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*Nitrogen Newsletter 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.*

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**News**

**Sewage-derived nitrogen increasingly polluting Caribbean ecosystems**  
[http://www.eurekalert.org/pub\\_releases/2011-05/au-sni051611.php](http://www.eurekalert.org/pub_releases/2011-05/au-sni051611.php)

**For BNA subscribers (including EPA staff):**

**Chesapeake Bay: Largest treatment plant in watershed starts \$1.4 billion project to cut nutrients**  
*BNA Daily Environment Report*, May 23, 2011  
[http://news.bna.com/deln/DELNWB/split\\_display.adp?fedfid=20934070&vname=dennotallissue&wsn=494757000&searchid=14706207&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1](http://news.bna.com/deln/DELNWB/split_display.adp?fedfid=20934070&vname=dennotallissue&wsn=494757000&searchid=14706207&doctypeid=1&type=date&mode=doc&split=0&scm=DELNWB&pg=1)

**For Greenwire subscribers (including EPA staff):**

**MISSISSIPPI FLOOD: Largest-ever dead zone 'a disaster in the making' for La. fishermen**  
*Greenwire*, May 26, 2011  
<http://www.eenews.net/Greenwire/2011/05/26/archive/19>

**WATER: Cardin-Inhofe talks on Chesapeake Bay bill could turn to Clean Water Act changes**

*Environment & Energy Daily*, May 4, 2011  
<http://www.eenews.net/EEDaily/2011/05/04/archive/10>

**CHESAPEAKE BAY: Scientists call for tough enforcement, accountability and disclosure**  
*Greenwire*, May 4, 2011  
<http://www.eenews.net/Greenwire/2011/05/04/archive/24>

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

**After Florida, EPA vows to raise bar for tightening water quality standards**  
*Inside EPA*, May 27, 2011  
<http://insideepa.com/Inside-EPA/Inside-EPA-05/27/2011/after-florida-epa-vows-to-raise-bar-for-tightening-water-quality-standards/menu-id-153.html>

**EPA eyes ozone monitoring network update to aid compliance strategies**  
*Clean Air Report*, May 26, 2011  
<http://insideepa.com/Clean-Air-Report/Clean-Air-Report-05/26/2011/epa-eyes-ozone-monitoring-network-update-to-aid-compliance-strategies/menu-id-154.html>

**White House reviewing final EPA cap-and-trade rule for power plants**  
*Clean Air Report*, May 26, 2011  
<http://insideepa.com/Clean-Air-Report/Clean-Air-Report-05/26/2011/white-house-reviewing-final-epa-cap-and-trade-rule-for-power-plants/menu-id-154.html>

**EPA fights stay of controversial water permit testing nutrient limits**  
*Water Policy Report*, May 23, 2011  
<http://insideepa.com/Water-Policy-Report/Water-Policy-Report-05/23/2011/epa-fights-stay-of-controversial-water-permit-testing-nutrient-limits/menu-id-155.html>

**EPA crafting guide to turn narrative nutrient criteria into numeric limits**  
*Daily News*, May 13, 2011  
<http://insideepa.com/201105132363939/EPA-Daily-News/Daily-News/epa-crafting-guide-to-turn-narrative-nutrient-criteria-into-numeric-limits/menu-id-95.html>

**EPA report aims to boost state use of transport measures to cut GHGs**  
*Clean Air Report*, May 12, 2011  
<http://insideepa.com/Clean-Air-Report/Clean-Air-Report-05/12/2011/epa-report-aims-to-boost-state-use-of-transport-measures-to-cut-ghgs/menu-id-154.html>

## Reports

Sullivan, T. J., T. C. McDonnell, G. T. McPherson, S. D. Mackey, and D. Moore.  
**Evaluation of the sensitivity of inventory and monitoring national parks to nutrient enrichment effects from atmospheric nitrogen deposition: main report.**  
*Natural Resource Report NPS/NRPC/ARD/NRR—2011/313.*

Denver, Colorado: National Park Service, 2011.

