

Curriculum Vitae

YIXIN “BERRY” WEN

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Education

- Ph. D. 2015** **Meteorology**, University of Oklahoma, Norman, OK, USA
Towards Improved QPE by Capitalizing Ground- and Space- Based Precipitation Measurements
- M.S. 2012** **Geoinformatics**, University of Oklahoma, Norman, OK, USA
Creating Synergy Between Ground- and Space-Based Precipitation Measurements
- B.S. 2006** **Ecology**, East China Normal University, Shanghai, China
Pollution, Economy and Regulations: Environmental Kuznets Curve in Shanghai, China

Professional Experience

- Jan. 2022 – Present** **Assistant Professor**, Department of Geography, University of Florida
- Nov. 2017 – Dec. 2021** **Research Scientist**, NOAA/National Severe Storms Laboratory
Cooperative Institute for Mesoscale Meteorological Studies, Norman, OK
- Dec. 2015 – Oct. 2017** **Postdoctoral Research Associate**, NASA/Jet Propulsion Laboratory
California Institute of Technology, Pasadena, CA
- May 2015 – Dec. 2015** **Postdoctoral Research Associate**, NOAA/NSSL
NOAA/University of Oklahoma Cooperative Institute, Norman, OK
- Aug. 2009 – May 2015** **Research Assistant**, National Weather Center, University of Oklahoma
- Sep. 2007 – Aug. 2009** **Visiting Researcher**, Department of Microbiology & Plant Biology
University of Oklahoma, Norman, OK

Research Interests

- Radar and satellite remote sensing, retrieval, validation and application in Meteorology and Hydrology
- Machine learning and deep learning
- Long-term climate data analysis, extreme events and natural hazards
- Environmental Justice and Climate Justice

Professional Activities

- Editor, *JGR: Machine Learning and Computation* (new AGU journal)
- Organizer, AGU Special Collection “Advances in Machine Learning for Earth Science: Observation, modeling, and Applications” on *Earth and Space Science*, *Water Resources Research* and *JGR: Atmospheres*.
- Academic editor, *Remote Sensing*, Special Issue on “Remote Sensing Precipitation Measurement, Validation, and Applications”.
- Academic editor, *Remote Sensing*, Special Issue on “Atmospheric Applications of polarimetric radar”
- Openscapes Champions Lesson Series, Apr-Jun 2023, doi.org/10.5281/zenodo.7407246
- Invited Reviewer, NASA ROSES proposal review panel (2019, 2023, and 2024).

Students/Postdoctoral Research Associates Supervised

- Postdoctoral Research Associate: Erica Griffin, Shang Gao
- Students: Taozhong Huang, Zhi Li, Theresa Tsoodle Yellowbear, Haotong Jing, Jesse Kisembe, Weikang Qian, Ronald Odongo, Tan Dao, Aidan Winney, Olivia Zhang, Tomas Bayona
- JPL summer interns, Barry Martinez (2016 Summer), Gabriela Martinez (2017 Summer)

Referred Journal Articles (+: students; * corresponding)

