Nitrogen News is a summary of recent publications, news and reports related to the cycling, effects and management of nitrogen. Prepared by Mary O’Brien and Jana Compton. Contact Jana Compton with any questions (Compton.jana@epa.gov)

Please note: Most of these links are available to EPA staff through library access – not all links will be available to folks outside EPA, depending on your access to specific journals and websites.

Issue 7, December 2009

News

Berger, Matthew
EPA cracking down on urban and agricultural runoff blamed for dead zones
SolveClimate, November 13, 2009

Special Issues

Catchment management and coastal water quality of the Great Barrier Reef
Marine and Freshwater Research, 60(11), 2009. ISSN 1323-1650

Articles

Adair, E. Carol, Peter B. Reich, Sarah E. Hobbie, and Johannes M. H. Knops.
Interactive effects of time, CO2, N, and diversity on total belowground carbon allocation and ecosystem carbon storage in a grassland community
http://dx.doi.org/10.1007/s10021-009-9278-9

Dissolved organic carbon and nitrogen in urban and rural watersheds of south-central Texas: land use and land management influences
http://dx.doi.org/10.1007/s10533-009-9348-2

Nitrous oxide and methane emissions from soil are reduced following afforestation of pasture lands in three contrasting climatic zones
Alonso, Alvaro and Julio A. Camargo.  
Effects of pulse duration and post-exposure period on the nitrite toxicity to a freshwater amphipod  
[http://dx.doi.org/10.1016/j.ecoenv.2009.06.008](http://dx.doi.org/10.1016/j.ecoenv.2009.06.008)

ApSimon, Helen, Markus Amann, Stefan Astrom, and Tim Oxley.  
Synergies in addressing air quality and climate change  
*Climate Policy*, 9(6): 669-680, November 2009. ISSN 1469-3062  
[http://dx.doi.org/10.3763/cpol.2009.0678](http://dx.doi.org/10.3763/cpol.2009.0678)

Arismendez, Sandra S., Hae-Cheol Kim, Jorge Brenner, and Paul A. Montagna.  
Application of watershed analyses and ecosystem modeling to investigate land-water nutrient coupling processes in the Guadalupe Estuary, Texas  

Armitage, Anna R. and James W. Fourqurean.  
Stable isotopes reveal complex changes in trophic relationships following nutrient addition in a coastal marine ecosystem  
[http://dx.doi.org/10.1007/s12237-009-9219-z](http://dx.doi.org/10.1007/s12237-009-9219-z)

Batley, Graeme E. and Stuart L. Simpson.  
Development of guidelines for ammonia in estuarine and marine water systems  
*Marine Pollution Bulletin*, 58(10): 1472-1476, October 2009. ISSN 0025-326X.  
[http://dx.doi.org/10.1016/j.marpolbul.2009.06.005](http://dx.doi.org/10.1016/j.marpolbul.2009.06.005)

Carbon and nitrogen balances for six shrublands across Europe  
[http://dx.doi.org/10.1029/2008GB003381](http://dx.doi.org/10.1029/2008GB003381)

Bernatowicz, Waldemar, Annett Weiss, and Joerg Matschullat.  
Linking biological and physicochemical water quality  
[http://dx.doi.org/10.1007/s10661-008-0631-9](http://dx.doi.org/10.1007/s10661-008-0631-9)

Bidigare, Robert R., Fei Chai, Michael R. Landry, Roger Lukas, Cecelia C. S. Hannides, Stephanie J. Christensen, David M. Karl, Lei Shi, and Yi Chao.
Subtropical ocean ecosystem structure changes forced by North Pacific climate variations
http://dx.doi.org/10.1093/plankt/fbp064

Blake, Timothy W. and John A. Downing.
**Measuring atmospheric nutrient deposition to inland waters: Evaluation of direct methods**

Blattel, Christopher R., Karl W. J. Williard, Sara G. Baer, Jon E. Schoonover, and James I. Zaczek.
**Ground water nitrogen dynamics in giant cane and forest riparian buffers**
http://www.bioone.org/doi/pdf/10.2179/08-037R2.1

Buda, Anthony R. and David R. DeWalle.
**Dynamics of stream nitrate sources and flow pathways during stormflows on urban, forest and agricultural watersheds in central Pennsylvania, USA**
http://dx.doi.org/10.1002/hyp.7423

Bump, Joseph K., Rolf O. Peterson, and John A.Vucetich.
**Wolves modulate soil nutrient heterogeneity and foliar nitrogen by configuring the distribution of ungulate carcasses**
http://dx.doi.org/10.1890/09-0292.1