[http://www.nature.nps.gov/air/Pubs/pdf/n-sensitivity/main\\_n\\_sensitivity\\_2011-02.pdf](http://www.nature.nps.gov/air/Pubs/pdf/n-sensitivity/main_n_sensitivity_2011-02.pdf)

See the National Park Service **Nitrogen Sensitivity** web page for links to the individual **Inventory & Monitoring Network Reports**.

<http://www.nature.nps.gov/air/Permits/ARIS/networks/n-sensitivity.cfm>

Committee on the Evaluation of Chesapeake Bay Program Implementation for Nutrient Reduction to Improve Water Quality; National Research Council.

**Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation**

Washington, D.C.: National Academies Press, 2011. [Prepublication Available.]

[http://www.nap.edu/catalog.php?record\\_id=13131](http://www.nap.edu/catalog.php?record_id=13131)

## Web Pages

**Ecosystem Services Research: Nitrogen Research**

Source: United States Environmental Protection Agency

<http://www.epa.gov/ord/esrp/quick-finder/nitrogen-research.htm>

**Nitrogen Sensitivity**

Source: National Park Service

<http://www.nature.nps.gov/air/Permits/ARIS/networks/n-sensitivity.cfm>

## Upcoming Events

**Sixth International Symposium on Non-CO<sub>2</sub> Greenhouse Gases (NCGG-6) – Science, Policy and Integration, Amsterdam, the Netherlands, November 2-4, 2011**

<http://www.ncgg.info/>

## New Books

**Nitrite and Nitrate in Human Health and Disease**

Bryan, Nathan S., and Joseph Loscalzo, Eds.

Humana (Springer), New York, 2011.

Hardback: 328 pp., illus. ISBN 9781607616153.

[http://www.springer.com/new+%26+forthcoming+titles+\(default\)/book/978-1-60761-615-3](http://www.springer.com/new+%26+forthcoming+titles+(default)/book/978-1-60761-615-3)

## Special Issues

### **Conservation of wetlands in agricultural landscapes**

*Ecological Applications*, 21(3, Suppl. S), April 2011

<http://www.esajournals.org/toc/ecap/21/sp1>

## Articles

Ambus, Per, Ute Skiba, Klaus Butterbach-Bahl, and Mark A. Sutton.

### **Reactive nitrogen and greenhouse gas flux interactions in terrestrial ecosystems**

*Plant and Soil*, 343(1-2): 1-3, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0777-z>

Anton, Andrea, Just Cebrian, Kenneth L. Heck, Carlos M. Duarte, Kate L. Sheehan, Mary-Elizabeth C. Miller, and Drew Foster.

### **Decoupled effects (positive to negative) of nutrient enrichment on ecosystem services**

*Ecological Applications*, 21(3): 991-1009, April 2011. ISSN 1051-0761.

<http://dx.doi.org/10.1890/09-0841.1>

Armitage, Anna R., Thomas A. Frankovich, and James W. Fourqurean.

### **Long-term effects of adding nutrients to an oligotrophic coastal environment**

*Ecosystems*, 14(3): 430-444, June 2011. ISSN 1432-9840.

<http://dx.doi.org/10.1007/s10021-011-9421-2>

Bowles, Marshall, and Samantha Joye

### **High rates of denitrification and nitrate removal in cold seep sediments**

*ISME Journal*, 5(3): 565-567, March 2011. ISSN 1751-7362.

<http://dx.doi.org/10.1038/ismej.2010.134>

Bracken, Matthew E. S., Emily Jones, and Susan L. Williams.

### **Herbivores, tidal elevation, and species richness simultaneously mediate nitrate uptake by seaweed assemblages**

*Ecology*, 92(5): 1083-1093, May 2011. ISSN 0012-9658.

<http://dx.doi.org/10.1890/10-1374.1>

Bruesewitz, Denise A., David P. Hamilton, and Louis A. Schipper.

### **Denitrification potential in lake sediment increases across a gradient of catchment agriculture**

*Ecosystems*, 14(3): 341-352, April 2011. ISSN 1432-9840.

