

Preface: “Eutrophication” issue of *Biogeochemistry*

Suzanne Bricker · Michelle Devlin

Received: 17 August 2011 / Accepted: 18 August 2011 / Published online: 22 September 2011
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There are seven papers in this special issue of *Biogeochemistry* that are based on presentations made at a symposium on “Eutrophication and Water Management—International Comparisons of Water Quality Challenges and Policy” as part of the ASLO Aquatic Sciences Meeting held January 25–30, 2009 in Nice, France, with one additional paper on the same topic from general submissions to the journal. There were an additional eight papers and three posters that were presented with the intent of sharing methods, information and management successes on an international basis.

Eutrophication is recognized as a global issue that has important social and economic impacts in addition to the well known ecological impacts. Recent decades have witnessed numerous legislative initiatives worldwide (e.g. US Clean Water Act and Harmful Algal Bloom and Hypoxia Research and Control Act, EU Water Framework Directive and Marine Strategy Framework Directive, PRC Marine Environmental Protection Law and Law on

Prevention and Control of Water Pollution, AU Oceans Policy Act and Environment Protection and Biodiversity Conservation Act, etc.) that require monitoring, assessment and management of nutrient related problems in coastal and marine waters. Monitoring, assessment and research during the past two decades has increased our understanding of causes and consequences of anthropogenic nutrient inputs to coastal water bodies, however, the complexity and challenges we face in our efforts to manage this issue have also been highlighted. While there have been some hopeful signs of improvement in some water bodies, in many, conditions remain the same or have worsened with time based on measures and methods presently in use. Indeed, the appropriate methods for accurate measurement of the impacts and magnitude of eutrophication are still being debated and developed and will likely continue to be as we continue to learn about and understand the subtleties of nutrient impacts. It is our hope that this will also contribute to development of a greater capability to reduce eutrophication related problems.

The papers included in this issue focus on monitoring, assessment, and research studies designed to improve existing methods, and thus our ability to accurately measure eutrophication impacts, leading to management success. The study areas range from a freshwater lake in the French Alps and an urban riverine watershed in the US, to estuaries in the Basque region of Spain and England and Wales, a lagoon in Portugal, the Baltic Sea and the Great Barrier Reef of Australia. The

S. Bricker (✉)
National Oceanic and Atmospheric Administration,
Center for Coastal Monitoring and Assessment, 1305 East
West Highway, Silver Spring, MD, USA
e-mail: suzanne.bricker@noaa.gov

M. Devlin
Catchment to Reef Research Group, Australian Center for
Tropical Freshwater Research, James Cook University,
Townsville, QLD, Australia

breadth of the locations, water body types and specific topics of these studies speak to the global nature of this problem as well as the interest in finding solutions.

We would like to acknowledge and thank all session participants for their contributions. In addition we owe a great debt to the manuscript reviewers

for their thoughtful and constructive comments. Finally, we would like to thank Katja Lajtha for giving us the opportunity to publish this collection of papers, and Ayrene Dialogo for her guidance in preparing this special issue.