Cabezas, A., F. A. Comin, and D. E. Walling.
**Changing patterns of organic carbon and nitrogen accretion on the middle Ebro floodplain (NE Spain)**
http://dx.doi.org/10.1016/j.ecoleng.2009.07.006

**Regionalisation of chemical variability in European mountain lakes**
*Freshwater Biology*, 54(12): 2452-2469, December 2009. ISSN 0046-5070
http://dx.doi.org/10.1111/j.1365-2427.2009.02296.x

**Foraminiferal assemblages in Biscayne Bay, Florida, USA: Responses to urban and agricultural influence in a subtropical estuary**
http://dx.doi.org/10.1016/j.marpolbul.2009.08.008
Castro, Paula, Ivan Valiela, and Helena Freitas. 
Sediment pool and plant content as indicators of nitrogen regimes in Portuguese estuaries
ISSN 0022-0981
http://dx.doi.org/10.1016/j.jembe.2009.09.003

Catalan, J., C. J. Curtis, and M. Kernan. 
Remote European mountain lake ecosystems: Regionalisation and ecological status
Freshwater Biology, 54(12): 2419-2432, December 2009. ISSN 0046-5070
http://dx.doi.org/10.1111/j.1365-2427.2009.02326.x

Chen, DingJiang, Jun Lu, YeNa Shen, Randy A. Dahlgren, and ShuQuan Jin. 
Estimation of critical nutrient amounts based on input-output analysis in an agriculture watershed of eastern China
Agriculture Ecosystems & Environment, 134(3-4): 159-167, December 2009. ISSN 0167-8809.
http://dx.doi.org/10.1016/j.agee.2009.06.011

Chipperfield, Martyn. 
Atmospheric science: Nitrous oxide delays ozone recovery
http://dx.doi.org/10.1038/ngeo678

Claessens, Luc, Christina L. Tague, Lawrence E. Band, Peter M. Groffman, and Stephen T. Kenworth. 
Hydro-ecological linkages in urbanizing watersheds: An empirical assessment of in-stream nitrate loss and evidence of saturation kinetics
http://dx.doi.org/10.1029/2009JG001017

Costello, Christine, W. Michael Griffin, Amy E. Landis, and H. Scott Matthews. 
Impact of biofuel crop production on the formation of hypoxia in the Gulf of Mexico
Environmental Science & Technology, 43(20): 7985-7991, October 15, 2009. ISSN 0013-936X.
http://dx.doi.org/10.1021/es9011433

Costello, David M. and Gary A. Lamberti. 
Biological and physical effects of non-native earthworms on nitrogen cycling in riparian soils
http://dx.doi.org/10.1016/j.soilbio.2009.08.007

Creed, I. F. and F. D. Beall. 
Distributed topographic indicators for predicting nitrogen export from headwater catchments
http://dx.doi.org/10.1029/2008WR007285
**Regional influence of acid deposition and climate change in European mountain lakes assessed using diatom transfer functions**
[http://dx.doi.org/10.1111/j.1365-2427.2009.02317.x](http://dx.doi.org/10.1111/j.1365-2427.2009.02317.x)

Danielescu, Serban, Kerry T. B. MacQuarrie, and Russell N. Faux.
**The integration of thermal infrared imaging, discharge measurements and numerical simulation to quantify the relative contributions of freshwater inflows to small estuaries in Atlantic Canada**
[http://dx.doi.org/10.1002/hyp.7383](http://dx.doi.org/10.1002/hyp.7383)

David, M., B. Loubet, P. Cellier, M. Mattsson, J. K. Schjoerring, E. Nemitz, R. Roche, M. Riedo, and M. A. Sutton.
**Ammonia sources and sinks in an intensively managed grassland canopy**

Davis, John M., Amy D. Rosemond, Susan L. Eggert, Wyatt F. Cross, and J. Bruce Wallace.
**Long-term nutrient enrichment decouples predator and prey production**
*Proceedings of the National Academy of Sciences*, Published online before print December 14, 2009. ISSN 0027-8424.
[http://dx.doi.org/10.1073/pnas.0908497107](http://dx.doi.org/10.1073/pnas.0908497107)

Destouni, Georgia and Amelie Darracq.
**Nutrient cycling and N2O emissions in a changing climate: the subsurface water system role**

Elser, James J., Marcia Kyle, Laura Steger, Koren R. Nydick, and Jill S. Baron.
**Nutrient availability and phytoplankton nutrient limitation across a gradient of atmospheric nitrogen deposition**
[http://dx.doi.org/10.1890/08-1742.1](http://dx.doi.org/10.1890/08-1742.1)

