Science data were examined due to the length of time this would have required, the years 2022 and 2023 were compared by hand to the data from the Library database. It should be noted that there is a delay between publication of an article and its being indexed, meaning that the 2023 numbers may not be fully representative of the number of journal articles published in that year. The Web of Science data was collected using a custom-built query that is likely to miss publications from authors who no longer work at CIMSS, meaning that older years likely have inaccurately low numbers reported. However, we determined that more recent publications were more important to display accurately.

Also displayed in Figure 2 is the running total of published journal articles by CIMSS authors using the same data, starting in 2000. Cumulatively, CIMSS employees have published 1449 journal articles in the Web of Science database from 2000 to 2023.

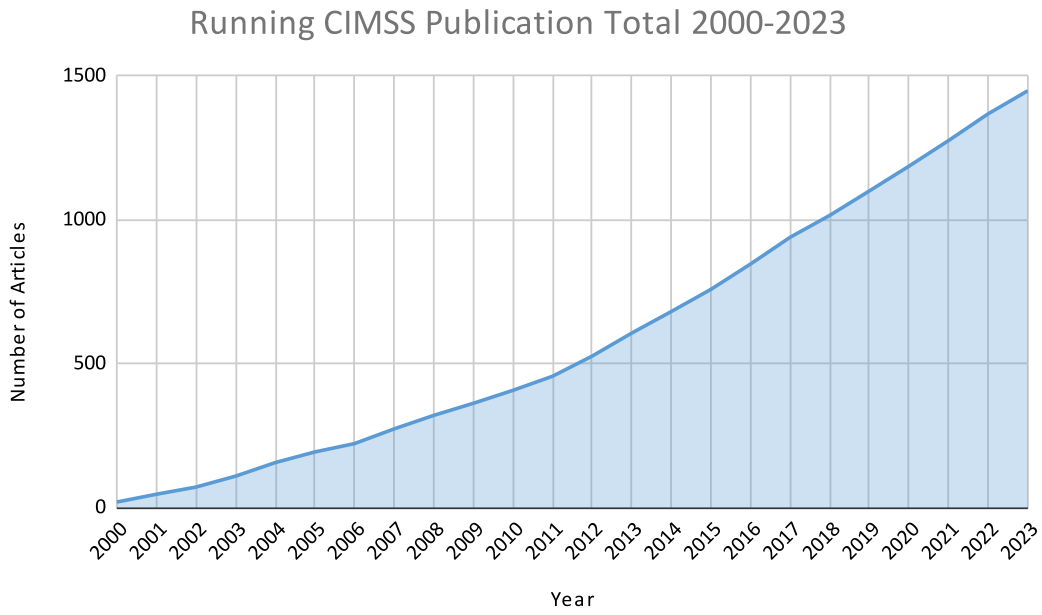


Figure 2: Running Publication Total

CIMSS Highest Impact Factor Journals 2020-2023

Journal	Number of Articles	Impact Factor
New England Journal of Medicine	1	158.5
Science	2	56.9
Nature Reviews Earth & Environment	1	42.1
Nature Climate Change	2	30.7
Lancet Planetary Health	1	25.7
Nature Communications	4	16.6
Science Advances	3	13.6
Remote Sensing of Environment	14	13.5
ISPRS Journal of Photogrammetry and Remote Sensing	2	12.7
Earth System Science Data	5	11.4

Figure 3: Top CIMSS Journals by Impact Factor

Journal Impact Factor is a numerical value created by Clarivate that represents how often the "average article" in a given journal is cited in the year following its publishing (source). This is one of many metrics used to evaluate the influence of a journal on the scientific community. This table represents the ten journals with the highest Journal Impact Factors that CIMSS employees published articles in during 2020-2023, demonstrating the scholarly scope that CIMSS research can have. JIFs were collected by browsing each journal's website individually, and all JIFs were two-year impact factors taken from the year 2022. Three journals' JIFs were not able to be determined.

CIMSS Most Highly Cited Papers

Author	Article Title	Journal	Year	Times Cited
James Kossin	Tropical Cyclones and Climate Change Assessment: Part II: Projected Response to Anthropogenic Warming	Bulletin of the American Meteorological Society, 101, 3	2020	526
Steven Greb	Seamless retrievals of chlorophyll-a from Sentinel-2 (MSI) and Sentinel-3 (OLCI) in inland and coastal waters: A machine-learning approach	Remote Sensing of Environment, 240	2020	223
Steven Greb	Robust algorithm for estimating total suspended solids (TSS) in inland and nearshore coastal waters	Remote Sensing of Environment, 246	2020	110
Jason Otkin	Global distribution, trends, and drivers of flash drought occurrence	Nature Communications, 12, 1	2021	105
Tristan L'Ecuyer	An overview of the ORACLES (ObseRvations of Aerosols above CLouds and their intEractionS) project: aerosol-cloud-radiation interactions in the southeast Atlantic basin	Atmospheric Chemistry and Physics, 21, 3	2021	85
Aronne Merrelli	OCO-3 early mission operations and initial (vEarly) XCO2 and SIF retrievals	Remote Sensing of Environment, 251	2020	84
Matthew Lazzara	Tropical teleconnection impacts on Antarctic climate changes	Nature Reviews Earth & Environment, 2, 10	2021	76

Author	Article Title	Journal	Year	Times Cited
Bradley Pierce	Evaluating Sentinel-5P TROPOMI tropospheric NO2 column densities with airborne and Pandora spectrometers near New York City and Long Island Sound	Atmospheric Measurement Techniques, 13, 11	2020	73
Andi Walther	EUREC4A	Earth System Science Data, 13, 8	2021	70
Chris Schmidt	Australia's Black Summer pyrocumulonimbus super outbreak reveals potential for increasingly extreme stratospheric smoke events	NPJ Climate and Atmospheric Science, 4, 1	2021	69
Jun Li; Paul Menzel	Retrieval of cloud top properties from advanced geostationary satellite imager measurements based on machine learning algorithms	Remote Sensing of Environment, 239	2020	64
Jason Otkin	Flash drought development and cascading impacts associated with the 2010 Russian heatwave	Environmental Research Letters, 15, 9	2020	60
William Smith; Patrick Heck	CERES MODIS Cloud Product Retrievals for Edition 4-Part I: Algorithm Changes	IEEE Transactions on Geoscience and Remote Sensing, 59, 4	2021	59
Chris Schmidt	Satellite remote sensing of active fires: History and current status, applications and future requirements	Remote Sensing of Environment, 267	2021	57

Author	Article Title	Journal	Year	Times Cited
Robert Knuteson	Thermal and near-infrared sensor for carbon observation Fourier transform spectrometer-2 (TANSO-FTS-2) on the Greenhouse gases Observing SATellite-2 (GOSAT-2) during its first year in orbit	Atmospheric Measurement Techniques, 14, 3	2021	56
James Kossin	Declining tropical cyclone frequency under global warming	Nature: Climate Change, 12, 7	2022	56
Jason Otkin	Flash drought onset over the contiguous United States: sensitivity of inventories and trends to quantitative definitions	Hydrology and Earth System Sciences, 25, 2	2021	52
Jason Otkin	A global transition to flash droughts under climate change	Science, 380, 6641	2023	51
Jason Otkin	The 2019 flash droughts in subtropical eastern Australia and their association with large-scale climate drivers	Weather and Climate Extremes, 32	2021	49
Ralph Kuehn; Robert Holz	Investigation of factors controlling PM2.5 variability across the South Korean Peninsula during KORUS-AQ	Elementa: Science of the Anthropocene, 8	2020	46
Steven Greb	Remotely estimating total suspended solids concentration in clear to extremely turbid waters using a novel semi-analytical method	Remote Sensing of Environment, 258	2021	44
Chris Schmidt	A preliminary evaluation of GOES-16 active fire product using Landsat-8 and VIIRS active fire data, and ground-based prescribed fire records	Remote Sensing of Environment, 237	2020	43

Author	Article Title	Journal	Year	Times Cited
Jason Otkin	Two Different Methods for Flash Drought Identification: Comparison of Their Strengths and Limitations	Journal of Hydrometeorology, 21, 4	2020	43
Allen Huang	Outlook for Exploiting Artificial Intelligence in the Earth and Environmental Sciences	Bulletin of the American Meteorological Society, 102, 5	2021	42
Grant Petty; Erik Olson; Claire Pettersen; Timothy Wagner	Connecting Land-Atmosphere Interactions to Surface Heterogeneity in CHEESEHEAD19	Bulletin of the American Meteorological Society, 102, 2	2021	40

Figure 4: CIMSS Most Highly Cited Papers

This table represents the 25 journal articles by CIMSS employees published from 2020-2023 that have been most frequently cited since their publication. Data was extracted from Web of Science, and we chose to use the overall citation number to make this table, not the number of citations in the Web of Science core collection. It should be noted that this metric privileges older (2020-2021) articles over more recent ones, as there has been more time for others to read and cite these articles.

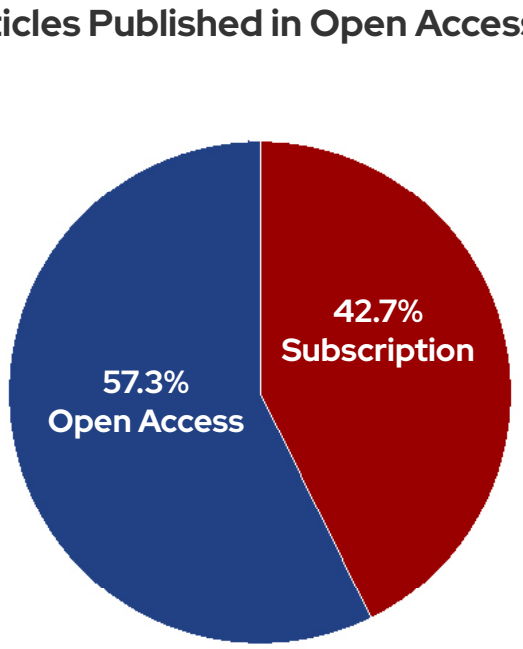
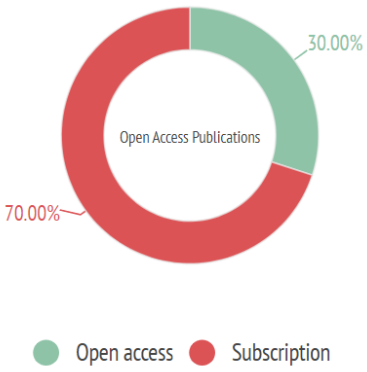


Figure 5: CIMSS Open Access Publications

This shows that over the period 2020-2023, CIMSS authors published just over 56% of their articles in open access journals. For purposes of this study, we define open access journals as those which meet "Gold Open Access" standards as defined by the Directory of Open Access Journals (DOAJ), making the entirety of their publications available openly immediately upon publication. These journals use a funding model that does not charge readers or their institutions for access. For comparison, the 2017 version of this graph is presented below, with data from 2015-2017. This graph was taken from the 2017 CIMSS Bibliometric Report.

Note: authors who opt into open access through a hybrid subscription journal, or who make a version of their work available through self-archiving, are not reflected in these figures.



