

# International Year of Planet Earth

Final Report



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United Nations  
Educational, Scientific and  
Cultural Organization



International  
Union of Geological  
Sciences

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## Summary

The International Year of Planet Earth (IYPE) was established by the General Assembly of the United Nations for 2008 with a view to raising worldwide public and political awareness of the vast, though frequently under-used, potential the Earth Sciences possess for improving the quality of life of the peoples of the world and safeguarding Earth's rich and diverse geo-environments. The International Year project was jointly initiated in 2001 by the non-governmental International Union of Geological Sciences (IUGS) and the Earth Science Division of the inter-governmental United Nations Educational, Scientific and Cultural Organisation (UNESCO). To increase its impact, the UN Year (2008) was stretched to an IYPE triennium that included 2007 and 2009. The IYPE Corporation, consisting of a Board of Directors, a Secretariat and an Advisory Group, was registered in 2006 as a non-profit organisation in the USA. A strong emphasis on enhancing the role of the Earth sciences in building a healthier, safer and wealthier society was adopted – as declared in the Year's logo strap-line "Earth Sciences for Society". Two operational programmes addressed *outreach* to raise public and political awareness, and *science* to enhance research in the Earth sciences. Through IYPE's 80 National and Regional Committees, the Outreach Programme, with a major education component, achieved considerable success in the hands of the IYPE member states representing over 80 percent of the global population. The Science Programme concentrated on bringing together scientists from around the world to advance collaborative science in ten designated areas of global concern. These areas included groundwater, human health, climate change, geo-hazards, resources, mega-cities, deep Earth, soils, ocean, and Earth & life. As fundraising started to bear fruit quite late in the triennium, insufficient funds were available to properly support a (costly) Science Programme. Moreover, several of the ten IYPE themes were addressed at national levels through current university curricula and special programmes. The IYPE has undoubtedly benefitted the Earth sciences and has left a significant legacy, including more students enrolling in the Earth sciences in at least eleven countries. The UN proclamation was crucial for the success of the IYPE, in particular for national implementation of the aims and ambitions through its National and Regional Committees.





## 1. Introduction

Following adoption of a Draft Resolution on proclamation of the International Year of Planet Earth by UNESCO's 33<sup>rd</sup> General Conference in October 2005, the United Nations General Assembly, in its 68<sup>th</sup> Session, adopted on 22 December 2005 Resolution 60/192 to proclaim 2008 the International Year of Planet Earth.

The rationale for the International Year of Planet Earth (IYPE) was the rather dramatically declining numbers of students enrolling in the Earth sciences at a time when society is in need of substantially more such experts. Education in the Earth sciences provides humankind with the ways and means of ensuring sustainable use of natural resources and of generating the scientific infrastructure that is vital for sustainable development, yet the available wealth of scientific information on planet Earth remains largely untapped and hardly known to the public and their decision makers. Thus, the IYPE and its legacy initiatives are well placed to raise public awareness of the importance for sustainable development of the Earth's processes and resources; disaster prevention, reduction and mitigation; and capacity building for the sustainable management of resources. It follows that the International Year should be seen as an important contribution to the UN Decade for Education for Sustainable Development. The ambition to promote the use of (Earth) science for decision making on societal issues was expressed in the IYPE's subtitle: *Earth Sciences for Society*.

The UN Proclamation was the result of a process initiated in 2001 on the part of the International Union of Geological Sciences (IUGS), with the support of UNESCO, both of which were identified as the IYPE Initiators. IUGS, which is a Non-Governmental Organisation, and UNESCO, an Inter-Governmental Organisation, already shared a long record of productive cooperation in the natural sciences and their application to societal problems, including the International Geoscience Programme (IGCP), now in its fourth decade.

This Report describes the history and the development of the initiative towards UN Proclamation. Next, attention is given to the various components of the IYPE organisation, followed by the main part of the Report: Implementation. This Chapter describes the two main programmes and includes a presentation of the main activities undertaken by all National and Regional IYPE Committees. This is followed by a description of the communication tools used for implementation. Chapter 6 provides a financial overview of the IYPE, followed by information on the output and legacy of the IYPE in Chapter 7. This is followed by several short chapters: on the relation with other simultaneous international Years (8), on UNESCO's role in the IYPE (9), on perspectives for the future (10) and, finally, Conclusions and Evaluation (11). Several Annexes complete the Report.





## 2. History

### a. Rational and inception

The idea of the International Year of Planet Earth emerged during Eduardo de Mulder's evaluation of the state of the Geosciences when he took over the office of President of the International Union of Geological Sciences (IUGS) in August 2000. Despite quite significant and accelerated progress in the Earth sciences over the past four decades resulting in paradigm shifts on the stability of the Earth's crust (plate tectonics), the understanding of Earth processes (assisted by physical and numerical modeling), the resolution in time (at annual levels to at least 800,000 years ago), and the transparency of the composition of the planet (seismic tomography, geological mapping and digital data storage and processing), public awareness of the Earth sciences seemed to have been in decline since the early 1980s. Evidence of such decline was expressed by the numbers of students enrolling in Earth science departments of universities, mining schools and other education centres.

This development was attributed to at least two approximately concurrent factors (de Mulder, 2005):

#### **Worldwide declining commodity prices**

Despite strongly increasing demands for Earth materials and contrary to pessimistic views on exhaustion of Earth resources as expressed by Meadows et al. (1972), commodity prices fell significantly after the early 1980's, following long-term historic and generally downward trends for raw materials (International Monetary Fund, 2001). Reducing commodity prices may partly be attributed to new discoveries. A well-trained generation of exploration geologists, equipped with new tools, including satellite images and 3D seismic surveying techniques, and assisted by rapid data handling and modeling methods, identified many new and extensive resources of almost all metals, minerals and fossil fuels. Thus, instead of heading for immediate exhaustion, the world reserves of most commodities were increasing (Crowson, 1998). Moreover, new discoveries were made at a time when exploration budgets in the mining sector – normally positively correlated to commodity prices – were being cut (Goulden, 2006). That resulted in significantly fewer job opportunities for young professionals in the extraction industry, traditionally the sector that employs most of each new generation of Earth science graduates.