<http://dx.doi.org/10.1007/s10021-011-9413-2>

Bu, Zhao-Jun, Hayenkan Rydin, and Xu Chen.

### **Direct and interaction-mediated effects of environmental changes on peatland bryophytes**

*Oecologia*, 166(2): 555-563, June 2011. ISSN 0029-8549.

<http://dx.doi.org/10.1007/s00442-010-1880-1>

Cermeno, Pedro, Joon-Baek Lee, Kevin Wyman, Oscar Schofield, and Paul G. Falkowski.  
**Competitive dynamics in two species of marine phytoplankton under non-equilibrium conditions**

*Marine Ecology-Progress Series*, 429: 19-28, 2011. ISSN 0171-8630.

<http://dx.doi.org/10.3354/meps09088>

Chirinda, Ngonidzashe, Daniela Kracher, Mette Laegdsmand, John R. Porter, Jorgen E. Olesen, Bjorn M. Petersen, Jordi Doltra, Ralf Kiese, and Klaus Butterbach-Bahl.

**Simulating soil N<sub>2</sub>O emissions and heterotrophic CO<sub>2</sub> respiration in arable systems using FASSET and MoBiLE-DNDC**

*Plant and Soil*, 343(1-2): 139-160, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-010-0596-7>

Coll, Lluís, Robert Schneider, Frank Berninger, Susy Domenicano, and Christian Messier.

**Quantifying the effect of nitrogen-induced physiological and structural changes on poplar growth using a carbon-balance model**

*Tree Physiology*, 31(4): 381-390, April 2011. ISSN 0829-318X.

<http://dx.doi.org/10.1093/treephys/tpr013>

Cuet, P., M. J. Atkinson, J. Blanchot, B. E. Casareto, E. Cordier, J. Falter, P. Frouin, H. Fujimura, C. Pierret, Y. Susuki, and C. Tourrand.

**CNP budgets of a coral-dominated fringing reef at La Reunion, France: coupling of oceanic phosphate and groundwater nitrate**

*Coral Reefs*, 30(Sp. Iss. SI Suppl. 1): 45-55, June 2011. ISSN 0722-4028.

<http://dx.doi.org/10.1007/s00338-011-0744-4>

Cusack, Daniela F., Whendee L. Silver, Margaret S. Torn, Sarah D. Burton, and Mary K. Firestone.

**Changes in microbial community characteristics and soil organic matter with nitrogen additions in two tropical forests**

*Ecology*, 92(3): 621-632, March 2011. ISSN 0012-9658.

<http://dx.doi.org/10.1890/10-0459.1>

Cutler, Nick

**Nutrient limitation during long-term ecosystem development inferred from a mat-forming moss**

*Bryologist*, 114(1): 204-214, Spring 2011. ISSN 0007-2745.

<http://dx.doi.org/10.1639/0007-2745.114.1.204>

Dannenmann, Michael, Georg Willibald, Sebastian Sippel, and Klaus Butterbach-Bahl.

**Nitrogen dynamics at undisturbed and burned Mediterranean shrublands of Salento Peninsula, Southern Italy**

*Plant and Soil*, 343(1-2): 5-15, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-010-0541-9>

DiMilla, Peter A., Scott W. Nixon, Autumn J. Oczkowski, Mark A. Altabet, and Richard A. McKinney.

**Some challenges of an "upside down" nitrogen budget - Science and management in Greenwich Bay, RI (USA)**

*Marine Pollution Bulletin*, 62(4): 672-680, April 2011. ISSN 0025-326X.

<http://dx.doi.org/10.1016/j.marpolbul.2011.01.031>

Dore, Thierry, David Makowski, Eric Malezieux, Nathalie Munier-Jolain, Marc Tchamitchian, and Pablo Tittone.

**Facing up to the paradigm of ecological intensification in agronomy: Revisiting methods, concepts and knowledge**

*European Journal of Agronomy*, 34(4): 197-210, May 2011. ISSN 1161-0301.

<http://dx.doi.org/10.1016/j.eja.2011.02.006>

Eller, Allyson S. D., Krista L. McGuire, and Jed P. Sparks.