COLLABORATIONS

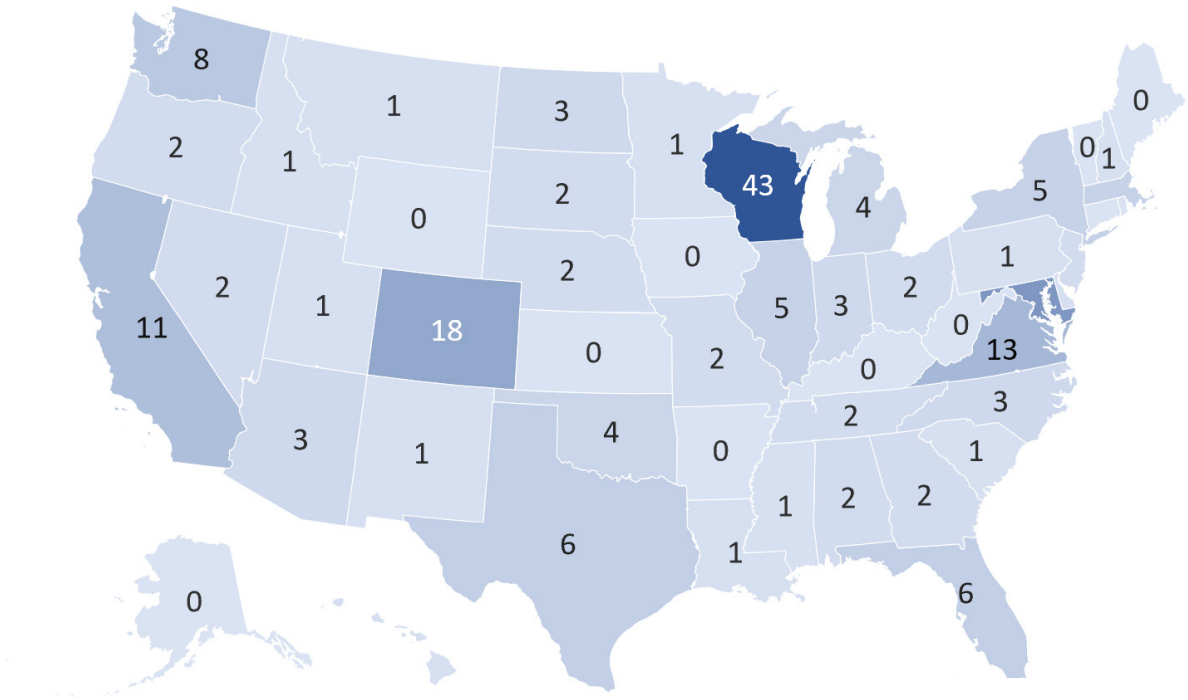


Figure 6: National Collaborations

This map represents CIMSS collaborations within the United States from 2020-2023. Data was gathered from Web of Science, as well as from the data-keeping spreadsheets of past AOSS Librarians Jean Phillips and Katherine Johnson. The data points were collected from the addresses listed on journal article title pages; in instances where more than one author from an article was from a single state, they were only counted as one collectively. The map was created using Google Sheets' map chart feature. Wisconsin was the state with the most collaborators outside CIMSS with 45 articles, followed by Colorado with 37 and Maryland with 34. CIMSS researchers collaborated with 42 out of 50 states at least once from 2020-2023.

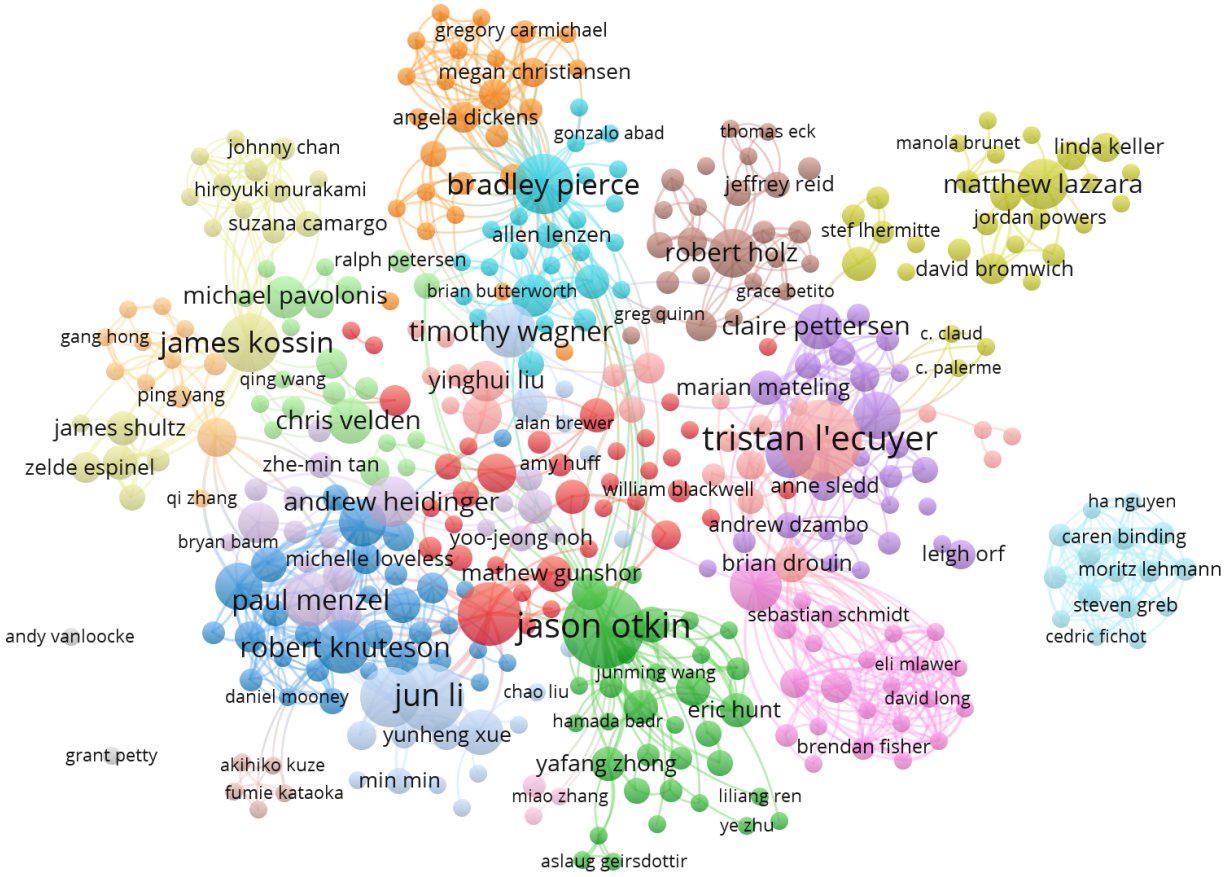


Figure 7: Co-Authorship Network

This network provides a visual for the interconnectedness of CIMSS authors and researchers by showing the frequency with which they co-author articles and other publications with one another and with other frequent collaborators. The network was created using the software VOSviewer, created by the Centre for Science and Technology Studies at Leiden University in the Netherlands. The software imports Web of Science records and uses that information to create visuals of varying types. In keeping with previous CIMSS bibliometric reports, in this network the maximum number of co-authors on a given article was 25, the minimum number of articles per author was two, and the minimum number of citations per article was two. After data cleaning, this resulted in a set of 380 authors in 19 "clusters", which represent authors who frequently appear as co-authors, with 2067 links between them. Larger bubbles show authors with more data points. Colors are used to denote separate clusters of authors. An additional 18 authors had not co-authored more than one article with any other authors, resulting in their exclusion from this graph.

FUNDING SOURCES

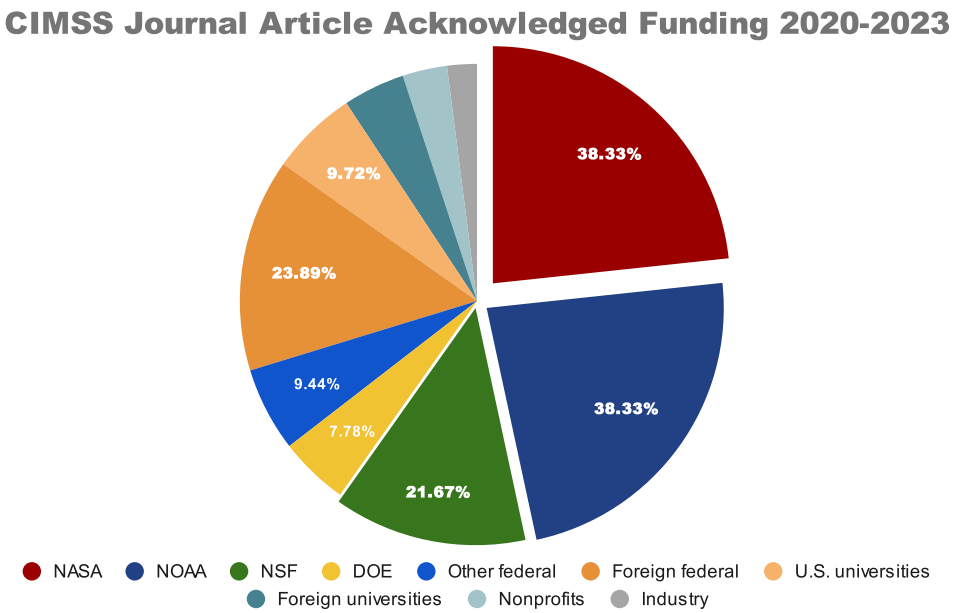


Figure 8: Funding Sources

The chart represents funding sources acknowledged in journal articles co-authored by CIMSS employees from 2020-2023. Data was collected from Web of Science and cleaned in Microsoft Excel and Google Sheets. The chart was made using Google Sheets. In instances in which the same agency or type of agency was acknowledged more than once in one article, this was only counted once. Additionally, there was no reasonable way to determine which authors were funded by which sources, and therefore this graph represents all funding attributed in articles that CIMSS authors worked on, regardless of whether the CIMSS author in particular was funded by that source. Because one article might note multiple funding sources, the totals do not add up perfectly to 100%.

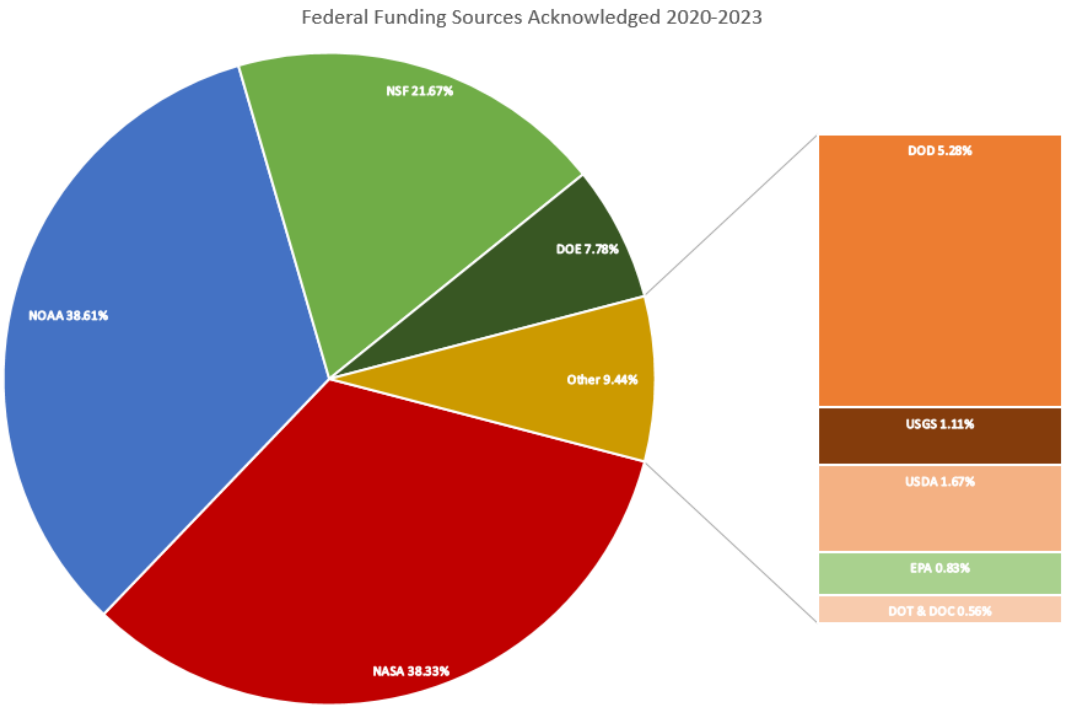


Figure 9: Federal Funding Sources

This chart uses the same data as Figure 7, but includes only funding from the U.S. Federal Government to show federal funding sources with more granularity. In addition to the four federal sources frequent enough to be shown in Figure 7, CIMSS-authored articles received comparatively small amounts of funding from the Department of Defense (DOD), the U.S. Geological Survey, the U.S. Department of Agriculture, the Environmental Protection Agency, the Department of Transportation (DOT), and the Department of Commerce (DOC). As above, percentages represent the percentage of articles that acknowledged a given federal source, and therefore do not add up to 100%. The chart was made using Microsoft Excel's pie chart function.

RESEARCH TOPICS

Figure 10: Keyword Frequency

The chart represents the frequency with which CIMSS authors include these keywords to tag their articles in Web of Science. Bubble size indicates the frequency with which terms occur. WoS keywords were simplified to remove redundancies, improve clarity and focus, and minimize unimportant words.

