Kristen Foley, Statistician, in EPA's National Exposure Research Laboratory

Computational Exposure Division
Mailing Address

foley.kristen@epa.gov

Area of Expertise: My work in the Atmospheric Model Application and Analysis Branch involves the development and application of statistical techniques to evaluate air quality model output using disparate types of observational data. My research interests include data assimilation and ensemble modeling approaches, spatial-temporal statistical modeling and development of tools for improving visualization and probing of large datasets. I collaborate with meteorologist, environmental engineers, computer scientists and other statisticians to provide EPA policy makers with information needed for the development of emission control policies and regulations to improve our nation's air quality.

Select Publications:

FOLEY, K. M., AND M. Fuentes. A statistical framework to combine multivariate spatial data and physical models for hurricane surface wind prediction. JOURNAL OF AGRICULTURAL, BIOLOGICAL & ENVIRONMENTAL STATISTICS, 13, 37-59, (2008).

FOLEY, K. M., AND M. Fuentes. Hurricane Wind Fields, Multivariate Modeling. ENCYCLOPEDIA OF GIS, Springer-Verlag, New York, 448 – 461, (2008).

Xie, L., S. Bao, L. Pietrafesa, K. M. Foley, AND M. Fuentes. A real-time hurricane surface wind forecasting model: Formulation and verification. MONTHLY WEATHER REVIEW, 134, 2355-1370, (2005).

View more research publications by Kristen Foley.

Education:

- B.S. in Statistics *summa cum laude*, North Carolina State University, 2001
- M.S. in Statistics, North Carolina State University 2003
- Ph.D. in Statistics, North Carolina State University 2006

Professional Experience:

- Statistician, U.S. Environmental Protection Agency, Research Triangle Park, NC, 2007 – Present
- Post-Doc, U.S. Environmental Protection Agency, Research Triangle Park, NC, 2006 - 2007

Honors and Awards:

- 2014 ORD Bronze Medal for role on the Direct Sensitivity Methods Modeling Team
- 2014 STAA Level III Award for an Overview of the Atmospheric Model Evaluation Tool (AMET) v1.1
- 2013 STAA Level III Award for Incremental Testing of the Community Multiscale Air Quality (CMAQ) Modeling System Version 4.7
- 2012 Collaboration Award from the Atmospheric Modeling and Analysis Division
- 2012 STAA Level III Award for Efficient Probabilistic Estimates of Surface Ozone Concentration Using an Ensemble of Model Configurations and Direct Sensitivity Calculations
- 2011 STAA Level III Award for Parameterization of N205 Reaction Probabilities on the Surface of Particles Containing Ammonium, Sulfate, and Nitrate
- 2010 NERL Meritorious Research Support Award for proving much needed statistical and programming support toward the advancement of credible air quality models
- 2009 ORD Exceptional/Outstanding Technical Assistance Award for role on CMAQ Model Team
- 2008 ORD Bronze Medal for Commendable Service Award
- 2006 American Statistical Association Section on Bayesian Statistical Science (SBSS) Student Paper Award