



REPORT FOR 2008

Summary:-

IUGS-GEM comprises 16 Officers representing 14 countries and aims to provide guidance to geoscientists on how best to integrate geoscience into environmental policy and to communicate the concepts to potential interest groups such as policy makers, politicians, environmental organisations, scientists from other disciplines, and the general public. GEM builds on the excellent work of the former Commission on Geological Sciences for Environmental Planning (COGEOENVIRONMENT) that has completed its full term. Activities of GEM are conducted primarily through its four Working Groups. Three Working Groups i.e. Urban Geology, Geology and Ecosystems, and International Borders - Geoenvironmental Concerns have fulfilled their objectives and prepared final reports on their achievements. The Working Group on Communicating Environmental Geoscience is still active. Proposals have been developed for the establishment of new Working Groups and Initiatives on topics such as Groundwater and Environment; Dust and Particles; Geopollution and Man-made Strata; Coastal Processes and Management; Adaptation to Climate Change; Forensic Geology; and Gold and Mercury and People. In 2008, IUGS-GEM cooperated with various organisations to hold 12 technical meetings in Australia, Brazil, Chile, Finland, Japan, Lithuania, Malaysia, Poland amongst others. Seven of the meetings were held to celebrate the International Year of Planet Earth. As part of the celebrations, IUGS-GEM is also preparing an Information Package on Urban Geoscience entitled the Geoscience Dimension, and two books. The official publication of the Commission, GEM News, is distributed in electronic form to over 200 corresponding members in around 82. GEM News No. 13 (September 2008) was also printed in hardcopy and distributed at several key meetings. In 2008, there was a change in the leadership and officers of IUGS-GEM but mechanisms are in place to ensure a smooth transition. The most important event was the 33rd IGC Congress in Oslo, Norway, where IUGS-GEM Officers in conjunction with various collaborators convened 12 technical sessions on the themes of Earth System Management, Geohazards, Geoscience Education, Geoconservation, and Medical Geology. In the upcoming year, IUGS-GEM is seeking to acquire new officers from Africa and Asia, and seek the sponsorship of some international government bodies such as the United Nations Environment Program for some of its working groups. We have currently planned to host the next GEM annual meeting in Uruguay.

IUGS-GEM requests an allocation of US 10,000 for 2009 from the IUGS to implement activities to support the International Year of Planet Earth and other events

Contents:-

1. TITLE OF CONSTITUENT BODY AND NAME OF REPORTERS – *Page 2*
 2. OVERALL OBJECTIVES – *Page 2*
 3. FIT WITHIN IUGS SCIENCE POLICY – *Page 2*
 4. STRUCTURE – *Page 3*
 5. CHIEF ACCOMPLISHMENTS IN 2008 – *Page 3*
Business Meeting / International Working Groups / International Year of Planet Earth/ 33rd IGC/ Linkages / Outreach & Communication / Technical Meetings
 6. SUMMARY OF EXPENDITURE IN 2008 – *Page 7*
 7. WORKPLAN FOR 2009 – *Page 8*
Administration / Outreach & Communication / Technical Meetings / Estimated Budget
 8. ANTICIPATED WORK PLAN FOR NEXT FIVE YEARS – *Page 9*
- APPENDIX 1- List of Officers – *Page 10*
APPENDIX 2 - Action Items of 4th Annual Meeting, October 20-21, 2008– *Page 12*

1. TITLE OF CONSTITUENT BODY AND NAME OF REPORTERS

Dr. Kevin Telmer / Roma Kanopiene
Chair / Secretary-General
IUGS COMMISSION ON GEOSCIENCE FOR ENVIRONMENTAL MANAGEMENT (IUGS-GEM)

2. OVERALL OBJECTIVES

GEM provides guidance to geoscientists, policy makers and the public, on how best to integrate geoscience into environmental policy and to communicate the concepts to potential interest groups. These can include other policy makers, politicians, environmental organisations, scientists from other disciplines, and the general public. The objectives of GEM are to:

1. Increase awareness about the essential contribution of geoscience to sustainable development and sound management of the environment.
2. Strengthen the interest and participation of the geoscience community in sustainable development and environmental management by providing relevant information on policy, environmental, economic and social issues.
3. Encourage greater application of geoscience in sustainable development initiatives – use of land, mineral, energy, soil, water and other resources for the benefit of society.
4. Further the contribution of geoscience in providing solutions to problems affecting society arising from natural and human-induced hazards and pollution.
5. Promote multidisciplinary initiatives for the development of new approaches, tools and techniques to forecast and solve environmental problems.
6. Identify and collaborate with relevant stakeholders about sound environmental management and sustainable development, particularly those relevant to GEM's working groups.