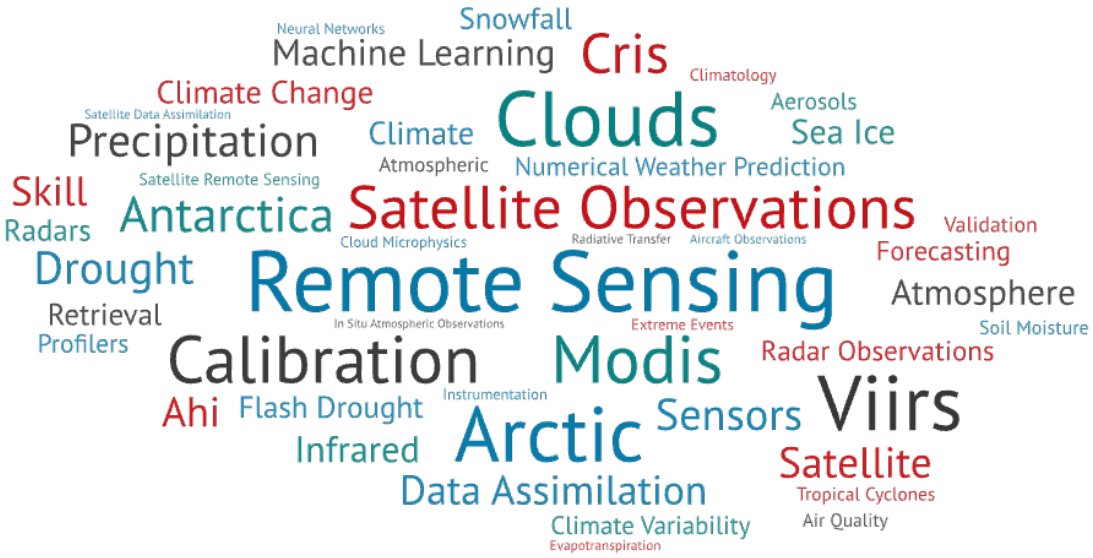


Figure 11: Keyword Frequency

The chart also represents the frequency with which CIMSS authors include these keywords to tag their articles in Web of Science. Word size indicates the frequency with which terms occur. WoS keywords were simplified to remove redundancies, improve clarity and focus, and minimize unimportant words.

COOPERATIVE INSTITUTE FOR METEOROLOGICAL SATELLITE STUDIES 2020-2023 PEER-REVIEWED PUBLICATIONS

Books and Book Chapters

Taylor, J. K., D. C. Tobin, F. A. Best, R. K. Garcia, M. L. Loveless, H. E. Revercomb, W. L. Smith, 2023: Chapter 9 - High-altitude aircraft radiometric calibration-validation campaigns. *Field Measurements for Passive Environmental Remote Sensing*, N. R. Nalli, Ed., Elsevier, 159-184, 10.1016/B978-0-12-823953-7.00023-X.

Borg, L. A., R. J. Dirksen, R. O. Knuteson, 2023: Chapter 12 - Land-Based Cal/Val Campaigns. *Field Measurements for Passive Environmental Remote Sensing*, N. R. Nalli, Ed., 219–233. Elsevier, 10.1016/B978-0-12-823953-7.00001-0.

Peer-Reviewed Papers

Abdi-Oskouei, M., and Coauthors, 2022: The impact of volatile chemical products, other VOCs, and NOx on peak ozone in the Lake Michigan region. *Journal of Geophysical Research-Atmospheres*, **127**, 22, e2022JD037042.

Adusumilli, S., and Coauthors, 2022: State of the climate in 2021: Antarctica and the southern ocean. *Bull. Amer. Meteor. Soc.*, **103**, 8, S308-S340.

Ahmad, S. K., and Coauthors, 2022: Flash drought onset and development mechanisms captured with soil moisture and vegetation data assimilation. *Water Resources Research*, **58**, 12, e2022WR032894.

Anheuser, J., E. Weisz, W. P. Menzel, 2020: Low earth orbit sounder retrieval products at geostationary earth orbit spatial and temporal scales. *J. Appl. Remote Sens.*, **14**, 4, 048502, 10.1117/1.JRS.14.048502.

Anheuser, J., Y. Liu, J. R. Key, 2022: A simple model for daily basin-wide thermodynamic sea ice thickness growth retrieval. *Cryosphere*, **16**, 4403-4421.

Arouf, A., and Coauthors, 2022: The surface longwave cloud radiative effect derived from space lidar observations. *Atmospheric Measurement Techniques*, **15**, 12, 3893-3923.

Ayala, A. C., J. J. Gerth, T. J. Schmit, S. S. Lindstrom, J. P. Nelson III, 2023: Parallax shift in GOES ABI data. *Journal of Operational Meteorology*, **11**, 2, 14-23.

Ayazpour, Z., S. Tao, D. Li, A. J. Scarino, R. E. E. Kuehn, K. Sun, 2023: Estimates of the spatially complete, observational-data-driven planetary boundary layer height over the contiguous United States. *Atmospheric Measurement Techniques*, **16**, 2, 563-580.

Baidar, S., T. J. Wagner, D. D. Turner, W. A. Brewer, 2023: Using optimal estimation to retrieve winds from velocity-azimuth display (VAD) scans by a Doppler lidar. *Atmospheric Measurement Techniques*, **16**, 3715-3726.

N. Bannigan, L. Orf, E. Savory, 2022: Tracking the centre of asymmetric vortices using wind velocity vector data fields. *Boundary-Layer Meteorology*, **186**, 1, 1-26.

Bela, M. M., and Coauthors, 2022: Quantifying carbon monoxide emissions on the scale of large wildfires. *Geophysical Research Letters*, **49**, 3, e2021GL095831.

Bendorf, J., S. Hubbard, C. J. Kucharik, A. VanLoocke, 2021: Rapid changes in agricultural land use and hydrology in the Driftless Region. *Agrosystems, Geosciences, & Environment*, **4**, 4.

Berman, M. T. T., and Coauthors, 2023: Quantifying burned area of wildfires in the western United States from polar-orbiting and geostationary satellite active-fire detections. *International Journal of Wildland Fire*, **32**, 5, 665-678.

Bertossa, C., T. L'Ecuyer, A. Merrelli, X. Huang, X. Chen, 2023: A Neural Network-Based Cloud Mask for PREFIRE and Evaluation with Simulated Observations. *J. Atmos. Oceanic Technol.*, **40**, 4, 377-396.

Bhamra, J. K., and Coauthors, 2023: Multimodal wildland fire smoke detection. *Remote Sensing*, **15**, 11, 2790.

Borbas, E. E., W. P. Menzel, 2021: Observed HIRS and Aqua MODIS thermal infrared moisture determinations in the 2000s. *Remote Sensing*, **13**, 3, 502.

Borbas, E., C. Moeller, E. Weisz, P. Menzel, B. Baum, 2021: Improvement in tropospheric moisture retrievals from VIIRS through the use of infrared absorption bands constructed from VIIRS and CrIS data fusion. *Atmos. Meas. Tech.*, **14**, 1191–1203, 10.5194/amt-14-1191-2021.

Borg, L., M. Loveless, R. Knuteson, H. Revercomb, J. Taylor, Y. Chen, F. Iturbide-Sanchez D. Tobin, 2023: Simulation of CrIS radiances accounting for realistic properties of the instrument responsivity that result in spectral ringing features. *Remote Sensing*, **15**, 2, 334.

Bosma, C. D., D. B. Wright, P. Nguyen, J. P. Kossin, D. C. Herndon, J. M. Shepherd, 2020: An intuitive metric to quantify and communicate tropical cyclone rainfall hazard. *Bulletin of the American Meteorological Society*, **101**, 3, E206-E220.

Boukabara, S.-A., and Coauthors, 2020: Outlook for exploiting artificial intelligence in the Earth and environmental sciences. *Bulletin of the American Meteorological Society*, **102**, 5.

Butterworth, B. J., and Coauthors, 2021: Connecting land-atmosphere interactions to surface heterogeneity in CHEESEHEAD19. *Bulletin of the American Meteorological Society*, **102**, 2, E421-E445.

Chandramouli, K., X. Wang, A. Johnson, J. Otkin, 2022: Online nonlinear bias correction in ensemble Kalman filter to assimilate GOES-R all-sky radiances for the analysis and prediction of rapidly developing supercells. *Journal of Advances in Modeling Earth Systems*, **14**, 3, e2021MS002711.

Chang, K.-W., T. L'Ecuyer, 2020: Influence of gravity wave temperature anomalies and their vertical gradients on cirrus clouds in the tropical tropopause layer - a satellite-based view. *Atmospheric Chemistry and Physics*, **20**, 21, 12499-12514.

Chase, R. J., S. W.Nesbitt, G. M. McFarquhar, N. B. Wood, G. M. Heymsfield, 2022: Direct comparisons between GPM-DPR and CloudSat snowfall retrievals. *J. Appl. Meteor. Climatol.*, **61**, 9, 1257-1271.

Chedzey, H., W. P. Menzel, M. Lynch, 2021: Changes in HIRS detection of cloud over Australia from 1985 to 2001. *Remote Sensing*, **13**, 5, 917.

Chen, H., and Coauthors, 2023: The Education and Research 3D Radiative Transfer Toolbox (EaR(3)T) - towards the mitigation of 3D bias in airborne and spaceborne passive imagery cloud retrievals. *Atmospheric Measurement Techniques*, **16**, 7, 1971-2000.

Chen, R., R. Bennartz, 2020: Sensitivity of 89-190-GHz microwave observations to ice particle scattering. *Journal of Applied Meteorology and Climatology*, **59**, 7, 1195-1215.

Chen, R., R. Bennartz, 2021: Rainfall algorithms using oceanic satellite observations from MWHS-2. *Advances in Atmospheric Sciences*, **38**, 1367-1378.

Chen, R., Y. Liu, Y. Zhu, L. Ren, Y. Qu, J. A. Otkin, V. P. Singh, 2023: A spatiotemporal deconstruction-based approach for identifying flash drought expansion: Normalized Area-Time Accumulation curve. *Journal of Hydrology*, **621**, 129509.

Chen, S.-P., C.H. Lu, J. E. Davies, C.-F. Ou-Yang, N.-H. Lin, A. K. Huff, B. R. Pierce, S. Kondragunta, J.-L. Wang, 2023: Infusing satellite data into aerosol forecast for near

real-time episode detection and diagnosis in East Asia. *Science of the Total Environment*, **856**, 158797.

Chen, W., and Coauthors, 2021: Land surface temperature from GOES-East and GOES-West. *Journal of Atmospheric and Oceanic Technology*, **38**, 4, 843-858.

Chen, Y., and Coauthors, 2022: Reprocessing of Suomi NPP CrIS sensor data records to improve the radiometric and spectral long-term accuracy and stability. *IEEE Transactions on Geoscience and Remote Sensing*, **60**.

Christian, J. I., J. B. Basara, E. D. Hunt, J. A. Otkin, X. Xiao, 2020: Flash drought development and cascading impacts associated with the 2010 Russian heatwave. *Environmental Research Letters*, **15**, 9, 094078.

Christian, J. I., J. B. Basara, E. D. Hunt, J. A. Otkin, J. C. Furtado, V. Mishra, X. Xiao, R. M. Randall, 2021: Global distribution, trends, and drivers of flash drought occurrence. *Nature Communications*, **12**, 1, 6330.

Christian, J. I., E. R. Martin, J. B. Basara, J. C. Furtado, J. A. Otkin, L. E. L. Lowman, E. D. Hunt, V. Mishra, X. Xiao, 2023: Global projections of flash drought show increased risk in a warming climate. *Communications Earth & Environment*, **4**, 1, 165.

Cintineo, J., M. Pavolonis, J. Sieglaff, L. Cronce, J. Gerth, J. Brunner, 2020: ProbSevere v2.0: ProbHail, ProbWind, and ProbTor, *Weather and Forecasting*, **35**, 4, 1523-1543.

Cintineo, J. L., M. J. Pavolonis, J. M. Sieglaff, A. Wimmers, J. Brunner, 2020: A deep-learning model for automated detection of intense mid-latitude convection using geostationary satellite images. *Wea. Forecasting*, **35**, 2567-2588, 10.1175/WAF-D-20-0028.1.

Cintineo, J. L., M. J. Pavolonis, J. M. Sieglaff, 2022: ProbSevere LightningCast: a deep-learning model for satellite-based lightning nowcasting. *Wea. Forecasting*, **37**, 7, 1239-1257.

Cleary, P. A., and Coauthors, 2022: Observations of the lower atmosphere from the 2021 WiscoDISCO campaign. *Earth System Science Data*, **14**, 5, 2129-2145.

Cooper, S. J., and Coauthors, 2022: Exploring snowfall variability through the High-Latitude Measurement of Snowfall (HiLaMS) field campaign. *Bull. Amer. Meteor. Soc.*, **103**, 8, E1762-E1780.

