USGS science for a changing world

# WATER LOGS

**National Water Quality Laboratory** **Volume 11 ◆ Number 1 ◆ January 2003**

***In this issue . . .***



**DIRECTOR VISITS LAB**-Chip Groat, Director of USGS, looks on as Jeffrey Stewart, physical science technician, demonstrates the use of liquid-liquid extractors in the sample preparation laboratory. Director Groat made a brief stopover at the National Water Quality Laboratory October 29, during a visit to the Denver Federal Center.

## Lab awarded highest rating in study of bias and variability

The NWQL received a "good" rating, the highest rating possible, for overall performance in the Environment Canada Federal Provincial Study 80, conducted in late spring 2002. The NWQL has participated in the Environment Canada studies for 10 years. More than 60 labs take part in one or more of the sample series during a study. The Laboratory participated in the following series for surface water: major ions and nutrients, trace elements, and total phosphorus, and also took part in the rain and soft-water series.

Each sample consists of 10 separate water samples that use various types of natural water as the raw material. Constituents of interest include inorganic constituents, nutrients, dissolved organic carbon, and various physical properties. The studies are used to assess systematic bias and variability. Detailed results, along with a study-specific glossary, are available at the following URL: http://nwql.usgs.gov/Public/Performance/publicenvironcanada.html.

## USGS introduces web-searchable data base of environmental methods

On the 30th Anniversary of the Clean Water Act, October 18, the U.S. Geological Survey (USGS) announced that a new standardized web-searchable data base of environmental methods will allow scientists and managers monitoring water quality to compare data-collection methods at a glance and find the method that best meets their needs. The tool also allows monitoring data to be shared among different agencies and organizations that use different methods at different times. This data base was developed in conjunction with the U.S. Environmental Protection Agency (USEPA), and other partners in the Federal, State, and private sectors.

Called NEMI, the National Environmental Methods Index, the tool is a free, web-based online clearinghouse of environmental monitoring methods. The NEMI data base contains chemical, microbiological, and radiochemical method summaries of lab and field protocols for regulatory and nonregulatory water-quality analyses. It is searchable over the World Wide Web, providing up-to-date methods information through a standard Internet connection and browser.

The National Water Quality Laboratory contributed 142 methods to NEMI last year thanks to end-of-year funding by USGS. These methods represented the beginning of an NWQL project to place all USGS methods in the NEMI data base for national access.

By visiting www.nemi.gov users can directly access current methods information. In the future, NEMI will be expanded to meet the needs of the monitoring community. For example, biological methods will be added to NEMI, along with additional field and laboratory methods of importance to the monitoring community.

NEMI is a powerful tool, providing a summary of the procedures and performance data needed to assess methods. Critical data on sensitivity, accuracy, precision, instrumentation, source, and relative cost are produced as tabular reports, and full methods are linked to the summaries. Often, formats for gathering information on various methods involve a time-consuming search through lengthy methods to distill bits of necessary information (for example, What is the holding time? Is the precision and bias of the selected method adequate?). A few minutes with NEMI will provide answers to these questions, and more.

"NEMI represents a successful interagency effort that helps everyone (citizen groups, academics, industry, and government agencies) share information on the methods they use to do environmental monitoring," said Robert Hirsch, USGS Associate Director for Water. "This will save a lot of time and effort for everyone, offering a single place on the Internet where people can search for information about suitable, well-documented methods of monitoring. This will help to ensure that future monitoring efforts use appropriate methods and it will add to everyone's ability to share the results of their monitoring programs."

NEMI is a project of the Methods and Data Comparability Board (Methods Board), a partnership of water-quality experts from Federal agencies, States, Tribes, municipalities, industry, and private organizations who all share a commitment to developing water-quality monitoring approaches that facilitate collaboration and comparability among all data-gathering organizations. Both the Methods Board, and its parent organization, the National Water Quality Monitoring Council, are co-chaired by USGS and USEPA.

• Eugene Kinerney
USGS National Center

**SAMPLE PREP**-Carmen Reed Parker, chemist, performs an herbicide esterification using diazomethane gas, which is toxic and explosive, hence the need to use a respirator and a ventilation hood in the sample preparation laboratory.