3. FIT WITHIN IUGS SCIENCE POLICY

The Commission supports IUGS by actively linking the results of environmental geoscientific research to societal well-being, with a focus on communicating the role of geosciences in sustainable development policy issues. Examples include the following:

- ❑ Reducing vulnerability to natural hazards through planning responses via the Working Group on Urban Geology.
- ❑ Understanding ecosystems processes and its resilience to the effects of anthropogenic and natural pollution as well as global environmental change via the Working Group on Geology and Ecosystems.
- ❑ Managing transboundary issues related to resources and the environment via the Working Group on International Borders-Geoenvironmental Concerns.
- ❑ Communicating the hazards and costs of climate change through examples of necessary adaptation activities and carbon sequestration technologies
- ❑ Reducing mercury use and creating sustainable development in artisanal and small scale gold mining communities

To support the IUGS Vision, GEM promotes the development of environmental geoscience through two avenues: (i) policy advocacy to ensure sustainable utilisation of natural resources for societal wellbeing; (ii) through a focus on field activities – where experiential learning and innovation occur.

In this regard, New Working Groups will be developed within GEM to address high priority requirements. GEM also actively seeks new directions and research niches for environmental geoscience; supports and participates multidisciplinary projects of benefit to society; conducts capacity building exercises particularly in developing countries; and disseminates information to both geoscientists and non-geoscience stakeholder groups through its growing network and website (<http://web.uvic.ca/~iugsgem/>).

4. STRUCTURE

The IUGS-GEM team is led by a Chair, with the support of a Vice-Chair, Secretary-General, Treasurer and several Regional Officers. An Information Coordinator assists the flow of information between GEM and its stakeholders. Activities are conducted primarily through International Working Groups formed to focus on specific topics relevant to the objectives. Working Groups are led by a Commission Officer and draw on expertise from volunteers around the world.

IUGS-GEM has three types of membership i.e. Branch Members, Supporting Members and Corresponding Members. The annual fee for Branch Member is US \$1000 and Supporting Member is US \$50.00 for individuals and US \$500.00 for organizations. Corresponding Membership is free of charge on a personal basis only. GEM also draws on the support of a group of Advisers comprising geoscientists and non-geoscientists who provide inputs as and when necessary to fulfill its objectives.

The Commission currently has a team of 13 Officers from 13 countries that meet annually to monitor progress and formulate new programmes and activities (Appendix 1). The team is led by a Chair (Kevin Telmer from Canada), with the support of a Vice-Chair (Quing Cheng He from China), Secretary General (Roma Kanopiene from Lithuania), Treasurer (Kaj Lax from Sweden), and Regional Officers and an Information Coordinator (the nature of this position and who will perform it is in discussion). The employers of Commission Officers typically provide logistic and administrative support. Most of the activities conducted are supported by the existing international network represented by Officers from five continents, working on behalf and in conjunction with the membership.

5. CHIEF ACCOMPLISHMENTS IN 2008

Business Meeting

The **Fifth Annual Business Meeting of IUGS-GEM** was held on August 8, 9, 2008, in Oslo, Norway. The meeting was organised by Philipp Schmidt-Thome, Officer for Europe and Jonas Satkunas, former secretary general of GEM. A total of 31 action items were generated, encompassing administrative and communication matters to support the scientific activities of IUGS-GEM (Appendix 2).

The new leadership was discussed and this was finalized jointly by the former Chair and **Incoming Chair, Dr. Kevin Telmer of Canada**, in consultation with the Officers. The IUGS-GEM Membership registration exercise is still ongoing and the focus is on ensuring that all officers actively recruit Corresponding Members. There are about 60 Corresponding Members from 31 countries and 1 Branch Member in Japan. Activities conducted by the Japan Branch of GEM that is substantially increasing the profile of GEM and IUGS in Japan were noted with appreciation. Highlights of the Business Meeting are discussed in the following sections.

