

Weekly Report

SCSB/CISESS
Cooperative Research Program Division (CoRP)
STAR/NESDIS
National Oceanic and Atmospheric Administration (NOAA)

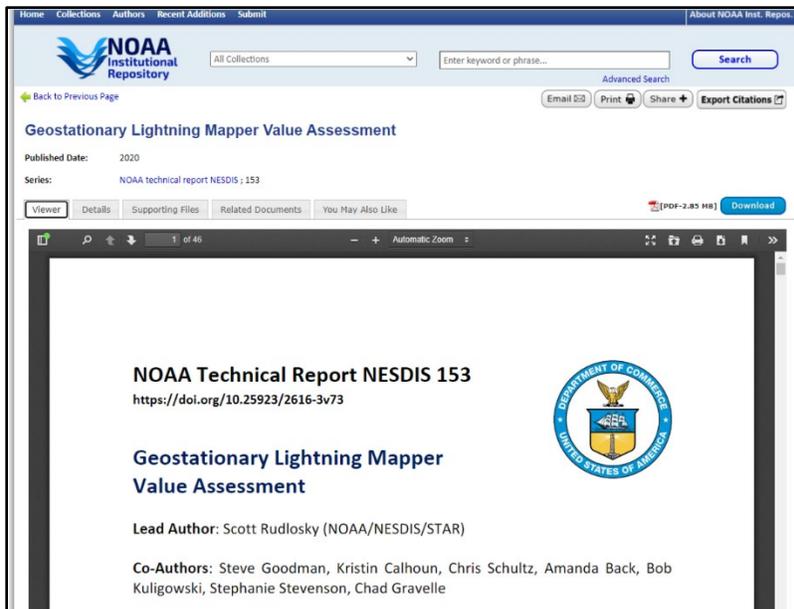
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Products and Applications

New Guides and Value Assessment Report for the GOES-R Lightning Mapper (GLM): Three training quick guides have been created to accompany the full disk GLM roll out (available at <https://lightning.umd.edu/documents/glm/training/New2020/>). These two-page guides form the foundation of forecaster training on the GLM, providing timely information in an easily consumed format before working their way into formal NWS training material.



The GLM Value Assessment has been published as NOAA technical report 153, and is available at <https://repository.library.noaa.gov/view/noaa/27429>. This value assessment documents societal and economic benefits that can be attributed to a Geostationary Lightning Mapper (GLM) to advise future satellite architecture decisions. The report examines the use-inspired science and public benefits of space-based lightning measurements that address NESDIS mission objectives for geostationary earth and extended orbit (GEO-XO) observations. We describe operational use cases to illustrate GLM value being realized through the actions of various decision makers, and identify well documented benefit pools where the GLM adds value.

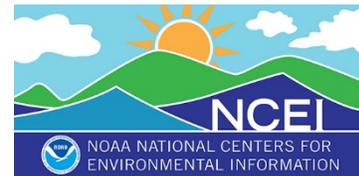


(POC: Scott Rudlosky, scott.rudlosky@noaa.gov, Funding: PDRA, GOES-R PGRR & GOES-R AWG)

Awards and Recognition

CISESS Scientists Recognized at NCEI Annual Award Ceremony: On December 8th, NCEI held a virtual award ceremony for its staff. CISESS Executive Director Ellen Williams attended the ceremony and recognized the following CISESS staff:

- **Rebecca Wenker** for her critical role in completing the National Coral Reef Monitoring Program (NCRMP) Atlantic Status Reports.
- **Alexey Mishonov** for his contributions to the NCEI *Gulf of Mexico Regional Climatology*, v.2. [Seidov, D., A.V. Mishonov, T.P. Boyer, O.K. Baranova, E. Nyadjro, S.L. Cross, A.R. Parsons, and K.W. Weathers (2020), *Gulf of Mexico Regional Climatology*, Regional Climatology Team, NOAA/NCEI, <https://www.ncei.noaa.gov/products/gulf-mexico-regional-climatology#>]
- **Korak Saha** for his two papers - His article on Pathfinder error estimation article published in *Remote Sensing* was listed as the Editor's choice:
 - Saha, Korak, Prasanjit Dash, Xuepeng Zhao and Huai-min Zhang, 2020: Error estimation of Pathfinder Version 5.3 Level-3C SST using extended triple collocation analysis. *Remote Sens.*, **12**, 590, <http://dx.doi.org/doi:10.3390/rs12040590>
 - Zhao, Xuepeng, Yangang Liu, Fangqun Yu, Andrew Heidinger and Korak Saha, 2020: Climatology Perspective of sensitive regimes and active regions of aerosol indirect effect for cirrus clouds over the global oceans. *Remote Sens.*, **12**, 823, <https://doi.org/10.3390/rs12050823>. (publi