42. Huang, S.⁺, Adusumilli, T. ⁺, Choudhary, K. ⁺, **Wen, Y.**, Yang, H., (2024). Parsing the Language of Expressions: Enhancing Symbolic Regression with Domain-Aware Symbolic Priors. The 13th International Conference on Learning Representations. <https://openreview.net/forum?id=FwjEZZ3j91> (preprint)
41. Zhu, S.⁺, Li, Z., Chen M., **Wen, Y.**, Liu, Z., Huffman G., Tsoodle T., Ferraro S., Wang Y., Hong, Y., (2024). Evaluation of IMERG climate trends over land in the TRMM and GPM eras. *Environmental Research Letters* (Accepted).
40. Zhang⁺, O., Grissom, B., Pulido, J., Munoz-Ordaz, K., He, J., Cham, M., Jing, H., Qian, W., **Wen, Y.**, & Wang, J., (2024). Accurate and Interpretable Radar Quantitative Precipitation Estimation with Symbolic Regression. (First author is my undergraduate student. Accepted to BigData23 Industry & Government. 35% acceptance rate.)
39. Song, J., Qi, W., Lyu, Y., Zhang, H., Song, Y., Shi, T., **Wen, Y.** and Yong, B. (2024), Detecting the Vertical Structure of Extreme Precipitation in the Headwater Area of Yellow River Using the Dual-Frequency Precipitation Radar Onboard the Global Precipitation Measurement Mission. *Int J Climatol*. <https://doi.org/10.1002/joc.8675>
38. Kisémbé, J.⁺, Li, J.-L. F., **Wen, Y.** *, Lee, W.-L., Qian, W., Li, Z., & Jiang, J. H. (2024). Assessing the impacts of falling ice radiative effects on the seasonal variation of land surface properties. *Journal of Geophysical Research: Atmospheres*, 129, e2024JD040991. <https://doi.org/10.1029/2024JD040991>
37. Jing H.⁺, Li Z., **Wen Y.** *, Gao S., Wang Y., Qian W., Kisémbé J. Changes in Convective Precipitation Reflectivity over the CONUS Revealed by High-Resolution Radar Observations from 2015 to 2021. *Atmosphere*. 2024; 15(6):627. <https://doi.org/10.3390/atmos15060627>
36. Li, Z.⁺, Tsoodle, T., Chen, M., Gao, S., Zhang, J., **Wen, Y.**, Yang, T., King, F., Hong, Y. (2023). Future Heavy rainfall and flood risks for Native America under climate and demographic changes: A case study in Oklahoma, *Weather, Climate, and Society*, <https://doi.org/10.1175/WCAS-D-23-0005.1>
35. Li, Z.⁺, Gao, S., Chen, M., Zhang J., Gourley, J.J., **Wen, Y.**, Yang, T., Hong, Y. (2023). Introducing Flashiness-Intensity-Duration-Frequency (F-IDF): A New Metric to Quantify Flash Flood Intensity, *Geophysical Research Letters* 50 (23), e2023GL104992
34. Gao, S.⁺, **Wen, Y.***, Fishbein, E., Lambrigtsen, B., Dan, V., & Galli, C. (2023). Ground-Validation and Error Attribution of Near-Surface Air Temperature from AIRS in North America. *Earth and Space Science*, <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2022EA002658>
33. Li, Z.⁺, Xue, X., Clark, R., Vergara, H., Gourley, J.J., Tang, G., Shen, X., Kan, G., Zhang, K., Wang, J., Chen, M., Gao, S., Zhang, J., Yang, T., **Wen, Y.**, Kirstetter, P., Hong, Y. (2023). A decadal review of the CREST model family: Developments, applications, and outlook. *Journal of Hydrology*, 20, <https://doi.org/10.1016/j.hydroa.2023.100159>
32. Z. Liu, **Wen, Y.**, V. Mantas, and D. Meyer, 2023, We need a better way to share Earth observations, *EOS*, 104, doi: <https://doi.org/10.1029/2023EO230190>
31. Li, Z.⁺, **Wen, Y.***, Liao, L., Wolff, D., Meneghini, R., Schuur, T. (2023). Joint Collaboration on comparing NOAA’s ground-based weather radar and NASA-JAXA’s spaceborne radar. Bulletin of the American Meteorological Society, <https://doi.org/10.1175/BAMS-D-22-0127.1>
30. Chen, M., Huang, Y., Li, Z., Larico, A. J. M., Xue, M., Hong, Y., Hu, X.-M., Novoa, H. M., Martin, E., McPherson, R., Zhang, J., Gao, S., **Wen, Y.**, Perez, A. V., & Morales, I. Y. (2022). Cross-Examining Precipitation Products by Rain Gauge, Remote Sensing, and WRF Simulations over a South American Region across the Pacific Coast and Andes. *Atmosphere*, 13(10), 1666. <https://doi.org/10.3390/atmos13101666>