Courtney, J., A. Burton, T. Olander, E. Ritchie, C. Velden, C. Stark, 2020: Towards an objective historical tropical cyclone dataset for the Australian region. *Tropical Cyclone Research and Review*, **8**, 4.

Crawford, A., T. Chai, B. Wang, A. Ring, B. Stunder, C. P. Loughner, M. Pavolonis, J. Sieglaff, 2022: Evaluation and bias correction of probabilistic volcanic ash forecasts. *Atmospheric Chemistry and Physics*, **22**, 21, 13967-13996.

Cruz, M. T., and Coauthors, 2023: Impacts of regional wind circulations on aerosol pollution and planetary boundary layer structure in Metro Manila, Philippines. *Atmospheric Environment*, **293**, 119455.

Dai, N., R. J. Kramer, B. J. Soden, T. S. L'Ecuyer, 2021: Evaluation of CloudSat radiative kernels using ARM and CERES observations and ERA5 reanalysis. *Journal of Geophysical Research-Atmospheres*, **126**, 23.

Daloz, A. S., M. Mateling, T. L'Ecuyer, M. Kulie, N. B. Wood, M. Durand, M. Wrzesien, C. W. Stjern, A. P. Dimri, 2020: How much snow falls in the world's mountains? A first look at mountain snowfall estimates in A-train observations and reanalyses. *Cryosphere*, **14**, 9, 3195-3207.

Di, D., Y. Xue, J. Li, W. Bai, P. Zhang, 2020: Effects of CO(2) changes on hyperspectral infrared radiances and its implications on atmospheric temperature profile retrieval and data assimilation in NWP. *Remote Sensing*, **12**, 5, 2401.

Di, D., J. Li, W. Han, R. Yin, 2021: Geostationary Hyperspectral Infrared Sounder channel selection for capturing fast-changing atmospheric information. *IEEE Transactions on Geoscience and Remote Sensing*, **2021**.

Di, D., J. Li, Z. Li, J. Li, T. J. Schmit, W. P. Menzel, 2021. Can current hyperspectral infrared sounders capture the small scale atmospheric water vapor spatial variations?. *Geophysical Research Letters*, **48**, 10.1029/2021GL095825.

Di, D., J. Li, Y. Xue, M. Min, B. Li, Z. Li, 2023: Consistency of Tropospheric Water Vapor between Reanalyses and Himawari-8/AHI Measurements over East Asia. *Advances in Atmospheric Sciences*, **2023**, 1-20.

Di, D., Y. Liu, J. Li, R. Zhou, Z. Li, X. Gong, 2023: Inter-calibration of geostationary imager infrared bands using a hyperspectral sounder on the same platform. *Geophysical Research Letters*, **50**, 3, e2022GL101628.

Doak, A. G., and Coauthors, 2021: Characterization of ground-based atmospheric pollution and meteorology sampling stations during the Lake Michigan Ozone Study 2017. *Journal of the Air & Waste Management Association*, **71**, 7, 866-889.

Douglas, A., T. L'Ecuyer, 2020: Quantifying cloud adjustments and the radiative forcing due to aerosol-cloud interactions in satellite observations of warm marine clouds. *Atmospheric Chemistry and Physics*, **20**, 10, 6225-6241.

Douglas, A., T. L'Ecuyer, 2021: Global evidence of aerosol-induced invigoration in marine cumulus clouds. *Atmospheric Chemistry and Physics*, **21**, 19, 15103-15114.

Duffy, G., G. McFarquhar, S. W. Nesbitt, R. Bennartz, 2021: Demonstration of a consistent relationship between dual-frequency reflectivity and the mass-weighted mean diameter in measurements of frozen precipitation from GCPEX, OLYMPEX, and MC3E. *Journal of the Atmospheric Sciences*, **78**, 8, 2533-2547.

Duncan, J. B. Jr., and Coauthors, 2022: Evaluating convective planetary boundary layer height estimations resolved by both active and passive remote sensing instruments during the CHEESEHEAD19 field campaign. *Atmospheric Measurement Techniques*, **15**, 8, 2479-2502.

Dunn, R. J. H., and Coauthors, 2021: Global Climate. *Bulletin of the American Meteorological Society*, **102**, 8, S11-S141.

Dworak, R., Y. Liu, J. Key, W. N. Meier, 2021: A Blended Sea Ice Concentration Product from AMSR2 and VIIRS. *Remote Sensing*, **13**, 15, 2982, https://doi.org/10.3390/rs13152982.

Dyakov, Y. A., and Coauthors, 2022: Excited state dynamics of CH3CHOO Criegee intermediates in the upper atmosphere of the Earth. *Russian Journal of Physical Chemistry B*, **16**, 3, 543-548.

Dzambo, A., M. Mooney, Z. Handlos, S. Lindstrom, A. Hang, S. Ackerman, 2020: An Interactive Online Course in Climate and Climate Change: Advancing Climate Literacy for Non-Atmospheric Science Majors. *Bull. Amer. Meteor. Soc.*, **101**, 10, 1–33, 10.1175/BAMS-D-19-0271.1.

Dzambo, A. M., and Coauthors, 2021: Joint cloud water path and rainwater path retrievals from airborne ORACLES observations. *Atmospheric Chemistry and Physics*, **21**, 7, 5513-5532.

East, J. D., and Coauthors, 2022: Inferring and evaluating satellite-based constraints on NOx emissions estimates in air quality simulations. *Atmospheric Chemistry and Physics*, **22**, 24, 15981-16001.

Edel, L., C. Claud, C. Genthon, C. Palerme, N. Wood, T. L'Ecuyer, D. Bromwich, 2020: Arctic snowfall from CloudSat observations and reanalyses. *Journal of Climate*, **33**, 6, 2093-2109.

Edris, S. G., J. B. Basara, J. I. Christian, E. D. Hunt, J. A. Otkin, S. T. Salesky, B. G. Illston, 2023: Analysis of the critical components of flash drought using the standardized evaporative stress ratio. *Agricultural and Forest Meteorology*, **330**, 109288.

Elsberry, R. L., N. Buholzer, C. S. Velden, M. S. Jordan, 2020: Satellite-based observations of nonlinear relationships between vertical wind shear and intensity changes during the life cycle of Hurricane Joaquin (2015). *Weather and Forecasting*, **35**, 3, 939-958.

Finley, C. A. A., M. Elmore, L. Orf, B. D. D. Lee, 2023: Impact of the streamwise vorticity current on low-level mesocyclone development in a simulated supercell. *Geophysical Research Letters*, **50**, 1.

Foster, M. J., C. Phillips, A. K. Heidinger, E. E. Borbas, Y. Li, W. P. Menzel, A. Walther, E. Weisz, 2023: PATMOS-x version 6.0: 40 years of merged AVHRR and HIRS global cloud data. *J. Climate*, **36**, 4, 1143-1160.

Frey, R. A., S. A. Ackerman, R. E. Holz, S. Dutcher, Z. Griffith, 2020: The Continuity MODIS-VIIRS Cloud Mask. *Remote Sensing*, **12**, 20, 3334.

Gallagher, M. R., M. D. Shupe, H. Chepfer, T. L'Ecuyer, 2022: Relating snowfall observations to Greenland ice sheet mass changes: an atmospheric circulation perspective. *Cryosphere*, **16**, 2, 435-450.

Gao, L., L. Chen, C. Li, J. Li, H. Che, Y. Zhang, 2020: Evaluation and possible uncertainty source analysis of JAXA Himawari-8 aerosol optical depth product over China. *Atmospheric Research*, **248**, 105248.

Gao, L., L. Chen, J. Li, C. Li, L. Zhu, 2021: An improved dark target method for aerosol optical depth retrieval over China from Himawari-8. *Atmospheric Research*, **250**, 105399.

Gard, T. L., H. E. Fuelberg, J. L. Cintineo, 2022: The utility of ProbSevere v2.0 for predicting pulse severe thunderstorms. *Wea. Forecasting*, **37**, 9, 1601-1613.

Gerth, J. J., R. K. Garcia, D. J. Hoese, S. S. Lindstrom, 2020: SIFTing through satellite imagery with the Satellite Information Familiarization Tool. *Journal of Operational Meteorology*, **8**, 10.

Griffin, S. M., J. A. Otkin, G. Thompson, M. Frediani, J. Berner, F. Kong, 2020: Assessing the impact of stochastic perturbations in cloud microphysics using GOES-16 infrared brightness temperatures. *Monthly Weather Review*, **148**, 8, 3111-3137.

Griffin, S. M., J. A. Otkin, S. E. Nebuda, T. L. Jensen, P. S. Skinner, E. Gilleland, T. A. Supinie, M. Xue, 2021: Evaluating the impact of planetary boundary layer, land surface model, and

microphysics parameterization schemes on cold cloud objects in simulated GOES-16 brightness temperatures. *Journal of Geophysical Research-Atmospheres*, **126**, 15, e2021JD034709.

Griffin, S. M., J. A. Otkin, 2022: Evaluating the impact of planetary boundary layer, land surface model, and microphysics parameterization schemes on simulated GOES-16 water vapor brightness temperatures. *Atmosphere*, **13**, 3, 366.

Griffin, S. M., A. Wimmers, C. S. Velden, 2022: Predicting rapid intensification in North Atlantic and eastern North Pacific tropical cyclones using a convolutional neural network. *Wea. Forecasting*, **37**, 8, 1333-1355.

Gumber, A., J. S. Reid, R. E. Holz, T. F. Eck, N. C, Hsu, R. C. Levy, J. Zhang, P. Veglio, 2023: Assessment of severe aerosol events from NASA MODIS and VIIRS aerosol products for data assimilation and climate continuity. *Atmospheric Measurement Techniques*, **16**, 10, 2547-2573.

Gunshor, M. M., T. J. Schmit, D. R. Pogorzala, S. S. Lindstrom, J. P. Nelson, 2020: GOES-R series ABI Imagery artifacts. *J. Appl. Rem. Sens.*, **14**, 3, 032411, 10.1117/1.JRS.14.032411.

Guo, X., J. P. Kossin, Z.-M. Tan, 2021: Impact of seasonality in the North Atlantic jet stream and storm migration on the seasonality of hurricane translation speed changes. *Journal of Climate*, **34**, 18, 7409-7419.

Guy, H., and Coauthors, 2021: Controls on surface aerosol particle number concentrations and aerosol-limited cloud regimes over the central Greenland Ice Sheet. *Atmospheric Chemistry and Physics*, **21**, 19, 15351-15374.

Ha, W. S., G. R. Diak, W. F. Krajewski, 2020: Estimating near real-time hourly evapotranspiration using numerical weather prediction model output and GOES Remote Sensing data in Iowa. *Remote Sensing*, **12**, 14, 2337.

Haigh, T. R., J. A. Otkin, M. Woloszyn, D. Todey, C. Felkley, 2022: Meeting the drought information needs of Midwest perennial specialty crop producers. *J. Appl. Meteor. Climatol.*, **61**, 7, 839-855.

Hall, J. V., W. Schroeder, K. Rishmawi, M. Wooster, C. C. Schmidt, C. Huang, I. Csiszar, L. Giglio, 2023: Geostationary active fire products validation: GOES-17 ABI, GOES-16 ABI, and Himawari AHI. *International Journal of Remote Sensing*, **44**, 10, 3174-3193.

He, F., A. Merrelli, T. S. L'Ecuyer, M. C. Turnbull, 2022: Climate outcomes of Earth-similar worlds as a function of obliquity and rotation rate. *Astrophysical Journal*, **933**, 1, 62.

Henderson, D. S., J. A. Otkin, J. R. Mecikalski, 2021: Evaluating convective initiation in high-resolution numerical weather prediction models using GOES-16 infrared brightness temperatures. *Monthly Weather Review*, **149**, 4, 1153-1172.

Henderson, D. S., J. A. Otkin, J. R. Mecikalski, 2022: Examining the role of the land surface on convection using high-resolution model forecasts over the southeastern United States. *Journal of Geophysical Research-Atmospheres*, **127**, 16, e2022JD036563.

Hewison, T. J., D. R. Doelling, C. Lukashin, D. Tobin, V. O. John, B. Bojkov, 2020: Extending the Global Space-based Inter-Calibration System (GSICS) to tie Satellite Radiances to an Absolute Scale. *Remote Sensing*, **12**, 11, 1782.

Hindman, E. E., S. Lindstrom, 2022: The formation and composition of the Mount Everest plume in winter. *Atmospheric Chemistry and Physics*, **22**, 12, 7995-8008.

