



**Cover**

See Thomas J. Boyd *et al.*, pp. 912-918.

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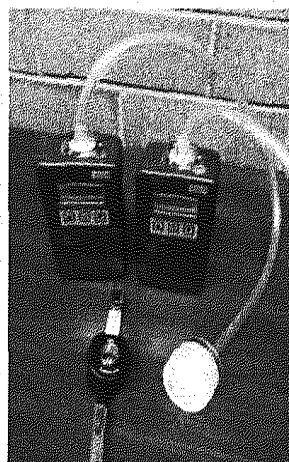
PERSPECTIVES

898

**The impact of particle size selective sampling methods on occupational assessment of airborne beryllium particulates**

Darrah K. Sleeth\*

Beryllium sampling might benefit from new developments in particle size selective air sampling standards and methods.

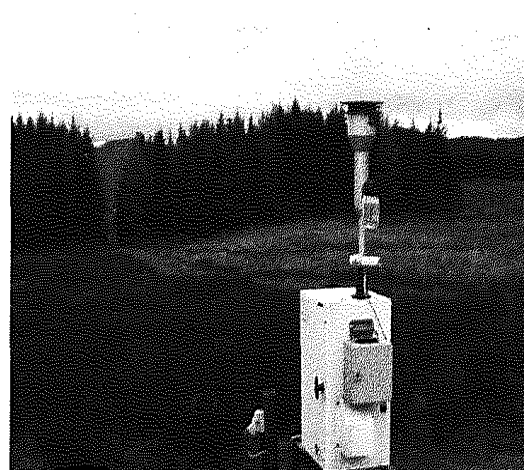


904

**Improved strategies for calculating annual averages of ambient air pollutants in cases of incomplete data coverage**

Richard J. C. Brown,\* Peter M. Harris and Maurice G. Cox

The benefits of improved strategies for calculating annual averages of ambient air pollutants in cases of incomplete data coverage are discussed.

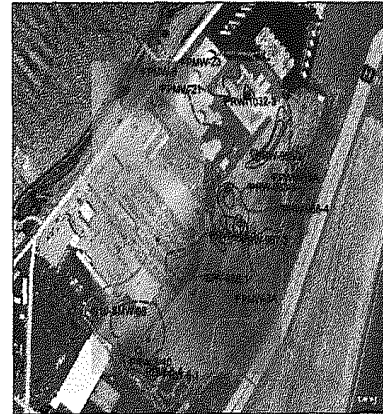


912

**Radiocarbon-depleted CO<sub>2</sub> evidence for fuel biodegradation at the Naval Air Station North Island (USA) fuel farm site**

Thomas J. Boyd,\* Michael J. Pound, Daniel Lohr and Richard B. Coffin

Radiocarbon in groundwater dissolved CO<sub>2</sub> was used to localize and confirm fuel biodegradation at a Southern California (USA) site.

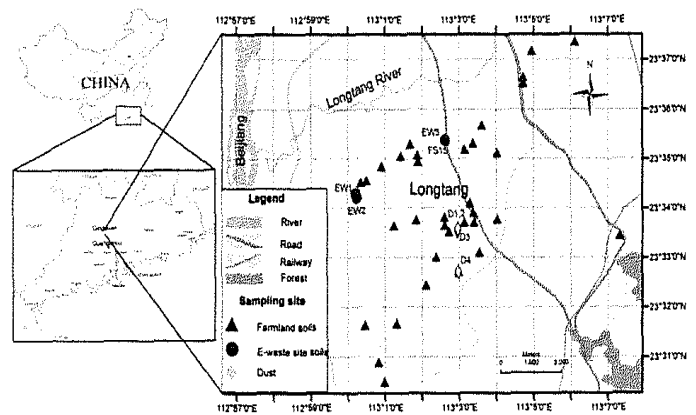


919

**Heavy metals and organic compounds contamination in soil from an e-waste region in South China**

Ming Liu, Bo Huang, Xinhui Bi,\* Zhaofang Ren, Guoying Sheng and Jiamo Fu

This study investigated any possible association between heavy metals and different homologue-groups of PCBs and PBDEs.