Elser, James J., Tom Andersen, Jill S. Baron, Ann-Kristin Bergström, Mats Jansson, Marcia Kyle, Koren R. Nydick, Laura Steger, and Dag O. Hessen.
**Shifts in lake N:P Stoichiometry and nutrient limitation driven by atmospheric nitrogen deposition**
[http://dx.doi.org/10.1126/science.1176199](http://dx.doi.org/10.1126/science.1176199)


Hedin, Lars O., E. N. Jack Brookshire, Duncan N. L. Menge, and Alexander R. Barron.  
The nitrogen paradox in tropical forest ecosystems  

Helming, John and Stijn Reinhard.  
Modelling the economic consequences of the EU Water Framework Directive for Dutch agriculture  
http://dx.doi.org/10.1016/j.jenvman.2009.07.002

Inter-comparison of ammonia fluxes obtained using the Relaxed Eddy Accumulation technique  

Hofmeister, Jenyk, Jan Hosek, Martin Modry, and Jan Rolecek.  
The influence of light and nutrient availability on herb layer species richness in oak-dominated forests in central Bohemia  
Plant Ecology, 205(1): 57-75, November 2009. ISSN 1385-0237.  
http://dx.doi.org/10.1007/s11258-009-9598-z

Holtgrieve, Gordon W., Daniel E. Schindler, and Peter K. Jewett.  
Large predators and biogeochemical hotspots: brown bear (Ursus arctos) predation on salmon alters nitrogen cycling in riparian soils  
http://dx.doi.org/10.1007/s11284-009-0591-8

Hopfensperger, Kristine N., Christine M. Gault, and Peter M. Groffman.  
Influence of plant communities and soil properties on trace gas fluxes in riparian northern hardwood forests  
http://dx.doi.org/10.1016/j.foreco.2009.08.004

Huang, Zhihua. Bin Xue, and Yong Pang.  
Simulation on stream flow and nutrient loadings in Gucheng Lake, Low Yangtze River Basin, based on SWAT model  
http://dx.doi.org/10.1016/j.quaint.2008.12.018

Hudon, Christiane, Antonella Cattaneo, and Pierre Gagnon.  
Epiphytic cyanobacterium Gloeotrichia pism as an indicator of nitrogen depletion


Karaouzas, Ioannis, Elias Dimitriou, Nikolaos Skoulidakis, Konstantinos Gritzalis, and Eva Colombari.
Linking hydrogeological and ecological tools for an integrated river catchment assessment
http://dx.doi.org/10.1007/s10666-008-9183-1

*Applications of a hydro-biogeochemical model and long-term simulations of the effects of logging in forested watersheds*
http://dx.doi.org/10.1007/s11625-009-0079-z

*Nitrogen uptake and denitrification in restored and unrestored streams in urban Maryland, USA*
http://dx.doi.org/10.1007/s00027-009-0118-v

Kniffin, Maribeth, Christopher Neill, Richard McHorney, and George Gregory.
*Nutrient limitation of periphyton and phytoplankton in Cape Cod coastal plain ponds*
*Northeastern Naturalist*, 16(3): 395-408, 2009. ISSN 1092-6194.

Koop-Jakobsen, Ketil and Anne E. Giblin.
*New approach for measuring denitrification in the rhizosphere of vegetated marsh sediments*

Kozlowski, Gregor and Sophie Vallelian.
*Eutrophication and endangered aquatic plants: an experimental study on Baldellia ranunculoides (L.) Parl. (Alismataceae)*
http://dx.doi.org/10.1007/s10750-009-9910-x

Kurzyca, Iwona, Adam Choinski, Alfred Kaniecki, and Jerzy Siepak.
*Water ecosystems affected by human impact within the protected area of the Tatra National Park (Poland)*
*Oceanological And Hydrobiological Studies*, 38(3): 77-86, September 2009. ISSN 1730-413X.
http://dx.doi.org/10.2478/v10009-009-0034-4

*How do long-term development and periodical changes of river-floodplain systems affect the fate of contaminants? Results from European rivers*
*Environmental Pollution*, 157(12): 3336-3346, December 2009. ISSN 0269-7491.
Lassaletta, Luis, Hector Garcia-Gomez, Benjamin S. Gimeno, and Jose V. Rovira. 
Agriculture-induced increase in nitrate concentrations in stream waters of a large Mediterranean catchment over 25 years (1981-2005) 
http://dx.doi.org/10.1016/j.scitotenv.2009.08.002

Lee, Yong-Woo, Guebuem Kim, Weol-Ae Lim, and Dong-Woon Hwang. 
A relationship between submarine groundwater-borne nutrients traced by Ra isotopes and the intensity of dinoflagellate red-tides occurring in the southern sea of Korea 

