

INTERNATIONAL GEOSCIENCE EDUCATION ORGANIZATION (IGEO) NEWSLETTER
00-16/19/00

FROM THE EDITORS:

Welcome to the first IGEO newsletter of the year 2000. We chose not to send a first quarter newsletter since many of our number were preparing for GeoSciEd III in Sydney, Australia. The meeting was very interesting and worthwhile. It had opportunities to focus on geoscience education research, reports on a variety of geoscience education activities, and updates on the status of geoscience education in a wide distribution of countries. Congratulations to the conveners for a job well done. As important as the conference itself was the formalization of the International Geoscience Education Organization (IGEO) and the subsequent debate on the role of our new organization and the focus of future GeoSciEd meetings. Please read on to learn more about the exciting happenings in Sydney.

Decisions to formalize IGEO spurred the election of the first set of committee members. Yes we have graduated beyond the "interim" phase. Please join me in welcoming the new Executive Board of the Council.

Chair - Chris King, United Kingdom (cking@learnfree.co.uk) Vice Chair - Nir Orion, Israel (n Orion@wiccmail.weizmann.ac.il) Secretary/Treasurer - Ian Clark, Australia (ian.clark@unisa.edu.au) Newsletter Editors - Mary Dowse, USA (dowsem@silver.wnmu.edu) Laure Wallace, USA (lwallace@usgs.gov) Convenor, GeoSciEd IV - Alan Morgan, Canada (avmorgan@uwaterloo.ca)

Chris King has requested help from the membership to design a logo for the new organization. So, understanding that IGEO is focused on geoscience education research and the application of effective geoscience education pedagogy worldwide, please put your graphic design expertise to work and forward some of your creative thoughts. Please send your ideas back to the newsletter editors as soon as you can.

Please remember that this is your newsletter. While we are always looking for articles on geoscience education research, effective geoscience education programs, issues of concern from countries around the world on the health of geoscience education, and information on upcoming geoscience education programs and conferences, we also want your response to articles that have been written in the newsletter. So, please, take the time to respond to our articles. Also, let us know if these articles are helpful or if you would like to see different types of information in your newsletter. We can't serve you well unless we know what you want to see.

The Editors

THE FORMATION OF IGEO - A MESSAGE FROM THE CHAIR:

Reflections on GeoSciEd III and the formation of IGEO.

Looking back on GeoSciEd III in Sydney in January, the key thing for me was the formation of IGEO - the International Geoscience Education Organisation. That's not to say that I didn't enjoy many of the sessions and discussions, the chance to meet other participants from all around the world and the great Aussie hospitality, but it seems to me that it is IGEO that holds the greatest promise for the future.

It was rather a strange business changing over from the development committee to the new Council. Before the General Meeting, the planned international organisation had no name, no constitution, no Council and no members. Although the development committee had plans, a suggested name and constitution for IGEO, none of this could be taken for granted. We could not even fix a post-inauguration Council meeting since we didn't know what the makeup of the Council would be and who would be involved.

In the event, at the first General Meeting of IGEO (it was initially called the Annual General Meeting, until we realised that it couldn't meet annually!), the Organisation was formed, the proposed constitution was adopted, with minor changes, and the make-up of Council was ratified. It comprises five Officers: a Chairperson, a Vice-Chairperson, a Secretary/Treasurer, a Newsletter Editor and a Convenor of the next Conference. The other Council members are: 'One member from each country seeking representation on the Council'. Currently the Council comprises some 24 members, although we are still seeking representatives of countries not yet involved. Council members will serve until the next Conference.

The aims of IGEO are to promote geoscience education internationally at all levels; to work for the enhancement of quality in the international provision of geoscience education; to encourage developments that raise public awareness of geoscience, particularly amongst younger people.

IGEO will engage in the following activities: monitor international provision for geoscience education at all levels; foster communication between geoscience educators worldwide at all levels; liaise with international and national bodies concerned with geoscience education; liaise with international professional geoscience bodies; liaise with international bodies concerned with science education.

One of the decisions taken was that membership of IGEO should be free. This is good in that anyone with an interest in geoscience education can be involved, whatever country or region they come from. However, the downside is that IGEO has no funds (apart from anything remaining from organising conferences) and so cannot financially support international initiatives or even the travel of delegates to future conferences.

