Erik D. Kabela

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Education:

- **Ph.D., University of South Carolina,** Columbia, SC, Department of Geography (Geography/Applied Climatology), 2012. **Dissertation:** *NARCCAP Model Assessment and Future Projections for the Southeast United States*
- **M.S., Iowa State University,** Ames, IA, Department of Agronomy (Agricultural Meteorology), 2006. **Thesis:** *Dew Duration and Amount on Corn Leaves as Determined from Measurements During SMEX05 and Simulation Using the ALEX Model*
- **B.S., Valparaiso University,** Valparaiso, IN, Department of Geography and Meteorology (Meteorology; Minor: Mathematics), 2004

Research and Professional Experience:

- **Meteorologist,** Oak Ridge National Laboratory, Oak Ridge, TN, 2011 – present

Perform research and development utilizing the Weather Research and Forecasting (WRF) model. Conducting research to determine data sources, techniques, and parameterizations which reduce errors associated with micro-scale processes influencing meso-scale meteorological and fate and transport models. Support and participate in field experiments by gathering meteorological data for dispersion transport model validation and verification. Conduct research on plume tracking and characterization using radar. Support the Emergency Operations Center with weather forecasts and monitoring meteorological conditions.

- **Lecturer,** Iowa State University, Ames, IA, 2017 – present

Serve as lecturer for the Agronomy 503 course (Climate and Crop Growth) as part of the Master of Science in Agronomy Online program. Tasks include grading assignments, facilitating discussion boards, and update course materials.

- **Graduate Student,** University of South Carolina, Columbia, SC, 2008 – 2012

Conducted research pertaining to regional climate model fidelity, focusing on model skill metrics from an ensemble of climate models covering North America. Quantified errors associated with micro-scale processes leading to potentially large errors in regional climate models (soil moisture, surface fluxes, etc.).

- **Meteorologist,** Savannah River National Laboratory, Aiken, SC, 2007 – 2011

Maintained daily operational aspects of the Atmospheric Technologies Center. Conducted weather forecasting for industrial and forecast management operations. Supported and participated in field experiments by gathering meteorological data for dispersion transport model validation and verification. Served as primary meteorologist in the Emergency Operations Center conducting consequence assessment modeling. Utilized air dispersion models for regulatory compliance or engineering design. Lastly, compiled and quality assured routine and non-routine meteorological datasets.

- **Staff Agricultural Meteorologist,** University of Kentucky, Lexington, KY, 2006 – 2007

Maintained daily meteorology and operational aspects of the Weather Center. Continually performed weather forecast updates and database maintenance. Wrote weekly and monthly state crop and weather reports. Developed new webcasts for up-to-date county and state weather forecasts, hazardous weather outlooks, and crop weather reports. Provided customer service for data needs and other various requests pertaining to agriculture and weather.

- **Research Assistant,** Iowa State University, Ames, IA, 2004 – 2006

Conducted research to determine precision and accuracy of infrared thermometers and developed algorithms to correct for sky conditions. For thesis, conducted research focusing on the formation and duration of dew in

corn and soybean canopies. Utilized an atmosphere-land exchange model to verify in-situ dew amount and duration measurements.

Publications:

Kabela, E. D., S. C. Moss, D. B. Koch, B. K. Daniel, V. J. Jodoin, D. A. Hooper, S. T. Fiorino, J. E. Schmidt, B. J. Elmore, V. Melnikov, D. Zrnic, P. Zhang (2018): Feasibility of using radar for characterizing and tracking plumes. United States. doi: 10.2172/1436044. https://www.osti.gov/servlets/purl/1436044.

Rastogi, D., S. C. Kao, M. Ashfaq, R. Mei, **E. D. Kabela**, S. Gangrade, B. S. Naz, B. L. Preston, N. Singh, and V. G. Anantharaj (2017): Effects of climate change on probable maximum precipitation: A sensitivity study over the Alabama-Coosa-Tallapoosa River Basin. *J. Geophys. Res-Atmos.*, **122** (9), 4808-4828, doi: 10.1002/2016JD026001.

Cheng, M-D. and **E. D. Kabela** (2016): Effects of downscaled high-resolution meteorological data on the PSCF identification of emission sources. *Atmos. Environ.*, **137**, 146-154, doi: 10.1016/j.atmosenv.2016.04.043.

Kabela, E. D. and G. Carbone (2015): NARCCAP model skill and bias for the Southeast United States. *American Journal of Climate Change*, **4**, 94-114, doi: 10.4236/ajcc.2015.41009.

Du, J. Y., T. J. Jackson, R. Bindlish, M. H. Cosh, L. Li, B. K. Hornbuckle, and **E. D. Kabela** (2012): Effect of dew on aircraft-based passive microwave observations over an agricultural domain. *J. Appl. Remote Sens.*, **6**, 063571, doi: 10.1117/1.JRS.6.063571.

M. H. Cosh, **E. D. Kabela**, B. K Hornbuckle, M. L. Gleason, T. J. Jackson, and J. H. Prueger (2009): Observations of dew amount using in situ and satellite measurements in an agricultural landscape. *Agr. Forest Meteorol*, **149** (6-7), 1082-1086, doi: 10.1016/j.agformet.2009.01.004.

Kabela, E. D., B. K. Hornbuckle, M. H. Cosh, M. C. Anderson, and M. L. Gleason (2009): Dew frequency, duration, and distribution in corn and soybean during SMEX05. *Agr. Forest Meteorol*., **149** (1), 11-24, doi: 10.1016/j.agformet.2008.07.002.

Patents:

Harter, A, B. Stinson, and **E. D. Kabela** (2018): Global communication and control. Patent Number 10069918. Issued: September 4, 2018.