29. Kalmus, P., Nguyen, H., Roman, J., Wang, T., Yue, Q., **Wen, Y.**, Hobbs, J., & Braverman, A. (2022). Data Fusion of AIRS and CrIMSS Near Surface Air Temperature. *Earth and Space Science*, 9(10), e2022EA002282. <https://doi.org/10.1029/2022EA002282>
28. Li, Z.⁺, Chen, M., Gao, S., **Wen, Y.**, Gourley, J. J., Yang, T., Kolar, R., & Hong, Y. (2022). Can re-infiltration process be ignored for flood inundation mapping and prediction during extreme storms? A case study in Texas Gulf Coast region. *Environmental Modelling & Software*, 155, 105450. <https://doi.org/10.1016/j.envsoft.2022.105450> (Impact Factor: 4.807)
27. Li, Z.⁺, Tang, G., Kirstetter, P., Gao, S., Li, J.-L. F., **Wen, Y.***, & Hong, Y. (2022). Evaluation of GPM IMERG and its constellations in extreme events over the conterminous united states. *Journal of Hydrology*, 606, 127357. <https://doi.org/10.1016/j.jhydrol.2021.127357> (Impact Factor: 6.708)
26. Z. Li, G. Tang, P. Kirstetter, S. Gao, J-L F Li, **Y. Wen**, Y. Hong, 2022, Evaluation of GPM IMERG and its Constellations in Extreme Events over the Conterminous United States, *J. Hydrology*, 127357, ISSN 0022-1694, <https://doi.org/10.1016/j.jhydrol.2021.127357>.
25. M. Weber, Hondl, K., Yussouf, N., Jung, Y., Stratman, D., Putnam, B., Wang, X., Schuur, T., Kuster, C., **Wen, Y.**, Sun, J., Keeler, J., Ying, Z., Cho, J., Kurdzo, J., Torres, S., Curtis, C., Schwartzman, D., Boettcher, J., Nai, F., Thomas, H., Zrnić, D., Ivić, I., Mirković, D., Fulton, C., Salazar, J., Zhang, G., Palmer, R., Yeary, M., Cooley, K., Istok, M., & Vincent, M., 2021, Towards the Next Generation Operational Meteorological Radar, *Bulletin of the American Meteorological Society*, 102(7), E1357-E1383. <https://journals.ametsoc.org/view/journals/bams/102/7/BAMS-D-20-0067.1.xml>
24. **Y. Wen+**, T. Schurr, C. Kuster and H. V. Vergara, 2021, Effect of Precipitation Sampling Error on Flash Flood Monitoring and Prediction: Anticipating Rapid-Update Weather Radars, *J. Hydrometeorol*, doi: <https://doi.org/10.1175/JHM-D-19-0286.1>
23. Z. Li, **Y. Wen***, M. Schreier, A. Behrangi, Y. Hong, B. Lambriigtsen, 2020, Advancing Satellite Precipitation Retrievals with Data Driven Approaches: Is Black Box Model Explainable? *Earth and Space Science*, doi: 10.1029/2020EA001423
22. B. Coffey, M. Kubacki, **Y. Wen**, T. Zhang, C. Barajas, and M. K. Gobbert. Using Machine Learning Techniques for Supercell Tornado Prediction with Environmental Sounding Data. Technical Report HPCF-2020-18, UMBC High Performance Computing Facility, University of Maryland, Baltimore County, 2020. <http://hpcf-files.umbc.edu/research/papers/CT2020Team8.pdf>
21. B. Coffey, M. Kubacki, **Y. Wen**, T. Zhang, C. A. Barajas, and M. K. Gobbert. Machine Learning with Feature Importance Analysis for Tornado Prediction from Environmental Sounding Data. Proceedings in Applied Mathematics and Mechanics, <https://doi.org/10.1002/pamm.202000112>
20. Z. Li, M. Chen, S. Gao, Z. Hong, G. Tang, **Y. Wen**, J.J. Gourley, Y. Hong, 2020, Cross-Examination of Similarity, Difference and Deficiency of Gauge, Radar and Satellite Precipitation Measuring Uncertainties for Extreme Events Using Conventional Metrics and Multiplicative Triple Collocation, *Remote Sens.* 2020, 12(8), 1258; doi:<https://doi.org/10.3390/rs12081258>
19. Z. Li, G. Tang, Z. Hong, M. Chen, S. Gao, P. Kirstetter, J. Gourley, **Y. Wen**, T. Yami, S. Nabih, Y. Hong, 2020, Two-decades of GPM IMERG early and final run products intercomparison: Similarity and difference in climatology, rates, and extremes, *Journal of Hydrology*, 2021, **594**, 125975, <https://doi.org/10.1016/j.jhydrol.2021.125975>.
18. **Y. Wen***, A. Behrangi, H. Chen and B. Lambriigtsen, 2018, Remote Sensing of Atmospheric Rivers Precipitation: Was the January 2018 California Excessive Rainfall and Snowfall Event Detectable by Global Satellite Observing and Ground Weather Radar Network? *Q. J. R. Meteorol. Soc.* doi:10.1002/qj.3253

