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## **EMPLOYMENT AND POSITIONS**

2014–Present Associate Vice Chancellor for Research - Physical Sciences: UW-Madison  
2016-2018 Interim Director of Space Science and Engineering Center: UW-Madison  
2012–2014 Associate Dean for Physical Sciences at the Graduate School: UW-Madison  
1999-2019 Director, Cooperative Institute for Meteorological Satellite Studies: UW-Madison  
1992-Present Professor, Department of Atmospheric and Oceanic Sciences: UW-Madison  
1989-1992 Assistant Scientist, UW-Madison  
1987-1989 Associate Researcher, UW-Madison  
1985-1987 Graduate Research Assistant (Ph.D.), Colorado State University  
1979-1985 Research Associate Scientist, Colorado State University  
1976-1979 Graduate Research Assistant (M.S.), Colorado State University

## **ACADEMIC EDUCATION**

1985-1987 Colorado State University  
Ph.D. – Atmospheric Science  
Advisor: Dr. Stephen K. Cox  
Dissertation: "Radiative Characteristics of a Dust Laden Atmosphere"

1976-1979 Colorado State University  
M.S. – Atmospheric Science  
Advisor: Dr. Stephen K. Cox  
Thesis: "GATE Phase III Mean Synoptic-Scale Radiative Convergence Profiles"

1972-1976 State University of New York - Oneonta  
B.S. – Physics, Meteorology and a minor in Mathematics, graduated cum Laude

## **AWARDS**

- 2019-2020 Sigma Xi/American Meteorological Society Distinguished Lecturer
- 2017: New Library World 2017 Highly Commend Award for 2016 publication *Libraries, massive open online courses and the importance of place: Partnering with libraries to explore change in the Great Lakes*
- May, 2014: Colorado State University, Department of Atmospheric Sciences Alumni Award
- January 2014: Elected Fellow of the American Meteorological Society
- May 2011: Elected Fellow of the Wisconsin Academy of Sciences, Arts and Letters.
- November 2010: Finalist in NSF International Science and Engineering Visualization Challenge for *Weather Warriors*

- May 2010: National Aeronautics and Space Administration's Exceptional Public Service Medal *For Outstanding long-term contributions to NASA as a scientist, community leader and leader of the Senior Review Science Panel to extend Earth Science operating missions.*
- June 2009: State University of New York at Oneonta: Distinguished Alumnus Award
- January 2009: American Meteorological Society's Teaching Excellence Award *For his abundant energy and steadfastness in the production and practice of excellence in teaching and mentoring, and for the development and wide dissemination of highly regarded learning materials for undergraduate and graduate students in the atmospheric sciences*
- 2008: Intergovernmental Panel on Climate Change recognition for contribution to the 2007 Nobel Peace Prize
- 2007: National Aeronautics and Space Administration Group Achievement Award, CALIPSO Team
- 2005: Dorothy Howard Prize for Folklore and Education from the Folklore and Education Section of the American Folklore Society *For the website and project Wisconsin Weather Stories*
- Spring 2004: Wisconsin Space Grant Consortium Aerospace Outreach Program Award, *For Satellite Meteorology for Grades 7-12 Teacher Workshop*
- Summer 2004: UW-Madison Vilas Research Associate
- Spring 2003: Winner of the Society of Academic Author's Talby prize to "recognize excellence in visuals in textbooks and other learning materials"
- Summer 2003: National Aeronautics and Space Administration Group Achievement Award *For Outstanding Teamwork on the Earth Observing System (EOS), Aqua Mission Team*
- April 1999: Chancellor's Award for Distinguished Teaching
- December 1996: National Aeronautics and Space Administration Group Achievement Award: FIRE II Science and Operations Team
- April 1996: Winner of a Lilly Teaching Fellowship
- April 1995: Inducted as a Fellow in the University of Wisconsin-Madison Teaching Academy
- September 1992: National Aeronautics and Space Administration ERBE Program Award *For outstanding contributions to the intercomparison and validation of ERBE scanner and non-scanner results*

#### **EXAMPLE OF RELEVANT SERVICE**

- 2017- Present Deputy Secretary General of the International Association of Meteorology and Atmospheric Science
- 2016-2018 Co-chair of the Weather and Air Quality Panel for the National Academies of Sciences, Engineering and Medicine National Academy Decadal Study
- 2016-2017 Member of the National Oceanic Atmospheric Administration (NOAA) Space Platform Requirements Working Group (SPRWG), which is planning for NOAA satellites beyond 2030

2016-2019 American Meteorology Society (AMS) Annual Meeting Oversight Committee (AMOC)

2016-2019 AMS Board of Best Practices

2015-present Member of Association of Public and Land-grant Universities' Board on Oceans, Atmosphere and Climate

2015-2016 AMS Member of the Kenneth C. Spengler Award Committee

2014-2017 Steering Committee of the AMS Commission on the Weather, Water and Climate Enterprise

2013-2014 Member, National Research Council Committee on A Framework for Analyzing the Needs for Continuity of NASA-Sustained Remote Sensing Observations of the Earth from Space.

2012–2018 Member, National Academy of Sciences Standing Committee on Earth Science and Applications from Space (CESAS)

2012–Present Member AMS Satellite Meteorology, Oceanography and Climatology (SatMOC) Committee

1998–Present One of the Weather Guys (along with J. Martin), we appear monthly on the Larry Mueller WI Public Radio live call in show

2008-Present UW-Madison representative to the University Space Research Association

2008–Present Weekly “Ask the Weather Guys” column for the Wisconsin State Journal

2007–Present Faculty Co-Director of the Delta Program, a research, teaching and learning community for faculty, academic staff, post-docs, and graduate students. <http://www.delta.wisc.edu/>

2013- Search committee for Director of the National Center for Atmospheric Research

2013- Institute for Biology Education, Provost assigned review team

2012 Review team member for the 5-year review of NOAA’s Cooperative Institute for Climate Studies (CICS)

2010–2011 UW-Madison Search committee for the Dean of the Graduate School/Vice Chancellor for Research

2010–2010 UW-Madison Search committee for the Director of Academic Technology (chair)

2010–2010 Co-Chair of the American Meteorological Society’s 91<sup>st</sup> Annual meeting in 2011 (3,000 attendees)

2006–2013 Chair, faculty Engage Program, program seeks to transform teaching and learning through the use of technology <http://engage.wisc.edu/index.html>

2006–2012 Board of Trustees of the University Cooperation for Atmospheric Research

2006–2017 External Advisory Board member of NOAA Cooperative Remote Sensing Science and Technology (CREST) Center

2005-2008 UW-Madison Graduate School Faculty Executive Committee

2000-2004 UW-Madison Graduate School Research Award Committee for Physical Sciences

## PROFESSIONAL SOCIETIES

American Meteorological Society  
National Weather Association  
American Geophysical Union  
Wisconsin Academy of Arts and Sciences

## BOOKS AND POPULAR SCIENCE ARTICLES

- Ackerman, S. A., 2013: Satellites and Wisconsin. Published in *Wisconsin People & Ideas*, the magazine of the Wisconsin Academy of Sciences, Arts and Letters.
- Martin, J and S. A. Ackerman, 2012: *Ask the Weather Guys*, an eBook published by Wisconsin State Journal, Madison-com & Capital Newspapers.
- Pryor, A., D. Kemtz, R. Olson, and S. Ackerman, 2011: Here at Home: Learning Local Culture Pedagogy through a Cultural Tour. Chapter 3 in *Through the Schoolhouse Door: Folklore, Community, Curriculum*, edited by P Bowman and L. Hamer. Published by Utah State University Press, 264 pp. 978-0-87421-859-6
- Ackerman, S.A., and J.A. Knox: *Meteorology: Understanding the atmosphere*. First published in 2002 Pacific Grove, CA: Brooks/Cole-Thomson Learning. 486p. (2<sup>nd</sup> edition published in 2006); 3<sup>rd</sup> edition (578p) published in 2011 by Jones& Bartlett Learning.) 4<sup>th</sup> Edition published by J&B Learning, 2013.
- Ackerman, S. A., 2008: Weather from Space, *Extreme Weather*, Astronomy magazine Kalmbach Publishing Co.
- Ackerman, S. A., 2007: Developing Positive Team Collaborations. *Bull. Amer. Met. Soc.*, 627-629.
- Ackerman, S.A., and R. Pincus, 2003: "Radiation in the Atmosphere: Observations and Applications," In *Handbook of Weather, Climate and Water*, edited by Thomas D. Potter and Bradley R. Colman. Hoboken, NJ: John Wiley and Sons, Inc.
- Pincus, R., and S.A. Ackerman, 2003: "Radiation in the Atmosphere: Foundations," In *Handbook of Weather, Climate and Water*, edited by Thomas D. Potter and Bradley R. Colman. Hoboken, NJ: John Wiley and Sons, Inc.
- Higgins, Nadia (illustrated by D. Ward and content by S. Ackerman), 2010: *Weather Watchers: A children's book series on weather: "It's a Tornado!"; "It's a Thunderstorm!"; "It's Hailing!"; "It's a Tsunami!"; "It's Snowing!"; and "It's Raining!"*. Published by The Magic Wagon.

## PUBLICATIONS IN REFEREED JOURNALS

(H Index of 37 <http://www.researcherid.com/rid/G-1640-2011>)

- Loveless, D M., T. J. Wagner, D. D. Turner, S. A. Ackerman and W. F. Feltz, 2018: A Composite Perspective on Bore Passages during the PECAN Campaign. Submitted to *Monthly Weather Review*.
- Ackerman, S. A., S. Platnick, P. K. Bhartia, B. Duncan, T. L'Ecuyer, A. Heidinger, G. Skofronick-Jackson, N. Loeb, T. Schmit and N. Smith, 2018: Satellites see the World's Atmosphere. *AMS Monograph*. Accepted for publication.

- <sup>s</sup>White, C. H., A. K. Heidinger, S. A. Ackerman and P. B. McIntyre, 2018: A Long-Term Fine-Resolution Record of AVHRR Surface Temperatures for the Laurentian Great Lakes. *Remote Sens.* **10** (8), <https://doi.org/10.3390/rs10081210>.
- <sup>s</sup>Ross, A., R. E. Holz and S. A. Ackerman, 2017: Correlations of oriented ice and precipitation in marine midlatitude low clouds using collocated, CloudSat, CALIOP and MODIS observations. *JGR-Atmospheres* **122**, 8056–8070, doi:10.1002/2016JD026407
- <sup>s</sup>Gartzke, J., R. Knuteson, G. Przybyl, S. Ackerman, and H. Revercomb, 2017: Comparison of satellite-, model-, and radiosonde derived convective available potential energy in the Southern Great Plains region. *J. Appl. Meteor. Climatol.*, **56**, 1499-1513.
- Taghavi, F., E. Owlad, and S. A. Ackerman, 2017: Enhancement and identification of dust events in the south-west region of Iran using satellite observations. *J. Earth Syst. Sci.* (2017) 126: 28 DOI 10.1007/s12040-017-0808-0
- Foster, M. J.; S. A. Ackerman, K. Bedka, L. Di Girolamo, R. A. Frey, A. K. Heidinger, S. Sun-Mack, C. Philips, W. P. Menzel, P. Minnis, G. and Zhao, 2017: State of the Climate in 2016: Cloudiness. *Bull. Am. Meteor. Soc.*, **98**, 8, S27-S28.
- Ackerman, S. A., M. Mooney, S. Morrill, J. Morrill, M. Thompson, and L. K. Balenovich, 2016: Libraries, Massive Open Online Courses and the Importance of Place: Partnering with Libraries to Explore Change in the Great Lakes", *New Library World*, Vol. **117** Issue: 11/12, pp.688-701, <https://doi.org/10.1108/NLW-08-2016-0054>
- <sup>s</sup>Roman, J. A., R. O. Knuteson, T. August, T. Hultberg, S. A. Ackerman, H. Revercomb, 2016: A Global Assessment of NASA AIRS v6 and EUMETSAT IASI v6 Precipitable Water vapor using Ground-based GPS SuomiNet Stations, *Journal of Geophysical Research – Atmospheres*, 2016JD024806
- Holz, R. E., S. Platnick, K. Meyer, M. Vaughan, A. Heidinger, P. Yang, G. Wind, S. Dutcher, S. Ackerman, N. Amarasinghe, F. Nagle, and C. Wang, 2016: Resolving ice cloud optical thickness biases between CALIOP and MODIS using infrared retrievals. *Atmos. Chem. Phys. Atmos. Chem. Phys.*, **16**, 5075-5090
- Zeng, X, S. Ackerman, R. D. Ferraro, T. J. Lee, J. J. Murray, S. Pawson, C. Reynolds, J. Teixeira, 2016: Scientific Challenges and Opportunities in the NASA Weather Focus Area, *Bull. Amer. Meteor. Soc.*, **97**, ES137-140, doi: 10.1175/BAMS-D-15-00195.
- Foster, M. H. S. A. Ackerman, K. Bedka, R. A. Frey, L. Di Girolamo, A. K. Heidinger, S. Sun-Mack, B. C. Maddux, W. P. Menzel, W. P., P. Minnis, M. Stegel, G. and Zhao, 2016: State of the climate in 2015: Cloudiness. *Bull. Am. Meteor. Soc.*, **97**, 8, S28-S29.
- <sup>s</sup>Wang, P., J. Li, M. D. Goldberg, T. J. Schmit, A. H. N. Lim, Z. Li, H. Han J. Li and S. A. Ackerman, 2015: Assimilation of thermodynamic information from advanced infrared sounders under partially cloudy skies for regional NWP. *Jour. Geo Res.*, **120**, pp: 5469-5484 DOI: 10.1002/2014JD022976
- <sup>s</sup>Roman, J., R. Knuteson, S. A. Ackerman and H. Revercomb, 2015: Predicted Changes in the Frequency of Extreme Precipitable Water Vapor Events. *Jour. of Climate*, **28**, 18 pp: 7057-7070 DOI: 10.1175/JCLI-D-14-00679.