In the busy conference schedule, it was difficult to find time when the Council could meet for the first time (we will have to ensure that this is not a problem at GeoSciEd IV in Canada in 2003), but we were able to hold the first IGEO Council meeting - albeit a brief one. We agreed on a strategy for beginning to gather information on geoscience education on an international basis that would encourage the development of communication between different countries and regions. We also were able to provide guidance to the Convenors of GeoSciEd IV in Canada.

Since then we have held our first email Council meeting that focused on the development of these issues. A proforma will be circulated soon to all country representatives for them to complete details of the geoscience elements of their educational systems. A guidance document is also being prepared for convenors of future conferences.

There is clearly much to do if we are to meet the aims of the constitution and really make a difference to geoscience education worldwide. With IGEO we now have an international voice that can support developments in all countries and regions. Probably the best way to facilitate this is to develop our worldwide communication links. To this end the IGEO website is being developed and enhanced. You can find it presently at: <http://www.cosm.sc.edu/~csemgr/igeo.html> Meanwhile the IGEO newsletter is being

circulated around three to four times a year and if you would like to be included on the email circulation list, then contact the editors directly. This should allow you to find out how IGEO is progressing and to get a feel for the high and low spots of geoscience education around the world.

The future is exciting, if a bit daunting. IGEO will offer all the support it can, but it will need support, too. Please keep up to date with our progress through the website and newsletter, and if the opportunity arises for you to contribute in some way, locally, nationally or internationally, please take it, please let us know and please tell us if you need our support.

In ending this first "Message from the Chair", I would like to add my thanks to all those who have brought us this far. They include the organisers and contributors to GeoSciEd I (Southampton, UK, 1993), GeoSciEd II (Hilo, Hawaii, USA, 1997) and GeoSciEd III (Sydney, Australia, 2000) and all the members of the IGEO development Committee. There is a lot to be done, but with your continued help and the support of all our colleagues, we can really make a difference to Earth science education worldwide.

Chris King, UKIGEO Chair cking@learnfree.co.uk

COMMENTARY ON GEOSCIED III:

GeoSciEd III: The View from One Delegate GeoSciEd III, the third International Conference on Geoscience Education, was held in Sydney, Australia, January 16-19, 2000. The conference, which was attended by approximately 180 delegates from 25 nations, featured a veritable potpourri of keynote addresses, learned presentations by the delegates, field trips and social events. It will certainly be remembered for the wonderful hospitality and highly professional organization of the Australian convenors? Malcolm Buck, Sonia Cousins, Ian Clark, Kathleen Kemp, and Gary Lewis. These five, and obviously many others working behind the scenes, pulled off a well-organized, highly professional conference.

This conference both tied in with the themes of GeoSciEd II and also broke much new ground. The themes were many and varied, but of particular interest to this delegate were the following:

There appears to be a global trend toward fitting the subject matter of courses to the particular cohort of students being taught, i.e., different curricula for non-science majors, geoscience majors, etc. However, many speakers, from both more developed and less developed nations, placed heavy emphasis on the critical importance of an enhanced understanding of Earth processes if we are to address effectively the global issues of sustainability of air, water, soil and food resources, energy resources and metal/mineral resources. It became very clear that many colleges and universities, worldwide, are incorporating sustainability themes into both traditional and non-traditional courses for all students, including non-science majors, undergraduate geoscience majors, graduate geoscience majors and prospective and practicing K-12 teachers.

There appears also to be growing trend toward using more investigative, constructivist-based instructional strategies in all courses for all students.

There also appears to be a growing trend toward a more interdisciplinary, systems approach to teaching about the Earth. We are hearing less and less about distinct courses dealing only with the solid Earth or the marine environment or the atmosphere.

While most of the trends that were reported were very positive, there are still many serious problems facing geoscience education. Unfortunately, there appears to be a continuing decline in enrollments in geoscience courses and in funding for these courses. A continuing lack of understanding on the part of non-geoscience tertiary administrators of the importance of field-based instruction was of particular concern to a large number of delegates.