**Responses of sugar maple and hemlock seedlings to elevated carbon dioxide under altered above- and belowground nitrogen sources**

*Tree Physiology*, 31(4): 391-401, April 2011. ISSN 0829-318X.

<http://dx.doi.org/10.1093/treephys/tpr014>

Ernfors, Maria, Tobias Rutting, and Leif Klemetsson.

**Increased nitrous oxide emissions from a drained organic forest soil after exclusion of ectomycorrhizal mycelia**

*Plant and Soil*, 343(1-2), 161-170, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-010-0667-9>

Fawcett, S. E., and B. B. Ward.

**Phytoplankton succession and nitrogen utilization during the development of an upwelling bloom**

*Marine Ecology-Progress Series*, 428: 13-31, 2011. ISSN 0171-8630.

<http://dx.doi.org/10.3354/meps09070>

Fissore, C., L. A. Baker, S. E. Hobbie, J. Y. King, J. P. McFadden, K. C. Nelson, and I. Jakobsdottir.

**Carbon, nitrogen, and phosphorus fluxes in household ecosystems in the Minneapolis-Saint Paul, Minnesota, urban region**

*Ecological Applications*, 21(3): 619-639, April 2011. ISSN 1051-0761.

<http://dx.doi.org/10.1890/10-0386.1>

Forshay, Kenneth J., and Stanley I. Dodson.

**Macrophyte presence is an indicator of enhanced denitrification and nitrification in sediments of a temperate restored agricultural stream**

*Hydrobiologia*, 668(1): 21-34, June 2011. ISSN 0018-8158.

<http://dx.doi.org/10.1007/s10750-011-0619-2>

Gaard, Eilif, Gunnvor A. Nordi, and Knud Simonsen.

**Environmental effects on phytoplankton production in a Northeast Atlantic fjord, Faroe Islands**

*Journal of Plankton Research*, 33(6): 947-959, June 2011. ISSN 0142-7873.

<http://dx.doi.org/10.1093/plankt/fbq156>

Guan, K., S. E. Thompson, C. J. Harman, N. B. Basu, P. S. C. Rao, M. Sivapalan, A. I. Packman, and P. K. Kalita.

**Spatiotemporal scaling of hydrological and agrochemical export dynamics in a tile-drained Midwestern watershed**

*Water Resources Research*, 47: W00J02, May 11, 2011. ISSN 0043-1397.

<http://dx.doi.org/10.1029/2010WR009997>

Hadjikakou, Michalis, Paul G. Whitehead, Li Jin, Martyn Futter, Panos Hadjinicolaou, and Maria Shahgedanova.

**Modelling nitrogen in the Yesilirmak River catchment in Northern Turkey: Impacts of future climate and environmental change and implications for nutrient management**

*Science of the Total Environment*, 409(12): 2404-2418, May 15, 2011. ISSN 0048-9697.

<http://dx.doi.org/10.1016/j.scitotenv.2011.02.038>

Hall, Sharon J., Ryan A. Sponseller, Nancy B. Grimm, David Huber, Jason P. Kaye, Christopher Clark, and Scott L. Collins.

**Ecosystem response to nutrient enrichment across an urban airshed in the Sonoran Desert**

*Ecological Applications*, 21(3): 640-660, April 2011. ISSN 1051-0761.

<http://dx.doi.org/10.1890/10-0758.1>

He, Bin, Shinjiro Kanae, Taikan Oki, Yukiko Hirabayashi, Yosuke Yamashiki, and Kaoru Takara.

**Assessment of global nitrogen pollution in rivers using an integrated biogeochemical modeling framework**

*Water Research*, 45(8): 2573-2586, April 2011. ISSN 0043-1354.

<http://dx.doi.org/10.1016/j.watres.2011.02.011>

Hernandez-Terrones, Laura, Mario Rebolledo-Vieyra, Martin Merino-Ibarra, Melina Soto, Adrien Le-Cossec, and Emiliano Monroy-Rios.