- Foster, M., S. A. Ackerman, A. K. Heidinger, and B. C. Maddux, 2015: State of the climate in 2014: Cloudiness. *Bull. Am. Meteor. Soc.*, **96**, 7, S24-S26.
- <sup>s</sup>Feltz, M.; R., Knuteson, R.; S. A. Ackerman, and H. Revercomb, 2014: Application of GPS radio occultation to the assessment of temperature profile retrievals from microwave and infrared sounders. *Atmospheric Measurement Techniques*, **7**, 11, pp: 3751-3762 DOI: 10.5194/amt-7-3751-2014.
- <sup>s</sup>Roman, J., R. Knuteson, and S. A. Ackerman, 2014: Time-to-Detect Trends in Precipitable Water Vapor with Varying Measurement Error. *Jour. of Climate*, **27**, 21, pp: 8259-8275 DOI: 10.1175/JCLI-D-13-00736.1
- <sup>s</sup>Lim, A., J. A. Jung, H-L Huang, S. A. Ackerman and J. A. Otkin, 2014: Assimilation of clear sky Atmospheric Infrared Sounder radiances in short-term regional forecasts using community models, *J. Appl. Remote Sens.* 8(1), 083655 (Apr 02, 2014). ; <http://dx.doi.org/10.1117/1.JRS.8.083655>.
- Ackerman, S. A., A. Heidinger, M. J. Foster, and B. Maddux, 2013: Satellite Regional Cloud Climatology over the Great Lakes. *Remote Sens.* **5**(12), 6223-6240; doi:10.3390/rs5126223 <http://www.mdpi.com/2072-4292/5/12/6223>
- Foster, M. J., S. A. Ackerman, A. K. Heidinger, and B. C. Maddux, 2013: State of the climate in 2012: Cloudiness. *Bull. Am. Meteor. Soc.*, **94**, 8, S21-S22.
- King, M. D., S. Platnick, W. P. Menzel, S. A. Ackerman, and P. A. Hubanks, 2013: Spatial and Temporal Distribution of Clouds Observed by MODIS Onboard the Terra and Aqua Satellites. *IEEE Transactions on Geoscience and Remote Sensing*, **51**, 7, 3826-3852.
- Stubenrauch, C. J., W. B. Rossow, S. Kinne, S. Ackerman, G. Cesana, H. Chepfer, B. Getzewich, L. Di Girolamo, A. Guignard, A. Heidinger, B. Maddux, P. Menzel, P. Minnis, C. Pearl, S. Platnick, C. Poulsen, J. Riedi, S. Sun-Mack, A. Walther, D. Winker, S. Zeng, and G. Zhao, 2013: Assessment of global cloud datasets from satellites: Project and database initiated by the GEWEX Radiation Panel. *Bull. Am. Meteor. Soc.* **94**, 1031–1049.
- Foster, M. J.; S. A. Ackerman, A. K. Heidinger, and B. C. Maddux, 2012: State of the climate in 2011: Cloudiness. *Bull. Amer. Meteor. Soc.*, **93**, 7, S27-S28.
- Liu, Y., J. R. Key, S. A. Ackerman, G. Mace and Q. Zhang, 2012: Arctic Cloud Macrophysical Characteristics from CloudSat and CALIPSO. *Remote Sensing of Environment* **124**, 159–173; doi:10.1016/j.rse.2012.05.006
- Baum, B. A., W. P. Menzel, R. A. Frey, D. C. Tobin, R. E. Holz, S. A. Ackerman, A. K. Heidinger and P. Yang, 2012. MODIS Cloud Top Property Refinements for Collection 6. *Jour. App. Meteor. and Clim.* **51:6**, 1145-1163
- <sup>s</sup>Roman, J. A., R. O. Knuteson, S. A. Ackerman, D. C. Tobin, and Henry E. Revercomb, 2012: Validation of Regional Global Climate Model (GCM) 1 Water Vapor Bias and Trends Using Precipitable Water Vapor (PWV) Observations from a Network of Global Positioning Satellite (GPS) Receivers in the U.S. Great Plains and Midwest. *Journal of Climate*, **25**, No.16, 5471–5493.
- Pincus, R., S. Platnick, S. A. Ackerman, R. S. Hemler, R. J. Hofmann, 2012: Reconciling simulated and observed views of clouds: MODIS, ISCCP, and the limits of instrument simulators. *J. Climate*, **25**, 4699-4720. doi:[10.1175/JCLI-D-11-00267.1](https://doi.org/10.1175/JCLI-D-11-00267.1).

- Foster, M.J., S.A. Ackerman, A.K. Heidinger, and B.C. Maddux, 2011: Global Cloudiness [in "State of the Climate in 2010"]. *Bull. Amer. Meteor. Soc.*, **92**.
- <sup>†</sup>Crone, W.C., S.L. Dunwoody, R.K. Rediske, S.A. Ackerman, G.M. Zenner Petersen, R.A. Yaros, 2011: Informal Science Education: A Practicum for Graduate Students. *Innovative Higher Education*. **36**:291–304
- <sup>§</sup>Maddux, B. C., S. A. Ackerman, and S. Platnick, 2010: Viewing Geometry Dependencies in MODIS Cloud Products. *J. Atmos. Oceanic Tech.* **27**, no.9, pp1519-1528
- Winker, D. M., J. Pelon, J. A. Coakley, Jr., S. A. Ackerman, R. J. Charlson, P. R. Colarco, P. Flamant, Q. Fu, R. Hoff, C. Kittaka, T. L. Kubar, H. LeTreut, M. P. McCormick, G. Megie, L. Poole, K. Powell, C. Trepte, M. A. Vaughan, and B. A. Wielicki, 2010: The CALIPSO Mission: A Global 3D View of Aerosols and Clouds. *Bull. Amer. Met. Soc.* **91**, no.9, 2010, pp1211-1229.
- Zhao, T. X.-P., S. A. Ackerman, and Wei Guo, 2010: Dust and Smoke Detection for Multi-Channel Imagers, *Remote Sens.*, 2(10), 2347-2368; doi:[10.3390/rs2102347](https://doi.org/10.3390/rs2102347)
- Von P. Walden, V. P., R. L. Tanamachi, P. M. Rowe, H. E. Revercomb, D. C. Tobin, and S. A. Ackerman, 2010: Improvements in the data quality of the Interferometric Monitor of Greenhouse Gases (IMG). *Applied Optics*, **49**, Issue 3, 520-528.
- Foster, M. J., S. A. Ackerman, A. K. Heidinger, and B. C. Maddux, 2010: Global Cloudiness [in "State of the Climate in 2009"]. *Bull. Amer. Met. Soc.*, **91**, S34-S35.
- Liu, Y., S. A. Ackerman, B. C. Maddux, J. R. Key, and R. A. Frey, 2010: Errors in Cloud Detection Over the Arctic and Implications for Observing Feedback Mechanisms, *J. Climate*, **23**, Issue 6, 1894-1907.
- Lenz, A., K. M. Bedka, W. F. Feltz and S. A. Ackerman, 2009: Convectively Induced Transverse Band Signatures in Satellite Images. *Wea. Forecast.*, **24**, 1362-1373
- Schmit, T. J., L. Jun, S. A. Ackerman, and J. J. Gurka, 2009: High-Spectral and High-spectral Temporal Resolution Infrared Measurements from Geostationary Orbit. *J. Atmos. Oceanic Tech.*, **26**, 2273-2292.
- Wu, D. L., S. A. Ackerman, R. Davies, D. J. Diner, M. J. Garay, B.H. Kahn, B. C. Maddux, C. M. Moroney, G. L. Stephens, J. P. Veefkind, and M. A. Vaughn, 2009: Vertical distributions and relationships of cloud occurrence frequency as observed by MISR, AIRS, MODIS, OML, CALIPSO, and CloudSat. *Geophys. Res. Lett.*, **36**, Doi:10.1029/2009GL037464.
- <sup>†</sup>Cheetam, J., S. A. Ackerman, and K. Christoph, 2009: Podcasting: A Stepping Stone to Pedagogical Innovation. *Educause Quarterly*; the on-line article can be found at [http://engage.doit.wisc.edu/edu\\_podcasting/](http://engage.doit.wisc.edu/edu_podcasting/).
- <sup>§</sup>Sieglaff, J. M., T. J. Schmit, W. P. Menzel and S. A. Ackerman, 2009: Inferring Convective Weather Characteristics with Geostationary High-spectral Resolution IR Window Measurements: A Look into the Future, *J. Atmos. Oceanic Tech.*, doi:10.1175/2009JTECHA1210.1, 1527-1541.
- Ackerman, S. A., J. Phillips, D. Bull, and T. Achtor, 2009: Using a Publication Analysis to Explore Mission Success. *Bull. Amer. Met. Soc.* **90**, 1313-1320.
- Foster, M. J., S. A. Ackerman, R. Bennartz, A. K. Heidinger, B. C. Maddux, and W. B. Rossow, 2009: Global Cloudiness [in "State of the Climate in 2008"]. *Bull. Amer. Meteor. Soc.*, **90**, S29–S30.



