



EPIDEMIOECOLOGY NEWS

Volume 1, No. 1 May 2, 2002

Welcome to the first edition of the Survey's electronic newsletter, dedicated to dissemination of current information on USGS health-related activities. The newsletter is intended to be an internal USGS document that will foster a sense of community among the many scientists and managers concerned with health-related issues. In future newsletters we will highlight some of the many exciting health-related research projects being conducted by USGS scientists.

Epidemiocology (see box) is growing rapidly within the USGS and within the geoscience community, as is evidenced by the signs of progress listed below. We are making visible progress in catching the attention of the public health community, beginning to have positive impact, and fully expect that interest in epidemiocology will continue to expand in the foreseeable future.

USGS Director Chip Groat sent a very clear message of encouragement and support in his *FY03 Director's Annual Guidance*. He said:

"We should look beyond what we are now describing as our human-health related activities to be sure we have identified all relevant efforts, and we should identify opportunities, within existing funds, to expand the dimensions of this program."

Looking further to the future, the Director recommends a "Modest expansion of our human health initiative linked clearly to our core capabilities in environmental analysis and geospatial data systems."

Clearly, there is tremendous potential for the USGS to contribute to solutions for a wide range of environmental health problems. We hope that the Epidemiocology News may help with this effort by facilitating communications.

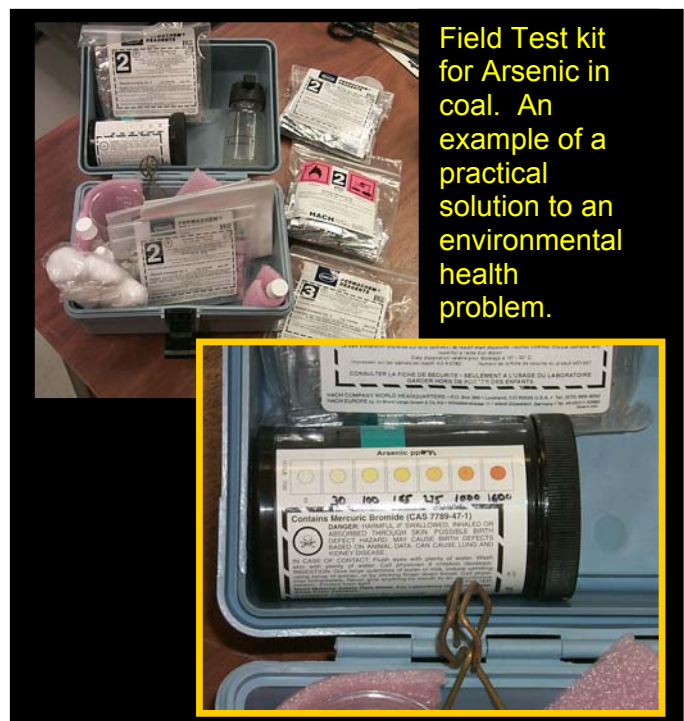
What in the world is Epidemiocology?

We have been seeking a term that would adequately describe the health-related activities of the USGS. The challenge is finding a term that would include the wide range of scientific disciplines that the USGS embraces. We believe the term **epidemiocology** is an appropriate, inclusive term that best describes what we are about.

Epidemiology is the branch of science that deals with the incidence, distribution, and control of disease. It seeks to identify the factors controlling the presence or absence of disease or pathogens. Ecology is the branch of science concerned with the interrelationships between organisms and their environment. Taken together, Epidemiocology is our term for the branch of science that seeks to identify the environmental factors that cause or control disease in living organisms.

Medical Geology, Medical Geography, etc. are valid terms describing some of what we do but they are not inclusive.

We welcome your comments and any suggestions of terms that may better describe what we all do.



Field Test kit for Arsenic in coal. An example of a practical solution to an environmental health problem.

Signs of Progress

- * A proposal for a *National Conference on USGS Health-Related Research* was one of eight activities selected for funding under the FY 2002 Collaborative Research Proposals process (Director's Venture Capital fund). The conference will be held in Washington, D.C. in April, 2003. A second health-related proposal, *Integration of USGS data sets to support epidemiological research in agricultural chemical exposure and incidence of cancer in Iowa*, was also selected for Venture Capital funding in FY 02.

****Volunteers needed to help plan the Human Health Conference!!!
If you're interested please contact: Jan Hren 703-648-4480 or
jhren@usgs.gov ****

- * The President's FY 03 budget request includes a \$1,000,000 increase for USGS to fund research on environmental health issues along the U.S.-Mexico border in collaboration with the National Institute of Environmental Health Sciences.
- * The November 2001 issue of the GEOTIMES trade journal features "Geosciences and Human Health." The widely circulated magazine included a number of articles and stories about environmental health issues caused by geologic materials.
- * In the February 2002 issue of Scientific American, the term "Medical Geology" was used for the first time in a news note about USGS research on the health problems caused by residential coal combustion in China.
- * At the Annual meeting of the Geological Society of America in November 2001, the first symposium, on "Medical Geology," was offered: *The Emerging Discipline of Medical Geology*. At the October 2002 annual meeting in Denver, the GSA will offer another symposium entitled *Human Health Science and Geosciences: Bridging the Gap*. And at a regional meeting in Lexington, KY (in April), there was a session on *Geology and Public Health*.
- * The Geological Survey of Japan and Geosciences Australia have asked the USGS to help them develop "Medical Geology" programs.
- * The demand for health-related workshops has not abated. Jose Centeno of the Armed Forces Institute of Pathology, Bob Finkelman, USGS, and others presented two workshops on the "Health Impacts of Trace Elements" in Christchurch, NZ this past December. Workshops scheduled for Indonesia in February were postponed because of security concerns. Workshops will be presented at the University of Chile at Santiago and at Concepcion in April 2002. This will be the first workshop supported by the International Union of Geological Societies (IUGS) Medical Geology Working Group. Funding is coming from the grant that the International Committee on Scientific Unions gave to the IUGS.
- * A Medical Geology text book being edited by Olle Selinus of the Swedish Geological Survey is making progress. Several USGS scientists are participating in this ground-breaking publication, scheduled date for publication in early 2003.

