USGS/NRCS SOIL GEOCHEMISTRY WORKSHOP

Why: The purpose of the workshop is to develop protocols for a national-scale/continental-scale soil geochemical survey of the United States, Canada, and Mexico. We will also discuss the possibility of adding 1) analysis of pesticide residues and other potentially toxic organic compounds and 2) a microbiological characterization component to the survey. The workshop will allow customers for the data and maps generated from such a survey to have input into the sample design, sampling protocols, analytical protocols, and reporting requirements.

When: March 4-6, 2003

Where: Rocky Mountain Mapping Center, Auditorium, Building 810, Denver Federal Center, Denver, CO

Agenda

Tuesday, March 4

7:30 – 8:30 Registration
8:30 – 9:00 Welcoming Comments
Representative of USGS management (Tom Casadevall, Regional Director, Central Region; Pat Leahy, Associate Director for Geology)
Representative of NRCS management (Berman Hudson, Director, Soil Survey Division)
9:00 – 9:30 Introductory remarks and introduction of participants
Dave Smith/Marty Goldhaber, USGS
Mike Wilson/Rebecca Burt, NRCS
9:30 – 10:00 Soil geochemical studies by the Minnesota Dept. of Transportation
David Belluck, Chief Toxicologist, Minnesota Dept. of Transportation
10:00 – 10:30 Coffee break
10:30 – 11:00 Reporting frameworks for continental-scale soil studies
Bob Garrett, Geological Survey of Canada
Bob Eilers, Agriculture and Agri-Food Canada
11:00 – 11:30 Soil health and microbiological methods for UK soils
Andrew Ball, University of Essex, UK
11:30 – 12:00 Noon Distribution of trace elements in soils of northern North Dakota
Wendell (Bud) Norvell, USDA Plant, Soil, & Nutrition Laboratory
12 Noon – 1:30 Lunch (brought in)
12:30 – 1:15 Lunch lecture: The Baltic Soil Survey
Clemens Reimann, Geological Survey of Norway
1:30 – 2:00 Soil geochemical survey of Florida
Ming Chen, University of Florida

2:00 – 2:30 Characterization of microbial communities in soils
Kate Scow, University of California, Davis

2:30 – 3:00 Risk-based assessment of contaminated land: Soil geochemistry and the determination of "background" concentration
Teresa Bowers, Gradient Corporation

3:00 – 3:30 Coffee Break

3:30 – 5:30 Panel discussion: Soil geochemical surveys from the viewpoint of customers and clients.
Prospective panel members:
Mike Amacher, U.S. Forest Service
Sam Bass, U.S. Army Corps of Engineers
John Decker, National Center for Environmental Health (CDC)
Jennifer Hubbard, U.S. Environmental Protection Agency
David Mellard, Agency for Toxic Substances and Disease Registry
Ligia Mora-Applegate, Florida Department of Environmental Protection
Ken Sylvester, Inter-University Consortium for Political and Social Research
Denise Kmetzo/Terri Bowers/Kelly Sullivan, Environmental Consultants

5:30 – 7:00 Drinks and snacks at "Scores" (a local watering hole)

Wednesday, March 5

8:00 – 8:30 Selective extractions/chemical analysis of soils
Jim Crock and Rick Sanzolone, USGS
Gwendy Hall, Geological Survey of Canada

8:30 – 9:00 Chemical speciation and bioavailability of elements in soils
Sébastien Sauvé, University of Montreal

9:00 – 9:30 Remote sensing techniques for soil characterization
Trude King, USGS

9:30 – 10:00 USDA-NRCS PROTOCOLS: Soil Mapping/Sample collection
Mike Wilson and Sam Indorante, NRCS

10:00 – 10:30 Coffee Break

10:30 – 11:00 USDA-NRCS Geochemistry research and future directions
Mike Wilson, Rebecca Burt, S.W. Waltman, and M.D. Mays, NRCS

11:00 – 11:30 Soil geochemical data needs for fate and exposure modeling
Randy Maddalena, Lawrence Berkeley National Laboratory

11:30 – 12:00 Noon Discussion of charge to following breakout groups:
Sample Design
Sample Collection Protocols
Pilot studies/topical research/analytical issues
Marketing/publication stream/international collaboration

12 Noon – 1:00 Lunch (brought in)

1:00 – 3:00 Breakout groups meet separately

3:00 – 3:30 Coffee break

3:30 – 5:00 Breakout groups meet separately

Thursday, March 6

8:00 – 10:00 Breakout groups complete discussions
10:00 – 10:30 Coffee break
10:30 – 12 Noon Reports from breakout groups
12 Noon – 1:00 Lunch (brought in)
1:00 – 3:00 Complete reports from break out groups
3:00 – 3:30 Coffee break
3:30 – 4:30 Identification of action items, writing assignments, and wrap up