Through Emission Controls?" *Proc. Natl. Acad. Sci. U.S.A.* **1999,** *96* (24), 13,626–13,633)

**Paleocene thermal maximum.** Evidence from the subtropical western North Atlantic links a massive release of biogenic methane 55.5 million years ago to a warming of deep-ocean and high-latitude surface waters, a large perturbation in the combined ocean–atmospheric carbon cycle, a mass extinction event in benthic faunas, and a radiation of mammalian orders. (Katz, M. E., et al. "The Source and Fate of Massive Carbon Input During the Latest Paleocene Thermal Maximum," *Science* **1999,** *286* (5444), 1531–1533)

## Groundwater

**Lead contamination.** Contaminated soil from a shooting range leached sufficient lead to pose environmental risks to surface and groundwater due to lead mobility and evaluated remediation alternatives. (Bruell, R., et al. "Evaluation of Remedial Alternatives of Lead From Shooting Range Soil," *Environ. Eng. Sci.* **1999,** *16* (5), 403–414)

**Road salt cyanide.** Available information on iron cyanide in road salt as well as its potential effects on water quality are summarized, and further study is recommended to determine levels of total and free cyanide in surface and groundwater adjacent to salt storage facilities, as well as along treated roads having open drainage ditches. (Paschka, M. G., et al., "Potential Water-Quality Effects From Iron Cyanide Anticaking Agents in Road Salt," *Water Environ. Res.* **1999,** *71* (6), 1235–1239)

## Health

**Synergistic effects.** Observed synergisms between contaminants suggest that future revisions of fish-consumption guidelines should consider contaminant interactions. (Bemis, J. C.; Seegal, R. F., "Polychlorinated Biphenyls and Methylmercury Act Synergistically To Reduce Rat Brain Dopamine Content In Vitro," *Environ. Health Perspect.* **1999,** *107* (11), 879–885)

### Lake Baikal pollution

Lake Baikal contains high levels of PCBs, and concentrations of PCDD/Fs in Baikal seals are comparable to those in the Baltic Sea. A. Mamontov and co-workers analyzed fish and soil samples to trace the sources of these compounds. Fish sampling indicated that PCDD/F and PCB contamination does not originate from background inputs, and soil inventory results indicated a major atmospheric source in the Usol'ye area. Cumulative deposition to the lake was estimated to be 1.2 kg of TEQ (PCDD/F + PCB); cumulative deposition of PCB to Lake Baikal was comparable to a 1986 Lake Superior PCB inventory. A large chloralkali chemical complex in Usol'ye Sibirskoe was the suspected contamination source. (*Environ. Sci. Technol.*, this issue, pp. 741–747)

## Modeling

**Source apportionment.** Ambient $PM_{10}$ and $PM_{2.5}$ data collected in fall and winter of the 1995 Integrated Monitoring Study were used in chemical mass balance modeling to estimate contributions from geological and carbonaceous sources. (Magliano, K. L., et al. "Spatial and Temporal Variations in $PM_{10}$ and $PM_{2.5}$ Source Contributions and Comparison to Emissions During the 1995 Integrated Monitoring Study," *Atmos. Environ.* **1999,** *33* (29), 4757–4773)

## Pesticides

**Microbial food web.** Agricultural pesticides were found to alter both functional and structural aspects of the estuarine microbial food web, which plays an important role in nutrient cycling and transfer of nutrients to higher trophic levels. (DeLorenzo, M. E., et al. "Effects of the Agricultural Pesticides Atrazine, Deethylatrazine, Endosulfan, and Chlorpyrifos on an Estuarine Microbial Food Web," *Environ. Toxicol. Chem.* **1999,** *18* (12), 2824–2835)

**Pesticides in air.** Using an Amberlite XAD-2 resin plug and glass fiber filter high-volume air sampler, particle and vapor phases of 11 pesticides were collected, and atmospheric concentrations were simultaneously measured at remote, rural, and urban sites in France. (Sanusi, A., et al. "Gas–Particle Partitioning of Pesticides in Atmospheric Samples," *Atmos. Environ.* **1999,** *33* (29), 4941–4951)

**Temperature effects.** This study found a positive correlation between temperature and the acute toxicity and accumulation of two organophosphate insecticides and pentachlorobenzene. (Lydy, M. J., et al. "Effects of Temperature on the Toxicity of M-parathion, Chlorpyrifos, and Pentachlorobenzene to *Chironomus tentans*," *Arch. Environ. Contam. Toxicol.* **1999,** *37* (4), 542–547)

## Soil

**Conservation tillage.** The authors examined the use of conservation tillage and economic, demographic, geographic, and policy factors affecting its adoption. (Uri, N. D., et al. "Factors Affecting the Use of Conservation Tillage in The United States," *Water, Air, Soil Pollut.* **1999,** *116* (3–4), 621–638)

**Herbicide transport.** An experiment conducted on a clay loam soil examined wind-eroded sediment as a transport mechanism for two soil-incorporated and four surface-applied herbicides and assessed the potential hazard of environmental transport of herbicides on wind-eroded sediment, as well as implications for off-site air and water quality. (Larney, F. J., "Herbicide Transport on Wind-Eroded Sediment," *Can. J. Environ. Qual.* **1999,** *28* (5), 1412–1421)

## Toxicity

**Arsenic exposure.** A study of arsenic exposure in 126 schoolchildren to determine its potential health risk to local populations around mining areas in the Minas Gerais mining districts in southeastern Brazil. (Matschult, J., et al. "Human and Environmental Contamination in the Iron Quadrangle, Brazil," *Appl. Geochem.* **1999,** *15* (2), 181–190)