

Weekly Report

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

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Workshops, Conferences, and Meetings

CISESS at AMS: The AMS Annual Meeting was held virtually from January 23 to 27. CISESS contributed a large number of talks and posters at the event. Talks included:

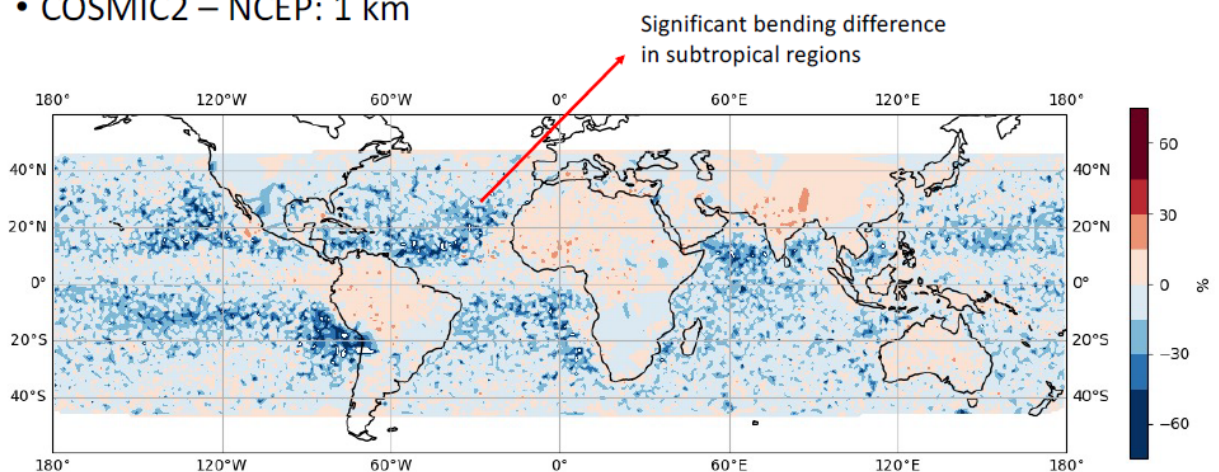


- **Huan Meng**– NOAA Satellite Snowfall Rate Products and Applications (with Yongzhen Fan, Jun Dong, Yalei You, Guojun Gu and Ralph Ferraro)
- **Malarvizhi Arulraj**– Building an Enterprise NOAA/NESDIS Satellite Precipitation Validation System (with Veljko Petković, Ralph R. Ferraro, and Huan Meng);
- **William James Schouler Miller**– Evaluating the Impacts of COSMIC-2 Radio Occultation Bending Angle Assimilation on HWRF Tropical Cyclone Forecasts (with Xi Shao, Shu-Peng Ho and Yong Chen);
- **Erin Jones**– Assessing the Impacts of Assimilating NOAA-20 CrIS Midwave Observations on NOAA Global Forecasts (with Nadia Smith, Kevin Garrett, Kayo Ide, Chris Barnet, and Sid Boukabara);
- **Jun Dong**– Estimating the Uncertainty of COSMIC-2 Radio Occultation Data: Inter-comparisons of Data Processed from Multiple Data Centers (with Shu-peng Ho, Bin Zhang, Xi Shao, Yong Chen and Xinjia Zhou);
- **Sirish Uprety**– Stable Ocean Site for Thermal Emissive Band Inter-Calibration (with Changyong Cao, Bin Zhang, and Xi Shao);
- **Likun Wang**– Geolocation Assessment and Optimization for Ozone Mapping and Profiler Suite (OMPS) Nadir Mapper Using Visible Infrared Imaging Radiometer Suite (VIIRS) (with Chuihui Pan, Banghua Yan, Trevor Beck, Junye Chen, Lihang Zhou, Mitch Goldberg and Satya Kalluri)
- **Wenhui Wang**– Mitigating NOAA-20 VIIRS Thermal Emissive Bands Scan Angle and Scene Temperature Dependent Biases in the NOAA Operational Processing (with Changyong Cao, and Slawomir Blonski);