930

**Sediment characterization of the highly impacted Augusta harbour (Sicily, Italy): modern benthic foraminifera in relation to grain-size and sediment geochemistry**

Elena Romano, Luisa Bergamin,\* Maria Celia Magno and Antonella Ausili

In the Augusta harbour, benthic foraminifera testified to the environmental impact, due to very high Hg and PCBs, with decreased species diversity and density and increased pollution-sensitive species in the most polluted sector.

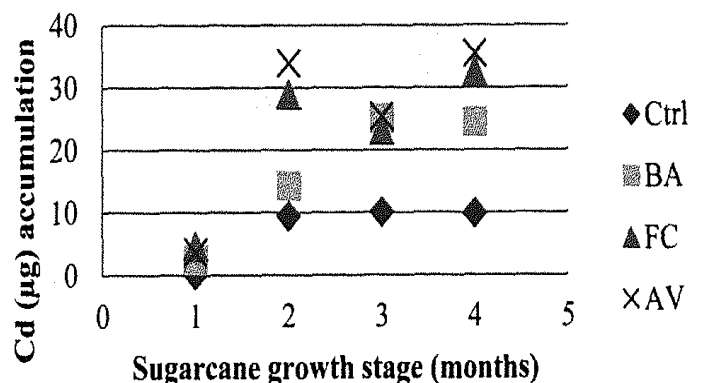


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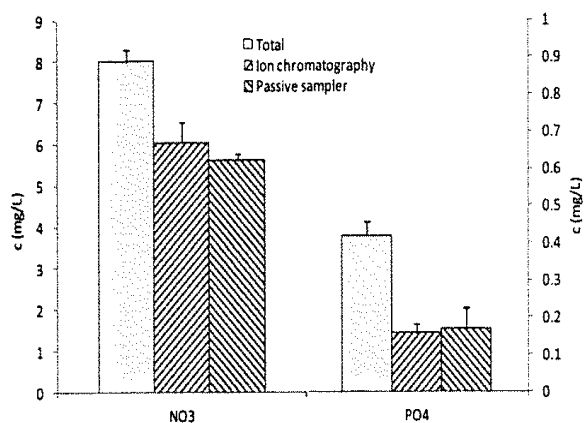
**Short-term effects of sugarcane waste products from ethanol production plant as soil amendments on sugarcane growth and metal stabilization**

Pensiri Akkajit, Thomas DeSutter and Chantra Tongcumpou\*

Sugarcane waste-products amended in contaminated soil were found to be effective in reducing bioavailable Cd concentration in soils.



955

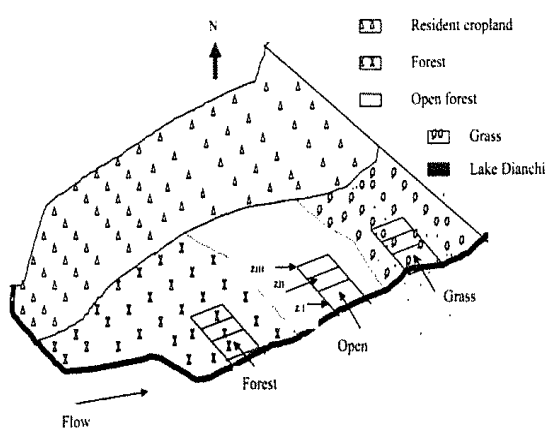


## Performance of a passive sampler for the determination of time averaged concentrations of nitrate and phosphate in water

Jesper Knutsson,\* Sebastien Rauch and Gregory M. Morrison

A passive sampler device for the kinetic accumulation of nitrate ( $\text{NO}_3^-$ ) and phosphate ( $\text{HPO}_4^{2-}$ ) in water was developed and calibrated.

