

**John R. Mecikalski**  
Professor & Department Chair  
Atmospheric and Earth Science Department  
The University of Alabama in Huntsville

**Education and Training**

B.S.	University of Wisconsin-Milwaukee, Milwaukee, WI	1983-1988
M.S.	University of Wisconsin-Milwaukee, Milwaukee, WI	1988-1991
Ph.D.	University of Wisconsin-Madison, Madison, WI	1993-1999

**Education and Professional Employment**

2018-Present	Department Chair & Chair, University of Alabama in Huntsville
2016-Present	Full Professor, University of Alabama in Huntsville
2009-2016	Associate Professor, University of Alabama in Huntsville
2004-2009	Assistant Professor, University of Alabama in Huntsville
2002-2004	Assistant Scientist, UW-Cooperative Institute for Meteorological Satellite Studies
1997-2002	Associate Researcher, UW-Cooperative Institute for Meteorological Satellite Studies
1995-1997	Assistant Researcher, UW-Cooperative Institute for Meteorological Satellite Studies
1992-1995	Software and System Tester, UW-Space Science and Engineering Center
1990-1991	Meteorologist Intern, National Weather Service in Green Bay, Wisconsin

**Research and Professional Experience**

Dr. John Mecikalski has been involved in a wide variety of research over the past 25 years, yet one that emphasizes use of satellite remote sensing fields to study convective clouds and storms, to examine land surface energy budgets, and in data assimilation studies to improve numerical weather prediction models. Dr. Mecikalski has been specifically involved in the development of algorithms that process 1-5 min resolution satellite data to monitor convective cloud development, for the purpose of nowcasting convective storm initiation, as well as to determine in-cloud processes. He has to his name over 105 peer-reviewed publications and technical reports, and currently engages in data assimilation and machine learning research studies that emphasize use of NASA and NOAA datasets. At the University of Alabama in Huntsville, he currently mentors in some fashion of another over 12 graduate students, and holds the Department Chair position, while also teaching one graduate-level course per semester.

**Selected Peer-Reviewed Publications**

- Mecikalski, J. R., T. N. Sandmæl, E. M. Murillo, C. R. Homeyer, K. M. Bedka, J. M. Apke, and C. P. Jewett, 2021: A random forest model to assess predictor importance and nowcast severe storms using high-resolution radar-GOES satellite-lightning observations. *Mon. Wea. Rev.*, In review.
- Apke, J. M., J. R. Mecikalski, 2021: On the origin of rotation derived from super rapid scan satellite imager at the cloud tops of severe deep convection. *Mon. Wea. Rev.*, In press.
- Henderson, D. S., J. A. Otkin, and J. R. Mecikalski, 2021: Characteristics of convection initiation in high-resolution numerical weather prediction models: Evaluation using geostationary satellite-based forecast interest fields. *Mon. Wea. Rev.*, In press.
- Henderson, D. S., J. A. Otkin, and J. R. Mecikalski, 2021: Characteristics of convection initiation in high-resolution numerical weather prediction models: Evaluation using geostationary satellite-based forecast interest fields. *Mon. Wea. Rev.*, in press.
- Mishra, V., J. F. Cruise, and J. R. Mecikalski, 2020: Assimilation of coupled microwave/thermal infrared soil moisture profiles into a crop model for robust maize yield estimates over Southeast United States. *European J. Agronomy*, **123**, 126208.

Li, X., J. R. Mecikalski, and T. J. Lang, 2020: A study on assimilation of CYGNSS wind speed data for tropical convection during 2018 January MJO. *Remote Sensing*, **12**, 1243; doi:10.3390/rs12081243

Li, X., J. R. Mecikalski, J. Srikkishen, B. Zavodsky, and W. A. Petersen, 2019: Assimilation of GPM rain-rate products with GSI data assimilation system for heavy and light precipitation events. *J. Advances in Modeling Earth Systems*, **12**, e2019MS001618. <https://doi.org/10.1029/2019MS001618>

Apke, J. M., J. R. Mecikalski, K. M. Bedka, E. W. McCaul, C. R. Homeyer, and C. P. Jewett, 2018: Investigating the relationship between deep convection updraft characteristics and satellite based super rapid scan mesoscale atmospheric motion vector derived flow. *Mon. Wea. Rev.*, **146**, 3461.

**Synergistic Activities**

- Member, Universities Center for Atmospheric Research (UCAR) university representative.
- Member, American Geophysical Union
- Member, American Meteorological Society
- Collaborator for Organization for the Exploitation of Meteorological Satellites (EUMETSAT)
- CYGNSS Extended Science Team for the MTG Flexible Combined Imager
- NASA Langley Science Team for Severe Convection Analysis

**Graduate Level Teaching & Course Development**

- ESS 454/ATS 554–Severe Weather and Mesoscale Forecasting (taught only)
- ESS 472/ATS 572–Introduction to Satellite Meteorology
- ATS 652–Advanced Synoptic Meteorology
- ATS 656–Tropical Meteorology
- ATS 675–Atmospheric Data Assimilation
- ATS 740–Cloud Processes
- ATS 657–Nowcasting: Theory, Methods & Applications
- ATS 780–Seminar/ATS781 Student Seminar
- ESS 498–Capstone Student Mentoring

**Committee Chair Undergraduate & Graduate Student Mentoring**

Total: 8 Ph.D. Students  
 Total: 27 Masters Students

**Peer-Reviewed Publications**

Total Peer Reviewed Publication: 99 (as of February 2021)  
 Technical Reports: 12 (as of February 2021)  
 Total Book Chapters: 6 (as of February 2021)

<b>Google Scholar Citation Indices</b>	<b>All</b>	<b>Since 2016</b>
<i>Citations</i>	5847	2854
<i>h-index</i>	34	23
<i>i10-index</i>	65	51