17. B. Lambriqtsen, H. V. Dang, J. Turk, S. Hristova, H. Su and **Y. Wen**, 2018, All-weather tropospheric 3-D wind from microwave sounders, *IEEE J. Selected Topics in Applied Earth Observations and Remote Sensing*, 11, 1949-1956.
16. Y. Gou, Y. Ma, H. Chen, and **Y. Wen**, 2018, Radar-derived Quantitative Precipitation Estimation in Complex Terrain over the Eastern Tibetan Plateau, *Atmospheric Research*, <https://doi.org/10.1016/j.atmosres.2017.12.017>
15. **Y. Wen**, P. E. Kirstetter, J.J. Gourley, Y. Hong, A. Behrangi, and Z. Flamig, 2017, Evaluation of MRMS snowfall products using SNOTEL measurements over Western United States, *J. Hydrometeor*, DOI: <http://dx.doi.org/10.1175/JHM-D-16-0266>.
14. G. Tang, **Y. Wen**, J. Gao, D. Long, Y. Ma, W. Wan, and Y. Hong, 2017, Similarities and differences between three co-existing space borne radars in global rainfall and snowfall estimation. *Water Resour. Res.* 53, 3835–3853, doi:10.1002/2016WR019961.
13. A. Behrangi and **Y. Wen**, 2017, On the spatial and temporal sampling errors of remotely sensed precipitation products. *Remote Sens.* 9(11), 1127; doi:10.3390/rs9111127.
12. I. Yanovsky, A. Behrangi, **Y. Wen**, M. Schreier, V. Dang and B. Lambriqtsen, 2017, Enhanced Resolution of Microwave Sounder Imagery through Fusion with Infrared Sensor Data. *Remote Sens.* 9(11); doi:10.3390/rs9111097.
11. L. Zhong, R. Yang, **Y. Wen**, L. Chen, Y. Gou, R. Li, Q. Zhou, and Y. Hong, 2017, Cross-evaluation of Reflectivity from the Space-borne Precipitation Radar and multi-type Ground-based weather radar network in China. *Atmospheric Research*, <https://doi.org/10.1016/j.atmosres.2017.06.016>
10. G. Tang, Z. Zeng, M. Ma, R. Liu, **Y. Wen**, and Y. Hong, 2017, Can near-real-time satellite precipitation products capture rainstorms and guide flood warning for the 2016 summer in South China? *IEEE Geoscience and Remote Sensing Letters*, doi:10.1109/LGRS.2017.2702137
9. L. Zhong, R. Yang, L. Chen, **Y. Wen**, R. Li, G. Tang, Y. Hong, 2017: Combined Space and Ground radars for improving QPE in Eastern Downstream of the Tibetan Plateau (I): The variability of vertical structure of precipitation in ChuanYu implicated from long-term space-borne observations by TRMM / PR. *J. Appl. Meteor. Climatol.* <https://doi.org/10.1175/JAMC-D-16-0382.1>
8. **Y. Wen**, A. Behrangi, B. Lambriqtsen and P.E. Kirstetter, 2016: Evaluation of uncertainty estimation of radar and satellite snowfall products using SNOTEL measurements over mountainous regions in Western United States. *Remote Sens.* 8(11), 904; doi:[10.3390/rs8110904](https://doi.org/10.3390/rs8110904)
7. **Y. Wen**, P.E. Kirstetter, Y. Hong, J. J. Gourley, Q. Cao, J. Zhang, Z. Flamig and X. Xue, 2016: Evaluation of a method to enhance real-time ground radar-based rainfall estimates using climatological profiles of reflectivity from space. *J. Hydrometeor*, <http://dx.doi.org/10.1175/JHM-D-15-0062.1>
6. **Y. Wen**, Q. Cao, P.-E. Kirstetter, Y. Hong, J. J. Gourley, J. Zhang, G. Zhang, B. Yong, 2013: Incorporating NASA Spaceborne Radar Data into NOAA National Mosaic QPE System for Improved Precipitation Measurement: A Physically Based VPR Identification and Enhancement Method. *J. Hydrometeor*, 14, 1293–1307. doi: <https://doi.org/10.1175/JHM-D-12-0106.1>
5. Q. Cao, **Y. Wen**, Y. Hong, J.J. Gourley, and P. Kirstetter, 2013: Enhancing Quantitative Precipitation Estimation (QPE) over Continental United States (CONUS) using a Physically-based Multi-sensor Integration Approach. *IEEE Geoscience and Remote Sensing Letters*, 11(7), 1305-1309. doi:10.1109/LGRS.2013.2295768.
4. Q. Cao, Y. Hong, Y. Qi, **Y. Wen**, J. Zhang, J. J. Gourley, and L. Liao, 2013: Empirical conversion of the vertical profile of reflectivity from Ku-band to S-band frequency. *Journal of Geophysical Research: Atmospheres* 118:4, 1814-1825.