963

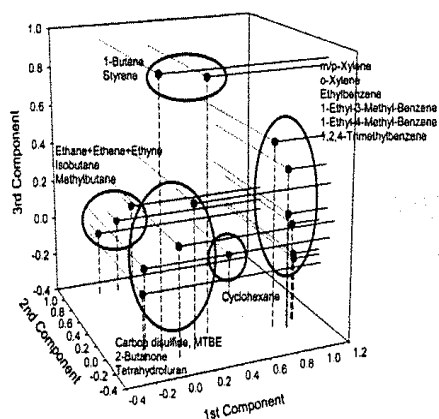


## Spatial-seasonal variation of soil denitrification under three riparian vegetation types around the Dianchi Lake in Yunnan, China

Shaojun Wang,\* Zilin Cao, Xiaoying Li, Zhouyu Liao, Binghui Hu, Jie Ni and Honghua Ruan

Outbreaks of nuisance cyanobacterial bloom are predicted to occur frequently under the effect of severe eutrophication in the water body of Lake Dianchi since the 1990s.

972

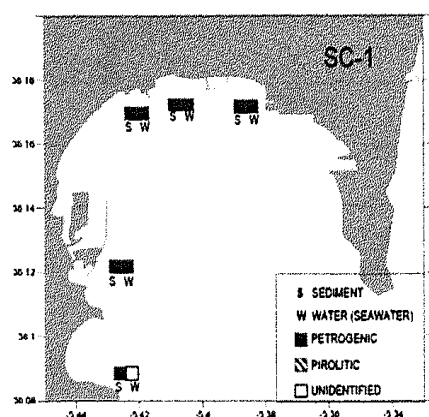


## Assessing the altitude effect on distributions of volatile organic compounds from different sources by principal component analysis

Jhih-Jhe Yang, Chih-Chung Liu, Wei-Hsiang Chen,\* Chung-Shin Yuan\* and Chitsan Lin

The effect of altitude on the distributions of VOCs from different sources was studied by principal component and cluster analysis.

986



## Sources, transport and fate of PAHs in sediments and superficial water of a chronically polluted semi-enclosed body of seawater: linking of compartments

Elisa Rojo-Nieto,\* Diego Sales and José Antonio Perales

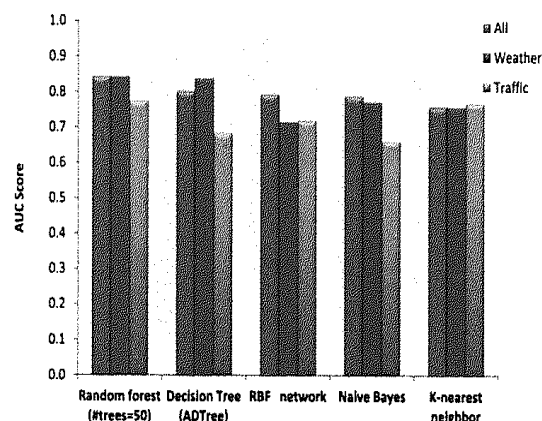
In coastal environments subjected to chronic pollution by pyrolytic PAHs, episodes of petrogenic oil-spills can be identified by combining source ratios.

996

## Predicting submicron air pollution indicators: a machine learning approach

Gaurav Pandey, Bin Zhang and Le Jian\*

This study has demonstrated the potential value of systematically using machine learning techniques for the prediction of submicron sized air pollutants.

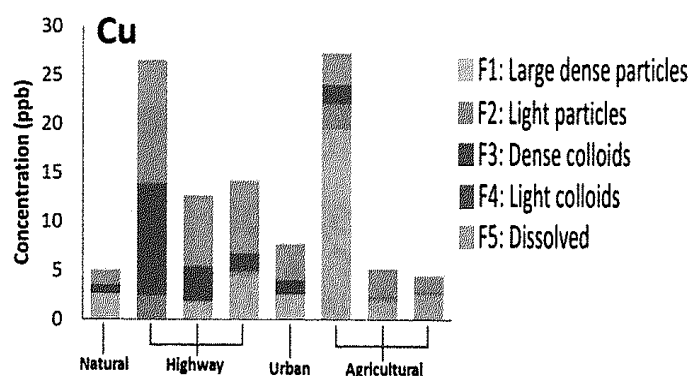


1006

## A novel fractionation approach for water constituents – distribution of storm event metals

Erica R. McKenzie and Thomas M. Young\*

A novel fractionation method, based on both particle size and settling characteristics, was employed to examine metal distributions among five fractions.

