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## Association of Applied Geochemists



### INTERNATIONAL YEAR OF PLANET EARTH AND AAG

So why does it matter that the United Nations General Assembly has proclaimed 2007–2009 as the International Year of Planet Earth (IYPE)? The IYPE Global Launch Event by UNESCO at the UN Headquarters (Paris, France) in February 2008 was quite an event, underscoring the UN's high expectations. IYPE has honorable goals indeed: "Earth Sciences for Society – The International Year of Planet Earth aims to capture people's imagination with the exciting knowledge we possess about our planet, and to see that knowledge used to make the Earth a safer, healthier and wealthier place for our children and grandchildren."

About 70 countries are members of IYPE. The two main activities of IYPE are its science and outreach programs. Funding for projects in these two areas comes from industry, foundations, and governments around the world, although implementing them has mainly been at the grassroots level by volunteers; and as there are more than 400,000 Earth scientists worldwide, the UN is hoping we have a broad-based impact. The science programs fall into ten broad, societally relevant, multidisciplinary themes: health, climate, groundwater, oceans, soils, deep Earth, megacities, hazards, resources, and life. There is even an IYPE online book that has lots of "gift ideas."

So what are we going to do about it?, I asked the AAG executive before I headed out as the AAG representative for the IYPE launch. Here is some feedback I received. AAG members are actively engaged in outreach in schools where they live, like members of many other active geoscience organizations. Here in Canada, our IYPE focus is on outreach. Our national committee is planning a major book, as well as making grassroots efforts to talk to kids in schools. I am very proud to say my colleagues and I are actively engaged in these



outreach efforts, because science literacy, and especially Earth science literacy, is a national disaster, a disgrace.

Because AAG is an international organization, however, the impacts of the various science components of IYPE were of most interest to us; our group's expertise lies in over half the science theme areas. Our society plans on being engaged in them all, from grassroots efforts through to lobbying industry and governments, particularly on issues pertaining to world health and poverty. Dr. Hugh de Souza noted that AAG members can do a lot to improve world health and alleviate poverty by encouraging the broad-based application of geochemistry, which goes to the very heart of AAG's twin mandates of environmental and exploration geochem-



istry. By championing detailed regional geochemical mapping, AAG members know we can identify areas where potentially toxic elements can have an impact on health. For example, the British Geological Survey's efforts (international regional geochemistry baselines) in Bangladesh to identify areas of arsenic accumulation have a direct impact on health. Another example is Dr. Reimann's group's efforts to develop Scandinavian geochemical maps, in which one can see the effects of industrial and natural pollution and perhaps link them to health problems, particularly cancers and malnutrition; however, this is possible only where epidemiological databases are available to correlate with the geochemical data. Such correlations are impossible to prove when we don't have adequate geochemical data. I personally know of several cases where such surveys and even geochemical mineral exploration programs have led to awareness of health problems related to high natural abundances of As, Hg, Cd, Pb, Ra, and Rn, and not to anthropogenic contributions; problems can arise when *some* bureaucrats inhibit the process of informing the proper environmental and health authorities and (or) the public. The FOREGS Geochemical Baseline Mapping Program for sediment, water, and soil recognized and addressed these issues by doing the research, building the protocols, and then the databases covering much of Europe. The North American Soil Geochemical Landscapes Project represents a comprehensive trilateral soil sampling effort involving multiple agencies. IUGS-IAGC's Working Group on Global Geochemical Baselines is also contributing to this important

effort. Numerous websites detail these baseline studies and explain method development and protocols for sampling through to analysis.

On the poverty side, the same regional geochemical maps provide a boost to mineral exploration and, in rare cases, mining development. Recently published statistics from Northern Ontario quantify the huge economic impact mining has had in generating wealth in local communities. Dr. Olle Selinus (Geological Survey of Sweden) has long been working on issues related to world health and poverty in Sweden and around the Third World. For some time, Ollie's group has focused on medical geology in developing nations and, unlike in most developed countries, their international IYPE efforts attract the Swedish king's attention. The International Medical Geology Association (IMGA) is focused on these issues—they have lots of pertinent material, and many AAG members are actively engaged in this field, where the lines between disciplines tend to blur. Currently, the IMGA is developing a web-based education package for use by anyone.

So why does it matter? Well we have a lot of volunteer work ahead of us if we wish to achieve the level of impact that the UN wants and needs. A major grassroots effort from members from all Earth-science associations can change the world, if we really want to.

For more information on the International Year of Planet Earth, visit <http://yearofplanetearth.org/index.html>

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