**Groundwater pollution in a karstic region (NE Yucatan): Baseline nutrient content and flux to coastal ecosystems**

*Water Air and Soil Pollution*, 218(1-4): 517-528, June 2011. ISSN 0049-6979.

<http://dx.doi.org/10.1007/s11270-010-0664-x>

Inselsbacher, Erich, Wolfgang Wanek, Katrin Ripka, Evelyn Hackl, Angela Sessitsch, Joseph Strauss, and Sophie Zechmeister-Boltenstern.

**Greenhouse gas fluxes respond to different N fertilizer types due to altered plant-soil-microbe interactions**

*Plant and Soil*, 343(1-2): 17-35, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-010-0597-6>



James, R. Thomas, Wayne S. Gardner, Mark J. McCarthy, and Stephen A. Carini.

**Nitrogen dynamics in Lake Okeechobee: forms, functions, and changes**

*Hydrobiologia*, 669(1): 199-212, July 2011. ISSN 0018-8158.

<http://dx.doi.org/10.1007/s10750-011-0683-7>

Jaruskova, Daniela, and Igor Liska.

**Statistical analysis of trends in organic pollution and pollution by nutrients at selected Danube river stations**

*Journal of Environmental Monitoring*, 13(5): 1435-1445, May 2011. ISSN 1464-0325.

<http://dx.doi.org/10.1039/c0em00376j>

Jost, Georg, Thomas Dirnboeck, Maria-Theresia Grabner, and Michael Mirtl.

**Nitrogen leaching of two forest ecosystems in a karst watershed**

*Water Air and Soil Pollution*, 218(1-4): 633-649, June 2011. ISSN 0049-6979.

<http://dx.doi.org/10.1007/s11270-010-0674-8>

Koirala, Shesh R., Randall W. Gentry, Patrick J. Mulholland, Edmund Perfect, John S. Schwartz, and Gary S. Saylor.

**Persistence of hydrologic variables and reactive stream solute concentrations in an east Tennessee watershed**

*Journal of Hydrology*, 401(3-4): 221-230, May 3, 2011. ISSN 0022-1694.

<http://dx.doi.org/10.1016/j.jhydrol.2011.02.022>

Kool, Dorien M., Nicole Wrage, Oene Oenema, Chris Van Kessel, and Jan Willem Van Groenigen.

**Oxygen exchange with water alters the oxygen isotopic signature of nitrate in soil ecosystems**

*Soil Biology & Biochemistry*, 43(6): 1180-1185, June 2011. ISSN 0038-0717.

<http://dx.doi.org/10.1016/j.soilbio.2011.02.006>

Lam, Phyllis, and Marcel M. M. Kuypers.

**Microbial nitrogen cycling processes in oxygen minimum zones**

*Annual Review of Marine Science*, 3: 317-345, 2011. ISSN 1941-1405.

<http://dx.doi.org/10.1146/annurev-marine-120709-142814>

Lipiec, J., A. Nosalewicz, A. Siczek, and U. Kotowska.

**Effects of land use on leaching of nitrate-N, ammonium-N and phosphate in relation to stained surface area**

*International Agrophysics*, 25(2): 149-154, 2011. ISSN 0236-8722.

<http://www.international->

[agrophysics.org/artykuly/international\\_agrophysics/IntAgr\\_2011\\_25\\_2\\_149.pdf](http://www.international-agrophysics.org/artykuly/international_agrophysics/IntAgr_2011_25_2_149.pdf)

Loubet, Benjamin, Patricia Laville, Simon Lehuger, Eric Larmanou, Christophe Flechard, Nicolas Mascher, Sophie Genermont, Romain Roche, Rossana M. Ferrara, Patrick Stella, Erwan Personne, Brigitte Durand, Celine Decuq, Dominique Flura, Sylvie Masson, Olivier Fanucci,

Jean-Noel Rampon, Jan Siemens, Reimo Kindler, Benoit Gabrielle, Marion Schrumpf, and Pierre Cellier.