The **Sixth Business Meeting of IUGS-GEM** will be jointly organised by Secretary General Roma Kanopiene from Lithuania and [Bernardino Figueiredo](#) and José Centeno Officers for America. The meeting is scheduled for August or September, 2009 in conjunction with the Third Hemispheric Conference on Medical Geology to be held in Montevideo, Uruguay. This will provide an opportunity to communicate with former GEM (and COGEOENVIRONMENT) officers that successfully created the International Association of Medical Geologists (IAMG) while reaching out to our South American partners for new and innovative working groups that can follow the successful model of the IAMG.

International Working Groups

Activities of IUGS-GEM are conducted primarily through International Working Groups. Officers lead and participate actively in the Working Groups. There were **four International Working Groups**: Urban Geology; Geology and Ecosystems (Geoecology); International Borders - Geoenvironmental Concerns; and Communicating Environmental Geoscience active in 2008.

Three Working Groups have fulfilled their objectives and will cease operations. They are the **International Working Group on Urban Geology, International Working Group on Geology and Ecosystems and the Working Group on International Borders - Geoenvironmental Concerns (IBC)**. These Working Groups produced closing reports on their overall activities and achievements. The reports will be placed on GEM web site and an abstract sent to Episodes for publication.

The **Working Group on Communicating Environmental Geoscience** commenced operations in October 2005. The Working Group is maintaining a website [<http://www.mun.ca/canqua/ceg/>]. The book ³Communicating Environmental Geoscience² was published by the Geological Society in November 2008. It is based on manuscripts of papers presented at a Workshop on Communication of Geoscience Information organised by the Working Group in the U.K. in September 2006.

Conceptual proposal are being developed for **new working groups and initiatives** in the following topics:- Groundwater and environment (IZ); Dust and particles (BM); Geopollution and man-made strata (HN) and (KF); Coastal processes and management (TD); Adaptation to climate change (PST); Forensic geology (BM); Geochemistry and Fisheries Management (KT); Gold and Mercury and People (KT); Carbon Capture and Storage (KT); Communication with mass-media (subtopic for CEG working group) (BM, DL).

International Year of Planet Earth

IUGS-GEM has undertaken the following 11 activities to celebrate the International Year of Planet Earth:

- Workshop on “Geosciences for Environmental Management”. Atibaia, Brazil, 22 October 2007.
- Workshops on “Climate Change and Potential Impacts on Natural Hazards”, 18 October 2007, UNICAMP and 19 October 2007, FAPESP, Brazil.
- Workshop on “Climate Change and Potential Impacts on Natural Hazards”, 24–25 October 2007, SERNAGEOMIN, Chile.
- Workshop on “Climate Change and Potential Impacts on Natural Hazards”, 30 October 2007, Canberra, Australia.
- Forum on “Cities and Climate Change: Adaptation and Planning Responses”, Putrajaya, Malaysia, 5 November 2007.
- International Symposium on “Cities and Conservation”, Putrajaya, Malaysia, 6–7 November 2007.
- Workshop: “Planning, Climate Change and Natural Hazards”, 13 November 2007, Bangkok, Thailand.
- IX Geochemistry Congress of Portuguese Language Countries, Cape Vert, 15–20 March 2008.

- Printing of the Brochure on Geoscience Dimension
- Publication of the Geological Society (London) / GEM book on “Communicating Environmental Geoscience”
- Publication of the CCOP / LESTARI/GEM book on “Geoscience Governance”
- Participation in the World Bank’s Communities and Small Scale Mining (CASM) Annual Meeting and Workshop. Brasilia, October 2008. (<http://www.artisanalmining.org/>)
- Application for Membership in the United Nation’s Environment Program (UNEP) Mercury Partnership Program (<http://www.chem.unep.ch/MERCURY/>), November, 2008.