- Feltz, W. F., K. M. Bedka, J. A. Otkin, T. Greenwald, and S. A. Ackerman, 2009: Understanding Satellite-Observed Mountain Wave Signatures Using High-Resolution Numerical Model Data. *Wea. Forecasting*, **24**, 76-86.
- <sup>s</sup>Liu, C-Y, J. Li, E. Weisz, T. J. Schmit, S. A. Ackerman, and H-L Huang, 2008: Synergistic use of AIRS and MODIS radiance measurements for atmospheric profiling. *GRL*, **35**, L21802, doi:10.1029/2008GL035859.
- <sup>s</sup>Wagner, T. J., W. F. Feltz, and S. A. Ackerman, 2008: The Temporal Evolution of Convective Indices in Storm-Producing Environments, *Wea. Forecasting*, **23**, 786-794.
- Holz, R.E., S. A. Ackerman, F.W. Nagle, R. Frey, R.E. Kuehn, S. Dutcher, M. A. Vaughan and B. Baum., 2008: Global MODIS Cloud Detection and Height Evaluation Using CALIOP. *J. Geophys. Res.*, **113**, doi:10.1029/2008JD009837.
- Ackerman, S. A., A. J. Schreiner, T. J. Schmit, H. M. Woolf, J. Li, and M. Pavolonis, 2008 Using the GOES Sounder to Monitor Upper-level SO<sub>2</sub> from Volcanic Eruptions. *J. Geophys. Res.*, **113**, doi:10.1029/2007JD009622.
- Frey, R. A., S. A. Ackerman, Y. Liu, K. I. Strabala, H. Zhang, J. Key and X. Wang, 2008: Cloud Detection with MODIS, Part I: Recent Improvements in the MODIS Cloud Mask, *J. Atmos. Oceanic Tech.*, **25**, 1057-1072.
- Ackerman, S. A., R. E. Holz, R. Frey, E. W. Eloranta, B. Maddux, and M. McGill, 2008: Cloud Detection with MODIS: Part II Validation, *J. Atmos. Oceanic Tech.*, **25**, 1073-1086.
- Li, Z, J. Li, W. P. Menzel, T. J. Schmit, J. P. Nelson III, J. Daniels, and S. A. Ackerman, 2008 GOES sounding improvement and applications to severe storm nowcasting. *Geophys. Res. Lett.*, **35**, L03806, doi:10.1029/2007GL032797
- <sup>s</sup>Brunner, J. C., S. A. Ackerman, A. S. Bachmeier, and R. M. Rabin, 2007: A Quantitative Analysis of the Enhanced-V Feature in Relation to Severe Weather. *Wea. Forecasting*, **22**, No. 4, 853–872.
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- <sup>s</sup>Wang, F., J. Li, T. Schmit, and S. A. Ackerman 2007: Trade-off studies of a hyperspectral infrared sounder on a geostationary satellite. *Appl. Optics*, **46**, 2 200-209.
- <sup>s</sup>Uhlenbrock, N. L., K. M. Bedka, W. F. Feltz, and S. A. Ackerman, 2007: Mountain Waves Signatures in MODIS 6.7 μm Imagery and Their Relation to Pilot Reports of Turbulence. *Wea. Forecasting*, **22**, 662-670.
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## CONFERENCE PROCEEDINGS AND PRESENTATIONS

- Frey, R., S. A. Ackerman, R. Holz and S. Dutcher, 2018: The MODIS-VIIRS Cloud Mask (MVCM). Second Workshop of the International Cloud Working Group, Madison WI, October 29–November 2.
- Ackerman, S. A., J. Hoffman, J. Key and Y. Liu, 2018: Detection of Sea Ice Leads with MODIS and VIIRS. MODIS/VIIRS Science Team Meeting, Silver Spring, MD October 15–19.
- Frey, R. S. A. Ackerman and R. Holz, 2018: Latest Results from the MODIS-VIIRS Cloud Mask (MVCM), MODIS/VIIRS Science Team Meeting, Silver Spring, MD October 15–19.
- Ackerman, S. A., J. P. Hoffman, J. R. Key, Y. Liu, 2018: Arctic Sea Ice Leads from MODIS/VIIRS Observations. EUMETSAT Annual meeting, Tellin, Estonia, September 17–21.
- <sup>1</sup>Ackerman, S. A. .2018: Research at the Cooperative Institute for Meteorological Satellite Studies. Invited Colloquium, Oklahoma University, April 30–May3, 2018.
- Platnick, S., K. Meyer, R. Holz, S. A. Ackerman, A. Heidinger, G. Wind, C. Wang, B. Marchant, and R. Frey, 2018: Progress toward NASA MODIS and Suomi NPP Cloud Property Data Record Continuity. Presented at AMS annual meeting, Austin TX, January 7–11, 2018
- <sup>5</sup>Loveless, D. T. J. Wagner, D. D. Turner, S. A. Ackerman and W. F. Feltz, 2018: When you get bore-d: A composite analysis of the impacts of bore passage on boundary layer structure and instability. Presented at AMS annual meeting, Austin TX, January 7– 11, 2018
- <sup>t</sup> Mooney, M. S. Ackerman and T. Whittaker, 2018: HTML5 WebApps from the Cooperative Institute for Meteorological Satellite Studies. Presented at AMS annual meeting, Austin TX, January 7– 11, 2018
- <sup>t</sup> Ackerman, S. A., and J. K. Knox, 2018: A Textbook Case of going Virtual, Presented at AMS annual meeting, Austin TX, January 7– 11, 2018
- Ackerman, S. A., R. A. Frey, C. Philips, R. E. Holz, and S. Dutcher, 2017: The Q Continuum: Encounter with the Cloud Mask. 2017 Fall Meeting, AGU, New Orleans, LA, 11– 15 Dec.
- Hoffman, J. P., S. A. Ackerman, Y. Liu, and J. R. Key, 2017: Satellite Detection of Arctic Sea Ice Leads, 2017: 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22–26
- Knuteson, R. O., J. A. Roman and S. Ackerman, 2017: Achieving Climate Quality Measurements of Precipitable Water Vapor from Hyperspectral Infrared Sensors on Weather Satellites. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22– 26
- Platnick, S., K. Meyer, G. Wind, N. Amarasinghe, R. Holz, S. A. Ackerman, and A. Heidinger, 2017: Progress towards NASA MODIS and VIIRS Cloud Optical Property Data Record Continuity. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26

- <sup>S</sup>White, C., A. K. Heidinger, S. A. Ackerman and P. B. McIntyre, 2017: Spatial and Temporal Variation of PATMOS-x AVHRR Lake Surface Temperatures in the Laurentian Great Lakes, 2017 Fall Meeting, AGU, New Orleans, LA, 11–15 Dec.
- Platnick, S., K. Meyer, R. Holz, S. A. Ackerman, A. Heidinger, G. Wind, C. Wang, B. Marchant, and R. Frey, 2017: Progress towards NASA MODIS and Suomi NPP Cloud Property Data Record Continuity. 2017 Fall Meeting, AGU, New Orleans, LA, 11–15 Dec.
- Wang, C., S. E. Platnick, K. Meyer, S. A. Ackerman, R. Holz and A. Heidinger, 2017: Sensitivity Study of IROE Cloud Retrievals Using VIIRS M-Bands and Combined VIIRS/CrIS IR Observations. 2017 Fall Meeting, AGU, New Orleans, LA, 11–15 Dec.
- Ackerman, S. A., R. Holz, S. Platnick and K. Meyer, 2017: Evaluating NASA S-NPP continuity cloud products for climate research using CALIPSO, CATS and Level-3 analysis, 2017: Presented at EUMETSAT Meteorological Satellite Conference, Rome, Italy October 2–6, 2017.
- Ackerman, S. A., R. Frey, R. Holz, and S. Dutcher, 2017: Coupling of Surface and Cloud Properties 2017: Presented at EUMETSAT Meteorological Satellite Conference, Rome, Italy October 2–6, 2017.
- Knuteson, R. O., J. A. Roman and S. Ackerman, 2017: Achieving Climate Quality Measurements of Precipitable Water Vapor from Hyperspectral Infrared Sensors on Weather Satellites. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
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- <sup>S</sup>White, C. H., A. Heidinger, S. Ackerman, and P. B. McIntyre, 2017: A Survey of AVHRR PATMOS-x Lake-Surface Temperature Trends and Cloud Optical Properties of the North American Great Lakes Region. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- Heidinger, A., S. Ackerman, R. Holz, B. A. Baum, K. Meyer, R. A. Frey, S. Platnick, Y. Li, and D. Botambekov, 2017: Progress Towards MODIS and VIIRS Cloud Height and IR Phase Data Record Continuity. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- Ackerman, S. A., R. A. Frey, R. E. Holz, S. Platnick, and A. Heidinger, 2017: Progress Towards MODIS and VIIRS Cloud Fraction Data Record Continuity. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- <sup>S</sup>Gartzke, J., R. Knuteson, C. Bloch, G. Przybyl, and S. Ackerman, 2017: Near-real time CAPE East of the Rockies combining Hyperspectral IR Satellite Sounding and ASOS Surface Stations: Part I Validation at the ARM SGP Site. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- <sup>S</sup>Bloch, C., R. O. Knuteson, J. Gartzke, G. Przybyl, and S. Ackerman, 2017: Near-real time CAPE East of the Rockies combining Hyperspectral IR Satellite Sounding and ASOS Surface Stations: Part II Methodology and Preliminary Results. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26

- <sup>S</sup>Loveless, D. M., T. J. Wagner, C. M. Rozoff, D. D. Turner, S. A. Ackerman, and W. F. Feltz, 2017: Composite Analysis of Bores Observed by Ground-Based Profilers during PECAN. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- Kohrs, R. A., M. Mooney, C. Suplinski, and S. A. Ackerman, 2017: The Quaterly Climate Digest and Other Key Products from the EarthNow SOS Project. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- Williams, S. S., T. J. Wagner, R. A. Petersen, S. A. Ackerman, and W. F. Feltz, 2017: Geographic and Seasonal Variability of Accuracy in Water Vapor Measurements from WVSS-II. 97<sup>th</sup> Annual meeting of the American Meteorological Society, Seattle, WA, January 22 – 26
- Ackerman, S. A., R. Frey, R. Holz, S. E Platnick, A. K Heidinger, 2016: Progress towards MODIS and VIIRS Cloud Fraction Data Record Continuity. American Geophysical Union Fall meeting, San Francisco CA, December 12–16.
- Meyer, K., S. E Platnick, G. Wind, N. Amarasinghe, R. Holz, S. A Ackerman, A. K Heidinger, 2016: Progress towards MODIS and VIIRS Cloud Optical Property Data Record Continuity. American Geophysical Union Fall meeting, San Francisco CA, December 12–16.
- Holz, R., S. E Platnick, K. Meyer, R. Frey, G. Wind, S. A Ackerman, A. K Heidinger, D. Botambekov, J. E Yorks, M. J McGill, 2016: Evaluating NASA S-NPP continuity cloud products for climate research using CALIPSO, CATS and Level-3 analysis. American Geophysical Union Fall meeting, San Francisco CA, December 12–16.
- Hoffman, J., S. A Ackerman, Y. Liu, J. R. Key, 2016: Trends in Arctic Sea Ice Leads Detection. American Geophysical Union Fall meeting, San Francisco CA, December 12–16.
- 26 - 30 September 2016, Darmstadtium, Darmstadt, Germany
- Feltz, M., R. Knuteson, , J. M. Feltz, S. Ackerman, W. Feltz, D. Hoese, K. Strabala, N. Smith, and E. Weisz 2016: Visualizing Cold Air Aloft with Radio Occultation and Hyperspectral Infrared Sounders: Investigating Aviation Safety Purposes, 21<sup>st</sup> AMS Satellite Meteorology and Oceanography Conference, Madison WI, Aug 15–19.
- Wang, P., J. Li, Y. K. Lee, Z. Li, J. Li, Z. Liu, T. J. Schmit, and S. Ackerman, 2016: The assimilation of layer precipitable water and the impacts on weather forecasting in a regional NWP model. 21<sup>st</sup> AMS Satellite Meteorology and Oceanography Conference, Madison WI, Aug 15–19.
- Roman, J. A. R. O. Knuteson, S. Hubbard, S. Ackerman, and H. Revercomb, 2016: An Empirical Relationship between Water Vapor and Precipitation using Satellite Observations for Near-Real Time Forecasting Applications. 21<sup>st</sup> AMS Satellite Meteorology and Oceanography Conference, Madison WI, Aug 15–19.
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- <sup>1</sup>Ackerman, S. A., R. Holz, R. Frey, S. Platnick, A. Heidinger, 2016: Cloud Properties from MODIS and CALIOP, CALIPSO and CloudSat. Ten-Year Progress Assessment and Path-Forward Workshop, Paris, 8–10 June 2016.



