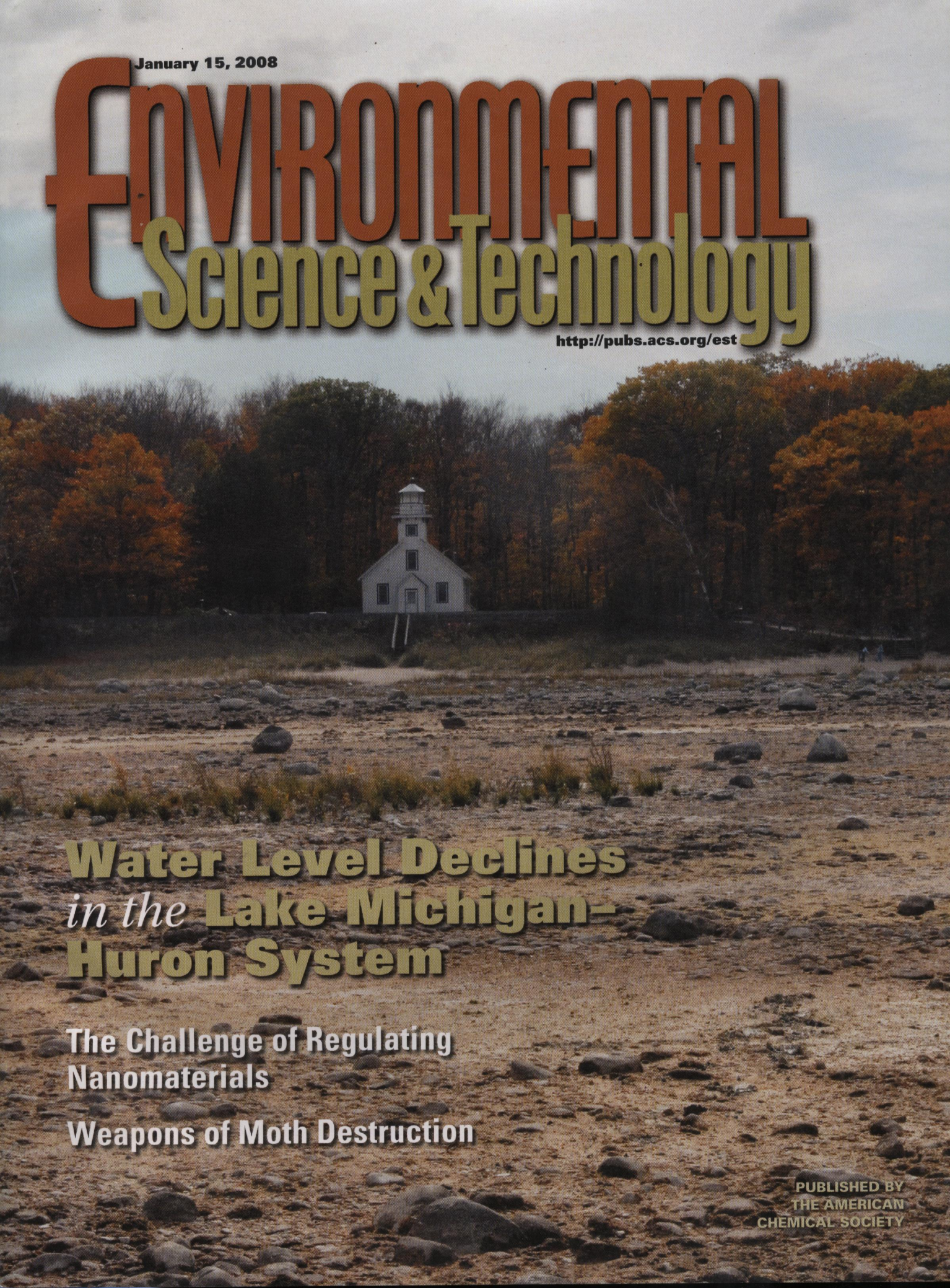


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Water Level Declines *in the* Lake Michigan- Huron System

The Challenge of Regulating
Nanomaterials

Weapons of Moth Destruction

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Modeling the Effects of Changes in New Source Review on National SO₂ and NO_x Emissions from Electricity-Generating Units

David A. Evans, Benjamin F. Hobbs,* Craig Oren, and Karen L. Palmer

An electricity sector model is used to explore how New Source Review changes could affect national power plant emissions; given emissions caps, those effects are likely to be small.