#### **Growing public concern for the environment**

From the mid 1970's public concern about the environment and its impact on health and well-being began to grow. Two publications played an important role in this respect: 'Silent Spring' (Carson, 1962) and 'The Limits to growth: a global challenge' (Meadows et al. 1972). These publications placed 'the environment' on the political agenda and prompted governments to take measures to protect it. Environmental concerns dealing with the geosphere were also expressed by the geoscience community (Fyfe, 1981). Such concerns resulted in a negative public reaction to those industries traditionally associated with exploitation of Earth resources and their related professions, including the Earth sciences.

In combination, both factors contributed to a sharp decline in student enrolment. Despite sharply rising commodity prices since 2002/2003, student enrolment in the Earth sciences did not grow in most of the developing countries (Figure 1). Apparently, negative perception of this profession prevailed among the young people in most countries, regardless of the adoption of new and more environmentally concerned policies on the part of the mining and oil industries.

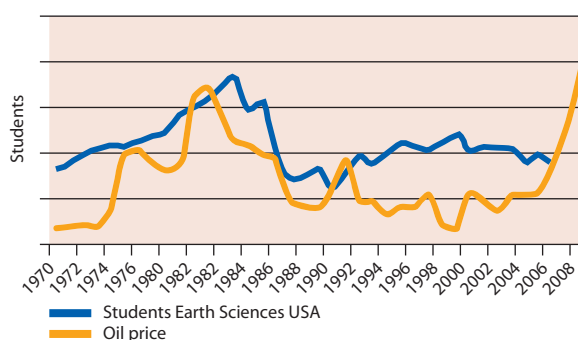


Figure 1. Student enrolment in the Earth sciences at universities in the USA (in blue) and oil price development (in red), period 1970-2008. Modified after AGI.





Given today's unprecedented demand for more Earth science based expertise in response to recovering commodity prices (and associated increased industrial demands) and rapidly increasing sustainable development issues in the public sector requiring more integral solutions including knowledge about the subsurface, a continued decline in the application of Earth science expertise would seriously affect both industry and government in the coming decades. The current population in the mining industry is aging and mass retirement in this sector is imminent (Figure 2). As with the OECD countries, this also holds true for geoscientists in general, in contrast to, for example, China (Figure 3).

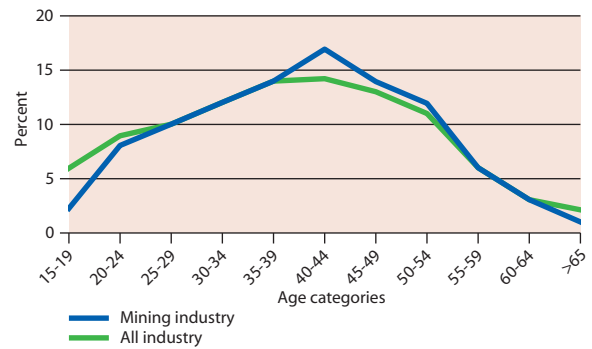


Figure 2. Aging in the mining industry. Age comparison of employees in the mining industry and all industry in Canada.

Concern for the lack of interest in Earth science related careers among young people has been one of the main drivers in the search for a better and more realistic profiling of the profession. Other factors that drove the initiative included the lack of awareness among politicians of the importance of including Earth-related factors in decision making. This was dramatically demonstrated by the quarter of a million casualties in the December 2004 Indian Ocean tsunami and the high death rate and economic toll of the Hurricane Katrina floods that devastated New Orleans and its hinterland in 2005. The physical mechanisms causing such disasters were well-known to experts but apparently not to the authorities.

Traditional means of communication within the science community had thus far failed to raise such awareness and to draw young people towards the Earth sciences. In his inauguration lecture as incoming IUGS President, Eduardo de Mulder announced an unconventional approach: to explore options of an International Year of Planet Earth to be proclaimed by the United Nations. That concept was built on the significant success of the International Geophysical Year (1957-58) that resulted in major new scientific discoveries and, through massive exposure to the public, a new generation of Earth scientists. Proclamation by the United Nations General Assembly could be expected to open doors to politicians and Heads of State in all UN member countries and, in so doing, urge them to implement the aims and ambitions of the International Year at the national level.

In March 2001, the Executive Committee of the IUGS approved a proposal for a feasibility study to be undertaken on such an International Year. Subsequently, the Director of UNESCO's Earth Science Division, Wolfgang Eder, endorsed the concept and announced UNESCO support for the initiative. From that moment, both IUGS and UNESCO were considered as joint Initiators of the International Year of Planet Earth concept. A report on the Feasibility Study discussing the way ahead through the UN System was approved by IUGS and UNESCO during their meeting on 28 February 2002.

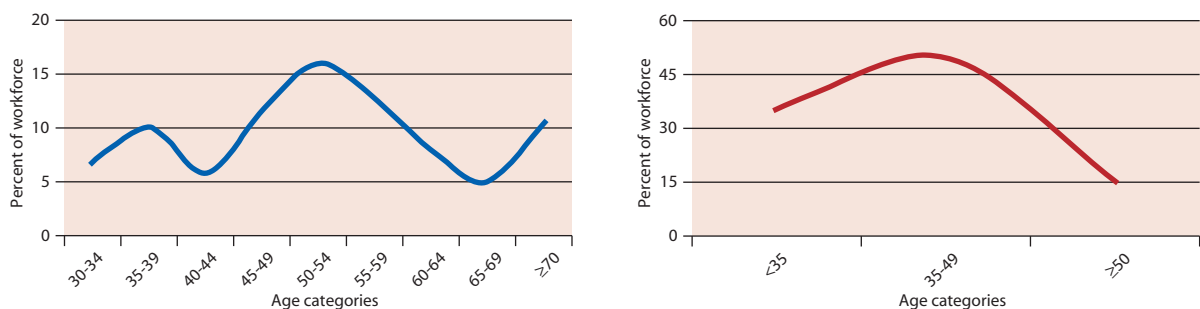


Figure 3. Age comparison of geoscientists between the USA (left) and China (right).





