

## Valerie Garcia, Branch Chief, in EPA's National Exposure Research Laboratory

Systems Exposure Division

[Mailing Address](#)

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**Area of Expertise:** My main area of interest is in the use of molecular genetic techniques to provide more accurate and detailed depictions of aquatic communities, including streams, rivers, lakes, wetlands, and coastal habitats. My work entails developing molecular DNA methods for application to bioassessment and environmental monitoring, and for the detection and tracking of aquatic invasive species. Currently, I am the lead PI in developing DNA barcoding and Next Generation DNA Sequencing for biological monitoring programs.

### Select Publications:

Garcia, V., E. Cooter, J. Bash, M. Murphy, Tim Wade, AND X. Xing. [Using a Coupled Modelling System to Examine the Impacts of Increased Corn Production on Groundwater Quality and Human Health](#). Chapter 18, Air Pollution Modeling and its Application XXIV. Springer International Publishing AG, Cham (ZG), Switzerland, , 113-117, (2016).

Garcia, V., J. Bash, E. Cooter, B. Hinckley, Tim Wade, AND W. Barnett. [Impacts of Agricultural Management Practices and Increased Greenhouse Gases on Groundwater Quality and Spina Bifida Health Vulnerability](#). International Society of Exposure Science (ISES), Henderson, NV, October 18 - 22, 2015.

Isakov, V., V. Garcia, AND S. Arunachalam. [Linking Meteorology, Air Quality Models and Observations to Characterize Human Exposures in Support of the Environmental Health Studies](#). Presented at 95th AMS Annual Meeting, Phoenix, AZ, January 05 - 08, 2015.

View research publications by [Valerie Garcia](#).

### Education:

- B.S. Information Systems Management, University of San Francisco, San Francisco, CA, 1990
- Master of Science, Department of Forestry, minor in Spatial Analysis, North Carolina State University, Raleigh, NC, 2004.
- Ph.D. Department of Forestry, minor in Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 2010

### Professional Experience

- Chief, USEPA/ORD/NERL/AMAD/AEIB, Research Triangle Park, NC, 2008 - Present  
*Lead Principal Investigators in the planning, implementation and execution of applied*

*research to integrate and apply air quality models and data to address ecosystems and human health issues. Dr. Garcia's diverse background in leading programs ranging from ecosystems to atmospheric science has laid the foundation for this leadership role that requires linking across research disciplines and media. In addition to being a Branch Chief, Dr. Garcia conducts research in developing health and climate indicators, and linking air quality to human health impacts.*

- Deputy Director, National Oceanic and Atmospheric Administration, Oceanic and Atmospheric Research, Air Research Laboratory, Atmospheric Sciences Modeling Division, RTP, NC, 2005 - 2008

*Assist in the development and implementation of the Division's atmospheric research programs. Initiate, organize and track cross-Agency research programs and, in support of the Director, represent the Division in cross-Agency discussions and collaborations. Plan and execute the Division's resources and manage these resources within the terms of the NOAA/EPA Memorandum of Understanding. Understand Division and Lab research programs to enable knowledgeable discussions and presentations to outside organizations. Lead cross-cutting scientific programs and manage the day-to-day activities of the Division. \* In partnership with the US Environmental Protection Agency*