- Ackerman, S. A., E. H. Berbery, O. Brown, C. Kummerow, and F. Miralles-Wilhelm, 2016: The role of NOAA Cooperative Institutes in the Transition from Research to Operations. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Gartzke, J. M., R. Knuteson, S. A. Ackerman, W. Feltz, and G. Przybyl, 2016: Ten Year Climatology of CAPE Observations East of the Rocky Mountains from Hyperspectral IR Sounders American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- Ackerman, S. A., M. Mooney, J. Morrill, Z. Handlos, and S. Morrill, 2016: Climate Literacy through a Partnership with Public Libraries. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Roman, J. A., R. Knuteson, S. Hubbard, S. Ackerman, and H. Revercomb, 2016: A Probabilistic Statistical Climatological Relationship between Precipitable Water Vapor and Precipitation for Near-Real Time Forecasting Applications. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>E</sup>Mooney, M. T. J. Schmit, T. M. Whittaker, and S. Ackerman, 2016: GOES-R Education Proving Ground. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Wang, P., J. Li, Y. K. Lee, Z. Li, J. Li, Z. Liu, T. J. Schmit, and S. A. Ackerman, 2016: The Impact of the High Temporal Resolution GOES/GOES-R Moisture Information on Severe Weather Systems in a Regional NWP Model. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Handlos, Z., M. Mooney, S. Ackerman, and D. Brossard, 2016: Assessment of Climate Literacy within a Massive Open Online Course based on Information Disseminated by Mass Media. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Feltz, M., R. Knuteson, E. Weisz, N. Smith, W. Feltz, and S. Ackerman, 2016: Towards Aiding Aviation Safety: Detection of Cold Air Aloft Using COSMIC RO and AIRS Hyperspectral IR Sounder. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Loveless, D. M., N. Smith, C. M. Rozoff, T. J. Wagner, D. D. Turner, W. F. Feltz, and S. Ackerman, 2016: High-Temporal Resolution Ground-Based Observations of an Eastern Kansas Bore during the PECAN Field Campaign. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Yamamoto, K., A. Heidinger and S. Ackerman, 2016: Dust Detection using IR channels of Himawari-8. American Meteorological Society Annual Meeting, New Orleans, LA, 11–14 January.
- <sup>S</sup>Roman, J., Knuteson, R., Ackerman, S., Tobin, D., Smith, W., Revercomb, H. (2013). Using AIRS to assess the precipitable water vapor in global climate models (GCMs) with regional validation from SuomiNet. *AIP Conference Proceedings*, 1531, 480 DOI: 10.1063/1.4804811.
- <sup>E</sup>Mooney, M. S. Ackerman, T. Schmit, 2015: GOES-R Education Proving Ground, American Meteorological Society annual meeting, January 5–8, Phoenix, AZ.
- <sup>E</sup>Griffin, K. S., A. C. Winters, M. Mooney, and S. Ackerman, 2015: The effect of interactive online pre-lab modules on improving student learning in an

- introductory atmospheric science course. American Meteorological Society annual meeting, January 5–8, Phoenix, AZ.
- Knuteson, R. M. Feltz, J. Roman, J. Gartzke, S. Ackerman, H. Revercomb, D. Tobin, L. Borg, T. August, T. Hultberg, and T. Reale; 2015: Validation of Level 2 Temperature and Water Vapor Profiles from JPSS and EUMETSAT operational Polar Satellites using DOE ARM, SuomiNet, and COSMIC Datasets. American Meteorological Society annual meeting, January 5–8, Phoenix, AZ.
- Ackerman, S. A., J. P. Hoffman, J. R. Key, Y. Liu, 2015: MODIS observations of the spatial and temporal distributions of sea-ice leads in the Arctic. EUMETSAT Annual meeting, Toulouse, FR, 21–25 September.
- Holz, R. E., S. A. Ackerman, and S. Platnick, 2015: Developing a cloud algorithm suite that provides consistent performance across the MODIS and VIIRS data records for climate research. EUMETSAT Annual meeting, Toulouse, FR, 21–25 September.
- Ackerman, S. A., B. Maddux, R. Holz and R. Frey, 2014: The Impact of Thresholds in Cloud Detection Uncertainty, AGU Fall meeting, 2014 San Francisco, Dec 15–19
- Platnick, S. R. Holz, A. A. Heidinger, S. A. Ackerman, G. Wind, R. Fry and K. Meyer, 2014: Development of an Algorithm Suite for MODIS and VIIRS Cloud Climate Data Record Continuity AGU Fall meeting, 2014 San Francisco, Dec 15–19
- Ackerman, S. A., R. A. Frey, R. Holz, B. Maddux, 2014 Detecting Cloud with MODIS: Attributing Error and Uncertainty to Sources. EUMETSAT Annual meeting, Geneva, September 22–26.
- Holz, R. S. A. Ackerman, R. Frey, S. Platnick, A. Heidinger, A. Walter, K. Meyer and G. Wind, 2014: Developing a cloud algorithm suite that provides consistent performance across the MODIS and VIIRS data records for climate research. EUMETSAT Annual meeting, Geneva, September 22–26.
- <sup>E</sup>Mooney, M., S. Ackerman, P. Rowley, D. P. Pisut, and S. Schollaert Uz, 2014: Advancing Weather and Climate Literacy via Museum Exhibits and Mobile Devices. American Meteorological Society Annual Meeting, Atlanta, Georgia, 3–7 February.
- <sup>E</sup>Mooney, M., and S. Ackerman, 2014: Teaching Climate Change On-line. American Meteorological Society Annual Meeting, Atlanta, Georgia, 3–7 February.
- <sup>S</sup>Nelson, K. A., J. Key and S. A. Ackerman, 2014: Optically Thin Liquid Clouds: Detection and Assessment of Contribution to Greenland Melt Events Using Satellite Data. American Meteorological Society Annual Meeting, Atlanta, Georgia, 3–7 February.
- <sup>O</sup>Ackerman, S. A. and J. E. Martin, 2013: The Weather Guys – Discussing Science via regular Radio and Newspaper Appearances. AGU Fall meeting: San Francisco, CA, 9–12 December.
- Ackerman, S. A., R. Frey and R. Holz, 2013: MODIS Bits: When a byte isn't enough. AGU Fall meeting: San Francisco, CA, 9–12 December.
- <sup>S</sup>Maddux, B. C., S. A. Ackerman, R. Frey and R. Holz, 2013: Assessing MODIS Macrophysical Cloud Property Uncertainty. AGU Fall meeting: San Francisco, CA, 9–12 December.
- <sup>S</sup>Feltz, M., R. O. Knuteson, H. Revercomb, D. Tobin and S. Ackerman, 2013: Validation of Temperature Profile Environmental Data Records (EDRs) from the Cross-

- Track Infrared Microwave Sounding Suite (CrIMSS) Using COSMIC Dry Temperature Profiles. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, GOESS/JPSS Symposium, Austin Texas, Jan 6 – 10.
- <sup>E</sup>Mooney, M. S. Ackerman, N. Jackson, P. Ruscher and P. Rowley, 2013: Satellite Meteorology Resources and the GOES-R Education Proving Ground. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, GOES-R/JPSS Symposium, Austin Texas, Jan 6 – 10.
- <sup>E</sup>Rowley, P., M. Mooney, S. Ackerman, T. Achtor, J. Gerth, B. Gjermo, and G. S. Wade, 2013: Celebrating 20 Years of the CIMSS Student Workshop. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, K-12 and Informal Education, Austin Texas, Jan 6 – 10.
- <sup>S</sup>Garms, E. M., R. Knuteson, Y. Plokhenko, H. Revercomb and S. A. Ackerman, 2013: Use of Hyperspectral Infrared Analysis Products in Tropical Cyclone Intensity Monitoring and Near-term Trending. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, The Next Level of Prediction in Tropical Meteorology, Austin Texas, Jan 6 – 10.
- <sup>S</sup>Lim, A. J. A. Jung, A. Huang and S. A. Ackerman, 2013: Assimilation of AIRS radiances using GSI/WRF for Short Term Regional Forecasts. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, Combining Information from Environmental Satellites For Unique Products, Austin Texas, Jan 6 – 10.
- Rowley, P., S. A. Ackerman, P. Arkin, D. P. Pisut, R. A. Kohrs, M. Mooney and S. Schollaert Uz, 2013: Communicating Climate Forecasts via NOAA's Science On a Sphere: The EarthNow Project. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, Climate Communications and Services, Austin Texas, Jan 6 – 10.
- <sup>I</sup>Ackerman, S. A., 2013: On-line and Mobile Learning Activities. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, Panel of Teaching Award Winners, Austin Texas, Jan 6 – 10.
- <sup>E</sup>Mooney, M., L. Dahlman, S. Ackerman, N. Jackson, L. H. Chambers and T. M. Whittaker, 2013: The CIMSS iPad Library and ESIP Teacher Workshops. 93<sup>rd</sup> American Meteorological Society Annual Meeting 2013, Technology for Education, Austin Texas, Jan 6 – 10.
- Holz, R., and S. A. Ackerman, 2012: Investigating the Presence of Oriented Ice and Correlations with Precipitation in Mid Latitude Marine Clouds Using Collocated CALIOP, CloudSat, MODIS. AGU Fall meeting: Multiplatform and Multisensor Satellite Observations of Cloud-Precipitation Structures and Microphysics, San Francisco, CA, 3–7 December.
- <sup>I</sup>Ackerman, S. A., B. C. Maddux, S. Platnick, A. K. Heidinger, R. Frey, and R. Holz, 2012: What is a Cloud: the Choices People Make and Why They Regret Them (Invited). AGU Fall meeting: Radiation, Precipitation, and Water and Energy Cycles, San Francisco, CA, 3–7 December.
- Roman, J., R. O. Knuteson, S. A. Ackerman, H. E. Revercomb, W. Smith and E. Weisz, 2012: Using Regional Validation from SuomiNet, AMSR-e, and NWP Re-analysis to Assess the Precipitable Water Vapor from AIRS and CrIS for Detecting Extreme Weather Events. AGU Fall meeting: Space-Based, Operational Global Earth Observations From NPP and JPSS San Francisco, CA, 3–7 December.

- Mooney, M. E., S. A. Ackerman and S. M. Buhr, 2012: Engaging Storm Spotters and Community College Students in Regional Responses to Climate Change. AGU Fall meeting: Climate Literacy: Reaching Diverse Audiences Through Informal Education Experiences, Public Outreach, and Community Programs San Francisco, CA, 3–7 December.
- Rowley, P., S. A. Ackerman, P. A. Arkin, D. Pisut, R. Kohrs, M. E. Mooney, S. E. Schollaert, 2012: EarthNow: Weather and Climate Connections for 3D Spherical Displays. AGU Fall meeting: Climate Literacy: Reaching Diverse Audiences Through Informal Education Experiences, Public Outreach, and Community Programs San Francisco, CA, 3–7 December.
- Foster, M. J., S. A. Ackerman, A. K. Heidinger, S. Platnick, and B. C. Maddux, 2012: Quantifying Uncertainty in the MODIS Cloud Record for use in Climate Applications. AGU Fall meeting: Uncertainty Quantification and Climate Change San Francisco, CA, 3–7 December.
- <sup>E</sup>Lange, C., L. Chambers, S. A. Ackerman, P. Higgins, J. Carbonara, D. & Henry, T. Jasmin, D. MacIssac, B. Martinez-Hackert, J. Sabato, T. Whittaker, K. Williams, and J. Zawicki: 2012: The application of simulations and My NASA DATA to increase understanding of rotation & revolution. Poster presented at National Conference on Science Education and Public Outreach Astronomical Society of the Pacific, Tucson, Arizona, August 4–8.
- <sup>I</sup>Ackerman, S. A., 2012: Clouds from Satellites: SMONEX to MODIS, Atmospheric Science Department 50<sup>th</sup> Anniversary Symposium, Colorado State University, July 13–14, 2012.
- <sup>I</sup>Ackerman, S. A., 2012: Panelist in response to Keynote: Naomi Oreskes, Neoliberalism and the Denial of Global Warming. April 22–24, *Science Writing in the Age of Denial*, University of Madison WI
- <sup>I</sup>Ackerman, S. A., 2012: Satellites over Wisconsin, *Wisconsin Weekend Away*, Austin, Texas, March 23–25.
- <sup>I</sup>Ackerman, S. A., 2012: Is Extreme the New Normal, *Wisconsin Weekend Away*, Austin, Texas, March 23–25.
- <sup>O</sup>Ackerman, S. A., P. Arking, R. Kohrs, M. Mooney, D. Pisut and P. Rowley, 2012: Interpretation of Real-time Weather and Climate for Spherical Displays. *Tri-agency Climate Change Education* meeting, Arlington VA, April 16–19.
- <sup>O</sup>Ackerman, S. A., and M. Mooney, 2012: Climate Literacy Ambassadors: A NASA GCCE Project. *Tri-agency Climate Change Education* meeting, Arlington VA, April 16–19.
- <sup>S</sup>Feltz, M., R. Knuteson, D. Tobin, T. Reale, S. A. Ackerman, H. Revercomb, 2012: Methodology for the Validation of Temperature Profile Environment Data records (EDRs) from the Cross-Track Infrared Microwave Sounding Suite (CRIMSS): Experience with GPS Radio Occultation from COSMIC. 92<sup>nd</sup> American Meteorological Society Annual Meeting, Jan 22–26, New Orleans, LA.
- Clark, R., S. Ackerman, D. Blockstein, J. Fellows, L. O. Mearns, R. Pandya, E. S. Takle, and D. J. Wuebbles, 2012: An Alliance to Develop a Workforce of Community Climate-Change Advisors. 92<sup>nd</sup> American Meteorological Society Annual Meeting, Jan 22–26, New Orleans, LA.