**Carbon, nitrogen and greenhouse gases budgets over a four years crop rotation in northern France**

*Plant and Soil*, 343(1-2): 109-137, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0751-9>

Lovett, Gary M., and Christine L. Goodale.

**A new conceptual model of nitrogen saturation based on experimental nitrogen addition to an oak forest**

*Ecosystems*, 14(4): 615-631, June 2011. ISSN 1432-9840.

<http://dx.doi.org/10.1007/s10021-011-9432-z>

Lucas, Andrew J., Christopher L. Dupont, Vera Tai, John L. Largier, Brian Palenik, and Peter J. S. Franks.

**The green ribbon: Multiscale physical control of phytoplankton productivity and community structure over a narrow continental shelf**

*Limnology and Oceanography*, 56(2): 611-626, March 2011. ISSN 0024-3590.

<http://dx.doi.org/10.4319/lo.2011.56.2.0611>

Lui, Hon-Kit, and Chen-Tung Arthur Chen.

**Shifts in limiting nutrients in an estuary caused by mixing and biological activity**

*Limnology and Oceanography*, 56(3): 989-998, May 2011. ISSN 0024-3590.

<http://dx.doi.org/10.4319/lo.2011.56.3.0989>

Lutz, Brian D., Emily S. Bernhardt, Brian J. Roberts, and Patrick J. Mulholland.

**Examining the coupling of carbon and nitrogen cycles in Appalachian streams: the role of dissolved organic nitrogen**

*Ecology*, 92(3): 720-732, March 2011. ISSN 0012-9658.

<http://dx.doi.org/10.1890/10-0899.1>

Martin, Rebecca A., Tamara K. Harrns, and Nancy B. Grimm.

**Chronic N loading reduces N retention across varying base flows in a desert river**

*Journal of the North American Benthological Society*, 30(2): 559-572, June 2011. ISSN 0887-3593.

<http://dx.doi.org/10.1899/09-137.1>

McConnell, J. Scott, Rose M. McConnell, Xiaoping Pan, Chad J. Altfillisch, Krishna P. Gidda, Matthew S. McConnell, Luke R. Morgan, Benjamin M. Mullins, Stephanie M. Nicioli, Trent M. Pedigo, Karen E. Ribordy, and Donald R. Sheppard.

**Suspending nitrogen fertilization reduces residual soil nitrates in dryland cotton**

*Communications in Soil Science and Plant Analysis*, 42(10): 1223-1235, 2011. ISSN 0010-3624.

<http://dx.doi.org/10.1080/00103624.2011.566966>

Menge, Duncan N. L.

**Conditions under which nitrogen can limit steady-state net primary production in a general class of ecosystem models**

*Ecosystems*, 14(4): 519-532, June 2011. ISSN 1432-9840.

<http://dx.doi.org/10.1007/s10021-011-9426-x>

Mishima, Yoshio, Masayuki Takada, and Rie Kitagawa.

**Evaluation of intrinsic vulnerability to nitrate contamination of groundwater: appropriate fertilizer application management**

*Environmental Earth Sciences*, 63(3): 571-580, June 2011. ISSN 1866-6280.

<http://dx.doi.org/10.1007/s12665-010-0725-x>

Moller, Jan Kloppenborg, Henrik Madsen, and Jacob Carstensen.

**Parameter estimation in a simple stochastic differential equation for phytoplankton modelling**

*Ecological Modelling*, 222(11): 1793-1799, June 10, 2011. ISSN 0304-3800.

<http://dx.doi.org/10.1016/j.ecolmodel.2011.03.025>

Mustafa, Atif, and Miklas Scholz.

**Characterization of microbial communities transforming and removing nitrogen in wetlands**

*Wetlands*, 31(3): 583-592, June 2011. ISSN 0277-5212.

<http://dx.doi.org/10.1007/s13157-011-0175-6>

Neubacher, Elke C., Ruth E. Parker, and Mark Trimmera.

**Short-term hypoxia alters the balance of the nitrogen cycle in coastal sediments**

*Limnology and Oceanography*, 56(2): 651-665, March 2011. ISSN 0024-3590.