33rd International Geological Congress

The following 11 sessions have been convened by IUGS-GEM Officers at the 33rd International Geological Congress held in Oslo in 2008:-

IGC Interdisciplinary Symposia - Earth System Management

- EME-02 Role Of Geoscience In Governance For Sustainable Development And Human Security *Conveners: Joy Jacqueline Pereira, Chen Shick Pei, Lars Persson*
- EME-04 Urban Geology Issues For African Megacities *Conveners: Theo Davies, Imasiku Nyambe, Brian Marker*
- EME-07 Mineral Extraction And Protected Areas – Striking A Balance For Sustainability *Conveners: Colin Simpson, Joy Jacqueline Pereira, Lars Persson*

IGC Interdisciplinary Symposia - Geohazards

- GHZ-07 Integrating Geological Hazard Assessment Into Urban Planning And Management *Conveners: Brian Marker, Philipp Schmidt-Thome, Mario A. Aurelio, Bhawani Shanker Paliwal*

IGC Interdisciplinary Symposia - Medical Geology

- MGH-01 Earth And Health - Medical Geology *Conveners: Olle Selinus, Eiliv Steinnes, Jane Plant, Lucy Hoareau, Ben Mapani, Robert Finkelman, Theo Davies, Catherine Skinner*
- MGH-02 Groundwater - Geopollution, Contamination And Health Aspects *Conveners: Shrikant D. Limaye, Anne Kousa, Jonas Satkunas, Hisashi Nirei, Kunio Furuno.*
- MGH-03 Emerging Issues In Geotoxicology - Other Aspects Of Medical Geology *Conveners: Olle Selinus, Philip Weinstein, José Centeno*

IGC Disciplinary Symposia - Structural Geology, Tectonics, Neotectonics

- STN-03 Morphotectonics Of Lowland Areas *Conveners: Andrzej Piotrowski, Marek Graniczny, Jonas Satkunas*

IGC Disciplinary Symposia - Geoscience Education and Ethics

- IEE-06 Community Service By Geoscientists — “Think Globally, Act Locally” *Conveners: Grant Heiken, David Liverman*

IGC Workshop:-

- WSS-05 Geoconservation For Sustainable Development And Earth Science Propagation, Geoheritage, Geosites, Geoparks *Conveners: Bill Wimbleton, Joy Jaqueline Pereira, Todor Todorov, Il'ya Fishman, Lars Erikstad, Francesco Zarlenga*

IGC Short Course:-

- SCS-02 Medical Geology *Presenters: Olle Selinus, Edward Derbyshire, Jose Centeno, Robert Finkelman*

Linkages

The Commission has interfaced with several international organisations to conduct activities and discuss potential initiatives. These include International Medical Geology Association, International Association of Engineering Geologists (IAEG), International Association of Hydrogeologists (IAH), Regional Organization for Planning and Housing (EAROPH), Task Force on Cities and Protected Areas of the World Commission on Protected Areas of IUCN –The World Conservation Union, International Society of City and Regional Planners (ISCRP) and the Coordinating Programme on Geoscience for East and Southeast Asia (CCOP). Discussions are underway to expand the network of linkages to include Global Environment Facility, UNDP, UNEP, HABITAT, World Bank, Global Water Partnership and several national level organizations. Technical meetings conducted in 2008 and planned for 2009 in conjunction with several national and international organizations are reported below.

Outreach and Communication

Websites are a primary tool for dissemination of information and its development is the focus of all Working Group activities where possible. The GEM Website (<http://web.uvic.ca/~iugsgem>) is now hosted on a permanent site. The new website is being promoted through brochures distributed at various international, regional and national meetings by Officers as well as articles in *Episodes* and other newsletters.

The official publication of the Commission is **GEM News**. Colin Simpson has been editor of GEM News, and has received support from LESTARI-UKM for layout, and dissemination via electronic and normal mail. Newsletters are distributed to 229 recipients in 82 countries in electronic form. Issue 13 (August 2008) of GEM News was also printed in hardcopy and distributed at several international meetings.

IUGS-GEM is preparing three **capacity building materials** to celebrate the International Year of Planet Earth (see above). The Information Package on Urban Geoscience entitled the Geoscience Dimension was distributed during the 33rd IGC. Funded by LESTARI-UKM with support from UNDP, UNESCO etc., the brochure is in the final stage of publication. Information on the two new books in press i.e. "Communicating Environmental Geoscience" (with the Geological Society, London) and "Geoscience Governance" (with CCOP / LESTARI-UKM) have also been distributed during the 33rd IGC. "Communicating Environmental Geoscience" is now published. The leader of IUGS-GEM Working Group on Communicating Environmental Geoscience presented at the IYPE Special Session on Geohazards at the 33rd IGC in Oslo, and a paper based on this presentation has been submitted for inclusion in the IYPE Book Series to be published by Springer.