- Rowley, C. P. S. A. Ackerman, D. P. Pisut, and M. Mooney, 2012: EarthNow: Weather and Climate Connections for 3D Spherical Displays. 92<sup>nd</sup> American Meteorological Society Annual Meeting, Jan 22–26, New Orleans, LA.
- <sup>t</sup>Whittaker, T. M., S. A. Ackerman and T. Jasmin, 2012: From Java to Flash to HTML5: Chasing Technologies for Interactive Applets. 92<sup>nd</sup> American Meteorological Society Annual Meeting, Jan 22–26, New Orleans, LA.
- <sup>s</sup>Roman, J. A., S. A. Ackerman, R. Knuteson, H. Revercomb, W. L. Smith Sr., and D. Tobin, 2012: Using Satellite Atmospheric Infrared Sounder (AIRS) and a Ground-Based Global Positioning Satellite (GPS) Network to Validate the Precipitable Water Vapor (PWV) in Global Climate Models (GCMs) and Numerical Weather Prediction (NWP) Regional Reanalysis. 92<sup>nd</sup> American Meteorological Society Annual Meeting, Jan 22–26, New Orleans, LA.
- <sup>t</sup>Mooney, M., S. Ackerman and N. Jackson, 2012, ESIP Teacher Workshops: History, Synergy, Scope and Impact. Presented at the Winter 2012 ESIP meeting. January 4–6, 2012 Renaissance DuPont Circle Hotel Washington, DC
- <sup>l</sup>tAckerman, S. A., and Margaret E. Mooney Climate Literacy Ambassadors, 2011: AGU Fall meeting, San Francisco, CA, 4–9 December.
- <sup>s</sup>Maddux, B. C., S. A. Ackerman, R. Frey, A. K. Heidinger, W. P. Menzel, 2011: 10-Years of Aqua and Terra MODIS and Regional Cloud Amounts AGU Fall meeting, San Francisco, CA, 4–9 December.
- Mooney, M. E., S. A. Ackerman; P. Rowley, and Crowley Conn, 2011: Wisconsin Partnerships to Educate and Engage Public Audiences on Climate Change Topics AGU Fall meeting, San Francisco, CA, 4–9 December.
- Kuehn, R., S. A. Ackerman, and R. E. Holz, 2011: Boundary Layer Studies with CALIOP AGU Fall meeting, San Francisco, CA, 4–9 December.
- Pincus, R., S. E. Platnick, S. A. Ackerman, R. Hemler, and P. Hofmann, 2011: Reconciling simulated and observed views of clouds: MODIS, ISCCP, and the limits of instrument simulators in climate models. AGU Fall meeting, San Francisco, CA, 4–9 December.
- <sup>l</sup>Ackerman, S. A., 2011: Overview of the MODIS cloud detection algorithm. EUMETSAT Cloud Retrieval Evaluation Workshop III, Madison WI, Nov 15–18.
- <sup>s</sup>Roman, J. A., R. O. Knuteson, H. E. Revercomb, D. C. Tobin, and S. A. Ackerman, 2011: Validation of Regional Global Climate Model (GCM) Water Vapor Bias and Trends Using Precipitable Water Vapor (PWV) Observations from a Network of Global Positioning Satellite (GPS) Receivers in the U.S. Great Plains and Midwest. World Climate Research Program (WCRP) conference, 24–28 October 2011, Denver CO
- <sup>l</sup>Ackerman, S. A., and M. Mooney, 2011: Webinar for Storm Spotters: Climate Change, Mitigation & Mobile Apps. May 9.
- Ackerman, S. A., A. Heidinger, and B. Maddux, 2011: Trends in Satellite Observations of the Great Lakes, 34<sup>th</sup> International Symposium on Remote Sensing of Environment, Sydney UA, 10–15 April.
- Ackerman, S. A., and D. Pisut, 2011: A Global Perspective of Scientific Visualization: Developing Impacting and Understandable Imagery to Engage Audiences. 34<sup>th</sup> International Symposium on Remote Sensing of Environment, Sydney UA, 10–15 April.

- <sup>1</sup>Ackerman, S. A., 2011: Exploring Satellite Information with HYDRA. Special “Train the Trainer” Workshop on Utilizing Remote Sensing, 34<sup>th</sup> International Symposium on Remote Sensing of Environment, Sydney UA, 10 April.
- <sup>1</sup>Mooney, M. E. and S. A. Ackerman, 2010: Climate Literacy Ambassadors, AGU Fall meeting, San Francisco, CA, 13–17 December.
- Ackerman, S. A., B.C. Maddux, R.E. Holz, S.E. Platnick, W. Menzel, 2010: Observations of Changing Cloud Properties due to the Great Lakes, AGU Fall meeting, San Francisco, CA, 13–17 December.
- <sup>s</sup>Liu, C., J. Li; S.A. Ackerman, 2010: Are Convective Storms Initiated from Surface Processes? - A View from Satellites, AGU Fall meeting, San Francisco, CA, 13–17 December.
- <sup>s</sup>Maddux, B. C., S.A. Ackerman; S.E. Platnick, W. Menzel, 2010: The Vertical and Horizontal Distribution of Clouds and Uncertainty from MODIS, AGU Fall meeting, San Francisco, CA, 13–17 December.
- Platnick, S. E. Z. Zhang; B.C. Maddux; S.A. Ackerman, 2010: Observed Differences in Spectral Microphysical Retrievals from MODIS, AGU Fall meeting, San Francisco, CA, 13–17 December.
- <sup>s</sup>Maddux, B. C., S. A. Ackerman, W. P. Menzel, S. Platnick, and R. Frey. MODIS Level-3 Cloud Properties, Poster. A-Train Symposium, October 25–28, 2010, New Orleans.
- <sup>s</sup>Maddux, B. C., et al., 10-Years of MODIS Cloud Properties, Poster, NOAA/NESDIS Cooperative Research Program (CoRP) 7<sup>th</sup> Annual Science Symposium, August 10-11, 2010, Fort Collins, Colorado. \*2<sup>nd</sup> Student Poster Presentation Award.
- <sup>s</sup>Maddux, B. C., et al., Regional and Global Cloud Variability, NOAA/NESDIS Cooperative Research Program (CoRP) 7<sup>th</sup> Annual Science Symposium, August 10-11, 2010, Fort Collins, Colorado.
- <sup>s</sup>Maddux, B. C., S. A. Ackerman, and W. P. Menzel. MODIS Cloud Climatology: State and Variability of the Global Cloud Field. GEWEX Cloud Assessment Meeting, June 22–25, 2010, Berlin, Germany.
- <sup>s</sup>Maddux, B. C., S. A. Ackerman, P. Menzel, and S. Platnick. Variability and interpretation of satellite derived cloud properties from MODIS. The 17<sup>th</sup> Conference on Satellite Meteorology and Oceanography, September, 26 – 30 September 2010, Annapolis, MD.
- <sup>s</sup>Maddux, B. C., S. Platnick, S. A. Ackerman, and P. Menzel. 10 Years of MODIS Cloud Products, poster. The 17<sup>th</sup> Conference on Satellite Meteorology and Oceanography, September, 26 – 30 September 2010, Annapolis, MD.
- Ackerman, S. A., R. Holz and R. Kuhn, 2010: Observations of Ice in Maritime Stratiform Clouds from CALIOP/MODIS Observations. West Pacific Geophysics Meeting, Taipei, Taiwan, June 22–25, 2010.
- <sup>ts</sup>Wagner, T. J., and S. A. Ackerman, 2010: The impact of online applets on learning in an introductory meteorology lecture. 26<sup>th</sup> Conference on Interactive Information Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology and 19<sup>th</sup> Symposium on Education, Atlanta, GA, 17–21 January 2010. Proceedings. American Meteorological Society, Boston, MA, Manuscript not available for publication.

- <sup>1,†</sup>Ackerman, S. A., 2010: The lecture - What is it and why do we do it? 26<sup>th</sup> Conference on Interactive Information Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology and 19<sup>th</sup> Symposium on Education, Atlanta, GA, 17–21 January 2010. Proceedings. American Meteorological Society, Boston, MA.
- <sup>§</sup>Liu, C.-Y; J. Li, T. J. Schmit, and S. A. Ackerman, 2010: The upper tropospheric storm-scale signature from hyperspectral infrared soundings. 6<sup>th</sup> Annual Symposium on Future National Operational Environmental Satellite Systems - NPOESS and GOES-R, Atlanta, GA, 17–21 January 2010. Proceedings. American Meteorological Society, Boston, MA.
- <sup>†</sup>Crone, W. C., R. K. Rediske, S. A. Ackerman, and S. L. Dunwoody, 2009: Engaging Science and Engineering Graduate Students with Informal Science Education. *American Society for Engineering Education*. Extended abstracts of 116<sup>th</sup> Annual conference and Exposition, June 13–17, 2009, Austin, TX.
- <sup>†</sup>Schiferl, L., S. Ackerman, and M. Mooney, 2009: CIMSS Educational Outreach Activities: Summer 2008, Student Conference, 89<sup>th</sup> Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- <sup>1,†</sup>Ackerman, S., 2009: After more than 10 years of e-Learning, What have we learned?, 2009: Joint Session 10, Satellite Education and Public Outreach, 89<sup>th</sup> Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- Hoff, R. M., A. I. Prados, H. Zhang, M. Kacenenbogen, R. Delgado, S. Kondragunta, J. Szykman, F. Dimmick, B. Johns, C. Kittaka, J. A. Al-Saadi, J. Engle-Cox, S. Weber, A. Huff, A. Wimmers, and S. A. Ackerman, 2009: Increased availability of satellite remote sensing data for model evaluation through 3D-AQS. 11<sup>th</sup> Conference on Atmospheric Chemistry, Phoenix, AZ, 11–15 January. American Meteorological Society, Boston, MA.
- Ackerman, S., R. Frey, and R. Holz, 2009: The challenge of passive remote sensing of clouds from satellites over Polar Regions in winter. NPOESS Conference Retrievals and Clouds, 89<sup>th</sup> Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- <sup>†</sup>Mooney, M., S. Ackerman, L. Schiferl, J. Martin, and T. Whittaker, 2009: Promoting Climate Literacy through K–12 Professional Development Opportunities, 12 and Informal Educational Outreach in the Atmospheric, Oceanic, and Hydrologic Sciences, 89<sup>th</sup> Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- Guch, I. C., S. A. Ackerman, M. DeMaria, R. Ferraro, K. Gallo, R. D. Hudson, D. R. Khanbivardi, S. Q. Kidder, W. P. Menzel, T. Strub, and B. Vant Hull, 2009: Collaborative training efforts at the NESDIS cooperative institutes. 16<sup>th</sup> Conference on Satellite Meteorology and Oceanography, 5<sup>th</sup> Annual Symposium on Future Operational Environmental Satellite Systems NPOESS and GOES-R, and 18<sup>th</sup> Symposium on Education, Phoenix, AZ, 11–15 January 2009. American Meteorological Society, Boston, MA, Paper 11.5. Call Number: Reprint # 5913
- Jasmin, T., and S. Ackerman, 2009: Satellite Observations in Science Education, Satellite Education, 89<sup>th</sup> Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.