A multidisciplinary study of the Cape Peloro brackish area (Messina, Italy): characterisation of trophic conditions, microbial abundances and activities 
*Marine Ecology-An Evolutionary Perspective*, 30(Suppl. 1): 33-42, October 2009. ISSN 0173-9565 
http://dx.doi.org/10.1111/j.1439-0485.2009.00320.x

Liu, Kun and David Crowley. 
Nitrogen deposition effects on carbon storage and fungal:bacterial ratios in coastal sage scrub soils of southern California 
http://dx.doi.org/10.2134/jeq2008.0387

Nutrient budgets for large Chinese estuaries 

Lohse, Kathleen A., Paul D. Brooks, Jennifer C. McIntosh, Thomas Meixner, and Travis E. Huxman. 
Interactions between biogeochemistry and hydrologic systems 
http://dx.doi.org/10.1146/annurev.environ.33.031207.111141

Lourey, M. J. and H. Kirkman. 
Short-lived dissolved nitrate pulses in a shallow Western Australian coastal lagoon 
http://dx.doi.org/10.1071/MF08298
**Nitrogen compounds in the surface and subsurface waters of Karelia**  
[http://dx.doi.org/10.1134/S0097807809060062](http://dx.doi.org/10.1134/S0097807809060062)

**Effects of N and P fertilization on the greenhouse gas exchange in two northern peatlands with contrasting N deposition rates**  

**Nitrous oxide production in boreal soils with variable organic matter content at low temperature - snow manipulation experiment**  

Mara, Paraskevi, Nikolaos Mihalopoulos, Alexandra Gogou, Kirstin Daehnke, Tim Schlarbaum, Kay-Christian Emeis, and Michael Krom.  
**Isotopic composition of nitrate in wet and dry atmospheric deposition on Crete in the eastern Mediterranean Sea**  
[http://dx.doi.org/10.1029/2008GB003395](http://dx.doi.org/10.1029/2008GB003395)

Marty, Charles, Andre Pornon, and Thierry Lamaze.  
**High NH4+ efflux from roots of the common alpine grass, Festuca nigrescens, at field-relevant concentrations restricts net uptake**  
*Environmental and Experimental Botany*, 67(1): 84-86, November 2009. ISSN 0098-8472.  
[http://dx.doi.org/10.1016/j.envexpbot.2009.03.020](http://dx.doi.org/10.1016/j.envexpbot.2009.03.020)

Mattern, Samuel, Dominique Fasbender, and Marnik Vanclooster.  
**Discriminating sources of nitrate pollution in an unconfined sandy aquifer**  
[http://dx.doi.org/10.1016/j.jhydrol.2009.07.039](http://dx.doi.org/10.1016/j.jhydrol.2009.07.039)

McCalley, Carmody K. and Jed P. Sparks.  
**Abiotic gas formation drives nitrogen loss from a desert ecosystem**  
[http://dx.doi.org/10.1126/science.1178984](http://dx.doi.org/10.1126/science.1178984)

McCarthy, Mark J., R. Thomas James, Yuwei Chen, Therese L. East, and Wayne S. Gardner.  
**Nutrient ratios and phytoplankton community structure in the large, shallow, eutrophic, subtropical Lakes Okeechobee (Florida, USA) and Taihu (China)**  
[http://dx.doi.org/10.1007/s10201-009-0277-5](http://dx.doi.org/10.1007/s10201-009-0277-5)
McDowell, R. W. and A. N. Sharpley.  
Atmospheric deposition contributes little nutrient and sediment to stream flow from an agricultural watershed 
_Agriculture Ecosystems & Environment_, 134(1-2): 19-23, November 2009. ISSN 0167-8809.  
http://dx.doi.org/10.1016/j.agee.2009.06.016

McDowell, R. W., S. T. Larned, and D. J. Houlbrooke.  
Nitrogen and phosphorus in New Zealand streams and rivers: control and impact of eutrophication and the influence of land management 

Minjeaud, Laura, Valerie D. Michotey, Nicole Garcia, and Patricia C. Bonin.  
Seasonal variation in di-nitrogen fluxes and associated processes (denitrification, anammox and nitrogen fixation) in sediment subject to shellfish farming influences 
http://dx.doi.org/10.1007/s00027-009-0100-8

Moisander, Pia H., Mari Ochiai, and Andrew Linoff.  
Nutrient limitation of Microcystis aeruginosa in northern California Klamath River reservoirs 
_Harmful Algae_, 8(6): 889-897, September 2009. ISSN 1568-9883.  
http://dx.doi.org/10.1016/j.hal.2009.04.005

