Kiran Alapaty, Associate for Science, in EPA's National Exposure Research Laboratory

Systems Exposure Division
Mailing Address

alapaty.kiran@epa.gov

Area of Expertise: I have headed research to develop and evaluate climate versions of regional meteorological and air pollution models to assess the climate impacts on air pollution; and also to develop a suite of modeling tools, known as GLIMPSE, to rapidly assess climate and air quality impacts of possible mitigation policy options. Before joining EPA, I was directing and managing the Atmospheric System Research/ARM program in the Climate & Environmental Sciences Division at the Department of Energy. Typical responsibilities include: Evaluation of scientific advances and opportunities in the Weather and Climate research, and scientific user facilities at National Laboratories (e.g., Brookhaven National Laboratory, Lawrence Livermore National Laboratory…) and at universities. While working at NSF, Co-Managed Climate and Large-scale Dynamics (CLD) program in GEO/ATM. Duties: Implement, review, and fund meritorious atmospheric science proposals; perform post-award management. Contributed to the intellectual integration with Atmospheric Chemistry, Dynamical & Physical Meteorology, Hydrology programs and other cross-division programs (Geography, Biology, Polar Sciences, Oceanography).

I also have research experience developing non-local boundary, shallow and deep cumulus convection parameterization for regional and global climate models; Improving land surface formulations and soil moisture assimilation schemes for regional and global climate models; Developing variable grid resolution regional atmospheric chemistry-transport models; dry deposition modeling; regional and intercontinental ozone and aerosol modeling.

Select Publications:

Wu Zhiyong, X. Wang, A. A. Turnipseed, F. Chen, A. B. Guenther, T. Karl, L. G. Huey, D. Niyogi, B. Xia, K. Alapaty, 2012: Comparison of the dry deposition velocities for peroxyacetyl nitrate (PAN) by two community models with the observations over a coniferous forest, Journal of Geophysical Research, in Press.

Niyogi, D., K. Alapaty, S. Raman, and F. Chen, 2009, Development and Evaluation of a Coupled Photosynthesis-Based Gas Exchange Evapotranspiration Model (GEM) for Mesoscale Weather Forecasting Applications. J. Appl. Meteor. Climatol., 48, 349-368.

Alapaty, K, D.S. Niyogi, F. Chen, A. Chandrasekar, and N. Seaman, 2008: Development of the Flux-Adjusting Surface Data Assimilation System using the MM5 model. Journal of Applied Meteorology and Climatology, 47, No. 9, 2331–2350.

Mihailovic, D.T., K. Alapaty, and M. Sakradzija, 2008: Development of a non-local convective mixing scheme with varying upward mixing rates for use in chemical transport models. Environ. Sci. and Poll. Res. 15, No. 4, 296-302.

View more research publications by Kiran Alapaty.

Education:

- M.S., Aerospace Engineering, Indian Institute of Sciences, 1987
- Ph.D., Atmospheric Science, North Carolina State University, 1992

Professional Experience:

- Chief, Applied Modeling Branch, U.S. Environmental Protection Agency, Research Triangle Park, NC, 2011-present.
- Program Director, Atmospheric System Research/ARM, Department of Energy, Washington, DC, 2006-2010
- Program Director, Climate & Large-scale Dynamics, National Science Foundation, Washington, DC, 2004-2006
- Research Associate Professor, University of North Carolina, Chapel Hill, NC, 2003-2004
- Research Scientist, North Carolina Supercomputing Center, Research Triangle Park, NC, 1993-2002
- Meteorologist, Computer Science Corporation, Research Triangle Park, NC, 1989-1992