Hoell, A., T. W. Ford, M. Woloszyn, J. A. Otkin, J. Eischeid, 2021: Characteristics and predictability of midwestern United States drought. *Journal of Hydrometeorology*, **22**, 11, 3087-3105.

Hoffman, J. P., S. A. Ackerman, Y. Liu, J. R. Key, I. L. McConnell, Application of a convolutional neural network for the detection of sea ice leads. *Remote Sensing*, **13**, 22, 4571.

Hoffman, J. P., T. F. Rahmnes, A. J. Wimmers, W. F. Feltz, 2023: The application of a convolutional neural network for the detection of contrails in satellite imagery. *Remote Sensing*, **15**, 11, 2854.

Holloway, T., and Coauthors, 2021: Satellite monitoring for air quality and health. *Annual Review of Biomedial Data Science*, **4**, 417-447.

Hoover, B. T., C. S. Velden, 2020: Adjoint-derived impact of assimilated observations on tropical cyclone intensity forecasts of Hurricane Joaquin (2015) and Hurricane Matthew (2016). *Journal of Atmospheric and Oceanic Technology*, **37**, 8, 1333-1352.

Hoover, B. T., J. A. Otkin, E. M. Petrescu, E. Niebuhr, 2022: A high-resolution quantitative precipitation estimate over Alaska through kriging-based merging of rain gauges and short-range regional precipitation forecasts. *J. Atmos. Oceanic Technol.*, **39**, 6, 739-753.

Hristova-Veleva, S. M., and Coauthors, 2020: An eye on the storm integrating a wealth of data for quickly advancing the physical understanding and forecasting of tropical cyclones. *Bulletin of the American Meteorological Society*, **101**, 10, E1718-E1742.

Hunt, E., and Coauthors, 2021: Agricultural and food security impacts from the 2010 Russia flash drought. *Weather and Climate Extremes*, **34**, 100383.

Hyman, D. M., M. J. Pavolonis, 2020: Probabilistic retrieval of volcanic SO2 layer height and partial column density using the Cross-track Infrared Sounder (CrIS). *Atmos. Meas. Tech.*, **13**, 5891–5921, 10.5194/amt-13-5891-2020.

Hyman, D. M. R., M. J. Pavolonis, J. Sieglaff, 2021: A Novel Approach to Estimating Time-Averaged Volcanic SO2 Fluxes from Infrared Satellite Measurements. *Remote Sens.*, **13**, 966, 10.3390/rs13050966.

Iturbide-Sanchez, F., and Coauthors, 2023: Recalibration and assessment of the SNPP CrIS instrument: a successful history of restoration after midwave infrared band anomaly. *IEEE Transactions on Geoscience and Remote Sensing*, **2021**.

Jiang, D., and Coauthors, 2021: Remotely estimating total suspended solids concentration in clear to extremely turbid waters using a novel semi-analytical method. *Remote Sensing of Environment*, **258**, 112386, 10.1016/j.rse.2021.112386.

Jiang, X., J. Li, Z. Li, Y. Xue, D. Di, P. Wang, J. Li, 2020: Evaluation of environmental moisture from NWP models with measurements from advanced geostationary satellite imager-a case study. *Remote Sensing*, **12**, 4, 670.

Johansson, E., A. Devasthale, M. Tjernstrom, A. M. L. Ekman, K. Wyser, T. L'Ecuyer, 2021: Vertical structure of cloud radiative heating in the tropics: confronting the EC-Earth v3.3.1/3P model with satellite observations. *Geoscientific Model Development*, **14**, 6, 4087-4101.

Kahn, B. H., B. J. Drouin, T. S. L'Ecuyer, 2020: Assessment of sampling sufficiency for low-cost satellite missions: application to PREFIRE. *Journal of Atmospheric and Oceanic Technology*, **37**, 12, 2283-2298.

Khan, A. M., P. C. Stoy, J. T. Douglas, M. Anderson, G. Diak, J. A. Otkin, C. Hain, E. M. Rehbein, J. McCorkel, 2021: Reviews and syntheses: Ongoing and emerging opportunities to improve environmental science using observations from the Advanced Baseline Imager on the Geostationary Operational Environmental Satellites. *Biogeosciences*, **18**, 13, 4117-4141.

Khan, A. M., P. C. Stoy, J. Joiner, D. Baldocchi, J. Verfaillie, M. Chen, J. A. Otkin, 2022: The diurnal dynamics of gross primary productivity using observations from the Advanced Baseline Imager on the Geostationary Operational Environmental Satellite-R series at an oak savanna ecosystem. *Journal of Geophysical Research-Biogeosciences*, **127**, 3, 2022, e2021JG006701.

Koenig, T. K., and Coauthors, 2021: Ozone depletion due to dust release of iodine in the free troposphere. *Science Advances*, **7**, 52.

Kossin, J. P., K. R. Knapp, T. L. Olander, C. S. Velden, 2020: Global increase in major tropical cyclone exceedance probability over the past four decades. *Proceedings of the National Academy of Sciences of the United States of America*, **117**, 22, 11975-11980.

Kossin, J. P., D. C. Herndon, A. J. Wimmers, X. Guo, E. S. Blake, 2023: M-PERC: a new satellite microwave-based model to diagnose the onset of tropical cyclone eyewall replacement cycles. *Wea. Forecasting*, **38**, 8, 2023, 1405-1411.

Kulie, M. S., and Coauthors, 2021: Snowfall regimes in the Upper Great Lakes: Lessons learned from a multi-sensor snowfall observatory. *Bulletin of the American Meteorological Society*, **102**, 7, E1317-E1339.

Kumar, A., and Coauthors, 2022: Simulating wildfire emissions and plume rise using geostationary satellite fire radiative power measurements: a case study of the 2019 Williams Flats fire. *Atmospheric Chemistry and Physics*, **22**, 15, 10195-10219.

L'Ecuyer, T. S., and Coauthors, 2021: The polar radiant energy in the Far InfraRed Experiment: a new perspective on polar longwave energy exchanges. *Bulletin of the American Meteorological Society*, **102**, 7, E1431-E1449.

Lemonnier, F., J.-B. Madeleine, C. Claud, C. Palerme, C. Genthon, T. L'Ecuyer, N. B. Wood, 2020: CloudSat-inferred vertical structure of snowfall over the Antarctic continent. *Journal of Geophysical Research-Atmospheres*, **125**, 2, e2019JD031399.

Lewis, W. E., T. J. Wagner, J. A. Otkin, T. A. Jones, 2020: Impact of AERI temperature and moisture retrievals on the simulation of a Central Plains severe convective weather event. *Atmosphere*, **11**, 7, 729.

Lewis, W. E., C. S. Velden, D. Stettner, 2020: Strategies for Assimilating High-Density Atmospheric Motion Vectors into a Regional Tropical Cyclone Forecast Model (HWRF). *Atmosphere*, **11**, 6, 673, 10.3390/atmos11060673.

Lewis, W. E., T. L. Olander, C. S. Velden, C. Rozoff, S. Alessandrini, 2021: Analog ensemble methods for improving satellite-based intensity estimates of tropical cyclones. *Atmosphere*, **12**, 7, 830.

Li, F., X. Zhang, S. Kondragunta, C. C. Schmidt, C. D. Holmes, 2020: A preliminary evaluation of GOES-16 active fire product using Landsat-8 and VIIRS active fire data, and ground-based prescribed fire records. *Remote Sensing of Environment*, **237**, 111600.

Li, F., X. Zhang, S. Kondragunta, X. Lu, I. Csiszar, C. C. Schmidt, 2022: Hourly biomass burning emissions product from blended geostationary and polar-orbiting satellites for air quality forecasting applications. *Remote Sensing of Environment*, **281**, 113237.

Lin, I.-I., and Coauthors, 2021: A tale of two rapidly intensifying supertyphoons Hagibis (2019) and Haiyan (2013). *Bulletin of the American Meteorological Society*, **102**, 9, E1645-E1664.

Li, J., J. Li, C. Velden, P. Wang, T. J. Schmit, and J. Sippel, 2020: Impact of rapid-scan-based dynamical information from GOES-16 on HWRF hurricane forecasts, *Journal of Geophysical Research-Atmospheres*, **125**, 3, 10.1029/2019JD031647.

Li, J., A. J. Geer, K. Okamoto, J. A. Otkin, Z. Liu, W. Han, P. Wang, 2021: Satellite all-sky infrared radiance assimilation: recent progress and future perspectives. *Advances in Atmospheric Sciences*, **2021**.

Li, J., W. P. Menzel, T. J. Schmit, J. Schmetz, 2023: Applications of geostationary hyperspectral infrared sounder observations: progress, challenges, and future perspectives. *Bull. Amer. Meteor. Soc.*, **103**, 12, E2733-E2755.

Li, J., Y. Zhang, D. Di, Z. Ma, Z. Li, T. J. Schmit, W. P. Menzel, 2022: The influence of sub-footprint cloudiness on three-dimensional horizontal wind from geostationary hyperspectral infrared sounder observations. *Geophysical Research Letters*, **49**, 11, e2022GL098460.

Li, S., M. D. Goldberg, W. Sjoberg, L. Zhou, S. Nandi, N. Chowdhury, W. Straka III, T. Yang, D. Sun, 2020: Assessment of the catastrophic Asia floods and potentially affected population in summer 2020 using VIIRS flood products. *Remote Sensing*, **12**, 19, 3176.

Li, S., and Coauthors, 2022: A downscaling model for derivation of 3-D flood products from VIIRS imagery and SRTM/DEM. ISPRS *Journal of Photogrammetry and Remote Sensing*, **192**, 279-298.

Li, X., and Coauthors, 2021: Tropical teleconnection impacts on Antarctic climate changes. *Nature Reviews Earth & Environment*, **2**, 680-698.

Li, X., J. R. Mecikalski, J. A. Otkin, D. S. Henderson, J. Srikishen, 2022: A polarimetric radar operator and application for convective storm simulation. *Atmosphere*, **13**, 5, 645.

Li, Y., B. A. Baum, A. K. Heidinger, W. P. Menzel, E. Weisz, 2020: Improvement in cloud retrievals from VIIRS through the use of infrared absorption channels constructed from VIIRS plus CrIS data fusion. *Atmospheric Measurement Techniques*, **13**, 7, 4035-4049.

Li, Z., W. P. Menzel, J. Jung, A. Lim, J. Li, M. Matricardi, S. D. Souza-Machad, L. Strow, 2020: Improving the Understanding of CrIS Full Spectral Resolution Nonlocal Thermodynamic Equilibrium Radiances Using Spectral Correlation. *Journal of Geophysical Research: Atmospheres*, **125**, 16, 10.1029/2020JD032710.

Li, Z., T. J. Schmit, J. Li, M. M. Gunshor, F. W. Nagle, 2021: Understanding the Imaging Capability of Tundra Orbits Compared to Other Orbits. *IEEE Transactions on Geoscience and Remote Sensing*, 10.1109/TGRS.2021.3051527.

Li, Z., Z. Ma, P. Wang, A. H. N. Lim, J. Li, J. A. Jung, T. J. Schmit, H.-L. Huang, 2022: An objective quality control of surface contamination observations for ABI water vapor radiance assimilation. *Journal of Geophysical Research-Atmospheres*, **127**, 15, e2021JD036061.

Lim, A. H. N., S. E. Nebuda, J. A. Jung, J. Predina, 2022: Investigating the sensitivity of NCEP's GFS to potential detector heterogeneity of hyperspectral infrared sounders. *Earth and Space Science*, **9**, 1.

Lim, A. H. N., S. E. Nebuda, J. A. Jung, J. M. Daniels, A. Bailey, W. Bresky, L. Bi, A. Mehra, 2022: Optimizing the assimilation of the GOES-16/-17 atmospheric motion vectors in the Hurricane Weather Forecasting (HWRF) model. *Remote Sensing*, **14**, 13, 3068.

Lin, H., Z. Li, J. Li, F. Zhang, M. Min, W. P. Menzel, 2022: Estimate of daytime single-layer cloud base height from advanced baseline imager measurements. *Remote sensing of Environment*, **274**, 112970, 10.1016/j.rse.2022.112970.

Lin, H., Z. Li, J. Li, F. Zhang, M. Min, W. P. Menzel, 2022: Estimate of daytime single-layer cloud base height from advanced baseline imager measurements. *Remote Sensing of Environment*, **274**, 112970.

Lindley, T. T., A. B. Zwink, C. M. Gravelle, C. C. Schmidt, C. K. Palmer, S. T. Rowe, R.Heffernan, N. Driscoll, G. M. Kent, 2020: Ground-based corroboration of GOES-17 fire detection capabilities during ignition of the Kincade Fire. *J. Operational Meteor.*, **8**, 8, 105-110, 10.15191/nwajom.2020.0808.