3. B. Yong, L. Ren, Y. Hong, J. J. Gourley, Y. Tian, G. J. Huffman, X. Chen, W. Wang, and **Y. Wen**, 2013: First evaluation of the climatological calibration algorithm in the real-time TMPA precipitation estimates over two basins at high and low latitudes, *Water Resour. Res.*, **49**, 2461–2472, doi:10.1002/wrcr.20246.
2. Q. Cao, Y. Hong, J.J. Gourley, Y. Qi, J. Zhang, **Y. Wen**, and P. Kirstetter, 2012: Statistical and Physical Analysis of Vertical Structure of Precipitation in Mountainous West Region of US using 11+ Year Spaceborne TRMM PR Observations, *J Appl. Meteor. Climatol.*, doi: <http://dx.doi.org/10.1175/JAMC-D-12-095.1>.
1. **Y. Wen**, Y. Hong, G. Zhang, T. J. Schuur, J. J. Gourley, Z. L. Flamig, K. R. Morris, and Q. Cao, 2011: Cross validation of spaceborne radar and ground polarimetric radar aided by polarimetric echo classification of hydrometeor types. *J. Appl. Meteor. Climatol.*, **50**, 1389-1402, doi: 10.1175/2011JAMC2622.1.

Book Chapters

1. Tang G., **Y. Wen**, Y. Zheng, D. Long and Y. Hong, From Tropical to Global Precipitation Measurement: Capacity Building for Sustainability and Resilience. Hydrologic Remote Sensing (pp. 1-15). doi: 10.1201/9781315370392-2 .
2. **Y. Wen**, Z. Wan, Y. Hong and J.J. Gourley, Advanced Radar Technologies for Quantitative Precipitation Estimation. Radar Hydrology: Principles, Models, and Applications (pp. 87-106), 1st ed., Boca Raton, CRC Press, 180pp
3. L. Jiang, Y. Qu, Y. Zhou, and Y. Wen, Soil Respiration and the Environment (Translated to Chinese version. Higher Education Press, China

Scientific Grants & Contracts

1. NASA NNH23ZDA001N-EEJ: A.47 Earth Action: Community Action for Equity and Environmental Justice, Building Co-Design and Co-Learning Digital Twins against Floods on Tribal Lands in support of Indigenous Communities (Co-I, \$750,374, 10/01/2024-9/31/2027, with University of Oklahoma)
2. NASA Jet Propulsion Laboratory, California Institute of Technology A19-0075-001, Analysis of the performance of the Atmospheric Infrared Sounder (AIRS) retrieval system (PI, \$140,000, 08/01/2018-09/31/2021);
3. University of Oklahoma Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) Director’s Directed Research Fund, Understanding satellite-derived cloud properties using polarimetric classification of hydrometeor types from WSR-88D radars. (PI, \$20,000)
4. NASA Oklahoma EPSCoR Research Initiation Grant, Development of a joint ground polarimetric radar and satellite database. (PI, \$27,000, 06/01/2019-06/01/2021)
5. NASA ROSES 2019 A.46 Advancing Collaborative Connections for Earth System Science (ACCESS), Developing Passive Satellite Cloud Remote Sensing Algorithms using Collocated Observations, Numerical Simulation and Deep Learning (Participated as collaborator, 05/01/2020-04/30/2023)
6. NASA ROSES 2016 A.28 Interdisciplinary Science, Chlorophyll Fluorescence and Soil Moisture Observations to Characterize Terrestrial Vegetation Photosynthesis and Biosphere Carbon Uptake in North America. (Participated as collaborator, Jan. 2017 ~ Jan. 2020)
7. NASA NNX11AL78G entitled, Incorporating NASA spaceborne precipitation research products into NOAA National Mosaic QPE operational system for improved short-term weather prediction at Colorado basin river forecast center. (Participated as collaborator, Aug. 2011 ~ Aug. 2014)