Moore, C, Mark, Matthew M. Mills, Eric P. Achterberg, Richard J. Geider, Julie LaRoche, Mike I. Lucas, Elaine L. McDonagh, Xi Pan, Alex J. Poulton, Micha J. A. Rijkenberg, David J. Suggett, Simon J. Ussher & E. Malcolm S. Woodward  
Large-scale distribution of Atlantic nitrogen fixation controlled by iron supply 
http://dx.doi.org/10.1038/Ngeo667

Caulerpa prolifera stable isotope ratios reveal anthropogenic nutrients within a tidal lagoon 
http://dx.doi.org/10.3354/meps08184

Mulholland, Margaret R., George E. Boneillo, Peter W. Bernhardt, and Elizabeth C. Minor.  
Comparison of nutrient and microbial dynamics over a seasonal cycle in a Mid-Atlantic coastal lagoon prone to Aureococcus anophagefferens (brown tide) blooms 
http://dx.doi.org/10.1007/s12237-009-9218-0
**Impacts of elevated N inputs on north temperate forest soil C storage, C/N, and net N-mineralization**  
[http://dx.doi.org/10.1016/j.geoderma.2009.08.012](http://dx.doi.org/10.1016/j.geoderma.2009.08.012)

Nishina, Kazuya, Chisato Takenaka, and Shigehiro Ishizuka.  
**Spatiotemporal variation in N2O flux within a slope in a Japanese cedar (Cryptomeria japonica) forest**  
*Biogeochemistry*, 96(1-3): 163-175, December 2009. ISSN 0168-2563.  
[http://dx.doi.org/10.1007/s10533-009-9356-2](http://dx.doi.org/10.1007/s10533-009-9356-2)

Niu, Shuli, Haijun Yang, Zhe Zhang, Mingyu Wu, Qi Lu, Linghao Li, Xingguo Han, and Shiqiang Wan.  
**Non-additive effects of water and nitrogen addition on ecosystem carbon exchange in a temperate steppe**  
[http://dx.doi.org/10.1007/s10021-009-9265-1](http://dx.doi.org/10.1007/s10021-009-9265-1)

**Effect of temporal resolution on N2O emission inventories in Dutch fen meadows**  
[http://dx.doi.org/10.1029/2008GB003378](http://dx.doi.org/10.1029/2008GB003378)

Nordin, Annika, Joachim Strengbom, Asa Forsum, and Ericson, Lars.  
**Complex biotic interactions drive long-term vegetation change in a nitrogen enriched boreal forest**  
*Ecosystems*, 12(7): 1204-1211, November 2009. ISSN 1432-9840.  
[http://dx.doi.org/10.1007/s10021-009-9287-8](http://dx.doi.org/10.1007/s10021-009-9287-8)

**Evidence for the predominance of denitrification as a source of N2O in temperate agricultural soils based on isotopologue measurements**  
[http://dx.doi.org/10.1029/2009GB003523](http://dx.doi.org/10.1029/2009GB003523)

Orians, Gordon H. and David Policansky.  
**Scientific bases of macroenvironmental indicators**  
[http://dx.doi.org/10.1146/annurev.environ.020608.151439](http://dx.doi.org/10.1146/annurev.environ.020608.151439)

Ouyang, Wei, Xuelei Wang, Fanghua Hao, and R. Srinivasan.  
**Temporal-spatial dynamics of vegetation variation on non-point source nutrient pollution**  
[http://dx.doi.org/10.1016/j.ecolmodel.2009.06.039](http://dx.doi.org/10.1016/j.ecolmodel.2009.06.039)
Parmenter, Robert R. and James A MacMahon.  
**Carrion decomposition and nutrient cycling in a semiarid shrub-steppe ecosystem**  
[http://dx.doi.org/10.1890/08-0972.1](http://dx.doi.org/10.1890/08-0972.1)

Portela, Silvina I., Adrian E. Andriulo, Esteban G. Jobbagy, and Maria C. Sasal.  
**Water and nitrate exchange between cultivated ecosystems and groundwater in the Rolling Pampas**  
[http://dx.doi.org/10.1016/j.agee.2009.08.001](http://dx.doi.org/10.1016/j.agee.2009.08.001)

Poulin, Patrick, Emilien Pelletier, Vladimir G. Koutitonski, and Urs Neumeier.  
**Seasonal nutrient fluxes variability of northern salt marshes: examples from the lower St. Lawrence Estuary**  
[http://dx.doi.org/10.1007/s11273-009-9141-y](http://dx.doi.org/10.1007/s11273-009-9141-y)

Primpas, Ioannis, George Tsirtsis, Michael Karydis, and Giorgos D. Kokkoris.  
**Principal component analysis: Development of a multivariate index for assessing eutrophication according to the European water framework directive**  
*Ecological Indicators*, 10(2): 178-183, March 2010. ISSN 1470-160X.  
[http://dx.doi.org/10.1016/j.ecolind.2009.04.007](http://dx.doi.org/10.1016/j.ecolind.2009.04.007)