## b. Preparatory Phase

Approval of the report on the Feasibility study marked the start of the Preparatory Phase. A Management Team was formed, led by Henk Schalke, with Wolfgang Eder representing UNESCO and Eduardo de Mulder representing IUGS. In the course of 2002, a Science and an Outreach Programme (SPC and OPC) were developed, spearheaded by Edward Derbyshire and Ted Nield, respectively, each occupying a seat in the Management Team as well. Following some reconnaissance meetings, a first flyer was produced in 2002 (Figure 4). In the same year, a national initiative to promote the Earth sciences was undertaken by the German Ministry of Research & Technology. That development (Das GeoJahr) addressed the elements Air, Water, Fire and Earth to a large audience and almost 1 million Germans attended System Earth-related festivities in many cities. Das GeoJahr served as a model, the German Ministry graciously granting permission for the IYPE to use their attractive logo for its global venture.



Figure 4. First IYPE flyer and the IYPE logo, originally designed for the German GeoJahr (2002). The German Ministry for Higher Education granted the IYPE permission to use their logo. The light blue coloured outer semi-circle represents the atmosphere, the dark blue quarter circle the hydrosphere, the green quarter circle the biosphere and the full circle in the centre represents the geosphere, together demonstrating the coherent compartments in System Earth.

In February 2003, an international panel of 21 leading geoscientists met to produce a list of potential topics for IYPE themes. Through a voting process, the Initiators selected eight science themes: *Groundwater, Climate, Health, Deep Earth, Resources, Megacities, Hazards* and *Ocean*. In the course of 2003 and 2004, two more themes (Soils and Life) were added. The IGCP Scientific Board unanimously endorsed the IYPE and regional representatives for Africa, Russia and China were added to the Management Team. The first sponsors, among which was Shell International, started supporting the initiative financially. The International Union of Geodesy and Geophysics (IUGG) and the International Geographical Union (IGU) registered as the first two Founding IYPE Partners, soon followed by the International Union of Soil Sciences (IUSS).

On 11 February 2004, an Information Meeting for UNESCO Permanent Delegates was held at UNESCO Headquarters, chaired by the UNESCO Director General, Koichiro Matsuura. That resulted in the first political support by six nations: Brazil, Argentina, Italy, Jordan, China and the Russian Federation. While the number of Founding Partners continued to grow, a Science Implementation Plan was developed and the first IYPE thematic brochures were printed. In August 2004, the joint Council of IUGS and the International Geological Congress, together representing Earth science communities in 140 countries and regions, adopted a Declaration on the International Year. Through this Declaration, UNESCO's Executive Board was invited to adopt an International Year of Planet Earth, in consideration of the fact that the geosciences can contribute significantly to a safer, healthier and wealthier world and that the potential of this contribution has been seriously under-used by society and should be substantially increased. In sum, proclamation of an International Year under the aegis of UN member states was seen as a means of enhancing public awareness of the contribution to sustainable stewardship of the planet made by the Earth sciences.







By early April 2005, the level of political support had grown to 17 UN nations (Argentina, Brazil, China, Germany, India, Israel, Italy, Jordan, Kazakhstan, Lithuania, Mauritius, Mexico, Namibia, Pakistan, Romania, Russian Federation and South Africa), together representing over half the world's population. On 28 April, a draft Resolution for UNESCO's Executive Board, tabled by the Permanent Delegation of the United Republic of Tanzania, was adopted; the resolution invited UNESCO's Director General to support all efforts leading to the United Nations General Assembly declaring the International Year of Planet Earth (Figure 5). Twenty five nations (Tanzania, Brazil, China, Burkina Faso, Turkey, Egypt, Ghana, Jamaica, Slovenia, Sri Lanka, Pakistan, Kenya, Ukraine, Algeria, Morocco, Russian Federation, Mozambique, Germany, Swaziland, Rwanda, Senegal, Mauritius, Italy, Namibia and Canada) voiced their full support at the 171<sup>st</sup> meeting of UNESCO's Executive Board. That brought the total of supporting nations to 34, representing over 3.7 billion people, some 58% of the world's population.



Figure 5. Mohammed Sheya proposing the International Year of Planet Earth in the UNESCO Executive Board on 28 April 2005.

### c. Transition Phase

Adoption of the draft Resolution by UNESCO's Executive Board marked the beginning of the Transition Phase. As a next step, UNESCO's 33<sup>rd</sup> General Conference adopted a Draft Resolution in October 2005 while adding 15 more nations (Afghanistan, Botswana, Chile, D.R. Congo, Costa Rica, Cuba, Indonesia, Nigeria, Philippines, Portugal, South Korea, Spain, Sudan, Togo and the United States of America). With the United Republic of Tanzania again taking the lead of a core group of 82 nations, a draft Resolution was adopted without opposition by the 2<sup>nd</sup> Committee of the General Assembly on 11 December. UN proclamation of the International Year of Planet Earth, 2008 (Resolution 60/192) then followed by consensus in the General Assembly at its 68<sup>th</sup> plenary meeting, on 22 December 2005 (see Annex 1).

In January 2006, Statutes and Bye laws were produced and approved by the IUGS Executive Committee and successively by UNESCO. It was agreed that the IYPE would be a Triennium, starting on January 1<sup>st</sup> 2007 and closing on 31 December 2009. For administrative reasons, the formal closure of the IYPE Corporation was set at 30 June 2010.