Conference Presentations

1. (Invited). **Wen, Y.**, Synergy study of space-borne and ground-based radar observations aided by AI/ML, NASA Goddard GESTAR seminar, Greenbelt, Maryland, 14 March 2024
2. (Invited). **Wen, Y.** Cloud Computation: Ground validation of NASA GPM products in the cloud. NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) User Working Group Annual F2F meeting, Greenbelt, Maryland, 22-27 September 2023
3. (Invited). **Wen, Y.** “Satellite Archaeology”, Aucilla Research Institute Conference, Monticello, Florida 12-14 October 2023 (Local community)
4. Qian, W., **Wen, Y.**, Farahmand, A. and Kisémbé J., Understanding the Causalities between Multiple Environmental Variables and Droughts in Amazon Basin. No. EGU24-12984. Copernicus Meetings.
5. Dao T., **Wen Y.**, Li Z., Qian W., Tzeng M-D., Yu, T.Y., Bodine, D., Intercomparison of ground-based RaXPoL mobile radar and WSR-88D operational radar with the GPM spaceborne radar during Hurricane Ian, AGU, San Francisco, Dec. 13-18, 2023
6. Qian, W., **Wen, Y.**, Gao, S., Li, Z., Kisémbé, J., Jing, H., Improving Early-warning Tornado Forecast Based on Environmental Variables Using Symbolic Deep Learning, AGU, San Francisco, Dec. 13-18, 2023
7. Kempler, L., **Y. Wen**, MATLAB for Cloud Computing. AGU, San Francisco, Dec. 13-18, 2023.
8. E. Griffin, **Y. Wen**, T. Schuur, A. Ryzhkov, J. Krause, and Y. Hong, Evaluation of GPM DPR Surface Precipitation Type Identification, Using Ground-Based Polarimetric WSR-88D Radar and mPING Crowdsourcing Observations, AGU Fall Meeting, online, Dec. 13-18, 2020
9. **Y. Wen**, J. Krause, B. Kahn, and T. Huang, The use of AIRS and polarimetric radar to monitor severe local storms: creating synergy between hyperspectral sounders and ground radars. NASA Sounder Science Team Meeting, Hyattsville, Maryland, Sep. 25-27, 2019
10. **Y. Wen**, T. Schurr, H.V. Vergara, C. Kuster, and J. Kudzo, Advancing flash flooding early warning using proxy of phased array radar measurements, International Radar Meteorology Conference, Nara, Japan, Sep. 16 – 20, 2019.
11. **Y. Wen**, T. Schurr, C. Kuster, and H. V. Vergara, Effect of Precipitation Sampling Error on Flash Flood Monitoring and Prediction: Anticipating Rapid-Update Weather Radars. AMS Annual Meeting, Phoenix, Jan 4-9, 2019
12. **Y. Wen**, T.J. Shuur, C. Kuster, and H. Vegara, Advancing flash flooding early warning using rapid-scan polarimetric radar observations. Soul, Korea, Nov. 5-9, 2018.
13. **Y. Wen**, A. Behrangi, H. Chen, and B. Lambriksen, How well the early 2017 California Atmospheric River precipitation events were captured by satellite products and ground-based radars? 2017, New Orleans, LA, Dec. 11-15, 2017.
14. **Y. Wen**, A. Behrangi, S. Licata, S. Granger, T. Tadesse, and Y. Sun, Advancing drought monitoring and prediction using A-train data, International A-Train Symposium 2017, Pasadena, CA, Apr. 19-21, 2017.
15. **Y. Wen**, A. Behrangi, B. Lambriksen and P.-E. Kirstetter, Evaluation and Uncertainty Estimation of Radar and Satellite Precipitation Products over Western United States, AGU Fall Meeting, San Francisco, CA, Dec. 12-16, 2016.