- Menzel, W. P., P. Antonelli, T. D. Rink, K. I. Strabala, L. E. Gumley, A. Huang, S. Ackerman, H. Revercomb, and B. Smith, 2009: International Training Events and Educational Seminars on Satellite Remote Sensing Satellite Education and Public Outreach, 89th Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- <sup>s</sup>Wagner, T. J., D. D. Turner, and S. A. Ackerman, 2009: Remote retrieval of cumulus cloud entrainment rates, *Advances in Lidar Applications*, 89th Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- Liu, Y., J. Key, X. Wang, B. Maddux, and S. Ackerman, 2009: The Response of Arctic Clouds to Surface Changes Climate, 89th Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- Sieglaff, J., T. J. Schmit, P. Menzel, and S. Ackerman, 2009: Inferring convective weather characteristics with geostationary high spectral resolution IR window measurements: A look into the future. Special Session on Latest Developments in Hyperspectral Remote Sensing, 89th Annual Meeting of the American Meteorological Society, Phoenix AZ, Jan 12–15.
- <sup>t</sup>Ackerman, S. A., T. Jasmin, M. Mooney, and T. Whittaker, 2008: Web-Based Tools and Resources to Facilitate Earth Science Education. ESIP Federation meeting, Durham, NH. July 16–18.
- <sup>t</sup>Ackerman, S. A., 2008: Teaching Satellite Meteorology: Lessons learned from someone who thought he knew what he was doing. American Meteorological Society AER Training meeting. June 30–July 3, 2008
- Platnick, Steven, Gala Wind, Michael D. King, Robert E. Holz, Steven A. Ackerman, and Fred W. Nagle, 2008: Comparison of the MODIS collection 5 multilayer cloud detection product with CALIPSO. IRS 2008: Current problems in atmospheric radiation. Proceedings of the International Radiation Symposium, Foz do Iguacu, Brazil, 3–8 August 2008. American Institute of Physics, 2009, 416-419.
- <sup>t</sup>Ackerman, S. A., K. Christoph, and C. Lupton, 2008: GameQuest: Creating an Education Game Program for Higher Ed, EDUCAUSE Learning Initiative Annual Meeting, "Connecting and Reflecting: Preparing Learners for Life 2.0," January 28–30, 2008, Hyatt Regency San Antonio–Riverwalk, San Antonio, Texas
- Feltz, W. F., J. A. Otkin, K. M. Bedka, S. A. Ackerman, A. Wimmers, R. D. Sharman, and J. R. Mecikalski, 2008: A Satellite-derived mountain wave turbulence interest field detection. AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 13th Conference on Aviation, Range and Aerospace Meteorology.
- Anderson, J., W. L. Smith, R. L. Beale, B. H. Maggi, S. Ackerman, and M. Fisher, 2008: Science on a Sphere. AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 17<sup>th</sup> Symposium on Education.
- <sup>t</sup>Mooney, M., S. Ackerman, T. Whittaker, and L. Avila, 2008: On-line education activities and opportunities. AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 17<sup>th</sup> Symposium on Education, 24<sup>th</sup> Conference on IIPS.
- <sup>t</sup>Kulie, M. S., S. A. Ackerman, and R. Bennartz, 2008: Utilizing UNIDATA's Integrated Data Viewer as an undergraduate meteorology classroom tool, AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 17<sup>th</sup> Symposium on Education and 24<sup>th</sup> Conference on IIPS.



- <sup>s</sup>Wagner, T. J., D. D. Turner, and S. A. Ackerman, 2008: The effect of radiosonde dry bias on measurements of convective instability in the southern Great Plains. AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 12<sup>th</sup> Conference on IOAS-AOLS.
- <sup>†</sup>Jasmin, T., T. Whittaker, and S. Ackerman, 2008: Satellite observations in science education AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 17<sup>th</sup> Symposium on Education 24<sup>th</sup> Conference on IIPS.
- <sup>s</sup>Wagner, T. J., W. F. Feltz, and S. A. Ackerman, 2008: Comparisons of measurements of atmospheric stability from ground-based remote sensing instruments AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 12<sup>th</sup> Conference on IOAS-AOLS.
- <sup>s</sup>Wagner, T. J., and S. Ackerman, 2008: YouTube as a tool for meteorological education AMS 88<sup>th</sup> Annual meeting, New Orleans LA, Jan 20–24, 17<sup>th</sup> Symposium on Education.
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- <sup>†</sup>Ackerman, S. A., 2007: Sustaining Education and Outreach in a Research Institute. Summer ESIP Federation Meeting: *Sustainability: What Does it Mean? What Does it Take?* July 17–20, University of Wisconsin Madison, Wisconsin
- <sup>†</sup>Ackerman, S. A., T. Schmit, H. Woolf, T. Schreiner, M. Gunshor, and J. Li, 2007: Quantitative Analysis of Volcanic Plumes with the GOES Sounder. *Yoram J. Kaufman Symposium on Aerosols, Clouds and Climate*, NASA/Goddard Space Flight Center, May 30 – June 1.
- <sup>†</sup>Ackerman, S. A., 2007: Understanding and Predicting the Weather using Satellite Observations, Central States Water Environment Association, 80<sup>th</sup> Annual Meeting, May 22–25, Madison WI.
- <sup>†</sup>Ackerman, S. A., R. Frey, R. Holz, and J. Li, 2007: Discrimination of Aerosol and Clouds Using Hyperspectral and Multispectral Measurements, HISE Conference, 11–15 Feb., Santa Fe NM
- Holz, R. E., T. Maestri, S. A. Ackerman, and L. E. Gumley, 2007: Comparing Actively Remote Sensed Lidar Cloud Properties with Passive AIRS and MODIS Retrievals, HISE Conference, 11-15 Feb., Santa Fe NM
- <sup>†</sup>Platnick, S., M. King, G. Wind, G. T. Arnold, M. McGill, S. A. Ackerman, R. Holz, B. Baum, and P. Yang, 2007: Multilayer Cloud Detection in the MODIS Collection 5 Cloud Product, HISE Conference, 11–15 Feb., Santa Fe, NM
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- <sup>†</sup><sup>s</sup>Kulie, M. S., S. A. Ackerman, and R. Bennartz, 2007: Integrating web-based technological classroom tools into an undergraduate radar and satellite meteorology course. 16<sup>th</sup> Symposium on Education. AMS. San Antonio, TX.
- <sup>s</sup>Hoffman, J. P., E. M. Prins, C. C. Schmidt, S. A. Ackerman, and J. S. Reid, 2007: Characterizing and Understanding the Difference between GOES WF\_ABBA and MODIS Fire Products and Implications for Data Assimilation. 11<sup>th</sup> Symposium on

- Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surfaces (IOAS-AOLS). AMS, San Antonio, TX.
- Anderson, John, W. L. Smith, R. L. Beale, D. Q. Robinson, B. H. Maggi, S. Ackerman, T. H. Achtor, T. Whittaker, and M. Mooney, 2007: Educational applications of the Science on a Sphere at the National Maritime Center. 16<sup>th</sup> Symposium on Education, San Antonio, TX, 14–18 January 2007 (preprints). American Meteorological Society, Boston, MA.
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- Ackerman, S. A., and K. Strabala, 1994: Monitoring the Mt. Pinatubo aerosol with HIRS/2 observations. AMS Eighth Conference on Atmospheric Radiation. Jan. 23–27, Opryland, TN.
- Ackerman, T. P., J. A. Valero, S. Kinne, P. Pilewskie, G. P. J. Valero, S. A. Ackerman, and M. Shiobara, 1994: A comparison of cirrus cloud optical depths determined from ground-based passive radiation measurements during FIRE cirrus II. AMS Eighth Conference on Atmospheric Radiation. Jan. 23–27, Opryland, TN.
- Smith, W. L., S. A. Ackerman, X. L. Ma, R. O. Knuteson, and H. E. Revercomb, 1994: Cloud properties from FTIR observations. AMS Eighth Conference on Atmospheric Radiation. Jan. 23–27, Opryland, TN.
- Soden, B. J., and S. A. Ackerman, 1994: Comparison of GOES, Lidar and CLASS sonde observations of upper tropospheric relative humidity. AMS Eighth Conference on Atmospheric Radiation. Jan. 23–27, Opryland, TN
- Smith, W. L., S. A. Ackerman R. O. Knuteson, X. L. Ma, and H. E. Revercomb, 1993: Cooperative Institute for Meteorological Satellite Studies, CIMSS FIRE research activities. FIRE II cirrus Science Team Meeting, Breckenridge, CO
- Soden, B. J., and S. A. Ackerman, 1993: Analysis of the GOES 6.7  $\mu\text{m}$  channel observations. FIRE II cirrus Science Team Meeting, Breckenridge, CO
- Ackerman, S. A., W. L. Smith, X. L. Ma, R. O. Knuteson and H. E. Revercomb, 1993: Cirrus cloud retrievals from HIS observations. FIRE II cirrus Science Team Meeting, Breckenridge, CO
- Smith, W. L., S. A. Ackerman, R. O. Knuteson, X. L. Ma, and H. E. Revercomb, 1993: AERI observations during FIRE II. FIRE II cirrus Science Team Meeting, Breckenridge, CO
- Ackerman, S. A., R. A. Frey, W. L. Smith, W. P. Menzel, and C. M. Hayden, 1993: Use of collocated AVHRR and HIRS/2 measurements as an approach to global climate monitoring. IAMAP and IAHS Joint International Meeting, July 11–23 Yokohama, Japan.

- Ackerman, S. A., and T. Inoue, 1993: Using collocated AVHRR and ERBE observations to investigate climate change processes. IAMAP and IAHS Joint International Meeting, July 11–23 Yokohama, Japan.
- Ackerman, S. A., and T. Inoue, 1993: Radiation energy budget studies using collocated AVHRR and ERBE observations, Sixth topical meeting of the Optical Society of America's conference on Optical Remote Sensing of the Atmosphere, Salt Lake City, UT, March 8–12.
- Ackerman, S. A., and R. O. Knuteson, 1993: Multiple scattering algorithm for use with line-by-line RTE models, SPIE's International Symposium on Optical Engineering and Photonics in Aerospace and Remote Sensing, Orlando FL, 12–16 April.
- Ackerman, S. A., 1993: Detection of aerosols from satellite observations in the infrared window region, SPIE's International Symposium on Optical Engineering and Photonics in Aerospace and Remote Sensing, Orlando FL, 12–16 April.
- Smith, W. L., S. A. Ackerman, R. O. Knuteson, M. X. Lin, and H. E. Revercomb, 1993: Algorithms for estimating cloud optical properties and boundary layer temperature and moisture profiles from ARM ground based FTIR measurements. Fourth Conference on Global Change Studies. January 17–22, Anaheim, CA.
- Ackerman, S. A., R. A. Frey, and C. Collimore, 1992: Coupling between surface properties and the energy budget at top of the atmosphere. International Radiation Symposium, Tallin, Estonia, August 3–8.
- Flatau, P. J., S. A. Ackerman, and G. L. Stephens, 1992: Simple parameterization of single scattering properties of ice and water clouds. International Radiation Symposium, Tallin, Estonia, August 3–8.
- Revercomb, H. E., W. L. Smith, S. A. Ackerman, F. A. Best, R. G. Dedecker, T. P. Dirks, R. A. Herbsleb, H. B. Howell, H. -L. Huang, R. O. Knuteson, J. F. Short, and H. M. Woolf, 1992: FTIR for atmospheric remote sensing. Workshop on Infrared Emission Measurements by FTIR, Quebec, 12–14 February.
- Ackerman, S. A., R. A. Frey, and W. L. Smith, 1992: Cloud retrieval from collocated infrared sounder data and imaging systems. Sixth Conference on Satellite Meteorology and Oceanography, January 5–10, Atlanta, GA.
- Ackerman, S. A., S. Limaye, G. S. Wade, and P. Fry, 1992: Spectral signatures of dust, smoke, forest fire and volcanic aerosols from satellite observations. Sixth Conference on Satellite Meteorology and Oceanography, January 5–10, Atlanta, GA.
- Ackerman, S. A., R. A. Frey, and W. L. Smith, 1992: Radiative properties of the earth-atmosphere system from combined AVHRR, HIRS/2 and ERBE observations. Sixth Conference on Satellite Meteorology and Oceanography, January 5–10, Atlanta, GA.
- Limaye, S., P. Fry, and S. A. Ackerman, 1992: PC-McIDAS in satellite monitoring of oil-fires in Kuwait expedition. Sixth Conference on Satellite Meteorology and Oceanography, January 5-10, Atlanta, GA.
- Ackerman, S. A., R. Frey, and W. L. Smith; 1991: Cloud Radiative Forcing Determined from Combined Observations of NOAA-9 ERBE, HIRS/2 and AVHRR instruments. Presented at the IAMAP symposium on Aerosol-Cloud-Climate Interactions, Vienna, Austria, Aug, 1991.