Most papers that were presented were highly informative and stimulated many interactions among delegates. However, from this delegate's perspective there were needs to be considerably greater emphasis placed on developing, implementing and reporting the results of comprehensive research strategies designed to determine the effectiveness of new or innovative courses or teaching strategies being reported. We need to apply the same stringent requirements toward evaluating geoscience education projects that we apply to our more traditional geoscience research. These efforts could also strengthen our arguments to non-geoscience literate administrators for increased funding for example, for field-based studies.

Finally, allow me to make a few suggestions for the Calgary convenors, based on what we have learned from past GeoSciEd conferences. The ideas to be presented are the result of interactions I have had with many people. I see the need for at least three distinctively different kinds of sessions:

Reporting sessions - what I did, am doing or plan to do in my course, my school, my state or my country; Linking sessions - what I need and with whom can I work; Research sessions - what works, how well, why and so what.

Each of these types of sessions, I think, could be more effective if similar types of presentations were grouped together, rather than mixing reporting, linking and research presentations together. Further, I would like to suggest that different types of presentations could be used for each of the three different types of presentations. I would suggest that interactive poster sessions, which were perhaps overused in GeoSciEd II, are particularly effective for "reporting" kinds of presentations. Linking sessions seem to call for some type of interactive panel presentations. Research papers, I think, lend themselves to the more traditional "learned" lecture-type presentations.

I also have some thoughts to share on field trips for forthcoming conferences. In Hilo, our start-of-the-conference field trip was designed to show off the spectacular Earth Systems processes and features of the Hawaiian Islands, to demonstrate how to run a guided inquiry field excursion for students (of any age), and to allow participants to experience, as "students", (and therefore to compare and contrast) this mode of field instruction relative to the more traditional "show-and-tell" mode. From all reports that I heard that trip was successful in all objectives. Because the guided inquiry instruction is new to many people, I think it is important for anyone not familiar with it to experience it, not just hear it described. Now, does that mean that I think that we should conduct all GeoSciEd field trips in this manner? Personally, I would like that. But I also understand the argument that if I am going to some place in the world where I have never been and perhaps will never get to again, I want to see as much of the natural history of that place as possible. And the most effective way of doing that is through the show-and-tell strategy. Perhaps the resolution that is most appealing to me is to try to do both, hold a whole-

conference show-and-tell trip to see as much as possible (perhaps at the beginning of the conference) and another, smaller instructional field excursion either during or after the conference. I would hate to see us lose the guided inquiry field excursion, because it models what I believe to be the most effective form of field instruction for less well-informed students (again of all ages).

I welcome any comments, positive, negative or neutral, about any of the above. Let the dialog continue!

John Carpenter
Center for Science Education University of South Carolina, USA
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GEOSCIED IV - CALGARY, CANADA:

Report to IGEO Council from Canada
The Canadian Geoscience Education Network (CGEN) met in Vancouver, BC, immediately after the conclusion of the Third IGEO.

Paul Robinson (Canadian National Representative) and Alan Morgan, Chair of the National Committee for GEOSCIED IV, reported on the successful conclusion of the Sydney IGEO Meeting. Morgan has been receiving comments on the Sydney GEOSCIED III from the Sydney Organising Committee and from other individuals and will keep these in mind where they pertain to the Calgary Meeting in 2003.

GeoSciEd IV will be hosted by CGEN in August of 2003 in Calgary. Structurally there will be two Committees. A National Committee chaired by Morgan to pull together various provincially- or society-centered activities for the meeting and a Local Committee chaired by Godfrey Nowlan that will handle the real logistics of the meeting.

On the national scene a number of "local" committees representing provincial/regional centres of expertise/interest will nominate individuals for the national committee. The local groups will also have the responsibility of identifying teachers from their province or region who will be invited to participate in the conference. The local committees will also be expected to carry out fund-raising to support teacher participation.

In order to get things underway, participants at the meeting were asked to begin organizing local groups in their areas. These were Dileep Athaide (Capilano College, Vancouver) and Maureen Lipkevich, Mining Association of BC, Vancouver, for B. C.; Godfrey Nowlan (Geological Survey of Canada, Calgary) and Jon Dudley (of Earthworks, Calgary) for Alberta; and Fran Haidl and Chris Gilboy (Geological Survey of Saskatchewan) for Saskatchewan. Alan Morgan (University of Waterloo) and David Rudkin (Royal Ontario Museum) would create a committee for Ontario and Paul Robinson (Dalhousie University) for Nova Scotia and the Maritimes. Paul Robinson will contact Pierrette Tremblay (former President of CGEN) for suggestions of who might organize a local committee in Québec.

