Limei Ran, Physical Scientist, in EPA's National Exposure Research Laboratory

Computational Exposure Division
Mailing Address

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Area of Expertise:
- Land surface processes for meteorological and air quality modeling
- Development of ecosystem assessment tools and systems which couple agricultural and hydrology models with meteorological and air quality models
- Agricultural-hydro ecosystem modeling (e.g. fertilization, hydrology, productivity, and crop shifting with changing climate)
- Development of spatial and satellite data processing tools for emission, meteorological, and air quality modeling and evaluation
- Fire fuel estimation for air quality studies with future climate scenarios
- Anthropogenic heating modeling
- GIS, remote sensing and spatial data processing and visualization
- Finance, accounting, and management

Select Publications:

Ran, L., J. Pleim, R. Gilliam, F. S. Binkowski, C. Hogrefe, and L. Band (2016), Improved meteorology from an updated WRF/CMAQ modeling system with MODIS vegetation and albedo, J. Geophys. Res. Atmos., 121, 2393–2415.

Ran, L., R. Gilliam, F. S. Binkowski, A. Xiu, J. Pleim, and L. Band (2015), Sensitivity of the WRF/CMAQ modeling system to MODIS LAI, FPAR, and albedo, J. Geophys. Res. Atmos., 120(16), 8491-8511.

Ran, L., D. H. Loughlin, D. Yang, Z. Adelman, B. H. Baek, and C. G. Nolte (2015), ESP v2. 0: enhanced method for exploring emission impacts of future scenarios in the United States – addressing spatial allocation, Geosci. Model Dev., 8, 1775-1787.

View more research publications by Limei Ran.

Education:

- B.E. in Cartography, Wuhan University (formally Wuhan Technical University of Surveying and Mapping), Wuhan, China, 1985
- M.S. in Geography, Virginia Tech, Blacksburg, Virginia, 1992
- M.B.A. in the Fuqua School of Business, Duke University, Durham, North Carolina, 1999
- Ph.D. in Curriculum for the Environment and Ecology, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 2015

Professional Experience:

- EPA Postdoc, U.S. EPA ORD/NERL/CED, Research Triangle Park, NC, 2016- present
- Research Associate, Institute for the Environment, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, 2005-2016
- Lead Scientific Applications and System Programmer/Analyst, Lockheed Martin Service Group, Research Triangle Park, North Carolina, 1996-1999
- Senior Scientist, ManTech Environmental Technology, Inc., Research Triangle Park, North Carolina, 1994-1996
- Research Assistant, Department of Geography, University of Kansas, Lawrence, Kansas, 1992-1993
- Research and Teaching Assistant, Department of Geography, Virginia Tech, Blacksburg, Virginia 1990-1992
- Assistant Engineer, Chinese Academy of Surveying and Mapping, Beijing, China, 1985-1990