- Ackerman, S. A., 1991: The Effects of Dust on Tropospheric and Stratospheric Radiative Heating Rates. Presented at the IAMAP symposium on Aerosol-Cloud-Climate Interactions, Vienna, Austria, Aug, 1991.
- Smith, W. L., M. Xialin, and S. A. Ackerman; 1991: Remote sensing cloud properties from high-spectral resolution infrared observations. Presented at the IAMAP symposium on Aerosol-Cloud-Climate Interactions, Vienna, Austria, Aug, 1991.
- Takano, Y., K. N. Liou, S. A. Ackerman, and P. Minnis; 1991: Effects of small ice crystals on cirrus infrared radiative properties. Presented at the IAMAP symposium on Aerosol-Cloud-Climate Interactions, Vienna, Austria, Aug, 1991.
- Ackerman, S. A., D. P. Wylie, C. M. Hayden, and W. P. Menzel, 1991: Remote sensing cloud properties from combined AVHRR and HIRS/2 observations. Seventh Symposium on Meteorological Observations and Instrumentation, January 13-18, 1991. New Orleans, LA.
- Menzel, W. P., S. A. Ackerman, and W. L. Smith, 1991: Remote sensing cloud properties from simulated MODIS observations. Seventh Symposium on Meteorological Observations and Instrumentation, January 13-18, 1991. New Orleans, LA.
- Knuteson, R. O., H. E. Revercomb, W. L. Smith, H. Buijs, R. Dedecker, H. B. Howell, H. M. Woolf, and S. A. Ackerman, 1991: Realization of a low-cost ground based temperature, humidity and trace gas profiling system. Seventh Symposium on Meteorological Observations and Instrumentation, Jan. 13-18, New Orleans, LA.
- Smith, W. L., S. A. Ackerman, H. B. Howell, H. -L. Huang, R. O. Knuteson, H. E. Revercomb, and H. M Woolf, 1991: Cloud and trace gas remote sensing with the High-resolution Interferometer Sounder (HIS). Fourth Airborne Geoscience Workshop, LaJolla, CA, January 29 - February 1, 1991.
- Ackerman, S. A., D. P. Wylie, and W. L. Smith, 1990: Remote sensing the optical properties of cirrus clouds using 8, 11 and 12  $\mu\text{m}$  channels. Fifth Conference on Satellite Meteorology and Oceanography, September 3-7, 1990, London, England.
- Smith, W. L., H. -L. Huang, S. A. Ackerman, and H. E. Revercomb, 1990: Sounding through semi-transparent cloud with high resolution infrared radiance spectra. Fifth Conference on Satellite Meteorology and Oceanography, September 3-7, 1990, London, England.
- Ackerman, S. A., and W. L. Smith, 1990: Inferring cloud microphysical properties from high resolution spectral measurements in the 8-13  $\mu\text{m}$  window region. Seventh Conference on Atmospheric Radiation, San Francisco, CA, July 23-27.
- Ackerman, S. A. and D. P. Wylie, 1990: ERBE and HIRS/2 coincident observations of the radiative properties of cirrus clouds. Seventh Conference on Atmospheric Radiation, San Francisco, CA, July 23-27.
- Herman, L. D., S. A. Ackerman, F. Chen, and G. Wade, 1990: Observations of the daily radiative energy budget at the top of the atmosphere from the Earth Radiation Budget Experiment. Seventh Conference on Atmospheric Radiation, San Francisco, CA, July 23-27.
- Ackerman, S. A., E. W. Eloranta, C. J. Grund, R. O. Knuteson, H. E. Revercomb, W. L. Smith, and D. P. Wylie, 1990: University of Wisconsin cirrus remote sensing pilot experiment. Seventh Conference on Atmospheric Radiation, San Francisco, CA, July 23-27.

- Grund, C. J., S. A. Ackerman, E. W. Eloranta, R. O. Knuteson, H. E. Revercomb, W. L. Smith, and D. P. Wylie, 1990: Cirrus cloud characteristics derived from volume imaging lidar, high spectral resolution lidar, HIS radiometer and satellite. Seventh Conference on Atmospheric Radiation, San Francisco, CA, July 23-27.
- Ackerman, S. A., and W. L. Smith, 1990: Passive remote sensing of cirrus clouds and their microphysical properties using 8 and 11  $\mu\text{m}$  channels. Presented at the Optical Remote Sensing of the Atmosphere, February 12-15, Reno, NV.
- Ackerman, S. A., W. L. Smith, and H. E. Revercomb, 1989: Radiative properties of cirrus clouds in the 8-12  $\mu\text{m}$  window. Presented at the IAMAP 89 Symposium on the Effects of Aerosols and Clouds on Climate, August 9-11.
- Ackerman, S. A., 1989: Maximum and minimum in the earth radiation budget. Presented at the IAMAP 89 Symposium on the Earth's Radiation Budget, August 3-5.
- Chung, H. S., and S. A. Ackerman, 1989: The effects of dust on the earth radiation budget. Presented at the IAMAP 89 Symposium on the Effects of Aerosols and Clouds on Climate, August 9-11.
- Ackerman, S. A., and W. L. Smith, 1989: IR Spectral characteristics of cirrus clouds. Presented at the FIRE science team meeting, July 10-14.
- Smith, W. L., S. A. Ackerman, and H. -L. Huang, 1989: Remote sounding through semi-transparent cirrus cloud. Presented at the FIRE science team meeting, July 10-14.
- Ackerman, S. A., and W. L. Smith, 1989: Radiative properties of cirrus clouds in the 8-12  $\mu\text{m}$  region: Implications for remote sensing of cloud microphysics. Presented at the Symposium on the Role of Clouds in Atmospheric Chemistry and Global Climate, January 30-February 3, Anaheim CA.
- Smith, W. L., S. A. Ackerman, H. B. Howell, H. -L. Huang, R. O. Knuteson, H. E. Revercomb, and H. M. Woolf, 1989: Geophysical Observations with an airborne high-spectral resolution interferometer spectrometer (HIS). Presented at the Third Interagency Airborne Geoscience Workshop, February 21-24, San Diego, CA.
- Ackerman, S. A., 1988: Atmospheric radiative heating and cloud probability statistics. Presented at the International Radiation Symposium, August 18-24, Lille, France.
- Ackerman, S. A., H. Chung, S. K. Cox, L. Herman, W. L. Smith, and D. P. Wylie, 1988: Comparison of NOAA-9 ERBE measurements with cirrus IFO satellite and aircraft measurements. Presented at the FIRE science team workshop, July 11-15, Vail, CO.
- Ackerman, S. A., and S. K. Cox, 1986: Estimating dust optical depth from the radiative temperature difference of 11 and 3.7  $\mu\text{m}$  channels, in Proceedings of the Second Conference on Satellite Remote Sensing, May 13-16, Williamsburg, VA.
- Cox, S. K., S. A. Ackerman, and T. H. Vonder Haar, 1986: Neighbor to neighbor objective satellite analysis for the determination of surface and cloud mean radiative properties, in Proceedings of the Second Conference on Satellite Remote Sensing, May 13-16, Williamsburg, VA.
- Ackerman, S. A., and S. K. Cox, 1986: Satellite observations of convection during the summer monsoon of 1979, in Proceedings of the First GARP Global Experiment (FGGE), January 13-17, Miami, FL.
- Ackerman, S. A., and S. K. Cox, 1986: Radiative Energy Budget Estimates for the 1979 Southwest Summer Monsoon. First GARP Global Experiment (FGGE), January 13-17, 1986, Miami, FL.

- Ackerman, S. A., E. A. Smith, and S. K. Cox, 1983: Surface and atmospheric radiative exchange over the Arabian Peninsula, in Proceedings of the Fifth Conference on Atmospheric Radiation, October 21-November 4, Baltimore, MD.
- Ackerman, S. A., E. A. Smith, and T. H. Vonder Haar, 1981: Regional radiative characteristics during the southwest summer monsoon. Volume of Extended Abstracts, International Conference on Early Results of FGGE and Large-scale Aspects of its Monsoon Experiments. 12-17 January, Tallahassee, FL.
- Cox, S. K., and S. A. Ackerman, 1981: Radiative components of the Saudi Arabian peninsula heat low. Volume of Extended Abstracts, International Conference on Early Results of FGGE and Large-scale Aspects of its Monsoon Experiments. 12-17 January, Tallahassee, FL.
- Sakkal, M. M., F. Alamy, S. A. Ackerman, S. K. Cox, E. A. Smith, and T. H. Vonder Haar, 1981: A continuing investigation of the Arabian peninsula heat low. International Conference on the Scientific Results of the Monsoon Experiment, October 26-30, Denpasar, Bali, Indonesia.
- Ackerman, S. A., and S. K. Cox, 1980: Comparison of satellite and all-sky camera estimates of cloud cover during GATE. NOAA workshop on satellite derived cloud data sets. December 4-5, 1980, Washington, D.C.
- Ackerman, S. A., and S. K. Cox, 1980: Inference of shortwave fractional absorptance in non-homogeneous clouds. Volume of Extended Abstracts, International Radiation Symposium, August 11-16, Fort Collins, CO.