Reis, S., R. W. Pinder, M. Zhang, G. Lijie, and M. A. Sutton.  
**Reactive nitrogen in atmospheric emission inventories**  

Remke, Eva, Emiel Brouwer, Annemieke Kooijman, Irmgard Blindow, and Jan G. M. Roelofs.  
**Low atmospheric nitrogen loads lead to grass encroachment in coastal dunes, but only on acid soils**  
*Ecosystems*, 12(7): 1173-1188, November 2009. ISSN 1432-9840.  
[http://dx.doi.org/10.1007/s10021-009-9282-0](http://dx.doi.org/10.1007/s10021-009-9282-0)

**Effects of urban and non-urban land cover on nitrogen and phosphorus runoff to Chesapeake Bay**  
*Ecological Indicators*, 10(2): 459-474, March 2010. ISSN 1470-160X.  
[http://dx.doi.org/10.1016/j.ecolind.2009.07.017](http://dx.doi.org/10.1016/j.ecolind.2009.07.017)

Robertson, G. Philip and Peter M. Vitousek.  
**Nitrogen in agriculture: Balancing the cost of an essential resource**  
[http://dx.doi.org/10.1146/annurev.environ.032108.105046](http://dx.doi.org/10.1146/annurev.environ.032108.105046)
A carbon, nitrogen, and sulfur elemental and isotopic study in dated sediment cores from the Louisiana Shelf  
[http://dx.doi.org/10.1007/s00367-009-0151-9](http://dx.doi.org/10.1007/s00367-009-0151-9)

Rothenberger, Meghan B., JoAnn M. Burkholder, and Thomas R. Wentworth.  
Use of long-term data and multivariate ordination techniques to identify environmental factors governing estuarine phytoplankton species dynamics  

Weather-induced temporal variations in nitrate concentrations in shallow groundwater  

Schilling, Keith E. and Peter Jacobson.  
Water uptake and nutrient concentrations under a floodplain oak savanna during a non-flood period, lower Cedar River, Iowa  
[http://dx.doi.org/10.1002/hyp.7403](http://dx.doi.org/10.1002/hyp.7403)

Schilling, Keith E. and Calvin F. Wolter.  
Modeling nitrate-nitrogen load reduction strategies for the Des Moines River, Iowa using SWAT  
*Environmental Management*, 44(4): 671-682, October 2009. ISSN 0364-152X.  
[http://dx.doi.org/10.1007/s00267-009-9364-y](http://dx.doi.org/10.1007/s00267-009-9364-y)

Schreiber, Frank, Birte Loeffler, Lubos Polerecky, Marcel M. M. Kuypers, and Dirk de Beer.  
Mechanisms of transient nitric oxide and nitrous oxide production in a complex biofilm  
[http://dx.doi.org/10.1038/ismej.2009.55](http://dx.doi.org/10.1038/ismej.2009.55)

Importance of methane and nitrous oxide for Europe's terrestrial greenhouse-gas balance  
[http://dx.doi.org/10.1038/ngeo686](http://dx.doi.org/10.1038/ngeo686)

A biogeochemical view of estuarine eutrophication: seasonal and spatial trends and correlations in the Delaware Estuary
[http://dx.doi.org/10.1007/s12237-009-9210-8](http://dx.doi.org/10.1007/s12237-009-9210-8)

Shields, F. Douglas, Jr., Sam Testa III, and Charles M. Cooper.
**Nitrogen and phosphorus levels in the Yazoo River Basin, Mississippi**
[http://dx.doi.org/10.1002/eco.49](http://dx.doi.org/10.1002/eco.49)

Smiley, Peter C., Jr., Robert B. Gillespie, Kevin W. King, and Chi-hua Huang.
**Management implications of the relationships between water chemistry and fishes within channelized headwater streams in the midwestern United States**
[http://dx.doi.org/10.1002/eco.51](http://dx.doi.org/10.1002/eco.51)

**Nitrification and denitrification in a midwestern stream containing high nitrate: in situ assessment using tracers in dome-shaped incubation chambers**
*Biogeochemistry*, 96(1-3): 189-208, December 2009. ISSN 0168-2563.
[http://dx.doi.org/10.1007/s10533-009-9358-0](http://dx.doi.org/10.1007/s10533-009-9358-0)

Stork, Peter R., David J. Lyons, and Michael J. Bell.
**Losses of nitrogen in surface runoff from a plantation horticulture farm in coastal Queensland, Australia**
[http://dx.doi.org/10.1071/SR08238](http://dx.doi.org/10.1071/SR08238)

