

REFEREED PUBLICATIONS:

Mark L. Morrissey

Book under Contract and in Preparation:

Satellite and Surface Validation: Theory and Methods, J. Wiley & Sons, Textbook for upper level undergraduates and graduates in Meteorology.

Refereed Publications and Book Chapters (56 Total; 24 First Authored, 5 Single Authored)

NOTE: On Leave W/O Pay from the University of Oklahoma from 2004 through 2005 to Coordinate the Pacific Island – Global Climate Observing System in Apia, Samoa

1. S. Champian, J. S. Greene, M.L. Morrissey, 2014: Renewable energy education and awareness in Oklahoma, *Energy Education Science and Technology Part B: Social and Educational Studies*, Volume (issue) 6(1): 55-68.
2. J. Scott Greene and Mark Morrissey, 2013: “Estimated Pollution Reduction from Wind Farms in Oklahoma and Associated Economic and Human Health Benefits, 2013: *Journal of Renewable Energy*, vol. 2013, Article ID 924920, 7 pages,. doi:10.1155/2013/924920
3. Morrissey, M.L., H. J. Diamond, M.J. McPhaden, H.P. Frietag, and J.S. Greene, 2012: An Investigation of the Consistency of TAO Buoy-mounted Capacitance Rain Gauges along the Equatorial Tropical Pacific, *J. Atmos. Ocean. Tech.*, 29, 834-845.
4. Greene, J.S., M. Chatelain, Morrissey, M.L., and S. Stadler, 2012, Estimated Changes in Wind Speed and Wind Power Density over the Western High Plains, 1971-2000, *Theoretical and Applied Climatology*, 109:507-518.
5. Greene, J.S., M. Chatelain, Morrissey, M.L. and S. Stadler, 2012: Projected Future Wind Speed and Wind Power Density Trends over the Western U.S. High Plains, *Atmospheric and Climate Sciences*, 2, 32-40.
6. Morrissey, M.L. and J. S. Greene, 2012: Tractable Analytic Expressions for the Wind Speed Probability Density Functions using Expansions of Orthogonal Polynomials *J. Appl. Meteor. Clim., J. Appl. Meteor. Climatol.* In *Journal of Applied Meteorology and Climatology*, **51**, 1310–1320
7. Morrissey, M. L. and J.S. Greene, 2011: “Advanced Wind Resource Characterization and Stationarity Analysis for Improved Wind Farm Siting”, *Wind Farm Technical Regulations, Potential Estimation and Siting Assessment*, ISBN: 978-953-307-483-2.
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9. Morrissey, M. L., W.E. Cook, and J.S. Greene, 2010: An Improved Method for Estimating the Wind Power Density Function, *J. Atmos. Ocean. Tech.*, 27(7): 1153-1164.
10. Morrissey, M. L., Albers, A., J.S. Greene, and S.E. Postawko, 2010: An Isofactorial Change-of-Scale Model for the Wind Speed Probability Density Function, *J. Atmos. Ocean. Tech.*, 27(2),

p. 257-273.