As well, IUGS-GEM was acknowledged in a publication in the lead up to the development for the working group on Gold and Mercury and People. Chapter 6 of "Mercury Fate and Transport in the Global Atmosphere: Measurements, models and policy implications", eds. Nicola Pirrone and Robert Mason; Interim Report of the UNEP Global Mercury Partnership on Mercury Air Transport and Fate Research. This is currently the world's most recent and comprehensive estimate of the scale of ASGM gold production, mercury use, major knowledge gaps (including the combined use of cyanide and mercury in ASGM) and discussion of best potential reduction strategies and scenarios. It has been reviewed by industry (including mercury retailers and the chlorine industry), governmental, and academic experts. It contains more than 100 literature references. It is now published as part of the materials that will feed the UNEP governing council meeting in February 2009. Additionally, a version of it will be published by Springer.

Technical Meetings

Ongoing activities of the Commission have fostered greater awareness and appreciation of environmental geoscience amongst public, private and government individuals. In 2008, Officers of the Commission in conjunction with several parties organised and participated in **13 technical meetings**. Beneficiaries included geoscientists and representatives from the landuse planning, environmental management, geography, engineering and medical professions, and the sustainable development community. Seven of these meetings were held to celebrate the International Year of Planet Earth (see above). The other six technical meetings involving IUGS-GEM Officers are listed below:-

- International Symposium on Geo-pollution Science, 05/06/2008, Japan branch of GEM.

6. SUMMARY OF EXPENDITURE IN 2008

The Treasurer operates a bank account in Canada. The estimated expenses for 2007 is **\$US 85,028.00**. The Commission received \$US 7,500 from the IUGS in 2007. The balance was sourced from international organisations and national institutions for travel, sponsorship of technical meetings and administration costs. Institutions that contributed to GEM in 2008 include, University of Victoria Canada, Universiti Kebangsaan Malaysia, Geological Survey of Lithuania, Geological Survey of Finland (GTK), State University of Campinas – UNICAMP, FAPESP, among others.

Expenditure in 2008 is estimated as follows:

Travel/Accommodation of Officers	\$ US 45,000.00
Secretariat/Administration/Mailing	\$ US 3,000.00
Organisation of Annual Meeting (Oslo, Norway)	\$ US 9,000.00
Organisation of Technical Meetings/Workshops	\$ US 25,000.00
GEM Brochures/Newsletters	\$ US 7,500.00
Total	\$ US 89,500.00

Income in 2008 is estimated as follows:

Funds from IUGS (2007)	\$ US 7,500.00
Funds from Membership Fees	\$ US 1,000.00
Funds from Working Group Project*	\$ US 1,500.00
Funds from Other Sources	\$ US 79,500.00
Total	\$ US 89,500.00

*Balance of funds from the 2002 project, "Capacity Building in Urban Geoscience for Sustainable Development" was used to support GEM activities in 2008.

7. WORKPLAN FOR 2009

Administration

- Seek the most appropriate candidates from selected regions for recruitment of new Officers for Africa, South Africa, North America, India/Asia, and communication coordinators.
- Strengthen the membership to enhance multi-disciplinary communications.
- Identify priority specialist Working Groups to address the requirements of the Commission's aims and objectives
- Actively seek funding to support Working Group activities from international sources such as GEF, UNESCO, UNEP etc.
- Organise 6th Annual Meeting of IUGS-GEM in Uruguay and consolidate preparations for subsequent annual meetings.

Outreach and Communication

- Update and consolidate the website with existing networks for information dissemination
- Identify the types of interest groups for the focus of information dissemination and capacity building (stakeholder profiling)
- Disseminate information (publications /brochures /newsletters etc.) in partnership with both geoscience and non-geoscience stakeholders
- Improve communication with existing partners e.g. IAEG, IAH, International Society of City and Regional Planners (ISOCARP), Eastern Regional Organization for Planning and Housing (EAROPH), CCOP, etc.
- Expand networking with international organisations and programmes involved in environmental and natural resource management. Targets include the UN Commission on Sustainable Development, IUCN, Global Water Partnership, Millennium Ecosystem Assessment Initiative, the United Nations University, United Nations Environment Program (UNEP).
- Issues Number 14-15 of GEM-News
- Publication of Information package on urban geoscience
- Papers for *Episodes* and other journals, targeting multiple stakeholders.
- Begin developing communication with industry consortiums focused on sustainable development initiatives such as the International Commission non Metals and Mining (ICMM) and the Carbon Capture and Storage consortiums.
- Consider Developing a Wiki-site or Wikipedia entry for IUGS-GEM.