- **Fong Ngan**– The Use of Small Uncrewed Aircraft Systems Data in WRF and HYSPLIT Modeling (with Christopher P. Loughner, Sonny Zinn, Mark Cohen, Temple R. Lee, Edward Dumas, Travis J. Schuyler, Michael Buban, Bruce Baker, Joseph Maloney, and David Hotz);
- **Yong-Keun Lee**– Validation of MiRS NOAA-20 ATMS Total Precipitable Water in 2019 Using Multiple Reference Data Sets (with Christopher Grassotti, Quanhua Liu, Shuyan Liu and Yan Zhou);
- **Bin Zhang**– Understanding Error Propagation from RO Raw Observations to the Bending Angle Profile: Inter-center Comparison of the COSMIC-2 RO Retrievals (with Shu-Peng Ho, Xi Shao, Jun Dong, Yong Chen and Changyong Cao);
- **Benjamin Cash (GMU)**– Toward a Collaborative Unified Workflow Solution for UFS Applications (with Rahul Mahajan, Arun Chawla, Christina Holt, Hendrik Tolman, Bin Liu, Kate Friedman, Walter Kolczynki, Julie Prestopnik and Fredrick Gabelmann);
- **Kuo-Nung Wang (JPL)**– Characterizing the COSMIC-2 Radio Occultation Bending Angle Uncertainty in the Lower Troposphere (with Chi O. Ao, S.-P. Ho, and L. Cucurull);

Bending O-A (COSMIC2 2020-04 ~ 2020-05)

- COSMIC2 – NCEP: 1 km

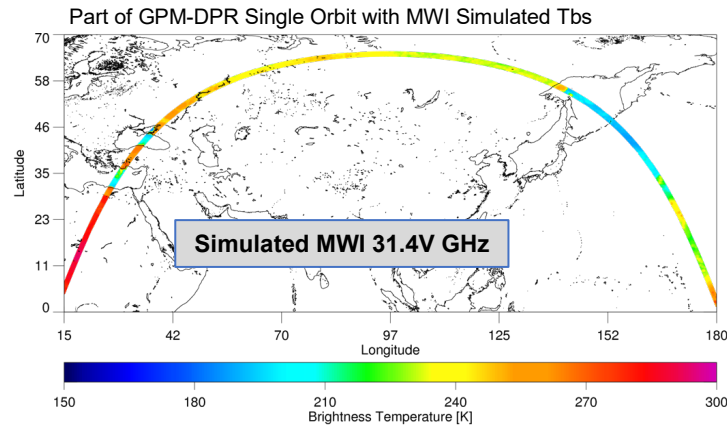


Bending radio occultation angle differences.

CISESS posters at AMS included:

- **Anna Lienesch**– At-Sea Work from Shore? Lessons Learned from Remote Sample Data Management (with Megan Cromwell, Madalyn Newman, Susan Gottfried, Jonathan Jackson, Christopher Dunn, Kimberly Galvez, Kasey Cantwell, Matt Dornback, Mark Durbin, Rhian Walle and Kirsten Larsen);
- **Jifu Yin**– Assimilation of Blended Satellite Soil Moisture to Further Improve Noah-MP Model Skills (with Xiwu Zhan, Mike Blarlage, Sujay Kumar, Andrew Fox, Christopher Hain, Ralph Ferraro and Jicheng Liu);

- **Jun Dong**– New Developments to the NOAA/NESDIS Satellite Snowfall Rate Product (with Yongzhen Fan, Huan Meng, Cezar Kongoli and Ralph Ferraro).
- **Veljko Petkovic**– NOAA/STAR Environmental Data Record Suite for EPS-SG: Microwave Imager (with Ralph Ferraro and Huan Meng);



EUMETSAT Polar System - Second Generation MicroWave Imager proxy data generation

(POC: Debra Baker, drb@umd.edu , Funding Source: Task I)

Meeting with GINA: H. Meng met with some members of Geographic Information Network of Alaska (GINA) at University of Fairbanks: Jennifer Delamere (GINA director), Carl Dierking, and Jay Cable virtually to discuss their collaborations in a JPSS PGRR project. STAR and CISESS scientists are developing an Alaska regional snowfall rate product which will be distributed to some NWS Alaska offices for assessment. GINA is a collaborator of the project and will help with data processing, formatting, and dissemination as well as user engagement.