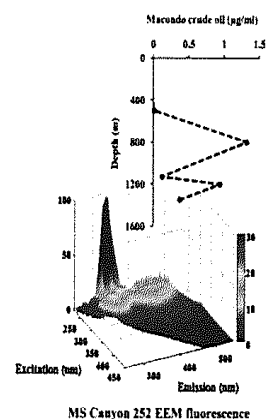


1017

## Application of fluorescence and PARAFAC to assess vertical distribution of subsurface hydrocarbons and dispersant during the Deepwater Horizon oil spill

Wilson G. Mendoza,\* Daniel D. Riemer and Rod G. Zika

We evaluated the use of excitation and emission matrix (EEM) fluorescence and parallel factorial analysis (PARAFAC) modeling techniques for monitoring crude oil components in the water column.

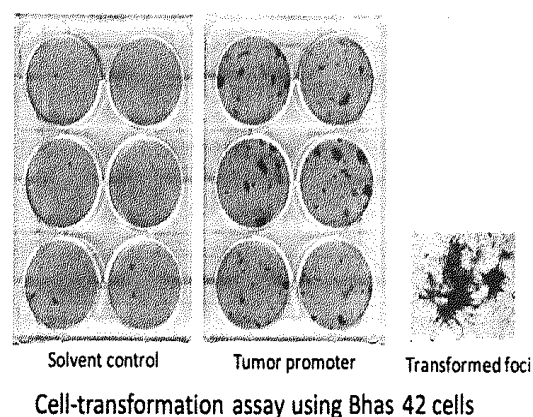


1031

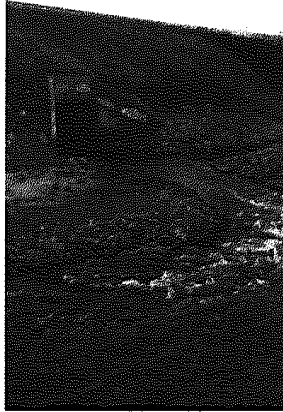
## Characteristics of the transformation frequency at the tumor promotion stage of airborne particulate and gaseous matter at ten sites in Japan

Kiyomi Ohmori,\* Youhei Sato, Daisuke Nakajima, Shiho Kageyama, Fujio Shiraishi, Teruhisa Fujimaki and Sumio Goto

The cell transformation assay using the Bhas 42 cell line was useful for detecting the transformation frequency at the tumor promotion stage of airborne samples.



1041

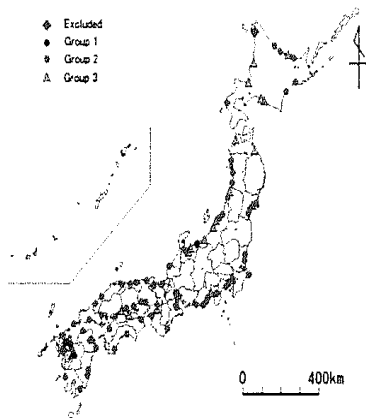


**Fecal pathogen pollution: sources and patterns in water and sediment samples from the upper Cook Inlet, Alaska ecosystem**

Stephanie A. Norman, Roderick C. Hobbs, Stefan Wuertz, Ann Melli, Laurel A. Beckett, Nadira Chouicha, Arti Kundu and Woutrina A. Miller\*

Fecal pathogens, indicator bacteria and host-associated fecal source tracking were evaluated using markers and a Monte Carlo modeling in rural and urban aquatic ecosystems.