## Supervisors selected

Two supervisory chemists have been selected in the Analytical Services Section. Named to fill the positions are Donna Damrau, Physical Properties Unit, and Jeff Pritt, Metals/ Radchem Unit.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Office of the Director
Reston, Virginia 20192

In Reply Refer To:
Mail Stop 246
#20030007

MEMORANDUM

OCT 1 8 2002

To: Greg Mohrman
Chief, National Water Quality Laboratory

From: Charles G. Groat
Director

Subject: Honorable Recognition--2002 Department of the Interior Environmental Achievement Award

I am pleased to congratulate the National Water Quality Laboratory on receiving honorable recognition for the 2002 Departmental Environmental Achievement Award. Your initiatives have strengthened the U.S. Geological Survey's Environmental Program and exemplify our commitment to an effective pollution prevention, waste management, energy conservation, and environmentally friendly acquisition program. Again, please accept my congratulations on receiving this outstanding recognition.

**ENVIRONMENTAL ACHIEVEMENT AWARD**-The U.S. Department of the Interior in mid-October presented the NWQL with an "Honorable Recognition" for the 2002 Environmental Achievement Award. Charles G. Groat, USGS Director, congratulated the staff for its initiative in strengthening the Survey's environmental program. Groat said the award exemplifies the USGS "commitment to an effective pollution prevention, waste management, energy conservation, and environmentally friendly acquisition program.

## NWQL Seminars presented

Jan Triska, Laboratory of Analytical Chemistry, Institute of Landscape Ecology, Czech Republic, "Liquid-Liquid Extraction Using a Vibration Column, Solid-Phase Extraction With Membrane Extraction Disks, and Passive Sampling," October 9, 2002

Jan Triska, Czech Republic, "Occurrence and Degradation of PCBs and Related Compounds and Mountain Research (Long-Range Transport of Contaminants)," October 10, 2002

Bob Eganhouse, USGS, Reston, "Stranger in a Strange Land: Experiences of an Expert Witness in the Montrose Case," October 30, 2002.

## New titles in print

**(NWQL authors in boldface)**

Bednar A., **Garbarino, J.R**., Ranville, J.F., and Wildeman, T.R., 2002, Presence of organoarsenicals used in cotton production in agricultural water and soil of the Southern United States: Journal of Agricultural and Food Chemistry, v. 50, no. 25, p. 7340-4599.

Cooter, E.J., Hutzell, W.T., **Foreman, W.T**., and Majewski, M.S., 2002, A regional atmospheric fate and transport model for atrazine. Part 2: Environmental Science & Technology, v. 36, no. 21, p. 4593-4599.

### *IN MEMORY*

Ralph White, supervisory chemist, died November 9 following a long bout with cancer. He was a chemist with USGS for 30 years. Angie, his wife, also is a chemist at the National Water Quality Laboratory. Their children are Jason, 17, Jackie, 15, and Jordan 9. The family requested that donations be made in Ralph's memory, as follows: CNI Center for Brain and Spinal Tumors, 701 E. Hampden, Suite 160, Englewood, CO 80110; (or) Hospice of Metro Denver, 425 S. Cherry Street, Suite 700, Denver, CO 80246.

**BEHIND THE SCENES**-Jack Swan, maintenance mechanic, works on a refrigerated recirculator in the main service corridor at the NWQL. Swan and Donald Bright keep the NWQL shipshape and running smoothly when it comes to maintaining our scientific equipment.

## Flashbacks

Shutter bugs at the National Water Quality Laboratory have formed a Photography Club, and one of their first acts of creativity is the installation of a photo gallery in the hallway outside the Administration Offices.

Monthly meetings, field trips, and the sharing of information about photography and photo equipment are part of the lore (and lure) for interested members. Look for examples of their work in future issues of Water Logs.

The club is open to all present and past NWQL employees and their families, from the serious photographer to the amateur. To learn more about the club, check out the web site at www.lablens.net.

***PREVENTIVE MAINTENANCE***-Samples sent to the NWQL for organic analysis may require the use of gas chromatographs for compound identification. These instruments are configured with dual capillary-column systems. This arrangement enables the analyst to make one injection of sample and have it split onto two analytical columns. Results from both columns then are compared for identification of compounds. Dennis Markovchick, physical science technician, is shown routinely inspecting the column connections for leaks

**Newsletter Staff**

Jon Raese, Editor
Diana Rime, Editorial Assistant

*Water Logs*, the National Water Quality Laboratory Newsletter, is published quarterly by the National Water Quality Laboratory, U.S. Geological Survey, Box 25046, MS407, Denver Federal Center, Denver, CO 80225-0046. For copies, call Diana Rime (303) 236-3714 or send email request to dcrime@usgs.gov.