Technical Meetings

- Capacity building workshops and symposiums focused on developing countries, to celebrate the International Year of Planet Earth, where possible, in partnership with IUGS National Committees and Affiliated Organisations.
- Plan and implement the following collaborations:
 - International Medical Geology meeting. Ankara, Turkey;
 - GEOSEA XI Eleventh Regional Congress on Geology, Mineral and Energy Resources of Southeast Asia, Kuala Lumpur, January 2009.
 - Others will be discussed before and at the 2009 annual meeting

Estimated Budget

Financial independence from IUGS still remains a problem for the Commission and the means for addressing the problem is still being looked into.

Income in 2009 is estimated as follows:

Funds from Membership Fees	\$ US 1,000.00
Expected Funds from IUGS	\$US 10,000.00
Funds from Other Sources*	\$ US 45,000.00
Total	\$ US 56,000.00
Budget Deficit	\$ US 43,500.00***

*Funding will be sourced from national institutions of the Officers, through development of research proposals with international organizations and from sponsorship of meetings.

IUGS-GEM requests for an allocation of US 10,000 for 2009 from the IUGS for events planned to support the International Year of Planet Earth and other activities

8. ANTICIPATED WORK PLAN FOR NEXT FIVE YEARS

- ❑ Maintain and promote a world wide web site and home page for the Commission;
- ❑ Investigate other internet based methods of communication such as a Wiki-site, Facebook, etc.
- ❑ Increase number and diversity of corresponding members to include geoscientists and non-geoscientists;
- ❑ Support and participate in multidisciplinary research projects to address emerging issues;
- ❑ Achieve financial independence from IUGS with increased sponsorship;
- ❑ Continue publication of Commission Newsletter;
- ❑ Organize and sponsor several conferences, short courses and workshops on a variety of geoenvironmental issues in numerous countries;
- ❑ Co-sponsor numerous conferences, meetings, courses and workshops with targeted organisations stressing policy relevance of geoenvironmental issues;
- ❑ Organise focused workshops to help geoscientists to communicate with potential interest groups within and outside of the geosciences
- ❑ Present technical and public lectures at numerous international venues;
- ❑ Publish policy-relevant geoenvironmental booklets, brochures, pamphlets and books for targeted audiences;
- ❑ Initiate new projects on geoenvironmental concerns and host meetings, conferences and courses on the working group themes;
- ❑ Foster cooperative ventures with affiliated organisations and bodies as well and non-geoscientific bodies;
- ❑ Improve public, private and government appreciation and education of the role of geosciences in environmental planning and sustainable development.

APPENDIX 1

LIST OF OFFICERS

CHAIR

Dr. Kevin Telmer
Associate Professor
School of Earth and Ocean Sciences
P.O. Box 3055 STN CSC
University of Victoria
VICTORIA, BC, Canada, V8W 3P6
Tel: + 250-472-4182
Fax: + 250-721 6200
Email: ktelmer@uvic.ca

VICE CHAIR

Prof. Dr. Qingcheng He
Deputy Chief Geologist
China Institute for Geo-Environmental Monitoring
No.20 Dahuisi, Haidian District
BEIJING 100081, China
Tel: +86-10-62171221
Fax: +86-10-62173426
Email: heqc@public.bta.net.cn

SECRETARY GENERAL

Roma Kanapiene
Geological Survey of Lithuania
S. Konarskio 35
LT-03123 VILNIUS
Lithuania
Tel: +370-5-233 22 86
Fax: +370-5-2336 156
Email: roma.kanapiene@lgt.lt

TREASURER

Kaj Fredrik Lax
Geological Survey of Sweden
Div of Environment and Geochemistry
P.O. Box 670
SE-751 28 UPPSALA
Tel: +46 18 17 93 94 (work)
Tel: +46 70 654 98 59 (home)
Email: kaj.lax@sgu.se (work)
Email: kaj.lax@gmail.com (priv)