- **Li-Qing Jiang** for his multiple contributions to research articles:
 - Li-Qing Jiang was a co-author of the article published in *Nature Communications*, entitled “Controls on surface water carbonate chemistry along North American ocean margins.” *Nat. Commun.* **11**, 2691, <https://doi.org/10.1038/s41467-020-16530-z>.
 - Xue , Liang, Xufeng Yang, Yunxiao Li, Laoyu Li, **Li-Qing Jiang**, Ming Xin, Zongxing Wang, Xia Sun and Qinsheng Wei, 2020: Processes controlling sea surface pH and aragonite saturation state in a large northern temperate bay: contrasting temperature effects. *J. Geophys. Res. Biogeosci.* **125**, e2020JG005805, <https://doi.org/10.1029/2020JG005805>.
 - Lauvset, S. K., Carter, B. R., Perez, F. F., **Jiang, L.-Q.**, Feely, R. A., Velo, A., & Olsen, A. (2020). Processes driving global interior ocean pH distribution. *Global Biogeochemical Cycles*, **34**, e2019GB006229. <https://doi.org/10.1029/2019GB006229>; and
- Entire CISESS Team for their support of NCEI objectives: **Ajay Iyer, Alexandra Grodsky, Fred Katz, Alexander Kozir, Anna Leinesch, Zachary Mason, Sarah O’Connor, James Reagan, and Yongsheng Zhang.**

(POC: Hugo Berbery, berbery@umd.edu, Funding: NCEI)

Huan Meng Thanked for Snowfall Rate Product Seminar: Matthew Seybold, the GOES-R Data Operations Manager, sent H. Meng an official thank-you letter following her November 5th Total Operational Weather Readiness - Satellites (TOWR-S) seminar about the radar-satellite blended snowfall rate product. Below is an excerpt from the letter:



“The presentation was well received and gave the forecasting community a better understanding of the unique application of the radar-satellite blended snowfall rate product and how the collective weather enterprise community may contribute. Your perspective on techniques for integrating observations for the prediction and tracking of winter weather was a noteworthy appeal for further exploitation of satellite data in the general forecast process.”

(POC: Huan Meng, huan.meng@noaa.gov, Funding: JSTAR & PSDI JSTAR)

CISESS and CISESS Consortium Scientists Commended for NAQFC Work: CISESS Executive Director Ellen Williams and Deputy Director Hugo Berbery issued a letter of recognition on December 8th to a group of CISESS scientists at the Air Resources Laboratory for the “fundamental role of our scientists that have contributed through the years to the establishment and success of the National Weather Service’s National Air Quality Forecasting Capability (NAQFC).” The honorees were CISESS Scientists



Fantine (Fong) Ngan, Hyun Cheol Kim and Tianfeng Chai and the Consortium Scientists from George Mason University: **Daniel Tong, Youhua Tang, Patrick Campbell** and **Barry Baker**. Also commented was former CISESS Scientist **Li Pan**. NOAA has given the Administrator’s Award to the team’s federal employees for this achievement. “The entire team, including CISESS scientists, have been extremely dedicated and have worked tirelessly to ensure the accuracy and timeliness of NAQFC forecasts for the benefit of the entire U. S. population.” The full letter is at <https://ciseess.umd.edu/ciseess-scientists-commended-for-air-quality-modeling-work/>.

(POC: Hugo Berbery, berbery@umd.edu, Funding: ARL)

Workshops, Conferences, and Meetings

Daile Zhang at the International Lightning Research Seminar: CISESS Scientist Daile Zhang helped organize and attended the first International Lightning Research Seminar, which was held on December 4th and 5th, 2020, over Zoom. This seminar was primarily for graduate students and early career scientists who wish to expand their research in various lightning topics. Lightning scientists over 14 organizations and institutions from 10 countries present the scopes and opportunity on the various facets of lightning, trends, challenges, opportunities and potential sources of funding. The meeting had over 80 attendees. The meeting videos are available at:

<https://www.youtube.com/playlist?list=PLapqki8XmjgYrcEQ1KXHsyaAZZxeA5AzH>

(POC: Daile Zhang, dzhang@umd.edu, Funding: GOES-R)