- * The George Washington University in the nation's Capital is planning to offer a certificate program in Medical Geology. The program will be a joint offering of the Department of Earth and Environmental Sciences and the Department of Environmental and Occupational Health, USGS scientists have been involved on curriculum development.
- * Jose Centeno reports that the Armed Forces Institute of Pathology received approval from the American Registry of Pathology to establish a medical registry on medical geology. The Registry on Medical Geology serves as the liaison between the medical/pathology community and the earth sciences, environmental and public health professionals. The aims of the Registry on Medical Geology are to:
 1. facilitate the interactions between the medical/public health community and earth scientists, toxicologists, and specialists from other related areas;
 2. provide a centralized facility for the sharing of information, materials and research projects on medical geology;
 3. provide opportunities for training (i.e., postdoctoral, postmedical, visiting scientist/professor, etc.) on medical research with particular emphasis on medical geology, environmental and environmental epidemiology research; and
 4. develop educational materials, publications and activities (courses, workshops, symposia, conference) on medical geology research topics.

Jose says “This is an exciting opportunity that will provide us with the vehicle for spreading the word among the medical, clinical and public health scientists. To develop the objectives of this unique Registry in a timely fashion, I may call upon your assistance.”

- * The USGS was invited to participate in a workshop on “Environmental Health Indicators: Bridging the Chasm of Public Health and the Environment”. The workshop, sponsored by the National Academy of Science Institute of Medicine's Roundtable on Environmental Health Sciences, Research, and Medicine, was held April 10-11 at the NAS auditorium in Washington, D.C. Pat Leahy, Associate Director for Geology, represented the USGS Director; Chip Groat, highlighting how earth science technology can assist public health. Other speakers included the honorable Hillary Rodham Clinton, US Senator, and Dr. Eve Slater, assistant secretary, U.S. Department of Health and Human Services.

Recent Epidemioecology Newspaper Articles

- * Koreans Suffocating on China's Desert Dust (*The New York Times*, April 14).
- * Study Says 8 Utilities' Pollution Causes Premature Deaths (*The Washington Post*, April 18).
- * Arsenic Gets a Makeover – Arsenic, the Classic Poison, is Shaking off its Disreputable History Through Use in Drugs (*Chilean News Review*, April 5).

Upcoming Events

- 1) The International Society for Ecosystem Health will host a conference in Washington, D.C. June 6-11. The **anticipated product** is a document including a set of recommendations, clearly delineating the above interactively derived outcomes, to be published in a special issue of Ecosystem Health, the official journal of the International Society of Ecosystem Health. Anyone interested in attending the conference or participating in the Medical Geology Working Group contact Joe Bunnell (jbunnell@usgs.gov). This high-profile meeting will bring together a diverse group of natural and earth scientists, social scientists and economists -- approximately 1,000 registered participants are anticipated. Plenary speakers include E.O. Wilson, Paul Ehrlich, Theo Colborn, Andrew Dobson, David Schindler, Virginia Dale, and Bob Finkelman; David Suzuki will be giving the banquet keynote address. The conference will feature a Medical Geology Working Group. Participants will identify lessons learned, research gaps, priorities and directions for the future. The goals of the working group are to:
 - * introduce the concept of Medical Geology as a legitimate sub-discipline and familiarize participants with this emerging field's principles and approaches
 - * present several key Case Studies as examples of early successes
 - * engage participants in thorough discussions that will:
 1. identify lessons learned
 2. seek consensus on establishing research priorities
- 2) The Seventh International Symposium on Metal Ions in Biology and Medicine will be held in St Petersburg, Russia in May.
- 3) The Sixth International Symposium on Environmental Geochemistry will be held in Edinburgh, Scotland 7-11 September, 2003. This should be a major conference bringing together scientists from many different disciplines and societies all interested in epidemioecology (even if they don't know it yet).

****These websites have pertinent information on Epidemioecology****

- * The Medical Geology website is supported by UNESCO and the International Union of Geological Sciences
<http://home.swipnet.se/medicalgeology>
- * The USGS Human Health website provides an opportunity to highlight and provide access to information about USGS health-related publications, project and programs, databases, and meetings/conferences. Please send any updates to or comments about the web site to Jan Hren (jhren@usgs.gov)
http://www.usgs.gov/themes/environment_human_health.html
- * Environmental Studies of the World Trade Center area after September
<http://greenwood.cr.usgs.gov/pub/open-file-reports/ofr-01-0429/>

The editors of this newsletter welcome

- * Suggestions on what to include in future newsletters
- * Suggestions on the newsletter format
- * E-mail addresses of USGS people who may be interested in receiving copies of the newsletter.
(Note: subscribers will receive e-mail notification of future editions of the newsletter which will be posted on a USGS web site.)
- * Contributions

For comments or contributions contact Bob Finkelman (RBF@usgs.gov, x-6412) or Samara Holtzman (sholtzman@usgs.gov, x-6479).