Lisonbee, J., J. Ribbe, J. A. Otkin, C. Pudmenzky, 2022: Wet season rainfall onset and flash drought: the case of the northern Australian wet season. *International Journal of Climatology*, **42**, 11.

Liu, Y., Y. Zhu, L. Ren, J. Otkin, E. D. Hunt, X. Yang, F. Yuan, S. Jiang, 2020: Two different methods for flash drought identification: comparison of their strengths and limitations. *Journal of Hydrometeorology*, **21**, 4, 691-704.

Liu, Y., S. Helfrich, W. N. Meier, R. Dworak, 2020: Assessment of AMSR2 ice extent and ice edge in the Arctic using IMS. *Remote Sensing*, **12**, 10, 1582.

Liu, Y., J. R. Key, X. Wang, M. Tschudi, 2020: Multidecadal Arctic sea ice thickness and volume derived from ice age, *Cryosphere*, **14**, 4, 1325-1345, 10.5194/tc-14-1325-2020.

Lorenz, D. J., J. A. Otkin, B. Zaitchik, C. Hain, M. C. Anderson, 2021: Predicting rapid changes in evaporative stress index (ESI) and soil moisture anomalies over the continental United States. *Journal of Hydrometeorology*, **22**, 11, 3017-3036.

Lorenzo, G. R., and Coauthors, 2021: Measurement report: firework impacts on air quality in Metro Manila, Philippines, during the 2019 New Year revelry. *Atmospheric Chemistry and Physics*, **21**, 8, 6155-6173.

Loveless, D. M., T. J. Wagner, R. O. Knuteson, D. D. Turner, S. A. Ackerman, 2022: Information content of a synergy of ground-based and space-based infrared sounders. Part I: Clear-sky environments. *J. Atmos. Oceanic Technol.*, **39**, 6, 771-787.

Loveless, M., E. E. Borbas, R. Knuteson, K. Cawse-Nicholson, G. Hulley, S. Hook, 2021: Climatology of the Combined ASTER MODIS Emissivity over Land (CAMEL) Version 2. *Remote Sensing*, **13**, 1, 111, 10.3390/rs13010111.

Lukens, K. E., K. Ide, K. Garrett, H. Liu, D. Santek, B. Hoover, R. N. Hoffman, 2022: Exploiting Aeolus level-2b winds to better characterize atmospheric motion vector bias and uncertainty. *Atmospheric Measurement Techniques*, **15**, 9, 2719-2743.

Ma, Y., W. Han, Z. Li, E. E. Borbas, A. Mamtimin, Y. Liu, 2023: Evaluation of CAMEL over the Taklimakan Desert using field observations. *Land*, **12**, 6, 1232.

Ma, Z., Z. Li, J. Li, T.J. Schmit, L. Cucurull, R. Atlas, B. Sun, 2021: Enhance Low Level Temperature and Moisture profiles through Combining NUCAPS, ABI observations and RTMA analysis, *Earth and Space Science*, **8**, 6, e2020EA001402.

Ma, Z., J. Li, W. Han, Z. Li, Q. Zeng, W. P. Menzel, T. J. Schmit, D. Di, C.-Y. Liu, 2021: Four-dimensional wind fields from geostationary Hyperspectral Infrared Sounder radiance measurements with high temporal resolution. *Geophysical Research Letters*, **48**, 10.1029/2021GL093794.

Ma, Z., Z. Li, J. Li, T. J. Schmit, L. Cucurull, R. Atlas, B. Sun, 2021: Enhance low level temperature and moisture profiles through combining NUCAPS, ABI observations, and RTMA analysis. *Earth and Space Science*, **8**, e2020EA001402, 10.1029/2020EA001402

Ma, Z., Z. Li, J. Li, M. Min, J. Sun, X. Wei, T. J. Schmit, L. Cucurull, 2023: An enhanced storm warning and nowcasting model in pre-convection environments. *Remote Sensing*, **15**, 10, 2672.

Maier, J., R. Knuteson, 2022: Data fusion of GEO FY-4A GIIRS and LEO hyperspectral infrared sounders with surface observations: a Hong Kong case study. *J. Atmos. Oceanic Technol.*, **39**, 2, 259-270.

Marais, W. J., R. E. Holz, J. S. Reid, R. M. Willett, 2020: Leveraging spatial textures, through machine learning, to identify aerosols and distinct cloud types from multispectral observations. *Atmospheric Measurement Techniques*, **13**, 10, 5459-5480.

Marais, W. J., M. Hayman, 2022: Extending water vapor measurement capability of photon-limited differential absorption lidars through simultaneous denoising and inversion. *Atmospheric Measurement Techniques*, **15**, 17, 5159-5180.

Marcio Rocha, F. and Coauthors, 2021: WMO evaluation of two extreme high temperatures occurring in February 2020 for the Antarctic Peninsula Region. *Bulletin of the American Meteorological Society*, **102**, 11, E2053-E2061.

Mateling, M. E., C. Pettersen, M. S. Kulie, K. S. Mattingly, S. A. Henderson, T. S. L'Ecuyer, 2021: The influence of atmospheric rivers on cold-season precipitation in the Upper Great Lakes region. *Journal of Geophysical Research-Atmospheres*, **126**, 13, e2021JD034754.

Mateling, M. E., C. Pettersen, M. S. Kulie, T. S. L'Ecuyer, 2023: Marine cold-air outbreak snowfall in the North Atlantic: a CloudSat perspective. *Journal of Geophysical Research-Atmospheres*, **128**, 10, e2022JD038053.

Mattingly, K. S., T. L. Mote, X. Fettweis, D. Van As, K. Van Tricht, S. Lhermitte, C. Pettersen, R. S. Fausto, 2020: Strong summer atmospheric rivers trigger Greenland ice sheet melt through spatially varying surface energy balance and cloud regimes. *Journal of Climate*, **33**, 16, 6809-6832.

Mattioli, V., and Coauthors, 2020: Atmospheric gas absorption knowledge in the submillimeter: modeling, field measurements, and uncertainty quantification. *Bulletin of the American Meteorological Society*, **100**, 12, ES291-ES295.

McIlhattan, E. A., J. E. Kay, T. S. L'Ecuyer, 2020: Arctic clouds and precipitation in the Community Earth System Model version 2. *Journal of Geophysical Research-Atmospheres*, **125**, 22, e2020JD032521.

McIlhattan, E. A., C. Pettersen, N. B. Wood, T. S. L'Ecuyer, 2020: Satellite observations of snowfall regimes over the Greenland Ice Sheet. *Cryosphere*, **14**, 12, 4379-4404.

Meng, D., Y. Chen, J. Li, H. Wang, Y. Wang, T. Sun, 2021: Cloud-dependent piecewise assimilation based on a hydrometeor-included background error covariance and its impact on regional numerical weather prediction. *Monthly Weather Review*, **149**, 9, 3155-3171.

Meng, D., P. Wang, J. Li, J. Li, Y. Chen, S. A. Wangzong, A. Heidinger, A. Walther, Z. Li, 2021: New observation operators for cloud liquid/ice water path from ABI and their impact on assimilation and hurricane forecasts. *Journal of Geophysical Research: Atmospheres*, **126**, e2020JD034164, 10.1029/2020JD034164.

Meng, D., Y. Chen, J. Li, Z.-M. Tan, P. Wang, J.-R. Lee, J. Li, Z. Li, 2022: The potential value of combining assimilation of water vapor radiances and cloud liquid/ice water path from ABI on analyses and forecasts for Hurricane Irma (2017). *Journal of Geophysical Research-Atmospheres*, **127**, 19, e2022JD036910.

Meyer, K., S. Platnick, R. Holz, S. Dutcher, G. Quinn, F. Nagle, 2020: Derivation of shortwave radiometric adjustments for SNPP and NOAA-20 VIIRS for the NASA MODIS-VIIRS continuity cloud products. *Remote Sensing*, **12**, 24, 4096.

Milani, L., N. B. Wood, 2021: Biases in CloudSat falling snow estimates resulting from daylight-only operations. *Remote Sensing*, **13**, 11, 2041.

Milani, L., and Coauthors, 2021: Extreme lake-effect snow from a GPM microwave imager perspective: observational analysis and precipitation retrieval evaluation. *Journal of Atmospheric and Oceanic Technology*, **38**, 2, 293-311.

Miller, D., J. Forsythe, S. Kusselson, W. Straka, J. Yin, X. Zhan, R. Ferraro, 2021: A study of two impactful heavy rainfall events in the southern Appalachian Mountains during early 2020, part I: societal impacts, synoptic overview, and historical context. *Remote Sensing*, **13**, 2452.

Miller, S. D., S. H. D. Haddock, W. C. Straka III, C. J. Seaman, C. L. Combs, M. Wang, W. Shi, S. H. Nam, 2021: Honing in on bioluminescent milky seas from space. *Scientific Reports*, **11**, 1, 15443.

Miller, N. B., M. M. Gunshor, A. J. Merrelli, T. S. L'Ecuyer, T. J. Schmit, J. J. Gerth, N. J. Gordillo, 2022: Imaging considerations from a geostationary orbit using the short wavelength side of the mid-infrared water vapor absorption band. *Earth and Space Science*, **9**, 1.

Miller, N. B., A. Merrelli, T. S. L'Ecuyer, B. J. Drouin, 2023: Simulated clear-sky water vapor and temperature retrievals from PREFIRE measurements. *J. Atmos. Oceanic Technol.*, **40**, 6, 645-659.

Min, M., J. Li, F. Wang, Z. Liu, W. P. Menzel, 2020: Retrieval of cloud top properties from advanced geostationary satellite imager measurements based on machine learning algorithms. *Remote Sensing of Environment*, **239**, 111616.

Minnis, P., and Coauthors, 2021: CERES MODIS cloud product retrievals for edition 4-part I: algorithm changes. *IEEE Transactions on Geoscience and Remote Sensing*, **59**, 4, 2744-2780.

Minnis, P., and Coauthors, 2022: VIIRS edition 1 cloud properties for CERES, part 1: algorithm adjustments and results. *Remote Sensing*, **15**, 3, 578.

Mohammad, S., P. Wang, Y. Chou, 2022: Cloud model study of internal gravity wave breaking atop a high shear supercell in US high plains. *Russian Journal of Physical Chemistry B*, **16**, 3, 549-563.

Mooney, M. E. E., C. Middlecamp, J. Martin, S. A. A. Ackerman, 2022: The demise of the knowledge-action gap in climate change education. *Bull. Amer. Meteor. Soc.*, **103**, 10, E2265-E2272.

Mosher, F. R., and Coauthors. 2023: True-Color Imagery from GOES-A Synopsis of Past and Present. *Journal of Operational Meteorology*, **11**, 4, 33-48.

Mulmenstadt, J., and Coauthors, 2020: Reducing the aerosol forcing uncertainty using observational constraints on warm rain processes. *Science Advances*, **6**, 22, eaaz6433.

Nalli, N. R., J. A. Jung, R. O. Knuteson, J. Gero, C. Dang, B. T. Johnson, L. Zhou, 2023: Reducing biases in thermal infrared surface radiance calculations over global oceans. *IEEE Transactions on Geoscience and Remote Sensing*, **61**.

Nelson, E. L., T. S. L'Ecuyer, A. L. Igel, S. C. van den Heever, 2020: An interactive online educational applet for multiple frequencies of radar observations. *Bulletin of the American Meteorological Society*, **100**, 5, 747-752.

Nguyen, H., J. A. Otkin, M. C. Wheeler, P. Hope, B. Trewin, C. Pudmenzky, 2020: Climatology and variability of the evaporative stress index and its suitability as a tool to monitor Australian drought. *Journal of Hydrometeorology*, **21**, 10, 2309-2324.

Nguyen, H., M. C. Wheeler, H. H. Hendon, E.-P. Lim, J. A. Otkin, 2021: The 2019 flash droughts in subtropical eastern Australia and their association with large-scale climate drivers. *Weather and Climate Extremes*, **32**, 100321.

Nguyen, H., M. C. Wheeler, J. A. Otkin, T. Nguyen-Huy, T. Cowan, 2023: Climatology and composite evolution of flash drought over Australia and its vegetation impacts. *J. Hydrometeor.*, **24**, 6, 1087-1101.

Nikolla, E., R. Knuteson, J. Gero, 2023: Hyperspectral infrared observations of Arctic snow, sea ice, and non-frozen ocean from the RV Polarstern during the MOSAiC Expedition October 2019 to September 2020. *Sensors*, **23**, 12, 5755.