OFFICERS

Dr. Jose A. Centeno
Chief, Division of Biophysical Toxicology
Chief, Education and Research Branch
Dept. of Environmental and Infectious Disease Sciences Armed Forces Institute of Pathology
6825 16th Street, N.W. Bldg. 54, Room M099A
WASHINGTON, D.C. 20306-6000. U.S.A.
Tel: +202 782-2839
Fax: +202 782-9215
Email: centeno@afip.osd.mil/tonycent@comcast.net

Mr Kunio FURUNO
Environmental Geologist
Research Institute of Environmental Geology
3-5-1, Inage-kaigan, Mihama-ku, Chiba-City, Chiba Prefecture, 261-0005 JAPAN
Phone: +81-43-243-0261
Fax: +81-43-243-0263
email: k.hrn3@mc.pref.chiba.lg.jp

Prof. Marek GRANICZNY
Geoinformation Director
Polish Geological Institute
Rakowiecka 4, 00-975, Warsaw, POLAND
Tel.: +48-22-849 551
Fax: +48-22-8494 926
Email: mgra@pgi.waw.pl
Web: http://www.pgi.gov.pl/pgi_en/

Dr. David Liverman
Newfoundland Geological Survey,
Department of Natural Resources,
P.O. Box 8700, ST. JOHN'S, Newfoundland,
A1B 4J6 Canada
Tel: 709-729-4014
Email: dliverman@gov.nl.ca

Prof. Ben Mapani
University of Namibia

Prof. Hisashi NIREI
Centre for Water Environment Studies
Ibaraki University, Ohu,
ITAKA CITY, 311-2402 Japan
Tel. +81-299-7250
Fax. +81-299-67-5175

E-mail : nireihisashi@msn.com

Dr. Philipp Schmidt-Thomé
Geological Survey of Finland (GTK)
P.O. Box 96, 02151 ESPOO
Finland
Tel: +358 20 550 2163
Mobile: +358 40 54 24 192
Fax: +358 20 550 12
Email: philipp.schmidt-thome@gtk.fi

Prof. Eduardo Anselmo Ferreira da Silva
Departamento de Geociências.
Campus Universitario de Santiago
3810-193 AVEIRO
Portugal
Tel: 351-234-370-759
Fax: 351-234-370-605
Email: eafsilva@geo.ua.pt

Prof. Igor Zektser
Laboratory of Hydrogeology,
Water Problems Institute
Russian Academy of Sciences
3 Gubkina Str., 117971 MOSCOW,
Russia
Tel: +7-095-135-4006
Fax: +7-095-135-5415
Email: zektser@aqua.laser.ru

INFORMATION COORDINATOR

Position Currently Open

APPENDIX 2

ACTION ITEMS OF THE 5th ANNUAL MEETING, AUGUST 8-9, 2008, OSLO, NORWAY,

Attendees:

1. Dr. Joy Pereira (JP)– Former Chairperson
2. Dr. Kunio Furuno (KF)– Japan branch of GEM
3. Dr. Brian Marker (BM)–Urban Geology WG Chairman, Former Officer for Europe
4. Prof. Hisashi Nirei (HN)– Japan branch of GEM
5. Dr. Jonas Satkunas (JS)– Former Secretary General of GEM; IBC WG Co-chairman
6. Dr. Philipp Schmidt-Thome (PST)– Officer
7. Dr. Roy Shlemon (RS)– Former Officer for North America
8. Mr. Colin Simpson (CS)– Former Information Coordinator
9. Dr José Centeno (JC)– Officer for Caribbean Basin, Co-Chairman and Representative of IMGA
10. Prof. Marek Graniczny (MG)– Officer for Europe, IBC WG Co-chairman
11. Dr. Theo Davies (TD)– Former Officer for Africa
12. Prof. Igor Zektser (IZ)– Officer for Russia and Chairman of WG Geology and Ecosystems
13. Prof. Qingcheng He (QH)– Officer for China and East Asia, Vice-chair of GEM
14. Dr. David Liverman (DL)– Chairman of WG Communication of Geosciences
15. Mrs Roma Kanopiene (RK) –Secretary General of GEM
16. Dr Kai Lax – Treasurer of GEM
17. Prof. Eduardo da Silva (ES)– Officer