Alan Morgan discussed the general goals and plans for the conference. The theme of the conference will be to share communication ? organisations to teachers, teacher to teacher, teachers and Canadian educators, and teachers and international educators. GeoSciEd IV might expect a minimum of 300 participants and a maximum of 450. The conference will be held at

the University of Calgary and will include field trips, workshops and sessions. There will be plenary, technical and poster sessions on various themes. Godfrey Nowlan discussed some ideas for the local organization. He will set up a local organizing committee of 6 to 8 people to handle field trips, the technical program, workshops, liaison with local teachers, publicity and other topics as needed. Hopefully, the University can handle registration and local facilitation. The fee for the Australian meeting was \$320 Aus for pre-meeting registration and we believe that we can have a similar fee.

Ideas or suggestions for the meeting should be directed to Alan or Godfrey. Their E-Mail addresses are: avmorgan@uwaerloo.ca and gnowland@NRCan.gc.ca.

Other items that might be of interest to the broader community included a discussion of developing desired learning outcomes for the national syllabus (Earth and Space Sciences stream) in Canada. The regional committees will start by trying to identify appropriate teachers in each province that could be involved and then promote the sharing of resources. These teachers will hopefully participate in GeoSciEd IV and provide input to a cooperative program for development of teaching resources.

Calgary will see a major geological gathering May 29-June 2, 2000 called GeoCanada 2000. Jon Dudley gave a rundown of the educational and outreach programs planned for the meeting. For the public there will be an evening lecture by Roberta Bondar (Canadian astronaut), a geological treasures exposition, and a technical session entitled "Geoscience and Society". Educators from across Canada will be invited to attend the technical session entitled "Communicating Critical Geoscience Issues to Canadian communities" and they will also have a tour of the Treasures Exposition. Special field trips for educators will be organised for the Calgary environs (and will hopefully serve as "dry-runs" for the field trips proposed for 2003). The Public Outreach program of the Calgary Science Network will provide selected high school students from Calgary an opportunity to spend a day at the conference. Conference guides will host the students at a variety of sessions and activities.

The next meeting of CGEN will be held at GeoCanada 2000, and a further report to the International Council will be submitted on deliberations for 2003 following that meeting.

In the interim a preliminary web page has been established for GEOSCIED
IV at: <http://www.science.uwaterloo.ca/earth/geosciEd/>

Respectfully Submitted, Alan V. Morgan, Canada Chair, GeoSciEd IV avmorgan@uwaterloo.ca

ARTICLES:

WorldWatcher: A Visualization Environment for Learners By Michael R. Taber and Danny C. Edelson

World Watcher is a scientific data analysis software, developed at Northwestern University, used for the visualization of geographic data. The software is particularly well suited for students and teachers, providing a user-friendly interface to real scientific raster and point data. The combination of a powerful scientific visualization data analysis tool with a learner-supported interface allows for students to perform inquiries quickly and efficiently. Using the

software, students quickly become able to conduct authentic investigations of Earth and environmental processes. We are expecting the release of WorldWatcher 3.0 for both Windows and Macintosh in mid-June. Version 2.5 for Macintosh and 2.5.3b for Windows are available from our web site (<http://www.worldwatcher.northwestern.edu>).

We have dramatically increased our exposure and recognition over the last couple of years. Our web site has seen a dramatic increase in the number of registered downloads. While most of our users are K-12 schools, universities, and colleges in the United States, approximately 12% of the users come from international institutions representing six continents. An additional 3% of downloads come from the professional scientist sector (United States government agencies such as NASA and the USGS).

We have received two prominent national reviews, the first in September 1999, which featured WorldWatcher as one of 20 sites chosen for review by Education World(R) this month, and one of five given a rating of A+ (<http://www.education-world.com/awards/past/r0999-20.shtml>). A November 19, 1999 (vol. 286.) issue of Science magazine featured WorldWatcher in Andreas Madlung's article, "Visualizing a Changing World." Madlung briefly describes the software's capabilities, claiming that "WorldWatcher's strength lies in providing an easy way to superimpose data or analytical results on world maps."