1052

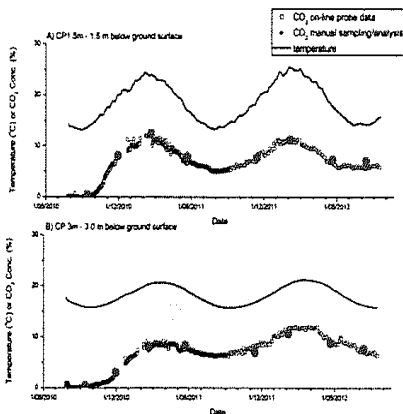


**Statistical analysis and estimation of annual suspended sediments of major rivers in Japan**

Pingping Luo,\* Bin He,\* Pedro Luiz Borges Chaffe, Daniel Nover, Kaoru Takara and M. A. Z. Mohd Remy Rozainy

We evaluate the spatiotemporal trends of recent suspended sediment conditions in Japanese rivers.

1062

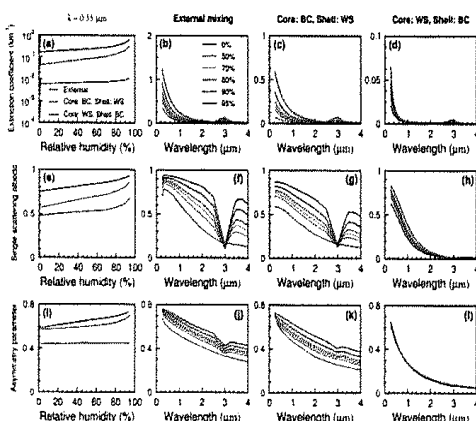


**Soil gas carbon dioxide probe: laboratory testing and field evaluation**

B. M. Patterson,\* A. J. Furness and T. P. Bastow

Laboratory testing and field evaluation trials of an automated semi-continuous on-line instrument that was developed for *in situ* measurement of CO<sub>2</sub> gas concentrations in the vadose zone.

1070



**Influences of external vs. core-shell mixing on aerosol optical properties at various relative humidities**

S. Ramachandran\* and Rohit Srivastava

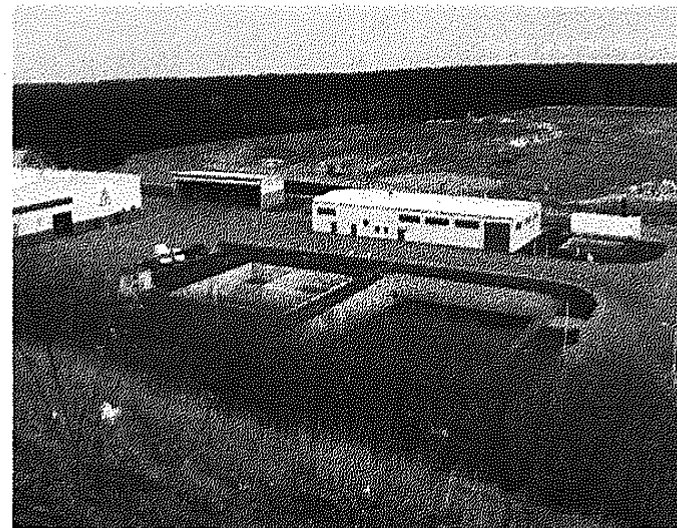
Aerosol optical properties of external and core-shell mixtures of aerosol species present in the atmosphere are calculated in this study for different relative humidities.

1078

### **Municipal landfill sites as sources of microorganisms potentially pathogenic to humans**

Agnieszka Kalwasińska\* and Aleksandra Burkowska

Recognizing and understanding the influence of landfill sites on the environment and human health is particularly important and requires comprehensive, long-term monitoring of air and soil on the premises and in the vicinity of these objects.



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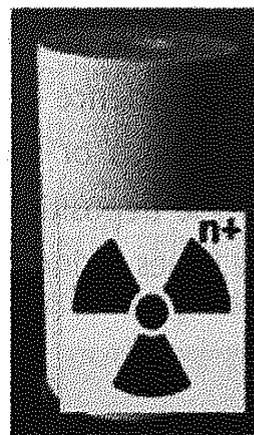
### **TECHNICAL NOTE**

1087

### **Application of DGT to high pH environments: uptake efficiency of radionuclides of different oxidation states onto Chelex binding gel**

Anthony Stockdale\* and Nick D. Bryan

Constraints on the use of DGT for analysis of radionuclides in high pH systems have been determined.



High pH  
solute  
analysis

Y/N?