(POC: Huan Meng, huan.meng@noaa.gov, Funding: PDRA)

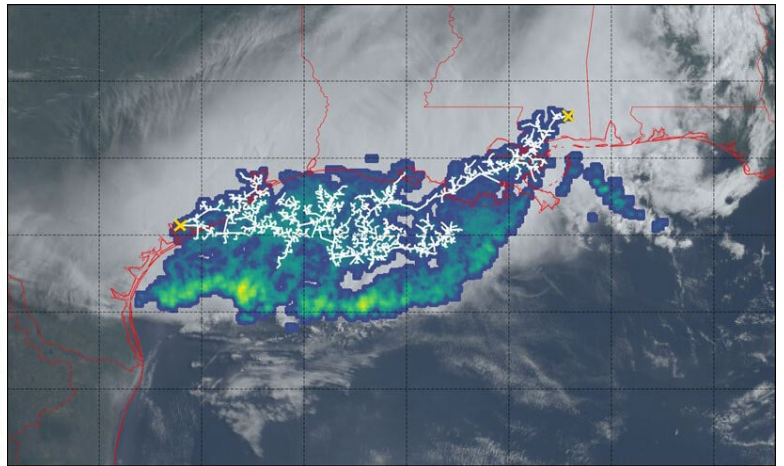
Kenney & Gerst presented a NOAA Science Seminar: CISESS Scientist Michael Gerst and Consortium Scientist Melissa Kenney (UMN) gave a presentation on “Using Visualization Science to Improve Expert and Public Understanding of Probabilistic Temperature and Precipitation Outlooks” on January 11th. They were joined by NOAA Scientist Jon Gottschalk. This presentation was part of the NOAA Science Seminar Series.

(POC: Melissa Kenney, makenney@umn.edu, Funding Source: CPC).

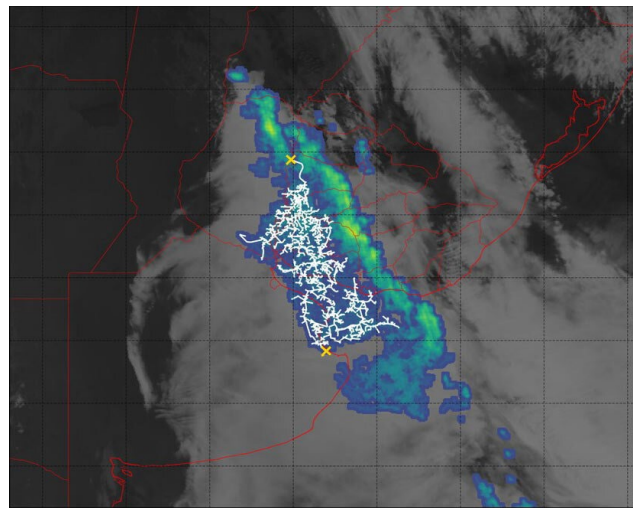
Other

Zhang Helped Certify Two New WMO Megaflash Lightning Records: CISESS Scientist Daile Zhang, who serves on the World Meteorological Organization’s Committee on Weather and Climate Extremes, helped certify two new WMO megaflash lightning records. On February 1, WMO announced two new world records for megaflashes of lightning in notorious hot spots in North and South America:

- The longest single flash that covered a horizontal distance of 477.2 ± 5 miles (768 ± 8 kilometers) across parts of the southern United States on April 29, 2020. This is equivalent to the distance between New York City and Columbus, Ohio.



- The greatest duration for a single lightning flash of 17.102 ± 0.002 seconds from the flash that developed continuously through a thunderstorm over Uruguay and northern Argentina on June 18, 2020.



Source: <https://public.wmo.int/en/media/press-release/wmo-certifies-two-megaflash-lightning-records> . In addition to WMO, [NOAA](#) and [UMD](#) issued press releases about the new

lightning records that were picked up by major media outlets including [CNN](#), [USA Today](#), [NBC News](#), [NPR](#), as well as scientific websites like [EarthSky](#).

(POC: Daile Zhang, dlzhang@umd.edu, Funding: GOES-R AWG, GOES-R PGRR, NOAA-NASA ROSES)