11. Morrissey M..L., 2009: Superposition of the Neyman-Scott Rectangular Pulses Model and the Poisson White Noise Model for the Representation of Tropical Rain Rates. *Journal of Hydrometeorology*, 10, 395-412.
12. Morrissey, M.L. and Greene, J.S. 2009: A theoretical framework for the sampling error variance for three-dimensional climate averages of ICOADS monthly ship data, *Theoretical and Applied Climatology*, 96, p. 235.
13. Greene, J.S., K. McNabb, R. Zwilling, M. L. Morrissey and S. Stadler, 2009: Analysis of Vertical Wind Shear in the Southern Great Plains and Potential Impacts on Estimation of Wind Energy Production, *International Journal of Global Energy Issues*, 39. doi: 10.1504/IJGEI.2009.030651.
14. Greene, J. S, M. D. Klatt, M. L. Morrissey, and S Postawko, 2008: "The Comprehensive Pacific Rainfall Database: An enhanced tool for research and education", *Journal of Atmospheric and Oceanic Technology*, 25, pp., 71-82.
15. Morrissey, M. L. and J. S. Greene 2007: "Ground Validation for the Global Precipitation Climatology Project" in "*Measuring Precipitation from Space - EURAINSAT and the future*" Levizzani, Vincenzo; Bauer, Peter; Turk, F. Joseph (editors), 2007, Approx. 745 p., Hardcover ISBN: 978-1-4020-5834-9.. p. 381-392.
16. Gruber, A., B. Rudolf, M, L. Morrissey, T. Kurino, J. Janowiak, R. Ferraro, R. Francis, A. Chang and R.F. Adler, 2007: 'The Global Precipitation Climatology Project' in "*Measuring Precipitation from Space - EURAINSAT and the future*" Levizzani, Vincenzo; Bauer, Peter; Turk, F. Joseph (editors), 2007, Approx. 745 p., Hardcover ISBN: 978-1-4020-5834-9. p. 25-36.
17. Greene, JS, B Paris, and M Morrissey, 2007, Analysis of Historical Changes in Extreme Precipitation Events in the Tropical Pacific, *Climate Research*, 34, 1-14.
18. Gremichael, M.; Krajewski, W. F., M. L. Morrissey, 2005: A Detailed Evaluation of GPCP 1° Daily Rainfall Estimates over the Mississippi River Basin, *Journal of Applied Meteorology*, 44 685-681.)
19. Grebremichael, M, W. F. Krajewski, M. Morrissey, D. Langerud, G.J. Huffman, R. Adler, 2003: Error uncertainty analysis of GPCP monthly rainfall products: A data based simulation study, *J.Appl.Meteor.*, 42,12, 1837-1848.
20. Mahmood, R., M. Meo, D. R. Legates, M.L. Morrissey, 2003: The CERES-rice model-based estimates of potential monsoon season rainfed rice productivity in Bangladesh, *The Professional Geographer*, 55, 259-273.
21. Gibson, B., S. Postawko, J. Ensworth, M. Morrissey, J. Wurman, S. Ellis, 2003: Introducing High-tech and Low-tech Geoscience-related Technology to Disadvantaged Schools in the tropical Pacific, *Journal of Geoscience Education*, 51, March 2003.
22. Adler, R., F., C. Kidd, G. Petty, M. Morrissey, and H. M. Goodman, 2003: Intercomparison of Global Precipitation Products: The Third Precipitation Intercomparison Project (PIP-3), August, *Bulletin of the American Meteorological Society*., Vol. 82, No. 7, pp. 1377–1396.
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 25. Greene, J.S., and M.L. Morrissey: Validation and Uncertainty Analysis of Satellite Rainfall Algorithms, 2000: *The Professional Geographer*, 52, 247-258.
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 27. Ciach, G., M.L. Morrissey, W.F. Krajewski, 2000: Conditional Bias in Radar Rainfall Estimation, *Journal of Applied Meteorology*, 39, 1941-1946.
 28. Postawko, S., M.L. Morrissey, J.S. Greene, B. Gibson, A. Wood, S. Ellis, D. Harrison, and J.B. McGavock, 1999: Schools of the Pacific Rainfall Climate Experiment: The Value of Real Science in the Classroom, *Journal of Science Education and Technology*.
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 31. Morrissey, M.L., and J. S. Greene, 1998: Using the Oklahoma Mesonet to Develop and Test a Practical Sampling Error Statistic for Meteorological Time Series, *Journal of Geophysical Research*, 103, 8979-8984.
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39. Morrissey, M.L., J.A. Maliekal and J.S. Greene, J. Wang, 1995: The uncertainty of simple spatial averages using rain gauge networks, *Water Resource. Research*, 31, 2011-2017.
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46. Postawko, S., M.L. Morrissey, and B. Gibson, 1994: Schools of the Pacific Rainfall Climate Experiment: Combining research and education, *Bull. Amer. Meteor. Soc.* , 75, 1260-1266.
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48. Morrissey, M.L. and J.S. Greene, 1993: A comparison of two satellite-based rainfall algorithms using Pacific atoll raingage data, *Journal of Applied. Meteorology*, 32, No. 2, 411-425.
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51. Morrissey, M.L., 1990: An evaluation of ship data in the Equatorial Western Pacific. *J. Climate*, 3, 99 -112.
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southeastern Michigan. *Atmospheric Environment*, 19, 305-313.

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OTHER PUBLICATIONS (Sample):

S. Postawko and M.L. Morrissey, "Update of SPaRCE Activities" presented at the 11th Regional Meteorological Service Directors meeting in Noumea, New Caledonia, July 2007

Klatt, M., M. Morrissey, and J. Greene, "The PACRAIN/PI-GCOS automated rain gauge initiative", presented at the 87th AMS Annual Meeting in San Antonio, TX, January 2007.

Morrissey, M.L. and J. S. Greene, 1996: WETNET PIP-3 Pacific Atoll Raingauge Product - Uncertainty Analysis, Environmental Verification and Analysis Center, Norman, OK.

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Morrissey, M.L. and S.E. Postawko, 1993: SPaRCE Workbooks #1, Introduction to the SPaRCE program, Siting and maintaining your raingauge, OCS Pub.

Morrissey, M.L. and S.E. Postawko, 1993: SPaRCE Workbooks #2, Introduction to the Earth's atmosphere, OCS Pub.

Morrissey, M.L. and S.E. Postawko, 1993: SPaRCE Workbooks #3, Climate and climate change, OCS Pub.

Morrissey, M.L. and S.E. Postawko, 1993: SPaRCE Workbooks #4, Regional climate of the Pacific, OCS Pub.

Morrissey, M.L. and S.E. Postawko, 1993: SPaRCE Workbooks #5, Data analysis methods, OCS Pub.

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Morrissey, M.L. and M. A. Lander, 1988: Do equatorial westerlies precede El Nino?, *Tropical Ocean-Atmosphere Newsletter* (TO-AN), 46, Sept., 1-5.

Lander, M.A. and M. L. Morrissey, 1987: Unexpected duplicate ship reports in the Comprehensive Ocean-Atmosphere Data Set (COADS), *Tropical Ocean-Atmosphere Newsletter* (TO-AN), 38, March, 5-7.

Calibration and Validation. ⚠ Danger during the calibration phase. ⚠ Typically few data sets are available, in the worst case only one, and the model is only validated for these. ⚠ Solution: If possible collect new data sets. ⚠ No model is ever a perfect representation of the system. ⚠ Sensitivity analysis can also be used to check a model's face validity. ⚠ Example: In most queueing systems, if the arrival rate of customers were to increase, it would be expected that server utilization, queue length and delays would tend to increase. ⚠ For large-scale simulation models, there are many input variables and thus possibly many sensitivity tests. ⚠ Sometimes not possible to perform all of these tests, select the most critical ones.