The Management Team remained in place until the IYPE Board was established. For medical reasons Henk Schalke had to resign as the Chair of the Management Team, to be succeeded by Eduardo de Mulder. On 16 March 2006, the IYPE was registered as a non-profit Corporation in the State of Delaware in the USA. By then, twelve Founding Partners and 25 Associate Partners had expressed their support for the IYPE and National Committees began to develop in several countries in the course of 2006. In May 2006, a process was set in motion by which organisations were invited to host the IYPE Secretariat. That process was completed on 13 November 2006 when the Initiators approved the bid by the Norwegian Geological Survey, one of three organisations that competed for the position of host of the IYPE Secretariat. Eduardo de Mulder was subsequently invited to serve as Executive Director of the Secretariat. On 22 November 2006, the International Union of Geological Sciences (IUGS) and UNESCO signed a Joint Statement in support of the IYPE. In the meantime, members of the IYPE Board were identified as well as several of the Senior Advisors in the Advisory Board. By the end of 2006, the IYPE structure was in place and the *Implementation Phase* (Chapter 4) began.





### 3. Organisation

#### a. Structure

On 16 March 2006, the International Year of Planet Earth was registered as a non-profit Corporation under the General Corporation Law of the State of Delaware, USA, under file number 4127390, by Senior IYPE Advisor Robert R. Jordan. The IYPE Corporation is composed of two basic components: the Board and the Secretariat. The IYPE Board governs the organisation and determines its direction and the Secretariat implements the Board decisions and effectively runs the IYPE operations. An Advisory Board assisted both IYPE main components.

Following approval by IUGS and UNESCO, the Statutes and Bye Laws became an integral part of the registration documents of the IYPE Corporation, together with the list of Board members. Soon after registration the IYPE Corporation applied for federal tax exemption status in the USA. However, such status was denied for two reasons. 1. Control of IYPE was beyond US control as its main operating office (the Secretariat) was located outside the USA, the majority of its Board members are non-US residents, and its main sources of financial support comes from outside the USA; and 2. Insufficient financial information was supplied to demonstrate the full IYPE global activities. That argument was based on the fact that the majority of IYPE operations were run by its National Committees who were not bound to report their financial operations to US federal tax authorities.

On 30 June 2010, original hard copies of the required dissolution documents for closing the IYPE Corporation were sent to the Delaware Secretary of State Corporation Division.

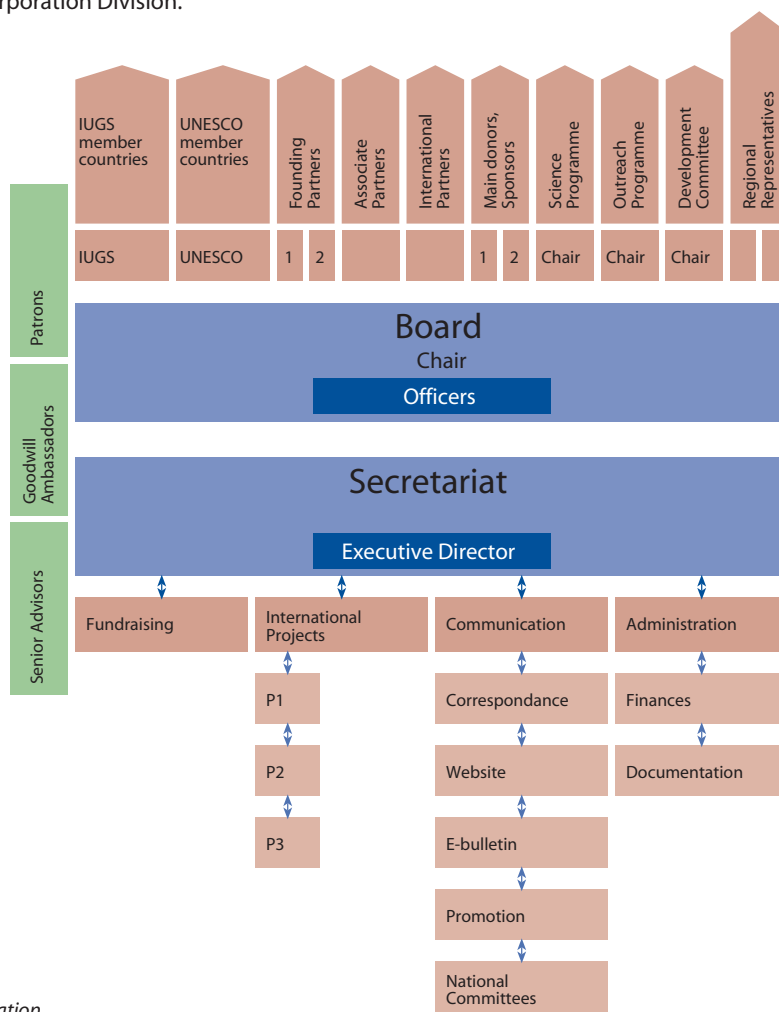


Figure 6. Organisation scheme of the IYPE Corporation.



## **b. Board**

The Board of Directors (The Board) of the International Year of Planet Earth comprised the following positions (Figures 6 and 7; Annex 2): the Chair, the Vice Chair, the representative of the IUGS, the representative of UNESCO, the Chair of the Development Committee, the Chair of the Outreach Programme Committee, the Chair of the Science Committee, a representative of each of the Founding Partners, a joint representative of the Associate Partners, a joint representative of the International Partners, a representative of the 4-stars sponsors, representatives of the National Committees in North America, Latin America, Africa, Europe, West Asia, Central Asia, South East Asia and Australasia. No representative of the last mentioned region was identified. The total membership of the IYPE Board of Directors was 28.

A subset of the Board of Directors was the Board of Officers, consisting of the Chair and the Vice Chair, the representatives of IUGS and UNESCO, and the Chairs of the Development, the Outreach and the Science Programme Committees. The Board of Officers was in charge of supervising daily operations.