**Controlling factors of seasonal variation in the nitrogen isotope ratio of nitrate in a eutrophic coastal environment**
[http://dx.doi.org/10.1016/j.ecss.2009.08.006](http://dx.doi.org/10.1016/j.ecss.2009.08.006)

Tadonleke, Remy D., Jerome Lazzarotto, Orlane Anneville, and Jean-Claude Druart.
**Phytoplankton productivity increased in Lake Geneva despite phosphorus loading reduction**
[http://dx.doi.org/10.1093/plankt/fbp063](http://dx.doi.org/10.1093/plankt/fbp063)

Tang, Yanling, Guangxin Zhang, Yuesuo Yang, and Yingzhi Gao.
**Identifying key environmental factors influencing spatial variation of water quality in upper Shitoukoumen Reservoir Basin in Jilin Province, China**
[http://dx.doi.org/10.1007/s11769-009-0365-9](http://dx.doi.org/10.1007/s11769-009-0365-9)
Taub, Frieda B.
Community metabolism of aquatic Closed Ecological Systems: Effects of nitrogen sources
http://dx.doi.org/10.1016/j.asr.2009.04.025

A simple model for screening the local impacts of atmospheric ammonia
http://dx.doi.org/10.1016/j.scitotenv.2009.08.025

Tomer, Mark D. and Keith E. Schilling.
A simple approach to distinguish land-use and climate-change effects on watershed hydrology
http://dx.doi.org/10.1016/j.jhydrol.2009.07.029

Turner, Michelle M. and Hugh A. L. Henry.
Net nitrogen mineralization and leaching in response to warming and nitrogen deposition in a temperate old field: the importance of winter temperature
http://dx.doi.org/10.1007/s00442-009-1435-5

Turner, Michelle M. and Hugh A. L. Henry.
Interactive effects of warming and increased nitrogen deposition on 15N tracer retention in a temperate old field: seasonal trends
http://dx.doi.org/10.1111/j.1365-2486.2009.01881.x

The evolution of nucleation- and Aitken-mode particle compositions in a boreal forest environment during clean and pollution-affected new-particle formation events
http://www.borenv.net/BER/pdfs/ber14/ber14-662.pdf

Vione, Davide, Marco Minella, Claudio Minero, Valter Maurino, Paolo Picco, Aldo Marchetto, and Gabriele Tartari.
Photodegradation of nitrite in lake waters: role of dissolved organic matter
http://dx.doi.org/10.1071/EN09050

von der Heide, Carolin, Juergen Boettcher, Markus Deurer, Wilhelmus H. M. Duijnisveld, Daniel Weymann, and Reinhard Well.
Estimation of indirect nitrous oxide emissions from a shallow aquifer in Northern Germany
Walton, Richard S. and Heather M. Hunter.  
**Isolating the water quality responses of multiple land uses from stream monitoring data through model calibration**  
[http://dx.doi.org/10.1016/j.jhydrol.2009.09.004](http://dx.doi.org/10.1016/j.jhydrol.2009.09.004)

Wang, Hui, Cyndee L. Gruden, Thomas B. Bridgeman, and Justin D. Chaffin.  
**Detection and quantification of Microcystis spp. and microcystin-LR in Western Lake Erie during the summer of 2007**  
[http://dx.doi.org/10.2166/wst.2009.517](http://dx.doi.org/10.2166/wst.2009.517)

Wang, Pei-Fang, Li Zhao, Chao Wang, Jun Hou, and Douglas J. Schnoebelen.  
**Nitrogen distribution and potential mobility in sediments of three typical shallow urban lakes in China**  
[http://dx.doi.org/10.1089/ees.2008.0367](http://dx.doi.org/10.1089/ees.2008.0367)

Wei, Xiaorong, Mingan Shao, Xiaoli Fu, Robert Horton, Yong Li, and Xingchang Zhang.  
**Distribution of soil organic C, N and P in three adjacent land use patterns in the northern Loess Plateau, China**  
*Biogeochemistry*, 96(1-3): 149-162, December 2009. ISSN 0168-2563.  
[http://dx.doi.org/10.1007/s10533-009-9350-8](http://dx.doi.org/10.1007/s10533-009-9350-8)

**Recovery of groundwater N2O at the soil surface and its contribution to total N2O emissions**  
[http://dx.doi.org/10.1007/s10705-009-9269-4](http://dx.doi.org/10.1007/s10705-009-9269-4)

Wilson, Duncan S. and Douglas A. Maguire.  
**Environmental basis of soil-site productivity relationships in ponderosa pine**  
[http://dx.doi.org/10.1890/08-0586.1](http://dx.doi.org/10.1890/08-0586.1)

Zhao, Yu, Lei Duan, Jia Xing, Thorjorn Larssen, Chris P. Nielsen, and Jiming Hao.  
**Soil acidification in China: Is controlling SO2 emissions enough?**  
*Environmental Science & Technology*, 43(21): 8021-8026, November 1, 2009. ISSN 0013-936X.  
[http://dx.doi.org/10.1021/es901430n](http://dx.doi.org/10.1021/es901430n)
**Reports**

**National Lakes Assessment: A Collaborative Survey of the Nation’s Lakes: Draft.**

**Executive Order 1358: Draft Strategy for Protecting and Restoring the Chesapeake Bay, November 9, 2009.**
Developed by the Federal Leadership Committee for the Chesapeake Bay for public comment.