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A Stochastic Simulation Procedure for Selecting Herbicides with Minimum Environmental Impact

Ben D. Giudice, Arash Massoudieh, Xinjiang Huang, and Thomas M. Young*

A Monte-Carlo simulation of roadside herbicide applications in California is conducted and results are used to select for chemicals with the lowest environmental impact.

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Dechlorane Plus Levels in Sediment of the Lower Great Lakes

Ed Sverko,* Gregg T. Tomy, Chris H. Marvin, Donna Zaruk, Eric Reiner, Paul A. Helm, Brad Hill, and Brian E. McCarry

The occurrence of Dechlorane Plus in sediments of the lower Great Lakes indicates the Niagara River watershed as the predominant source.

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▶ Recent Water Level Declines in the Lake Michigan–Huron System

Cynthia E. Sellinger, Craig A. Stow,* E. Conrad Lamon, and Song S. Qian

An analysis of Lake Michigan–Huron water levels (1860–2006) reveals a sunspot correlation, a stable 3-year precipitation relationship, and an underlying, ongoing decline that began in ~1973.

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Toward Distinguishing Woodsmoke and Diesel Exhaust in Ambient Particulate Matter

A. Braun,* F. E. Huggins, A. Kubátová, S. Wirick, M. M. Maricq, B. S. Mun, J. D. McDonald, K. E. Kelly, N. Shah, and G. P. Huffman

Woodsmoke and diesel exhaust can be identified with carbon X-ray spectroscopy.

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▶ Atmospheric Emission of Reactive Nitrogen during Biofuel Ethanol Production

Cristine M. D. Machado, Arnaldo A. Cardoso,* and Andrew G. Allen

Biomass burning during sugar cane biofuel ethanol production releases large quantities of NO_x and NH₃; 35% of fertilizer-applied nitrogen is lost during burning.

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▶ Identification and Determination of Hexachlorocyclopentadienyl-Dibromocyclooctane (HCDBCO) in Residential Indoor Air and Dust: A Previously Unreported Halogenated Flame Retardant in the Environment

Jiping Zhu,* Yuqing Hou, Yong-lai Feng, Mahiba Shoeib, and Tom Harner

The first report on detection of a halogenated flame retardant containing both chlorines and bromines in the residential environment.

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Competitive Adsorption of Furfural and Phenolic Compounds onto Activated Carbon in Fixed Bed Column

Abbas H. Sulaymon and Kawther W. Ahmed*

A mathematical model is built to describe the mass transfer kinetics in a fixed bed column with activated carbon for a multicomponent competitive adsorption of furfural and phenolic compounds.

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Jason A. McDonald, Suduan Gao,* Ruijun Qin, Thomas J. Trout, and Bradley D. Hanson

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Strontium Uptake by Cementitious Materials

Erich Wieland,* Jan Tits, Dominik Kunz, and Rainer Dähn

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Long-Term Sodium Chloride Retention in a Rural Watershed: Legacy Effects of Road Salt on Streamwater Concentration

Victoria R. Kelly,* Gary M. Lovett, Kathleen C. Weathers, Stuart E. G. Findlay, David L. Strayer, David J. Burns, and Gene E. Likens

Watershed retention and release of sodium and chloride are explained using a mass balance budget and dynamic model.

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Correlation of Respiratory Gene Expression Levels and Pseudo-Steady-State PCE Respiration Rates in *Dehalococcoides ethenogenes*

Brian G. Rahm and Ruth E. Richardson*

Steady-state transcript levels of bioindicator genes in a *Dehalococcoides ethenogenes*-containing mixed culture continuously fed PCE at various loading rates are examined.

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Interaction of the Macrolide Antimicrobial Clarithromycin with Dissolved Humic Acid

Samuel D. Sibley and Joel A. Pedersen*

Clarithromycin–humic acid association is strongly pH-dependent and consistent with complexation of the cationic species with carboxylate moieties in the humic acid.

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Effect of Dynamic Process Conditions on Nitrogen Oxides Emission from a Nitrifying Culture

Marlies J. Kampschreur,* Nico C. G. Tan, Robbert Kleerebezem, Cristian Picioreanu, Mike S. M. Jetten, and Mark C. M. van Loosdrecht

Dynamics in oxygen, nitrite, and ammonium concentrations induce a dramatic increase in NO and N₂O emission from nitrifying systems.