<sup>1</sup> Invited

<sup>t</sup> Papers related to teaching and education

<sup>s</sup> Paper of a student

## **OUTREACH ACTIVITIES**

- Participant in Showcase of NASA Partnerships & Collaboration - July 25, 2018, Wasginton, D.C.
- Keynote: Science, Uncertainty & Policy: Science, Policy & Water: A Waters of Wisconsin Summit, hosted by the Wisconsin Academy of Sciences, Arts & Letters
- UW Speakers Bureau, Neenah, WI, 2017, Austin TX, 2017, West Palm Beach, FL, 2016
- UW Alumni Forward events 2016: Florida and Chicago events.
- TedX Madison (2015): “Everyone’s a Critic: Weather Forecasts – you do more than complain”.
- Working with 21 Wisconsin public libraries as part of our MOOC on Weather and Climate of the Great Lakes
- Ask Weather Guys column for Wisconsin State Journal: Since October 2018; compiled into an eBook
- Weather Guys Radio Show on Wisconsin Public Radio: since 1998
- Involved in campus wide Science Expeditions
- WhyFiles, developed interactive learning activities for their web pages.
- Satellite Meteorology CD for K-12 teachers
- Summer Workshop on Atmospheric, Earth and Space Sciences for High School Students, annually since 1992
- Suomi Scholarship for High School Seniors

## **GRADUATE STUDENTS SUPERVISED AND GRADUATED**

- 2018: Charles White (M.S.): Refining Long-term Analysis of AVHRR Surface Temperatures for the Laurentian Great Lakes
- 2017: David M. Loveless (M.S.): Composite Analysis of Atmospheric Bores during PECAN Observed by Ground-Based Profiling Systems
- 2017: Skylar S. Williams (M.S.): “Validation of Weather Vapor Measurements from Commercial Aircraft Across the CONUS using Radiosondes”
- 2016: Jacola Roman, (Ph.D.): “A New Method for Near Real-Time Precipitation Estimates and Realistic Minimum Detection Times Using Remotely Sensed PWV.”
- 2016: Pei Wang, (Ph.D.): “Assimilation of Hyperspectral Infrared Sounder Radiances under Cloudy Skies in a Regional NWP Model.”
- 2016: Keiko Yamamoto, (M.S.): “Dust Detection Using IR Channels of Himawari-8.”
- 2016: Xiaowei Jiang, (M.S.): “Evaluation of Environmental Moisture from NWP Models with Measurements from Advanced Geostationary Satellite Imager.”
- 2016: Kyle M. Hosley (M.S.): “The Utility of IDEA-I as a Wildfire Smoke Plume Forecast Tool: A Mid-July 2014 Case Study.”
- 2015: Amanda Gumber (M.S.): “Investigating 3D Solar Radiative Cloud Effects via MODIS”
- 2015: Alexa Ross (M.S.): “Correlations of Horizontally Oriented Ice and Precipitation in Marine Midlatitude Clouds Using Collocated A-Train Observations”

- 2015: Michelle Feltz (M.S.): “Guidance for Stratospheric Temperature Products: Comparing Cosmic Radio Occultation and AIRS Hyperspectral Infrared Sounder Data”
- 2015: Aaron, Letterly (M.S.): “The Influence of Winter Cloud on Summer Sea Ice in the Arctic, 1982-2013”
- 2014: Jordan Gerth (Ph.D): “Sky Cover”
- 2014: Michael Pavolonis (Ph.D): “Development of Satellite Remote Sensing Techniques for Quantifying Volcanic Ash Cloud Properties”
- 2014: William Smith (Ph.D.): “4-D Cloud Properties from Passive Satellite Data and Applications to Resolve the Flight Icing Threat to Aircraft”
- 2014: Kyle Nelson (M.S.) “The Role of Optically Thin Liquid Clouds in the 2012 Greenland Ice Sheet Surface Melt Event”
- 2013: Jacola Roman (M.S.) “Quantifying the Ability for High Spectral Resolution Infrared Sounders to Detect Regional Precipitable Water Vapor Trends Determined from Global Climate Models”
- 2013: William Line (MS): “Using Isentropic Techniques to Improve the Utility of GOES Moisture Observations”
- 2013: Agnes Lim (Ph.D.): “Assimilation of AIRS Radiances in Short Term Regional Forecasts using Community Models”
- 2012: John Sears (MS): “Investigating the Role of the Upper-Levels in Tropical Cyclogenesis”
- 2012 Caitlan Hart (MS): “Interpretation of Small Particle Signatures in Satellite Observations of Convective Storms”
- 2011 Jordan Gerth (MS): “Improving Cloud and Moisture Representation by Assimilating GOES Sounder Products in Numerical Weather Prediction Initial Conditions”
- 2011 Kathryn Mozer (MS): “Boundary Layer Cloud Fraction and lower Tropospheric Static Stability using Satellite Observations and Global Climate Model Output”
- 2011 Sarah Monnette (MS): “Tropical Applications of a Satellite-based Objective Overshooting Top Detection Algorithm”
- 2011 Ken Vincent (MS): “Validation of Methane Products from the Atmospheric Infrared Sounder (AIRS) during the Arctic Research of the Composition of the Troposphere from Aircraft and Satellites Mission”
- 2011 Mark Smally (MS): “Effects of Spectral Response Function Differences on CO<sub>2</sub> Slicing with an Application to Cloud Climatologies”
- 2010 Chian-Yi Liu (Ph.D.): “Remote Sensing of the Upper Tropospheric State of Storms using Space-borne High-Spectral Resolution Infrared Measurements”
- 2010 Ilya Razenkov: (M.S): “Characterization of a Geiger-Mode Avalanche Photodiode Detector for High Spectral Resolution Lidar”
- 2009 Zhenglong Li (Ph.D.): “Improvements and Applications of Atmospheric Soundings from Geostationary Platform”
- 2008 Matthew Lazzara (Ph.D.): “A Diagnostic Study of Antarctic Fog”
- 2008 Li Bi (Ph.D.): “A Two-Season Impact Study of ASCAT and WINDSAT Surface Wind Retrievals in the NCEP Global Data Assimilation System”



- 2007 David Santek (Ph.D.): “The Global Impact of Satellite-Derived Polar Winds on Model Forecasts”
- 2007 Jessica A. Staude (M.S.): “Poleward Propagating Weather Systems in Antarctica”
- 2007 Brent Maddux (M.S.): “Cloud observations from MODIS”
- 2007 Richard Dvorak (M.S.): “Historical AVHRR Satellite-Derived Winds Archive (1982-2002): Validation and Comparison to the ERA-40”
- 2007 Justin Sieglaff (M.S.): “The Need for Hyperspectral IR Sounders”
- 2006 Tim Wagner (M.S.): “Sub-hourly Profiling of Atmospheric Stability during Southern Great Plains Severe Weather Events”
- 2006 Jay Hoffman (M.S.): “A Comparison of GOES WF\_ABBA and MODIS Fire Products”
- 2006 Yinghui Liu (Ph.D.): “Possible Causes of Recent Changes in the Arctic Cloud Cover, Surface Temperature and Temperature Inversions”
- 2005 Robert Holz (Ph.D.): “Remote Sensing of Nighttime Arctic Cloud Top Altitudes Using High Spectral Resolution Measurements”
- 2005 Nate Uhlenbrock (M.S.): “The Use of MODIS Water Vapor Imagery, Model Output and Pilot Reports to Diagnose Turbulent Mountain Waves”
- 2005 Michael Richards (M.S.): “Volcanic Ash Cloud Heights using the MODIS CO<sub>2</sub>-Slicing Algorithm”
- 2005 Amato Evans (M.S.): “Dust Detection with the AVHRR and Application to Wintertime Saharan Dust Conditions”
- 2005 Fang Wang (M.S.): “Trade Studies of the Hyperspectral Environmental Suite (HES) on the Geostationary Operational Environmental Satellite (GOES-R)”
- 2004 Shaima Nasiri (Ph.D.): “Remote Sensing of Multi-layered Cloud Properties”
- 2004 Michael Mores (M.S.): “A Study of Cloud Fraction as a Function of Optical Depth using University of Wisconsin Lidar Data”
- 2004 James Brunner (M.S.): “A Quantitative Analysis of the Enhanced-V Feature in Relation to Severe Weather”
- 2003 David Turner (Ph.D.): Microphysical Properties of Single and Mixed-Phase Arctic Clouds Derived from Ground-Based AERI Observations
- 2003 James Hawkins (M.S.): A Comparison Study using the GOES Sounder Cloud Top Pressure Product and Cloud Lidar and Radar
- 2003 Xuanji Wang (Ph.D.): Arctic Climate Characteristics and Recent Trends from Space
- 2002 Robert Holz (M.S.): “Measurements of Cirrus Back Scatter Phase Function using High-Spectral Resolution LIDAR”
- 2002 Brian Kabat (M.S.): “A Satellite-Based Multi-Channel Approach to Tropical Cyclone Intensity Estimation Using the AMSU Passive Microwave Sensor”
- 2002 Greg Gallina (M.S.): “Environmental Vertical Wind Shear and Tropical Cyclone Intensity Change Utilizing Enhanced Satellite Derived Wind Information”
- 2001 Paolo Antonelli (Ph.D.): “Principal Component Analysis: A Tool for Processing Hyperspectral Infrared Data”
- 2001 Kurt Brueske (Ph.D.): "Satellite-based Tropical Cyclone Intensity Estimation Using NOAA-KLM Series Advanced Microwave Sounding Unit (AMSU) Data"

- 2000 Erik Olson (M.S.): “Analysis of Cloud Microphysical Property Retrievals in a Vertically Stratified Cirrus Cloud”
- 2000 Christopher Schmidt (M.S.): “Hourly Ozone Estimates Utilizing the GOES I-M Sounders”
- 1999 Nicholas Nalli (Ph.D.): “A Physical Multispectral Method for the Retrieval of Ocean and Lake Surface Temperatures via Scanning Spectrometer”
- 1999 Shaima Nasiri (M.S.): “Snow/Cloud Discrimination Algorithm for GOES Sounder”
- 1998 Mike Freidman (Ph.D.): “Cloud classification and its application to statistically derived radiative energy budgets”
- 1998 Rose Sie (M.S.): “Diurnal Variabilities of Radiation Properties over the Amazon with Application on Ecosystem and Biomass Burning”

**COURSES TAUGHT (NON-SEMINAR)**

- AOS 100: Introduction to Weather and Climate
- AOS 101: Introduction to Weather and Climate
- AOS 102: Climate and Climate Change
- JOUR 880: Sharing Science with the Public
- AOS 152: Weather for Pilots
- AOS 340: Atmospheric and Oceanic Physics II
- AOS 440: Radar and Satellite Meteorology
- AOS 445: Satellite Meteorology
- AOS 509: Teacher Workshop in Earth System Science
- AOS 930: Teaching AOS Seminar
- AOS 640: Radiation in the Atmosphere and Ocean
- AOS 740: Advanced Radiative Transfer

## JOURNAL STATISTICS

Dr. Ackerman's publishing history includes a cross section of journals in meteorology and the atmospheric sciences, remote sensing, and multidisciplinary geosciences. They represent a subset of the top peer-reviewed journals in his research areas: each of them has high standards and a rigorous review process. Overall rankings according to impact factor (IF)<sup>2</sup> are shown below and are based on 2017 data from InCites Journal Citation Reports (by Thomson Reuters):

- **Bulletin of the American Meteorological Society** (IF, 7.804): 3<sup>rd</sup> highest impact factor and 7<sup>th</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **Atmospheric Chemistry and Physics** (IF, 5.509): 4<sup>th</sup> highest impact factor and 4<sup>th</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **IEEE Transactions on Geoscience and Remote Sensing** (IF 4.662): 5<sup>th</sup> highest impact factor and 2<sup>nd</sup> most highly cited journal in remote sensing [of 30 journals]
- **Geophysical Research Letters** (IF, 4.161): 11<sup>th</sup> highest impact factor and most highly cited journal (1<sup>st</sup>) in multidisciplinary geosciences [of 189 journals]
- **Atmospheric Research** (IF, 3.817): 13<sup>th</sup> highest impact factor and 20<sup>th</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **Remote Sensing** (IF, 3.406): 8<sup>th</sup> highest impact factor and 4<sup>th</sup> most highly cited journal in remote sensing [of 30 journals]
- **Optics Express** (IF, 3.356): 19<sup>th</sup> highest impact factor and 2<sup>nd</sup> most highly cited journal in optics [of 94 journals]
- **Journal of Geophysical Research - Atmospheres** (IF, 3.38): 18<sup>th</sup> highest impact factor and most highly cited journal (1<sup>st</sup>) in meteorology and atmospheric science [of 86 journals]
- **Atmospheric Measurement Techniques** (IF 3.248): 19<sup>th</sup> highest impact factor and 24<sup>th</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **IEEE Geoscience and Remote Sensing Letters** (IF 2.892): 10<sup>th</sup> highest impact factor and 5<sup>th</sup> most highly cited journal in remote sensing [of 30 journals]
- **Journal of Applied Meteorology and Climatology** (IF, 2.236): 37<sup>th</sup> highest impact factor and 16<sup>th</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **Journal of Atmospheric and Oceanic Technology** (IF 2.122): 39<sup>th</sup> highest impact factor and 21<sup>st</sup> most highly cited journal in meteorology and atmospheric science [of 86 journals]
- **Applied Optics** (IF, 1.791): 49<sup>th</sup> highest impact factor and 4<sup>th</sup> most highly cited journal in optics [of 94 journals]
- **International Journal of Remote Sensing** (IF 1.782): 16<sup>th</sup> highest impact factor and 3<sup>rd</sup> most highly cited journal in remote sensing [of 30 journals]