

Warren Boothman, Research Chemist, in EPA's National Health and Environmental Effects Research Laboratory

Atlantic Ecology Division
Mailing Address

boothman.warren@epa.gov

Area of Expertise: Analytical and statistical methods for assessing extent, sources, and bioavailability of contaminants in marine systems; environmental factors affecting geochemistry and bioavailability of metals in marine sediments and waters; use of elemental patterns as markers of geochemical processes. I am a co-author of the Equilibrium Partitioning (EqP) approach to Sediment Benchmarks for metals in sediments and EPA standard method for acid-volatile sulfide and simultaneously extracted metals analysis. Currently I am investigating a novel approach using molybdenum (Mo) in sediments as geochemical indicator of hypoxia in overlying water column to establish nutrient criteria for estuarine/coastal waters. I have also provided technical and logistical support to monitoring/sampling efforts aboard R/V Brooks McCall for EPA's response to the BP oil spill in the Gulf of Mexico.

Select Publications ([Several links exit this site](#)):

- Boothman, W. S. and L. L. Coiro. 2009. [Laboratory Determination of Molybdenum Accumulation Rates as a Measure of Hypoxic Conditions](#). *Estuaries and Coasts* **32**(4), 642-653.
- Hansen, D.J., D. M. Di Toro, W. J. Berry, W. S. Boothman, R. M. Burgess, G. T. Ankley, D. R. Mount, J. A. McGrath, L. D. DeRosa, H. E. Bell, M. C. Reiley, and C. S. Zarba. 2005. [Procedures for the derivation of Equilibrium Partitioning Sediment Benchmarks \(ESBs\) for the protection of benthic organisms: metal mixtures \(cadmium, copper, lead, nickel, silver, and zinc\)](#). Office of Research and Development, Washington, DC 600/R-02/011.
- Latimer, J. S., W. S. Boothman, C. E. Pesch, G. L. Chmura, V. Pospelova, and S. Jayaraman. 2003. [Environmental stress and recovery: the geochemical record of human disturbance in New Bedford Harbor and Apponagansett Bay, Massachusetts \(USA\)](#). *Science of the Total Environment* **313** (1-3), 153-176.
- Boothman, W. S., D. J. Hansen, W. J. Berry, D. L. Robson, A. Helmstetter, J. M. Corbin, and S. D. Pratt. 2001. [Biological response to variation of acid-volatile sulfides and metals in field-exposed spiked sediments](#). *Environmental Toxicology and Chemistry* **20**(2), 264-272.
- Bothner, M. H., P. W. Gill, W. S. Boothman, B. B. Taylor, and H. A. Karl. 1998. [Chemical Gradients in Sediment Cores from an EPA Reference Site off the Farallon Islands -- Assessing Chemical Indicators of Dredged Material Disposal in the Deep Sea](#). *Marine Pollution Bulletin* **36**(6), 443-457.

View more research publications by [Warren Boothman](#).

Education:

- Ph.D., University of Rhode Island; Chemistry, 1990
- Sc.B. with Honors, Brown University; Chemistry, 1973

Professional Experience:

- Research Chemist U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Watershed Diagnostics Branch, Narragansett, RI
- Society of Environmental Toxicology and Chemistry
 - Board of Directors, 2001-2004
 - Chair, Meetings committee, 2001-2002, 2008-2012
 - Chair, Standing Committee for Short Courses, 1997-2000
 - Short Course Liaison, Program Committee, Second World Congress, Nov.1995
- American Chemical Society, Environmental Chemistry Division
- Exceptional/ Outstanding ORD Technical Assistance to the Regions or Program Offices, for scientific leadership in research to improve the technical guidance for establishing nutrient criteria for estuarine coastal and Great Lakes waters (Group award to NHEERL Nutrients Research Team), 2007
- Scientific and Technological Achievement Award, Honorable mention, for demonstrating use of the Equilibrium Partitioning approach to predict toxicity of chromium in marine sediments, 2006
- Scientific and Technological Achievement Award, Level 3, for aiding development of sediment guidelines by demonstrating spatial factors affecting bioresponse to sediment metals, 2004
- Scientific and Technological Achievement Award, Honorable mention, for advancing the state of the science of marine environmental assessments using paleoecological methods, 2004
- Scientific and Technological Achievement Award, Level 2, for development of sediment quality criteria for metals and for technical basis and proposal for deriving sediment quality criteria for metals, 1998
- EPA Bronze Medal for Commendable Service, for the development of a technically-rigorous basis upon which to assess the environmental risk of metals in sediment using AVS:SEM and interstitial water metal concentrations. (Group award to Sediment Assessment and Criteria Workgroup), 1998