Noh, Y.-C., A. H. N. Lim, H.-L. Huang, M. D. Goldberg, 2020: Global Forecast Impact of Low Data Latency Infrared and Microwave Sounders Observations from Polar Orbiting Satellites. *Remote Sensing*, **12**, 14, 2193.

Noh, T.-J., J. M. Haynes, S. D. Miller, C. J. Seaman, A. K. Heidinger, J. Weinrich, M. S. Kulie, M. Niznik, B. J. Daub, 2022: A framework for satellite-based 3D cloud data: an overview of the VIIRS cloud base height retrieval and user engagement for aviation applications. *Remote Sensing*, **14**, 21, 5524.

Notaro, M., and Coauthors, 2021: Cold season performance of the NU-WRF regional climate model in the Great Lakes region. *Journal of Hydrometeorology*, **22**, 9, 2423-2454.

Oehri, J., and Coauthors, 2022: Vegetation type is an important predictor of the arctic summer land surface energy budget. *Nature Communications*, **13**, 1, 6379.

Olander, T., A. Wimmers, C. Velden, J. P. Kossin, 2021: Investigation of machine learning using satellite-based advanced Dvorak technique analysis parameters to estimate tropical cyclone intensity. *Weather and Forecasting*, **36**, 6, 2161-2186.

O'Neill, M. E., L. Orf, G. M. Heymsfield, K. Halbert, 2021: Hydraulic jump dynamics above supercell thunderstorms. *Science*, **373**, 6560.

Orf, L., 2021: Modeling the world's most violent thunderstorms. *Computing in Science and Engineering*, **23**, 3, 14-24.

Osman, M., B. F. Zaitchik, H. S. Badr, J. I. Christian, T. Tadesse, J. A. Otkin, M. C. Anderson, 2021: Flash drought onset over the contiguous United States: sensitivity of inventories and trends to quantitative definitions. *Hydrology and Earth System Sciences*, **25**, 2, 565-581.

Osman, M., and Coauthors, 2022: Diagnostic classification of flash drought events reveals distinct classes of forcings and impacts. *J. Hydrometeor.*, **23**, 2, 275-289.

Otkin, J. A., R. W. E. Potthast, A. S. Lawless, 2021: Nonlinear conditional model bias estimation for data assimilation. *Siam Journal on Applied Dynamical Systems*, **20**, 1, 299-332.

Otkin, J. A., and Coauthors, 2021: Development of a flash drought intensity index. *Atmosphere*, **12**, 6, 741.

Otkin, J. A., and Coauthors, 2022: Getting ahead of flash drought: from early warning to early action. *Bull. Amer. Meteor. Soc.*, **103**, 10, E2188-E2202.

Pahlevan, N., and Coauthors, 2020: Seamless retrievals of chlorophyll-a from Sentinel-2 (MSI) and Sentinel-3 (OLCI) in inland and coastal waters: A machine-learning approach. *Remote Sensing of Environment*, **240**, 111604, 10.1016/j.rse.2019.111604.

Pan, S., J. Gao, T. A. Jones, Y. Wang, X. Wang, Jun Li, 2021: The Impact of Assimilating Satellite-derived Layered Precipitable Water, Cloud Water Path and Radar Data on Short-Range Thunderstorm Forecasts. *Monthly Weather Review*, **149**, 5, 1359–1380, 10.1175/MWR-D-20-0040.1.

Peterson, D. A., and Coauthors, 2021: Australia's Black Summer pyrocumulonimbus super outbreak reveals potential for increasingly extreme stratospheric smoke events. *NPJ Climate and Atmospheric Science*, **4**, 1, 38.

Pettersen, C., and Coauthors, 2020: The precipitation imaging package: assessment of microphysical and bulk characteristics of snow. *Atmosphere*, **11**, 8, 785.

Pettersen, C., and Coauthors, 2020: A composite analysis of snowfall modes from four winter seasons in Marquette, Michigan" *Journal of Applied Meteorology and Climatology*, **59**, 103-124, 10.1175/JAMC-D-19-0099.1

Pettersen, C., and Coauthors, 2021: The precipitation imaging package: phase partitioning capabilities. *Remote Sensing*, **13**, 11, 2183.

Pettersen, C., S. A. Henderson, K. S. Mattingly, R. Bennartz, M. L. Breeden, 2022: The critical role of Euro-Atlantic blocking in promoting snowfall in central Greenland. *Journal of Geophysical Research-Atmospheres*, **127**, 6, e2021JD035776.

Picard, B., R. Bennartz, F. Fell, M.-L. Frery, M. Simeon, F. Bordes, 2020: Assessment of the 'Zero-Bias Line' homogenization method for microwave radiometers using Sentinel-3A and Sentinel-3B tandem phase. *Remote Sensing*, **12**, 19, 3154.

Pincus, R., P. A. Hubanks, S. Platnick, K. Meyer, R. E. Holz, D. Botambekov, C. J. Wall, 2023: Updated observations of clouds by MODIS for global model assessment. *Earth System Science Data*, **15**, 6, 2483-2497.

Platnick, S., K. Meyer, N. Amarasinghe, G. Wind, P. A. Hubanks, R. E. Holz, 2020: Sensitivity of multispectral imager liquid water cloud microphysical retrievals to the index of refraction. *Remote Sensing*, **12**, 24, 4165.

Platnick, S., K. Meyer, G. Wind, R. E. Holz, N. Amarasinghe, P. A. Hubanks, B. Marchant, S. Dutcher, P. Veglio, 2021: The NASA MODIS-VIIRS continuity cloud optical properties products. *Remote Sensing*, **13**, 1, 2.

Proud, S. R., S. Bachmeier, 2021: Record-low cloud temperatures associated with a tropical deep convective event. *Geophysical Research Letters*, **48**, 6, e2020GL092261.

Redemann, J., and Coauthors, 2021: An overview of the ORACLES (ObseRvations of Aerosols above CLouds and their intEractionS) project: aerosol-cloud-radiation interactions in the southeast Atlantic basin. *Atmospheric Chemistry and Physics*, **21**, 3, 1507-1563.

Reid, J. S., and Coauthors, 2023: The coupling between tropical meteorology, aerosol lifecycle, convection, and radiation during the Cloud, Aerosol and Monsoon Processes Philippines Experiment (CAMP2Ex). *Bull. Amer. Meteor. Soc.*, **104**, 6, E1179-E1205.

Reid, J. S., and Coauthors, 2022: A coupled evaluation of operational MODIS and model aerosol products for maritime environments using sun photometry: evaluation of the fine and coarse mode. *Remote Sensing*, **14**, 13, 2978.

Roach, L. A., I. Eisenman, T. J. W. Wagner, E. Blanchard-Wrigglesworth, C. M. Bitz, 2022: Asymmetry in the seasonal cycle of Antarctic sea ice driven by insolation. *Nature Geoscience*, **15**.

Roberts, R. D., and Coauthors, 2022: Taking the HIGHWAY to save lives on Lake Victoria. *Bull. Amer. Meteor. Soc.*, **103**, 2, E485-E510.

Robinson, M. A., and Coauthors, 2021: Variability and time of day dependence of ozone photochemistry in western wildfire plumes. *Environmental Science & Technology*, **55**, 15, 10280-10290.

Ryglicki, D. R., C. S. Velden, P. D. Reasor, D. Hodyss, J. D. Doyle, 2021: Observations of atypical rapid intensification characteristics in Hurricane Dorian (2019). *Monthly Weather Review*, **149**, 7, 2131-2150.

Sawyer, V., R. C. Levy, S. Mattoo, G. Cureton, Y. Shi, L. A. Remer, 2020: Continuing the MODIS Dark Target Aerosol Time Series with VIIRS. *Remote Sensing*, **12**, 2, 308.

Seo, J., T. J. Wagner, P. J. Gero, P. D. D. Turner, 2022: The impact of nonzenith elevation angles on ground-based infrared thermodynamic retrievals. *Journal of Atmospheric Technology*, **39**, 9, 1395-1414.

Serio, C., G. Masiello, P. Mastro, D. C. Tobin, 2020: Characterization of the observational covariance matrix of hyper-spectral infrared satellite sensors directly from measured Earth views. *Sensors*, **20**, 5, 1492.

Shapiro, L. T., D. R. Gater Jr., Z. Espinel, J. P. Kossin, S. Galea, J. M. Shultz, 2020: Preparing individuals with spinal cord injury for extreme storms in the era of climate change. *EClinicalMedicine*, **18**, 100232.

Shates, J. A., C. Pettersen, T. S. L'Ecuyer, S. J. Cooper, M. S. Kulie, N. B. Wood, 2021: High-latitude precipitation: snowfall regimes at two distinct sites in Scandinavia. *Journal of Applied Meteorology and Climatology*, **60**, 8, 1127-1148.

Shates, J. A., C. Pettersen, T. S. L'Ecuyer, M. S. Kulie, 2023: Multi-year analysis of rain-snow levels at Marquette, Michigan. *Journal of Geophysical Research-Atmospheres*, **128**, 2, e2022JD037132.

Shultz, J. M., and Coauthors, 2020: Scrambling for safety in the eye of Dorian: mental health consequences of exposure to a climate-driven hurricane. *Health Affairs*, **39**, 12, 2120-2127.

Shultz, J. M., D. E. Sands, J. P. Kossin, S. Galea, 2020: Double environmental injustice: climate change, Hurricane Dorian, and the Bahamas. *New England Journal of Medicine*, **382**, 2, 1-3.

Sinclair, K., B. van Diedenhoven, B. Cairns, M. Alexandrov, A. M. Dzambo, T. L'Ecuyer, 2021: Inference of precipitation in warm stratiform clouds using remotely sensed observations of the cloud top droplet size distribution. *Geophysical Research Letters*, **48**, 10, e2021GL092547.

Sledd, A., T. S. L'Ecuyer, 2021: Emerging trends in Arctic solar absorption. *Geophysical Research Letters*, **48**, 24.

Sledd, A., T. S. L'Ecuyer, 2021: A cloudier picture of ice-albedo feedback in CMIP6 models. *Frontiers in Earth Science*, **9**.

Sledd, A., T. L'Ecuyer, 2021: Uncertainty in forced and natural Arctic solar absorption variations in CMIP6 models. *Journal of Climate*, **34**, 3, 931-948.

Sledd, A., T. S. L'Ecuyer, J. E. Kay, M. Steele, 2023: Clouds increasingly influence Arctic sea surface temperatures as CO2 rises. *Geophysical Research Letters*, **50**, 8, e2023GL102850.

Smith, W. L., Q. Zhang, M. Shao, E. Weisz, 2020: Improved Severe Weather Forecasts Using LEO and GEO Satellite Soundings. *J. Atmos. Oceanic Technol.*, **37**, 1203–1218, 10.1175/JTECH-D-19-0158.1.

Smith Sr., W. L., E. Weisz, R. Knuteson, H. Revercomb, D. Feldman, 2020: Retrieving decadal climate change from satellite radiance observations: a 100-year CO2 doubling OSSE demonstration. *Sensors*, **20**, 5, 1247.

Smith, W. L., H. Revercomb, E. Weisz, D. Tobin, R. Knuteson, J. Taylor, W. P. Menzel, 2021. Hyperspectral satellite radiance atmospheric profile information content and its dependence on spectrometer technology. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **14**, 4720-4736, 10.1109/JSTARS.2021.3073482.

Smith Sr., W. L., H. Revercomb, E. Weisz, D. Tobin, R. Knuteson, J. Taylor, W. P. Menzel, 2021: Hyperspectral Satellite Radiance Atmospheric Profile Information Content and Its Dependence on Spectrometer Technology. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **14**, 4720-4736.

Spath, F., A. Behrendt, W. A. Brewer, D. Lange, C. Senff, D. D. Turner, T. J. Wagner, V. Wulfmeyer, 2022: Simultaneous observations of surface layer profiles of humidity, temperature, and wind using scanning lidar instruments. *Journal of Geophysical Research-Atmospheres*, **127**, 5, e2021JD035697.

Stanier, C. O., and Coauthors, 2021: Overview of the Lake Michigan Ozone Study 2017. *Bulletin of the American Meteorological Society*, **102**, 12, E2207-E2225.

Stephens, G., and Coauthors, 2023: The First 30 Years of GEWEX. *Bull. Amer. Meteor. Soc.*, **104**, 1, E126-E157.