Apologies:

- Dr. Kevin Telmer (KT)– Chairman of GEM, former Treasurer
 Prof. Bernardino Figueiredo (BF)– Officer for South America
 Dr. Imasiku Nyambe (IN)– Former Vice Chairman and Officer for Southern Africa
 Prof. Ben Mapani – Officer for Africa
 Dr. Laurance John Donnelly- candidate officer

Observers

- Dr Jurga Lazauskiene, Lithuanian Geological Survey
 Dr Takashi Kusuda, Japan branch of GEM
 Dr Osamu Kazaoka Japan branch of GEM
 Dr Atsushi Kagawa, Japan branch of GEM
 Dr Takeshi Yoshida, Japan branch of GEM
 Dr Adam Thomas, InSAR Surveying Consultant, Fugro NPA Limited (UK)
 Dr. Mario Aurelio, University of Philippines

List of Actions Abstracted from the Minutes:

- Action 1:** (JP, QH, KT) to compile report to IUGS executive committee for GEM activities for 2008 by 31st December.
- Action 2:** JC to provide new linkages on water issues.
- Action 3:** JC to explore the possibility of editorial to the journal of Environmental monitoring on water issues.
- Action 4:** KL to contact Olle Selinus to develop linkages with Stockholm International Water Institute.
- ACTION 5:** Investigate possibility of web links between GEM and the UNEP Mercury Programme (KT, CS). Continuing.

- ACTION 6:** Investigate possibilities for a project proposal to GEF (KT). Continuing.
- Action 7:** All officers to routinely check and report any problems with GEM web to (KT).
- Action 8:** GEM have been represented successfully at the 33rd IGC
- Action 9:** (KT) to design an archival structure for regional reports and reports of working groups and other materials as appropriate to be placed on the web.
- Action 10:** (DL) Reports from working groups should be prepared in more standard way. Reports of all groups should be of the similar structure.
- Action 11:** (BM) to produce a closing report on overall activities of WG. This to be placed on GEM web and an abstract send to Episodes for publication (done); Working Group on Geology and Ecosystems (IZ). Final report done by IZ
- Action 12:** (CS) Abstract of the book, contents list, and link to Springer website to be put on the GEM web.
- Action 13:** (JS) Closing report to be presented at the GEM 2008 annual meeting (done).
- Action 14:** (JS, DL) to investigate possibilities to use IBC website for further communication
- Action 15:** (KT) ToR to be developed and distributed to all officers.
- Action 16:** (KT, QH, DL) ToR's should be prepared for each working group and distributed to all officers
- Action 17:** All officers to submit, by end of 2008 names and CV's of potential new officers, to GEM link e-mail to allow selections. (done)
- ACTION 18:** An internet distribution list of Corresponding members, and method of voluntary subscriptions to be set up (DL) (renewed).
- Action 19:** KT continue developing list server at UVic. Membership application form to be downloadable from GEM web.
- Action 20:** (JS) to check status of Japan Branch Members re serving term as Officers. done
- Action 21:** (KT, QH, TD) to introduce new officers for Africa and Southern Africa.
- ACTION 22:** The TOR and the title of the WG on "Source Apportionment" to be updated on the basis of discussion and e-mail communication. Updated TOR will be presented at the GEM Annual Meeting (KT). **W.G. will change to Gold and Mercury and People.**
- ACTION 23:** Prepare Draft TOR for Groundwater and Environment WG and identify potential partners (e.g. IAH) (IZ). **Pending.**
- Action 24:** All authors as listed above provide summary to all officers and provide details of potential leaders.
- Action 25:** to discuss via e-mail the need and possible actions of proposed working groups.
- Action 26:** All officers: final version of regional reports for 2008 to be sent to (CS) for posting on the website and publication in GEM news. (done)
- Action 27:** to distribute via e-mail the reports to all officers before the next annual meeting.
- Action 28 :** all officers should look for the financing from outside
- Action 29 :** (JC) to find out the schedule of events organized in Puerto Rico/Uruguay in the conference devoted to the Year of Planet Earth and to suggest dates for the GEM annual meeting.
- Action 30:** (RK) to contact JC and co-operate for the organization of the GEM meeting.
- Action 31 :** (RK) to provide information about the GEM meeting in 2009 for all officers.