16. **Y. Wen**, P.E. Kirstetter, J.J. Gourley, A. Behrangi, Z. Flamig and Y. Hong, Evaluation of MRMS snowfall products using SNOTEL measurements in west mountainous region, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2015.
17. **Y. Wen**, Y. Hong, P.E. Kirstetter, J. J. Gourley and J. Zhang, The Latest Progress in the VPR-Identification and Enhancement (VPR-IE) Approach: Incorporate Climatological and Real-time VPR Information from Spaceborne Precipitation Radar to the NOAA MRMS system, AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2014.
18. **Y. Wen**, Y. Hong, P.E. Kirstetter, J.J. Gourley, J. Zhang, Systematical evaluation of VPR-Identification and Enhancement (VPR-IE) approach for different precipitation types, SPIE Remote Sensing of the Atmosphere, Clouds, and Precipitation V, Beijing, China, Oct. 13-16, 2014.
19. **Y. Wen**, Y. Hong, P.E. Kirstetter, J.J. Gourley, J. Zhang, How Spaceborne Radar can enhance ground radar network for improved understanding of precipitation rates and types over mountainous regions, San Diego, California, Aug. 17-22, 2014.
20. **Y. Wen**, Y. Hong, P.E. Kirstetter, J.J. Gourley, J. Zhang and G. Zhang, Deriving a NMQ Snow Quality Index: Attempts to establish consistent and robust snowfall references for benchmarking spaceborne snowfall products, AGU Fall meeting, San Francisco, California, Dec. 9-13, 2013.
21. **Y. Wen**, Y. Hong, Q. Cao, J.J. Gourley, J. Zhang and P.E. Kirstetter, Systematical Evaluation of VPR-Identification and Enhancement (VPR-IE) Approach: Incorporate Space-borne Radar into Ground Radar Network", AMS Radar conference Breckenridge, CO, Sep 16-20, 2013.
22. **Y. Wen**, Y. Hong, Q. Cao, J.J. Gourley, J. Zhang and P.E. Kirstetter, Spaceborne and Ground-based Global and Regional Precipitation Estimation: Multi-sensor Synergy, CYWater summer meeting, Beijing, China, Aug. 3, 2013.
23. **Y. Wen**, Y. Hong, Q. Cao, G. Zhang, J.J. Gourley, J. Zhang, P.E. Kirstetter, Z. Flamig, X. Xue, Capture extreme precipitation events in Mountainous Region: Incorporate space-borne radar into ground radar network using VPR-IE method. Second China-U.S. Symposium on Meteorology, Qingdao, Shandong Province, China, June 25-27, 2013.
24. **Y. Wen**, Y. Hong, Q. Cao, J.J. Gourley, J. Zhang, and P. Kirstetter, VPR-IE: Combining climatological VPR information from TRMM Precipitation Radar with NEXRAD-based rainfall estimates. AGU, Fall Meeting, San Francisco, CA, December 3-7, 2012.
25. **Y. Wen**, Y. Hong, Q. Cao, J. Zhang, J.J. Gourley, G. Zhang, and K. Howard, Improving precipitation estimation in mountainous west region of United States by incorporating space-borne radar measurements into National Mosaic QPE system, NASA PMM, Denver, CO November, 7-10, 2011.
26. **Y. Wen**, P. E. Kirstetter, Y. Hong, J. Zhang, J. J. Gourley, G. Zhang, Incorporating NASA space-borne precipitation products into National Mosaic QPE operational system for improved precipitation measurements, The 35th Conference on Radar Meteorology, Pittsburgh, PA, Sep 26-30, 2011.
27. **Y. Wen**, Y. Hong, G. Zhang, J. Zhang and J. J. Gourley, Incorporating NASA space-borne precipitation research products into National Mosaic QPE operational system for improved precipitation measurements, IEEE Radar Conference, Kansas City, Missouri, May 2011. IEEE National Radar Conference Proceedings p995-999.
28. **Y. Wen**, Y. Hong, P.E. Kirstetter, J. Zhang, J.J. Gourley, G. Zhang and K. Howard, Incorporating NASA spaceborne precipitation products into National Mosaic QPE operational system for improved precipitation measurements. International Symposium on Earth-Science Challenges (ISEC), Norman, OK, U.S., Sep 14-16, 2011.

29. **Y. Wen**, Y. Hong, J. J. Gourley, Z. Flamig, X. Xue and S. Chen, The Coupled routing and excess storage (CREST) distributed hydrologic model sensitivity to rainfall spatiotemporal resolution. The 19th International Conference on GeoInformatics, Shanghai, China, Jun 24-27, 2011.
30. **Y. Wen**, Y. Hong, J. Zhang, G. Zhang, J. J. Gourley and S. Chen, Creating Synergy between Ground- and Space-based Precipitation Measurements, 2011 National Radio Science Meeting, Boulder, U.S., Jan 6-9, 2011.
31. **Y. Wen**, Y. Hong, J.J. Gourley, G. Zhang, T. J. Schuur, Z. Flamig, K. R. Morris and Q. Cao, Cross Validation of Space-borne Radar and Ground Dual-polarization Radar, 2010 AGU Fall Meeting, San Francisco, U.S., Dec 13-17, 2010.
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