At Northwestern University we are currently developing two project-based curricula that utilize the power of WorldWatcher. The first is Global Warming, a six-week long middle school (grades 6, 7, or 8) curriculum that focuses students on issues facing countries in making decisions about global warming.

In Global Warming, students learn about the scientific factors that contribute to the controversial global warming debate. The project places students as advisors to the heads of state of several different nations, prompting students to learn about the issue as they respond to the various questions and concerns of these leaders. As expert scientists on the issue, the class will need to understand and be able to explain to the heads of state what forces affect climate and what global warming actually means. Students then apply their knowledge to help different nations of the world understand how global warming will affect them and what they can do about it. Each team of students will be responsible for advising one country and will ultimately need to present a proposal that offers a set of solutions, which address the concerns of their country.

WorldWatcher is used throughout the curriculum, helping students understand factors that contribute to temperature change, investigating the factors that determine global temperature and energy use, and understanding potential consequences of atmospheric pollution on global climate by looking at the output of model data.

The second curriculum is Looking at the Environment, a year-long high school environmental science curriculum. Looking at the Environment places students in the role of environmental scientists. It engages them in investigations of realistic environmental problems, in which they must make recommendations for sustainable use of resources. In the course of these investigations, students employ a variety of scientific research techniques, including computer tools for the visualization and analysis of geographic data. These tools will include WorldWatcher and ArcView, a commercial geographic information system.

Looking at the Environment takes a geographic perspective on environmental science, addressing environmental issues at local, regional, and global scales. The curriculum focuses on two critical resources for supporting human activities, energy and water. It does so through student investigations of two cases, power generation in the upper Midwest and water allocation in the Central Valley of California. In addition to exploring these regional cases, students explore the same issues at local and global scales. In local investigations, students investigate the same issues using data for their own community, and in global investigations; they explore contrasting cases from around the world and investigate global implications of local and regional decisions.

Scientific visualization continues to evolve and revolutionize the practice of science, particularly in the geosciences. The same benefits that visualizations offer scientists ? the use of the powerful human visualization system to find spatial and temporal patterns in data - makes it a potent tool for learning geographic information science.

Dr. Michael Taber Research Assistant Professor Project Manager and Lead Curriculum Developer WorldWatcher Curriculum Project <http://www.worldwatcher.northwestern.edu> taber@northwestern.edu 847-467-3861 <http://pubweb.northwestern.edu/~mrt950/>

ON-LINE RESOURCES:

The following is a list of web sites collected at GeoSciEd III in Sydney from the conference participants. All sites were visited on April 21, 2000. We would like to continue to offer a list of sites in future copies of the newsletter. Plans are to list web sites by topic or theme. For the next newsletter the focus will be on Earth Science Education Organizations. If you would like to recommend a site, please forward the address and a brief description of the site to dowsem@silver.wnmu.edu

<http://www.cosm.sc.edu/cse/igeo.htm>The IGEO homepage with the constitution and all previous newsletters in English and Spanish.

<http://www.agso.gov.au/education/>The Australian Geological Survey Organization was one of our hosts for GeoSciEd III and they have developed a large number of resources.

<http://www.sceince.uwaterloo.ca/earth/geosciEd>GeoSciEd IV will be held in Canada in August, 2003.

<http://157.92.20.135/aula-gea/AulaGEA.html>The web site for Asistencia para la Enseñanza de las Geociencias. Virtual version of an exhibition on geology and mining. Resources in Spanish.

<http://www.earthscienceworld.org/>This is a portal site that covers the geoscience spectrum and features real-time and near real-time events, data and news, as well as student activities, Earth Science Week, the Earth Science Network, and a science bookstore.

<http://www.usra.edu/esse/essonline>The home page for Earth System Science Education with links to a wide range of resources for teaching and learning in the earth sciences.

<http://science.uniserve.edu.au> UniServe Science - the clearinghouse for information about the use of IT in science teaching.

www.planetguide.net A web site that complements the book "Dr. Art's Guide to Planet Earth" by providing animations, lesson plans and discussions.

www.baesi.org The homepage of the Bay Area Earth Science Institute (California USA) with activities and links to lesson plans and other information.