**Web Pages**

**National Lakes Assessment**
[http://www.epa.gov/lakessurvey](http://www.epa.gov/lakessurvey)
Source: U. S. Environmental Protection Agency

**Chesapeake Bay Executive Order: Protecting and restoring a national treasure**
[http://executiveorder.chesapeakebay.net/](http://executiveorder.chesapeakebay.net/)
Source: Federal Leadership Committee for the Chesapeake Bay

**NASA Earth Observatory: Mississippi River sediment plume**
Source: U. S. National Aeronautics and Space Administration

**For Bureau of National Affairs subscribers (including EPA staff)**

**Water pollution: Comprehensive EPA survey of lakes gives 43 percent ‘fair' or ‘poor' ratings**
*BNA Daily Environment Report*, December 21, 2009

**Chesapeake Bay: Virginia Farm Bureau leaders oppose new EPA plans for restoration of Bay**
*BNA Daily Environment Report*, December 4, 2009

**Chesapeake Bay: EPA expects Bay states, D.C. to preserve commitments to top water quality standards**
Air pollution: EPA agrees to review emissions standards for new nitric acid plants, settling lawsuit

Water pollution: Nutrient standards set for Florida waters could extend to other states, speakers say

Chesapeake Bay: EPA official says Bay cleanup requires ‘new tools,' bill aligns with Agency initiative

Chesapeake Bay: Draft Federal strategy for restoring Bay calls for EPA collaboration with states

Air pollution: EPA to complete review of standards for six major air pollutants by 2011

Air pollution: EPA reports 5 percent drop in emissions of nitrogen oxides in NOx SIP call states
Air pollution: Alaska, Great Lakes ports seek exclusions from tighter limits on emissions from ships
*BNA Daily Environment Report*, October 7, 2009
http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=15376069&vname=dennotalissues&wsn=499473500&searchid=9625891&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1

**For Inside EPA subscribers (including EPA staff)**

Task force eyes new measures of Mississippi River nutrient reductions

House Agriculture Committee pushing back on Chesapeake Bay bill

Activists’ new legal action continues push for numeric nutrient criteria
*Inside EPA Environmental Policy Alert*, December 2, 2009

EPA to review activist bid for GHG limits in nitric acid plant standards
*Inside EPA Clean Air Report*, November 26, 2009

Activists’ new legal action continues push for numeric nutrient criteria
*Inside EPA Environmental Policy Alert*, December 2, 2009

EPA to review activist bid for GHG limits in nitric acid plant standards
*Inside EPA Clean Air Report*, November 26, 2009

EPA struggles to defend key nutrient water permit despite recent precedent
*Inside EPA Environmental Policy Alert*, November 18, 2009

Activists hail strong enforcement policy in EPA Chesapeake Bay letter

Chesapeake marching orders
*The Inside Story*, November 4, 2009

Cardin scales back some provisions in massive Chesapeake Bay bill
EPA pushes ahead with reviews of SO2, ozone national air standards
Inside EPA Defense Environment Alert, October 27, 2009

EAB backs broad EPA power to set strict trans-state nutrient limits
Inside EPA Environmental Policy Alert, October 21, 2009

Activists’ NSPS petition marks new tack to limit CAFOS’ emissions
Inside EPA Clean Air Report, October 15, 2009

EPA may struggle to use Chesapeake Bay model for other cleanups
Inside EPA Defense Environment Alert, October 13, 2009

Environmentalists advocate for Chesapeake Bay legislation
Inside EPA Water Policy Report, October 12, 2009

State-EPA workgroup urges stricter nutrient discharge controls
Inside EPA Water Policy Report, October 12, 2009

EPA urges state to seek GHG cuts from agriculture industry
Inside Cal/EPA, October 9, 2009

EPA Water Chief eyes strict TMDL approach to address nonpoint runoff
Inside EPA Environmental Policy Alert, October 7, 2009

Facing workload, EPA eyes dropping landmark joint NOx-SOx NAAQS
Inside EPA Clean Air Report, October 1, 2009