During the IYPE Triennium, the Board of Directors met six times, twice per year. All meetings were recorded and Minutes were produced and submitted for approval by the participating members. Condensed minutes were made available on the IYPE website shortly after each Board meeting. In all meetings of the Board of Directors sufficient members participated to make up the quorum required for voting. In acknowledgement of their significance in the creation of the IYPE, the two Initiators (IUGS and UNESCO) were accorded veto power in respect of voting at Board meetings and in any electronic voting. The Executive Director of the Secretariat was not a member of the Board but prepared and attended all meetings as an observer.



*Figure 7. Members of the IYPE Board and observers in their meeting at the Geological Society in London, January 2009.*

## **c. Secretariat**

In 2006, the Norwegian Geological Survey (NGU) won the competition for host organisation of the IYPE Secretariat. The Secretariat was located in the NGU premises in Trondheim and was run by at least two employees of the NGU. During busy times, in particular during preparations for the Global Launch Event in Paris, 12 & 13 February 2008, the Secretariat personnel increased up to five more NGU employees. Working hours were registered and invoices were settled on a three-monthly basis. The Executive Director of the Secretariat was not employed by NGU but his working time, in hours, were sent by invoice to the Corporation. An Agreement on operational, administrative and financial aspects concerning the Secretariat was signed by the Chair of the Board, the Director of the NGU and the Executive Director of the IYPE Secretariat on 4 May 2007. Financial support for the IYPE Secretariat was provided by the Norwegian Royal Ministry of Education and Research and by a subsidy from the Dutch Ministry of the Environment (Chapter 6).

Tasks of the Secretariat included services related to the Board (preparing Board meetings, producing Minutes of Board meetings, preparing voting and implementation of the decisions by the Board), services related to Advisory bodies (communication with Senior Advisors, Goodwill Ambassadors and Patrons), services related to the National Committees (communication with, visiting, filing correspondence and providing assistance to the NCs), communication with third parties, public relations (contributing to website, distribution of material in the public domain, presence in exhibitions), keeping a calendar of events, fundraising together with members of the Development Committee, handling science and outreach proposals (communication with proposers and SPC and OPC leaderships), book keeping, taxes and legislation (book keeping for all IYPE accounts, reporting on financial status to the Board, facilitating financial audits, filing tax forms, communication with legal counsel), and reporting (producing quarterly reports, other reports and the Final Report to the United Nations and the Initiators).



The work load in the IYPE Secretariat evolved during the Triennium. Figure 8 shows rapid growth starting from Q3 2007 and spiking in Q1 2008. This spike was a result of the activities by the Secretariat in preparation for the Global Launch Event in Paris, February 2008. For the other major international IYPE event, the PEL2009, no such spike in working hours was encountered because the task was outsourced to an external event agency. That agency operated from a side office in Lisbon offered to the IYPE by the Portuguese Ministry of Economy and Innovation. Hours spent in the Lisbon Office are not incorporated in the graph. During the period January-May 2010 some Secretariat work was also delegated to the Lisbon Office.

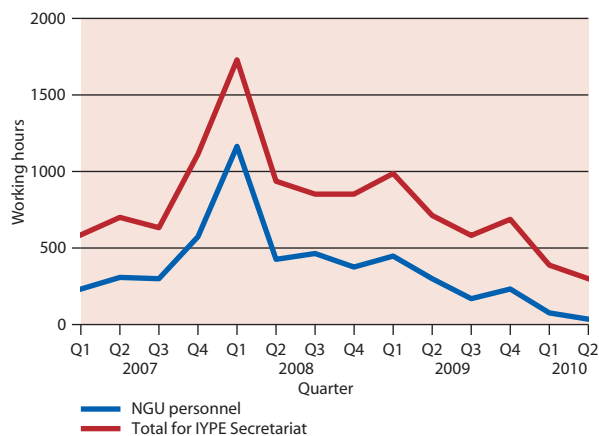


Figure 8. Registered working hours IYPE Secretariat.

#### d. National & Regional Committees

The ambitions of the International Year of Planet Earth were implemented at both international and national levels. National IYPE Committees were established in 79 countries: Albania, Andorra, Angola, Argentina, Australia, Austria, Belgium, Botswana, Brazil, Bulgaria, Cabo Verde, Cameroon, Canada, Chile, China, Congo (DR), Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Ethiopia, Finland, France, Gambia, Georgia, Germany, Greece, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Kenya, Korea, Latvia, Lithuania, Luxemburg, Malaysia, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Turkey, Ukraine, United Kingdom, Uruguay, USA, Vietnam, Yemen and Zambia. In addition, a Regional Committee was established for East and Southeast Asia. Taken together, these nations and the one region had access to 82% of the world's population.

Spurred on by the UN Proclamation, groups of Earth scientists, including Geological Societies, Geological Surveys and National UNESCO Commissions in many nations, considered implementing the IYPE aims and ambitions at a national level. To that end, they sought the Secretariat's permission to use the IYPE logo and to act on behalf of the IYPE in their own country. Such requests were normally granted by instructing them to create a formal body able to serve as the National Committee of the International Year of Planet Earth. Once that was done and the body was authorised by the government or other national recognised body, a model Memorandum of Understanding was delivered to the nation involved. This document set out the responsibilities of the National Committee and included a description of the International IYPE Corporation. Upon the mutual signing of the Memorandum, the National Committee was formally established. The same procedure applied to the establishment of the one Regional Committee for IYPE.

In the course of the Triennium, 11 meetings with National and Regional Committees were held, normally linked to a major Earth science event. Such meetings were held in London (January 2007), in Vienna (April 2007), in Denver (October 2007), in Paris (February 2008), in Vienna (April 2008), in Arusha (May 2008), in Vienna (April 2009), in Kuala Lumpur (June 2009), in Lisbon (November 2009), in San Francisco (December 2009) and in Vienna (April 2010). Attendance ranged from 7 to 59 National Committees.