Additional sites with information about a particular area, noted at the meeting:

<http://www.toyen.uio.no/> The Paleontological Museum at the University of Oslo in Norwegian or English. This site allows you to view specimens in their collections.

www.toronto.geoscape.org www.vancouver.geoscape.org Canadian sites that link to posters about the geology of Vancouver and Toronto.

<http://www.hvo.wr.usgs.gov/> <http://www.usgs.gov/> Home page for the Hawaiian Volcano Observatory and home page for the USGS.

<http://www.fcen.uba.ar/aulagea> Department of Geology, University of Buenos Aires, Argentina.

Mary E. Dowse Department of Natural Sciences Western New Mexico University Silver City, NM 88062 dowsem@silver.wnmu.edu

UPCOMING CONFERENCES:

Come to the ESTA 2000 Conference September 15 - 17, Swansea University, South Wales The annual Earth Science Teachers' Association Course and Conference will be held this year at Swansea University in South Wales from Friday 15th September until Sunday 17th September. Visitors from overseas would be most welcome to join us.

Conference Programme: The Conference will have the same format as previous years, as follows:

Friday 15th Parallel interactive professional development (INSET) days (9.30 - 4.30) in:
Primary Earth science education (5 - 11 year olds) Secondary Earth science education (11 - 16 year olds) Post-16 Earth science education (16 - 18 year olds) Higher Education (post-18 university students)

Late afternoon/early evening - main conference registration Meal Keynote lecture

Saturday 16th Interactive workshop sessions - choose from a range of workshops and lectures.
Lunch Afternoon field visits - choose from the range of field excursions on offer that provide different geological and educational experiences Conference dinner

Sunday 17th Open forum discussions Keynote lecture Lunch Departure

Costs: The cost of the main conference (Friday evening to Sunday) including accommodation in a student Hall of Residence and all meals will be £140.00 (£150.00 for bookings after 30th June) with the Friday professional development days costing about a further £40.00.

Venue: Swansea University is on the south coast of Wales overlooking Swansea Bay. The local geology and scenery are very varied and the area is popular with tourists because of its beauty.

Extend your visit for a few days? Should overseas participants wish to stay in Britain for a few days before or after the conference, we can try to arrange a placement at a school and accommodation at reasonable cost.

Enquiries: Please send enquiries in the first instance to: Dr Geraint Owen, Department of Geography, University of Wales Swansea, Singleton Park, SWANSEA SA2 8PP. Tel: 01792-295141; Fax: 01792-295955; E-mail: G.Owen@swansea.ac.uk

Those overseas participants wishing to stay in the UK before or after the conference should directly contact - Duncan Hawley, d.j.hawley@swansea.ac.uk

Do come and get the flavour of Earth science education in the UK. We look forward to seeing you.

Mr. Chris King, Science Education Lecturer: Earth Sciences Work Address: Department of Education, Keele University, Keele, Staffs., ST5 5BG. Tel. 01782 583130. Fax. 01782 583555. Work email address, eda22@educ.keele.ac.uk

REQUESTS FOR HELP/INPUT:

A REQUEST FROM THE UK: Dear GeoSciEders,

I am involved with helping to expand the Geography Discipline Network's WWW database of case studies to include Earth science and environmental science.

The database contains examples of interesting Higher Education teaching, learning and assessment practices mainly from the UK but also from North America and Australasia.

As we are keen to maintain the profile of the Earth Sciences within this multi-disciplinary Subject Centre I would like to encourage you to submit examples of interesting practice from your own teaching.

The database can be viewed at <http://www.chelt.ac.uk/gdn/> and contains exercises to improve student learning used in lectures, tutorials, laboratory classes, practicals and field courses; methods of assessment; examples of IT and resource-based learning support etc..

If you would you like to help to promote the learning and teaching of the Earth Sciences by submitting an abstract (200-500 words) please email me the following details: The abstract should include: 1. Title 2. Name, department and institution of originator + telephone /fax number and email address 3. Main features - What was the initial prompt/problem? What is the

practice trying to achieve? How were your practices changed? What are the gains and losses? 4. Relevant references where applicable 5. Key words

Thank you for your co-operation. Please feel free to contact me if you would like any further information.