<http://dx.doi.org/10.4319/lo.2011.56.2.0651>

Novotny, Eric V., Matthew J. Bechle, Dylan B. Millet, and Julian D. Marshall.

**National satellite-based land-use regression: NO<sub>2</sub> in the United States**

*Environmental Science & Technology*, 45(10): 4407-4414, May 15, 2011. ISSN 0013-936X.

<http://dx.doi.org/10.1021/es103578x>

Ortiz-Santaliestra, Manuel E., Maria Jose Fernandez-Beneitez, Miguel Lizana, and Adolfo Marco.

**Responses of toad tadpoles to ammonium nitrate fertilizer and predatory stress: Differences between populations on a local scale**

*Environmental Toxicology and Chemistry*, 30(6): 1440-1446, June 2011. ISSN 0730-7268.

<http://dx.doi.org/10.1002/etc.523>

Pan, Qingmin, Yongfei Bai, Jianguo Wu, and Xingguo Han.

**Hierarchical plant responses and diversity loss after nitrogen addition: Testing three functionally-based hypotheses in the Inner Mongolia grassland**

*PLoS ONE*, 6(5): e20078, May 19, 2011. ISSN 1932-6203.

<http://dx.doi.org/10.1371/journal.pone.0020078>

Perryman, Shane E., Gavin N. Rees, Christopher J. Walsh, and Michael R. Grace.  
**Urban stormwater runoff drives denitrifying community composition through changes in sediment texture and carbon content**

*Microbial Ecology*, 61(4): 932-940, May 2011. ISSN 0095-3628.

<http://dx.doi.org/10.1007/s00248-011-9833-8>

Rafique, Rashad, Deirdre Hennessy, and Gerard Kiely.

**Nitrous oxide emission from grazed grassland under different management systems**

*Ecosystems*, 14(4): 563-582, June 2011. ISSN 1432-9840.

<http://dx.doi.org/10.1007/s10021-011-9434-x>

Rier, Steven T., Kevin S. Nawrocki, and Julian C. Whitley.

**Response of biofilm extracellular enzymes along a stream nutrient enrichment gradient in an agricultural region of north central Pennsylvania, USA**

*Hydrobiologia*, 669(1): 119-131, July 2011. ISSN 0018-8158.

<http://dx.doi.org/10.1007/s10750-011-0654-z>

Robinson, Nicole, Richard Brackin, Kerry Vinall, Fiona Soper, Jirko Holst, Harshi Gamage, Chanyarat Paungfoo-Lonhienne,

Heinz Rennenberg, Lakshmanan, and Susanne Schmidt.

**Nitrate paradigm does not hold up for sugarcane**

*PLoS ONE*, 6(4): e19045, April 28, 2011. ISSN 1932-6203.

<http://dx.doi.org/10.1371/journal.pone.0019045>

Rossignol, Nicolas, Anne Bonis, and Jan-Bernard Bouzille.

**Grazing-induced vegetation patchiness controls net N mineralization rate in a semi-natural grassland**

*Acta Oecologica-International Journal of Ecology*, 37(3): 290-297, May-June 2011. ISSN 1146-609X.

<http://dx.doi.org/10.1016/j.actao.2011.02.014>

Sanches, Lucia F., Rafael D. Guariento, Adriano Caliman, Reinaldo Luiz Bozelli, and Francisco A. Esteves.

**Effects of nutrients and light on periphytic biomass and nutrient stoichiometry in a tropical black-water aquatic ecosystem**

*Hydrobiologia*, 669(1): 35-44, July 2011. ISSN 0018-8158.

<http://dx.doi.org/10.1007/s10750-011-0661-0>

Smith, D. R., G. Hernandez-Ramirez, S. D. Armstrong, D. L. Bucholtz, and D. E. Stott.

**Fertilizer and tillage management impacts on non-carbon-dioxide greenhouse gas emissions**

*Soil Science Society of America Journal*, 75(3): 1070-1082, May-June 2011. ISSN 0361-5995.