National Committees contributed to the IYPE publications by reporting on their activities. Descriptions of all individual National and Regional Committees are given in this Report on pages 20-57.

Typically, National Committees began their activities with a launch event or celebration. On such occasions, representatives of the government, scientific organisations, NGO's, industry and groups of school children and students normally attended such events (Table 1). At such celebrations, (Prime) Ministers, current and former Presidents, a King, IYPE Patrons,



artists and other very important individuals made statements and expressed their support for the aims and ambitions of the international Year. They encouraged the nation to act accordingly and to contribute to the success of the IYPE. Mass media registered these events and broadcast them to all corners of the nations involved.

Table 1. National and international IYPE launch events as registered by the IYPE Secretariat.

Date	City	Country	Type of Event
<b>2006</b>			
28 June	Dar es Salaam	Tanzania	National Launch Event
<b>2007</b>			
5 January	Chidambaram	India	National Launch Event
10 January	London	UK	National Launch Event
22 January	Tokyo	Japan	National Launch Event
25 January	Sao Paulo	Brazil	National Launch Event
21 April	Sofia	Bulgaria	National Launch Event
1 & 2 June	several cities	Switzerland	National Launch Event
5 September	Buenos Aires	Argentina	National Launch Event
15 September	Oslo	Norway	National Launch Event
6 November	Vienna	Austria	National Launch Event
9 November	Lisbon	Portugal	National Launch Event
21-22 November	Bangkok	Thailand	National Launch Event
<b>2008</b>			
14 January	Kuala Lumpur	Malaysia	National Launch Event
10 January	Havana	Cuba	National Launch Event
11 January	Prague	Czech Republic	National Launch Event
18 January	Dublin	Ireland	National Launch
28 January	Riga	Latvia	National Launch Event
12-13 February	Paris	France	Global Launch Event
12-13 February	Paris	France	National Launch Event
13-February	Madrid	Spain	National Launch Event
19 March	Vilnius	Lithuania	National Launch Event
17-18 April	Budapest	Hungary	National Launch Event
22 April	Beijing	China	National Launch Event
22 April	Honduras	Honduras	National Launch Event
22 April	Ottawa	Canada	National Launch Event
22 April	San Jose	Costa Rica	National Launch Event
22 April	Santiago	Chile	National Launch Event
23 April	Seoul	Korea	National Launch Event
23 April	Bratislava	Slovak Republic	National Launch Event
23+24 April	Brasilia	Brazil	Latin American Launch
April	Grahamstown	South Africa	National Launch Event
8+9 May	Arusha	Tanzania	African Launch Event
15 May	Sana'a	Republic of Yemen	National Launch Event
26 May	Stockholm	Sweden	National Launch Event
30 May	Rome	Italy	National Launch Event
3 June	Den Haag	Netherlands	National Launch Event
5 June	Nha Trang	Vietnam	National Launch Event
12 & 13 June	Berlin	Germany	National Launch Event
14 August	Addis Ababa	Ethiopia	National Launch Event
4 October	Houston	USA	
16 October	Praia	Cape Verde	National Launch Event
11 November	Tehran	Iran	National Launch Event
<b>2009</b>			
17 May	Nairobi	Kenya	National Launch Event
12 November	Luanda	Angola	National Launch Event
12 December	Maputo	Mozambique	National Launch Event

## e. Partners & Sponsors

Together with the IYPE Initiators (IUGS and UNESCO), Partners of the International Year of Planet Earth constituted the financial and conceptual backbone of the IYPE. Without their support the IYPE would have been unsuccessful and would not have left a major legacy despite all the efforts by thousands of volunteers all over the world. Through Partnership, organisations and companies expressed their support for the aims and ambitions of the IYPE at the international level.



Nationally, numerous governmental bodies, public organisations and private companies supported activities by the National Committees. Only partnerships at the international level are discussed in this Report.

In return for their financial and/or moral support, IYPE Partners were granted free use of the IYPE logo and public access through IYPE publications, the IYPE website and through other IYPE media as a minimum.

There were three types of IYPE partnerships: Founding, Associate and International.

*Founding Partners* were organisations that supported the IYPE from the outset, i.e. before the UN Proclamation. Also during the Triennium, these scientific bodies supported the initiative morally and financially or provided significant in-kind support. Founding Partners were essential for the development of the IYPE on its way to collecting political support by the UN member states as expressed by the UN Proclamation. Apart from significant exposure through all IYPE media and exhibitions, Founding Partners were each granted a seat on the Board of Directors.

The first Founding Partners were the International Union of Geodesy and Geophysics (IUGG) and the International Geographical Union (IGU), both of which joined this initiative mid 2003. In 2004, they were followed by the International Lithosphere Programme (ILP), the International Union of Soil Sciences (IUSS) and ISRIC – World Soil Information. Other such Partners are the Geological Society of London and the Geological Survey of the Netherlands (TNO). The Federation of International Geo-Engineering Societies (FedIGS) joined by Mid March 2005 together with the International Union for Quaternary Research (INQUA), the American Geological Institute (AGI), the American Association of Petroleum Geologists (AAPG), and the American Institute of Professional Geologists (AIPG). Upon UN Proclamation (in December 2005) access to Founding Partnership was closed. By the end of 2008, the FedIGS withdrew as a Founding Partner.

*Associate Partners* also actively supported the International Year of Planet Earth before implementation, but morally only. They were invited to participate and to bear co-responsibility in the Science Teams securing representation of their scientific interests within the Year's Science Programme. Associate Partners suggested activities to the Outreach Programme Committee. They were represented in the Board of Directors by one joint seat. By February 2006, access to Associate Partnership was closed and their final number was assessed at 25 members (Table 2).