Dr Helen L. King Earth Science Staff Development Project Manager School of Ocean & Earth Science Southampton Oceanography Centre European Way Southampton, England SO14 3ZH Internet: <http://www.soton.ac.uk/~ukgec/> E-mail: H.King@soc.soton.ac.uk Telephone: 01703 592062 Fax: 01703 593052

A REQUEST FROM THE USA: Hello!

We are in Mr. Marshall's 3rd grade class at Webster Elementary in St. Joseph, Missouri, USA. St. Joseph is 1 hour north of Kansas City and is the home of the Pony Express. We are also known for the Jesse James home.

In Social Studies we have been studying geography and decided to map an e-mail project. We are really curious to see where in the world our e-mail will travel by internet throughout the rest of this school year. So, we would like your HELP!!!

We ask that you do these two things: 1) E-mail us and tell us your location so that we can plot it on our world map. (city/town, state/province, country)

2) Forward this letter to AS MANY PEOPLE AS POSSIBLE!! (even if they live in the same town as you)

Thank you for any help that you can give.

Our e-mail address is: mark.marshall@sjsd.k12.mo.us

Hope to hear from you soon!

Your new friends, Mr. Marshall's 3rd grade class Webster Elementary St. Joseph, MO USA

FYI

This following letter was sent by the Chair of IGEO to the Spanish Minister of Education at the request of our Spanish delegates. Any country representative, who feels that this type of support would be helpful in moving forward the cause of geoscience education, should contact Chris King directly:

Chris King IGEO Chair Department of Education Keele University, Keele, Staffs, ST5 5BG, UK. Tel. (044)(0) 1782 583114. Fax. (044)(0) 1782 583555 Email: c.j.h.king@educ.keele.ac.uk

Ms. Pilar del Castillo, Minister for Education, Department of Education, Alcalá, 3628071-Madrid, Spain

Dear Ms. del Castillo,

GeoSciEd III, Sydney, January 2000
Congratulations on being chosen as the new Minister of Education. We wish you well in this vital role. We had intended sending you this letter from the GeoSciEd III Conference in January. However, in view of the forthcoming elections in Spain, it seemed better to wait until the new political situation had settled down and the new cabinet had been elected. Thus we have delayed writing to you about our concerns until now.

The third Geoscience Education Conference held in Sydney, Australia and was highly successful. Some 28 countries from across the world were represented at the Conference and the general picture portrayed by the delegates from those countries was a very positive one. Many countries are including Earth Science in their National Curricula for the first time and, in those countries where there is no National Curriculum as yet, there are strong local moves afoot to include elements of Earth Science education.

It is clear from the information becoming available across the world that Earth science is coming to be seen as fundamental to the education of all children, since they are the ones who will be making decisions in the future that will affect not only their local environments but also the whole Earth. Without a proper understanding of the scientific processes that drive our planet, the decision-makers of the future will be unable to understand the ramifications of the decisions that they make and the long-term effects on local and global environments. Indeed, Earth science education is being seen as a more and more crucial element of the curriculum of the 21st century.

It was therefore with great dismay that we heard of the current situation in Spain where the Earth science component of the National Curriculum is under attack. Citizens of the future need the scientific understanding of our planet that only an Earth science element to the curriculum can bring. We therefore encourage you to consider very carefully before you curtail any of the current Earth science content of your curriculum and indeed, if changes are contemplated, to increase rather than diminish the Earthscience component.

In the light of the discussions about Spain at the Conference, the participants are awaiting your reply with great interest. We will publish your comments in our quarterly newsletter and hope that you will be able to provide us with good news of a promising future for Earth science education in Spain that we can use as a further encouragement to others.

Yours sincerely, Chris King, Chair IGEO

GENERAL ANNOUNCEMENTS:

WestEd announces the publication of "Dr. Art's Guide to Planet Earth." Written by Art Sussman, this book introduces three Earth systems principles that help teachers, students and the general public understand Earth systems science. You can learn more about the book from the associated website at www.planetguide.net.

Dr. Jane Goodall highly recommends the book: "This is an outstanding book. Vividly, clearly and concisely, Art Sussman explains how our planet works and what can happen when the

balance of nature is upset. It will capture the imagination of readers of all ages and invoke a sense of wonder. It deserves a place not only in every classroom but also every home."