<http://dx.doi.org/10.2136/sssaj2009.0354>

Tanaka, Y., T. Miyajima, A. Watanabe, K. Nadaoka, T. Yamamoto, and H. Ogawa.

**Distribution of dissolved organic carbon and nitrogen in a coral reef**

*Coral Reefs*, 30(2): 533-541, June 2011. ISSN 0722-4028.

<http://dx.doi.org/10.1007/s00338-011-0735-5>

Toyoda, Sakae, Midori Yano, Sei-ichi Nishimura, Hiroko Akiyama, Atsushi Hayakawa, Keisuke Koba, Shigeto Sudo, Kazuyuki Yagi, Akiko Makabe, Yoshifumi Tobari, Nanako O. Ogawa, Naohiko Ohkouchi, Keita Yamada, and Naohiro Yoshida.

**Characterization and production and consumption processes of N<sub>2</sub>O emitted from temperate agricultural soils determined via isotopomer ratio analysis**

*Global Biogeochemical Cycles*, 25: GB2008, May 21, 2011. ISSN 0886-6236.

<http://dx.doi.org/10.1029/2009GB003769>

von Schiller, D., S. Bernal, and E. Marti.

**Technical Note: A comparison of two empirical approaches to estimate in-stream net nutrient uptake**

*Biogeosciences*, 8(4): 875-882, 2011. ISSN 1726-4170.

<http://dx.doi.org/10.5194/bg-8-875-2011>

Wang, Congyan, Guomin Han, Yong Jia, Xiaoguang Feng, Peng Guo, and Xingjun Tian.

**Response of litter decomposition and related soil enzyme activities to different forms of nitrogen fertilization in a subtropical forest**

*Ecological Research*, 26(3): 505-513, May 2011. ISSN 0912-3814.

<http://dx.doi.org/10.1007/s11284-011-0805-8>

Wu, Zhiyong, Xuemei Wang, Fei Chen, Andrew A. Turnipseed, Alex B. Guenther, Dev Niyogi, Umarporn Charusombat,

Beicheng Xia, J. William Munger, and Kiran Alapaty.

**Evaluating the calculated dry deposition velocities of reactive nitrogen oxides and ozone from two community models over a temperate deciduous forest**

*Atmospheric Environment*, 45(16): 2663-2674, May 2011. ISSN 1352-2310.

<http://dx.doi.org/10.1016/j.atmosenv.2011.02.063>

Yang, Yuanhe, Yiqi Luo, and Adrien C. Finzi.

**Carbon and nitrogen dynamics during forest stand development: A global synthesis**

*New Phytologist*, 190(4): 977-989, 2011. ISSN 0028-646X.

<http://dx.doi.org/10.1111/j.1469-8137.2011.03645.x>

Yang, Yuanhe, Yiqi Luo, Meng Lu, Christina Schaedel, and Wenxuan Han.

**Terrestrial C:N stoichiometry in response to elevated CO<sub>2</sub> and N addition: a synthesis of two meta-analyses**

*Plant and Soil*, 343(1-2): 393-400, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0736-8>

Zechmeister-Boltenstern, Sophie, Kerstin Michel, and Michael Pfeffer.

**Soil microbial community structure in European forests in relation to forest type and atmospheric nitrogen deposition**

*Plant and Soil*, 343(1-2): 37-50, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-010-0528-6>

Zhao, Sherry, Pengfei Zhang, John Crusius, Kevin D. Kroeger, and John F. Bratton.

**Use of pharmaceuticals and pesticides to constrain nutrient sources in coastal groundwater of northwestern Long Island, New York, USA**

*Journal of Environmental Monitoring*, 13(5): 1337-1343, May 2011. ISSN 1464-0325.

<http://dx.doi.org/10.1039/c1em10039d>

Zhu, Tongbin, Jinbo Zhang, and Zucong Cai.

**The contribution of nitrogen transformation processes to total N<sub>2</sub>O emissions from soils used for intensive vegetable cultivation**

*Plant and Soil*, 343(1-2): 313-327, June 2011. ISSN 0032-079X.

<http://dx.doi.org/10.1007/s11104-011-0720-3>