*International Partners.* Following UN Proclamation, a new category of Partnership was introduced for organisations that actively and financially supported the ambitions of the International Year of Planet Earth. Together with the Initiators and the IYPE sponsors, the International Partners supplied the bulk of IYPE's income during the Triennium. *Non-commercial International Partners*, often scientific organisations, contributed a minimum of 5,000 US \$ (or € if based in Europe) per year during the IYPE Triennium if entered in 2007; 7,500 US \$ (or € if based in Europe) per year if entered in 2008 for 2008 and 2009; and 10,000 US \$ (or € if based in Europe) per year if entered in 2009. Fees for *Corporate International Partners* were at least double those of non-commercial International Partners, ranging from 20,000 USD to 100,000 €/year.

Table 2. Associate Partners of the IYPE.

ICSU	International Council for Science
IOC	Intergovernmental Oceanographic Commission of UNESCO
IPA	International Permafrost Association
IAGOD	International Association on the Genesis of Ore Deposits
SEG	Society of Economic Geologists
SGA	Society for Geology Applied to Mineral Deposits
IAH	International Association of Hydrogeologists
IGCP	International Geoscience Programme IGCP
EFG	European Federation of Geoscientists
AARSE	African Association of Remote Sensing of the Environment
SCA	Science Council of Asia
ProGEO	European Association for the Conservation of the Geological Heritage
SEPM	Society for Sedimentary Geology
CCOP	Coordinating Committee for Geoscience Programmes in East and SE Asia
GSAf	Geological Society of Africa
UNU	United Nations University
AGID	Association of Geoscientists for International Development
UN/ISDR	United Nations International Strategy for Disaster Reduction
NESF	North-eastern Science Foundation (USA)
AASG	Association of American State Geologists
ISPRS	International Society of Photogrammetry and Remote Sensing
NACSN	North American Committee on Stratigraphic Nomenclature
CPC	Circum Pacific Council for Energy and Mineral Resources
IPA	International Palaeontological Association
CGMW	Commission for the Geological Map of the World



By June 2010, 15 non-commercial international Partners were registered: The British Geological Survey (BGS), The Geological Society of America (GSA), the European Geoscience Union (EGU), the Geological Survey of Spain (IGME), The Geological Survey of Ireland (GSI), The American Geophysical Union (AGU), EuroGeoSurveys (EGS), The National Aeronautics and Space Administration (NASA), the Norwegian Geological Survey (NGU), the AIST (Japan), the Society of Exploration Geophysicists (SEG), the Italian Geological Survey (APAT), the European Geopark Network (EGN), the International Association of Mathematical Geology (IAMG), and the Polish Geological Survey.

By the same date, 20 Corporate International Partners were registered: Caixa Economica (Cape Verde), ENACOL (Cape Verde), Centrais Electricas de Santa Catarina CELESC (Brazil), Banco Espirito Santo (Angola), Banco Keve (Angola), Banco BAI (Angola), Banco BDA (Angola), QUATTOR/BRAKSEM (Brazil), Banco Espirito Santo (Portugal), TAAG (Angola), CATOCA (Angola), ENDIAMA (Angola), ADPA (Angola), PETROGAL (Angola), SOMOIL (Angola), Grupo GEMA (Angola), Standard Bank (Mozambique), ENI/AGIP (Angola), KINROSS (Canada) and KLABIN (Brazil). Eight of these companies continued their partnership to support a smooth transition from the IYPE into a follow-on initiative.

International Partners received a Partnership Agreement. They were granted free use of the IYPE logo, free exhibition space at IYPE events and free space for advertorials in IYPE magazines. In addition, they were represented in the IYPE Board of Directors through one joint seat. In return, several of the International Partners provided significant publicity for the aims and ambitions of the International Year.

*Sponsors.* During the Preparatory and Transition Phases (until 2007), the International Year of Planet Earth initiative was financially sponsored mainly by the International Union of Geological Sciences (IUGS) and, through in-kind support, by UNESCO. Significant other in-kind support during that period was also provided by TNO and the Geological Society of London. They supplied time and expenses for the Chair of the Management Team and the Chair of the Outreach Programme Committee, respectively. Until 2007, two oil companies sponsored the initiative: Shell International and OMV. A major part of the costs for the international Secretariat were covered by the Norwegian Royal Ministry of Education and Research together with the Dutch Ministry of Housing, Spatial Planning and the Environment. Moreover, many organisations and companies sponsored the international IYPE events (Chapter 6).

## **f. Advisory Group**

The Board and the Secretariat were supported by many individuals and organisations during all phases of the International Year. Several (48) of such individuals were assigned as *Senior Advisors* for the IYPE. Senior Advisors were invited to give advice on specific issues in the IYPE Programmes and operations. Several of them inspired National Committees to be created and others played a role in the IYPE Science and Outreach Programmes. Senior Advisors were entitled to represent the International Year and encouraged to publicise the IYPE as widely as possible. A list of Senior Advisors is added to the Report as Annex 3.

A few highly distinguished individuals agreed to serve as *Goodwill Ambassadors* for the Year. These included persons with prominent media profiles in the world's major language areas and willing to promote the IYPE and its activities. IYPE Goodwill Ambassadors included the following: Mark Corey (CN), Edward Derbyshire (UK), Wolfgang Eder (GE), Hans van Ginkel (UN), Werner Janoschek (AT), Aubrey Manning (UK), Ted Nield (UK), Mohammed Sheya (TZ), Simon Winchester (UK).

*Patrons* included Heads of State and other World leaders who gave their patronage to the International Year. IYPE Patrons included the following: Sam Nujoma, Founding President of the Republic of Namibia, Benjamin W. Mkapa, former President of the United Republic of Tanzania, Sir Mark Moody-Stuart, President of the Board of Anglo-American, Ruud Lubbers, former Prime Minister of the Netherlands, King Carl XVI Gustaf of Sweden, and Ricardo Espirito Santo Salgado, Executive President of the Banco Espirito Santo.