Stevens, B., and Coauthors, 2020: Sugar, gravel, fish and flowers: mesoscale cloud patterns in the trade winds. *Quarterly Journal of the Royal Meteorological Society*, 146**,** 726, 141-152.

Stevens, B., and Coauthors, 2021: EUREC(4)A. *Earth System Science Data*, **13**, 8, 4067-4119.

Straka, W. III, S. Kondragunta, Z. Wei, H. Zhang, S. D. Miller, A. Watts, 2021: Examining the Economic and Environmental Impacts of COVID-19 Using Earth Observation Data. *Remote Sens.*, **13**, 5, 10.3390/rs13010005.

Sun, L., A. D. Rapp, T. S. L'Ecuyer, A. S. Daloz, E. Nelson, 2022: Environmental response in coupled energy and water cloud impact parameters derived from A-Train satellites, ERA-Interim, and MERRA-2. *J. Appl. Meteor. Climatol.*, **61**, 3, 261-276.

Suto, H., and Coauthors, 2021: Thermal and near-infrared sensor for carbon observation Fourier transform spectrometer-2 (TANSO-FTS-2) on the Greenhouse gases Observing SATellite-2 (GOSAT-2) during its first year in orbit. *Atmospheric Measurement Techniques*, **14**, 3, 2013-2039.

Suto, H., F. Kataoka, R. O. Knuteson, K. Shiomi, N. Kikuchi, A. Kuze, 2022: Updated spectral radiance calibration on TIR bands for TANSO-FTS-2 onboard GOSAT-2. *Atmospheric Measurement Techniques*, **15**, 18, 5399-5413.

Taylor J. K., H. E. Revercomb, F. A. Best, D. C. Tobin, P. J. Gero, 2021: The Infrared Absolute Radiance Interferometer (ARI) for CLARREO. *Remote Sensing*, **12**, 12, 1915.

Taylor, J. K., and Coauthors, 2023: Assessment and correction of view angle dependent radiometric modulation due to polarization for the Cross-Track Infrared Sounder (CrIS). *Remote Sensing*, **15**, 3, 718.

Taylor, T. E., and Coauthors, 2020: OCO-3 early mission operations and initial (vEarly) XCO2 and SIF retrievals. *Remote Sensing of Environment*, **251**, 112032.

Thompson, G., J. Berner, M. Frediani, J. A. Otkin, S. M. Griffin, 2021: A stochastic parameter perturbation method to represent uncertainty in a microphysics scheme. *Monthly Weather Review*, **149**, 5, 1481-1497.

Tirado, J., and Coauthors, 2023: Observations of coastal dynamics during lake breeze at a shoreline impacted by high ozone. *Environmental Science-Atmospheres*, **3**, 3, 494-505.

Tokay, A., A. Von Lerber, C. Pettersen, M. S. Kulie, D. N. Moisseev, D. B. Wolff, 2022: Retrieval of snow water equivalent by the Precipitation Imaging Package (PIP) in the Northern Great Lakes. *J. Atmos. Oceanic Technol.*, **39**, 1, 37-54.

Tremblay, D. A., and Coauthors, 2021: Radiometric noise assessment of the Cross-Track Infrared Sounder on the NOAA-20 satellite. *IEEE Transactions on Geoscience and Remote Sensing*, **2021**.

Turk, F. J., and Coauthors, 2021: Applications of a CloudSat-TRMM and CloudSat-GPM satellite coincidence dataset. *Remote Sensing*, **13**, 12, 2264.

Van Eaton, A. R., J. Lapierre, S. A. Behnke, C. Vagasky, C. J. Schultz, M. Pavolonis, K. Bedka, K. Khlopenkov, 2023: Lightning rings and gravity waves: insights into the giant eruption plume from Tonga's Hunga Volcano on 15 January 2022. *Geophysical Research Letters*, **50**, 12, e2022GL102341.

Van Eaton, A. R., C. M. Smith, M. Pavolonis, R. Said, 2022: Eruption dynamics leading to a volcanic thunderstorm-The January 2020 eruption of Taal volcano, Philippines. *Geology*, **50**, 4, 491-495.

Velden, C. S., D. A. Herndon, 2020: A consensus approach for estimating tropical cyclone intensity from meteorological satellites: SATCON. *Weather and Forecasting*, **35**, 4, 1645-1662.

Wagner, T. J., R. A. Petersen, 2021: On the performance of airborne meteorological observations agains other in situ measurements. *J. Atmos. Oceanic Techol.*, **38**, 6, 1217-1230.

Wagner, T. J., A. C. Czarnetzki, M. Christiansen, R. B. Pierce, C. O. Stanier, A. F. Dickens, E. W. Eloranta, 2022: Observations of the development and vertical structure of the lake-breeze circulation during the 2017 Lake Michigan Ozone Study. *J. Atmos. Sci.*, **79**, 4, 1005-1020.

Wagner, T. J., D. D. Turner, T. Heus, W. G. Blumberg, 2022: Observing profiles of derived kinematic field quantities using a network of profiling sites. *J. Atmos. Oceanic Technol.*, **39**, 3, 335-351.

Wang, P., J. Li, T. J. Schmit, 2020: The impact of low latency satellite sounder observations on local severe storm forecasts in regional NWP. *Sensors*, **20**, 3, 650.

Wang, P., Z. Li, J. Li, T. J. Schmit, 2021: Added value of GEO-Hyperspectral infrared radiances for local severe storm forecasts using hybrid OSSE method. *Advances in Atmospheric Sciences*, **38**, 1315-1333.

Wang, Z., and Coauthors, 2020: On-orbit calibration and characterization of GOES-17 ABI IR bands under dynamic thermal condition. Journal of Applied *Remote Sensing*, **14**, 3, 034527.

Wang, X., Y. Liu, J. R. Key, R. Dworak, 2022: A new perspective on four decades of changes in Arctic sea ice from satellite observations. *Remote Sensing*, **14**, 8, 1846.

Weisz, E., W. P. Menzel, 2020: Approach to enhance trace gas determinations through multi-satellite data fusion, *J. Appl. Remote Sens.*, **14**, 4, 044519, 10.1117/1.JRS.14.044519.

Weisz, E., W. P. Menzel, 2022: Tracking atmospheric moisture changes in convective storm environments using GEO ABI and LEO CrIS data fusion. *Remote Sensing*, **14**, 21, 5327.

Weisz, E., W. P. Menzel, 2023: Monitoring the 2021 Cumbre Vieja volcanic eruption using satellite multisensor data fusion. *Journal of Geophysical Research-Atmospheres*, **128**, 2, e2022JD037926.

White, C. H., A. K. Heidinger, S. A. Ackerman, 2021: Evaluation of Visible Infrared Imaging Radiometer Suite (VIIRS) neural network cloud detection against current operational cloud masks. *Atmospheric Measurement Techniques*, **14**, 5, 3371-3394.

White, E., and Coauthors, 2023: Accounting for non-detects: application to satellite ammonia observations. *Remote Sensing*, **15**, 10, 2610.

Wiggins, E. B., and Coauthors, 2020: High temporal resolution satellite observations of fire radiative power reveal link between fire behavior and aerosol and gas emissions. *Geophysical Research Letters*, **47**, 23, e2020GL090707.

Williams, S. S., T. J. Wagner, R. A. Petersen, 2021: Examining the compatibility of aircraft moisture observations and operational radiosondes. *Journal of Atmospheric and Oceanic Technology*, **38**, 4, 859-872.

Wood, N. B., T. S. L'Ecuyer, 2021: What millimeter-wavelength radar reflectivity reveals about snowfall: an information-centric analysis. *Atmospheric Measurement Techniques*, **14**, 2, 869-888.

Wooster, M. J., and Coauthors, 2021: Satellite *Remote Sensing* of active fires: history and current status, applications and future requirements. *Remote Sensing of Environment*, **267**.

Xie, Y., X. Huang, X. Chen, T. S. L'Ecuyer, B. J. Drouin, 2023: Joint use of far-infrared and mid-infrared observation for sounding retrievals: learning from the past for upcoming far-infrared missions. *Earth and Space Science*, **10**, 3, e2022EA002684.

Xie, Y., X. Huang, X. Chen, T. S. L'Ecuyer, B. J. Drouin, J. Wang, 2022: Retrieval of surface spectral emissivity in polar regions based on the optimal estimation method. *Journal of Geophysical Research-Atmospheres*, **127**, 5, e2021JD035677.

Xue, Y., J. Li, Z. Li, M. M. Gunshor, T. J. Schmit, 2020: Evaluation of the diurnal variation of upper tropospheric humidity in reanalysis using homogenized observed radiances from international geostationary weather satellites. *Remote Sensing*, **12**, 10, 1628.

Xue, Y., J. Li, Z. Li, R. Lu, M. M. Gunshor, S. L. Moeller, D. Di, T. J. Schmit, 2020: Assessment of upper tropospheric water vapor monthly variation in reanalyses with near-global homogenized 6.5m radiances from geostationary satellites. *Journal of Geophysical Research-Atmospheres*, **125**, 18, e2020JD032695.

Yang, Y., and Coauthors, 2021: Phenological corrections to a field-scale, ET-based crop stress indicator: An application to yield forecasting across the U.S. Corn Belt. *Remote Sensing of Environment*, **257**, 112337.

Yang, J. X., and Coauthors, 2023: Atmospheric humidity and temperature sounding from the CubeSat TROPICS mission: early performance evaluation with MiRS. *Remote Sensing of Environment*, **287**, 113479.

Ye, X., and Coauthors, 2021: Evaluation and intercomparison of wildfire smoke forecasts from multiple modeling systems for the 2019 Williams Flats fire. *Atmospheric Chemistry and Physics*, **21**, 18, 14427-14469.

Yuan, X., Y. Wang, P. Ji, P. Wu, J. Sheffield, J. A. Otkin, 2023: A global transition to flash droughts under climate change. *Science*, **380**, 6641, 187-191.

Yue, J., S. D. Miller, W. C. Straka, Y.-J. Noh, M.-Y. Chou, R. Kahn, V. Flower, 2022: La Soufriere volcanic eruptions launched gravity waves into space. *Geophysical Research Letters*, **49**, 8, e2022GL097952.

Zhang, M., X. Yuan, J. A. Otkin, 2020: Remote Sensing of the impact of flash drought events on terrestrial carbon dynamics over China. *Carbon Balance and Management*, **15**, 1, 20.

Zhang, M., X. Yuan, J. A. Otkin, P. Ji, 2022: Climate warming outweighs vegetation greening in intensifying flash droughts over China. *Environmental Research Letters*, **17**, 5, 054041.

Zhang, Q., W. Smith, M. Shao, 2023: The potential of monitoring carbon dioxide emission in a geostationary view with the GIIRS meteorological hyperspectral infrared sounder. *Remote Sensing*, **15**, 4, 886.

Zhang, Y., J. Li, Z. Li, J. Zheng, D. Wu, H. Zhao, 2022: FENGYUN-4A Advanced Geosynchronous Radiation Imager layered precipitable water vapor products' comprehensive evaluation based on quality control system. *Atmosphere*, **13**, 2, 290.

Zhao, D., and Coauthors, 2020: Sensitivity of meteorological skill to selection of WRF-Chem physical parameterizations and impact on ozone prediction during the Lake Michigan Ozone Study (LMOS). *Journal of Geophysical Research-Atmospheres*, **125**, 5.

Zhao, X., Y. Liu, F. Yu, A. K. Heidinger, K. Saha, 2020: Climatology perspective of sensitive regimes and active regions of aerosol indirect effect for cirrus clouds over the global oceans. *Remote Sensing*, **12**, 5, 823.

Zhao, X., M. J. Foster, 2022: Analyzing sensitive aerosol regimes and active geolocations of aerosol effects on deep convective clouds over the global oceans by using long-term operational satellite observations. *Climate*, **10**, 11, 167.

Zhong, Y., J. A. Otkin, M. C. Anderson, C. Hain, 2020: Investigating the relationship between the evaporative stress index and land surface conditions in the contiguous United States. *Journal of Hydrometeorology*, **21**, 7, 1469-1484.

Zhou, L., and Coauthors, 2023: Observed atmospheric features for the 2022 Hunga Tonga Volcanic eruption from Joint Polar Satellite System science data products. *Atmosphere*, **14**, 2, 263.

Zhu, W., L. Zhu, J. Li, H. Sun, 2020: Retrieving volcanic ash top height through combined polar orbit active and geostationary passive Remote Sensing data. *Remote Sensing*, **12**, 6.

Zou, C.-Z., and Coauthors, 2020: The reprocessed Suomi NPP satellite observations. *Remote Sensing*, **12**, 18.