## 4. Implementation

### a. Science Programme

A Science Programme Committee (SPC), spearheaded by Edward Derbyshire (UK), developed its Terms of Reference in 2002. In February 2003, an international panel of 21 leading geoscientists produced a list of potential topics for IYPE themes. Through a voting process, the Initiators selected eight science themes: *Groundwater, Climate, Health, Deep Earth, Resources, Megacities, Hazards* and *Ocean*. In 2003 and 2004, the two themes *Soils* and *Life* were added. These 10 Themes provided the operational framework of the Year's Science programme. Brochures were written by specialists (in English) and made available as hard copies and in electronic format. As a minimum, 3,500 hard copies of each of the brochures were printed. Printing and editing costs were provided by the generosity of several European Geological surveys (Austria, Finland, Ireland, Norway, Spain, and Sweden), Ministries, national scientific bodies, and UNESCO. All brochures are downloadable from [www.yearofplanetearth.org](http://www.yearofplanetearth.org).

National IYPE Committees distributed these brochures in their countries and many of them translated them into their own languages, including Arabic, Chinese, Danish, French, Greek, Hungarian, Italian, Japanese, Lithuanian, Polish, Portuguese, Spanish, Thai, Turkish and Vietnamese. Often, examples and situations from their own region were added. Normally, hard copies of the brochures were printed and widely disseminated throughout their language area. For example, 5,000 copies of the IYPE brochure in Portuguese were distributed in Portugal, Brazil, Angola, Mozambique and Cape Verde. Availability of such brochures assisted significantly in the development of national IYPE programmes in these countries. In some cases, translated brochures were made available in digital format only and made downloadable by way of dedicated IYPE websites. The first thematic brochures were printed in August 2004 and the last in February 2006.

The IYPE science brochures describe, in accessible terms, why each of the selected themes is of such importance for our understanding of the Earth System, and to society at large; they also set out the key questions to be addressed.

#### 1. Groundwater – reservoir for a thirsty planet?

Our lives and livelihood depend on water. Demand for clean water increases along with world population growth. Maintaining secure water supplies would be impossible without groundwater. Groundwater constitutes the underground part of the water cycle. There are enormous volumes of groundwater stored in porous or fractured rocks down to thousands of metres below the surface. Despite the widespread and increasing use of groundwater, the knowledge base of groundwater resources and their sustainable use is still inadequate. Groundwater plays a significant role in addressing the UN Millennium Development Goals (2005-2015). Key questions concerning groundwater are: how much groundwater is there and how can it be used sustainably? How can unsustainable exploitation of 'fossil' water reserves be identified and managed to reduce depletion and associated disastrous human/ecological consequences? How can vulnerable groundwater resources be protected from pollution and how can vital polluted resources be restored?

#### 2. Hazards – minimising risk, maximising awareness

The impact of geo-hazards on our lives and economy is enormous and will never go away. Every year, floods, tsunamis, severe storms, drought, volcanoes, earthquakes, landslides and subsidence claim thousands of lives, injure many more people, devastate homes and destroy livelihoods and even cultures. As the world's population grows, more people will be living in hazard-prone areas and thus impact grows. Earth scientists need to take a multi-disciplinary approach and assist governmental bodies to frame policies that will raise public awareness, minimise hazards and reduce people's vulnerability. Key questions on hazards include: How did humans alter system Earth thereby triggering certain hazards and increasing societal vulnerability? What is required to assess the vulnerability of people and places to hazards and at what scales? How does our ability to monitor, predict and mitigate vary from one geo-hazard to another? What can we do to improve such capacities and so improve protection against the impact of geo-hazards? What are the barriers that prevent authorities from using risk and vulnerability information to create policies with a view to reducing this impact?







### **3. Earth and health – building a safer environment**

Planet Earth consists of rocks, full of minerals and chemical elements. Most of these are taken-up into our bodies by air, food and water. Rocks are fragmented by weathering processes to form soils on which crops grow and animals are raised. Drinking water travels through rocks and soils, and much of the dust and some of the gases contained in the atmosphere come from the rocks. The health of three billion people worldwide is jeopardised by geological factors. This theme investigates the relation between geological factors *vis-a-vis* human and animal health, and tries to understand how environmental factors influence the geographical distribution of health problems. Key questions include: can we identify the environmental causes of known health problems and seek solutions to prevent or minimise such problems? How can we best identify geochemical anomalies in soils, sediments and water critical for the health of humans and animals? How extensive is the health impact of global dusts? Can we predict health problems from breathing dust and how can we combat this threat? How can we raise awareness of the relevance of geological factors to health problems?

### **4. Climate change – the ‘stone tape’**

Ancient changes in the Earth’s climate system are ‘written in stone’. Earth scientists study such changes which are cast in the rocks of this planet. Ever since its beginning, 4.5 billion years ago, the Earth climate has changed; the climate has never been stable as Planet Earth is a dynamic system. Reading the records of past climates informs us about the limits on climate change imposed by System Earth. Past climate change also tells us how we came to be who we are - how humans and cultures changed over time. Although climate, as a natural phenomenon, has always undergone changes and will continue to do so, humans apparently have influenced the world’s climate in the past few centuries. To determine this anthropogenic factor, we must read the ‘stone tape’ even more carefully, use cutting-edge scientific methods and technologies, and try to improve our understanding of how System Earth works. Key questions include: what is the ‘big picture’ of climate change patterns over the past four glacial cycles? What has been the variability in the climate over the last 1,000 years? What impact has past climate change had on human societies? What is the role of humans in climate forcing? How reliable are models in predicting future climate? What can we predict about the future and forthcoming climate trajectories?

### **5. Resource issues – towards sustainable use**

Nearly everything we make or build, and nearly all the energy we use, comes from the Earth. Modern society increasingly depends on mineral and fossil energy resources. They are non-renewable, they vary in their availability, in the cost of their production, and in their geographical distribution. Occurrence of mineral and energy resources is geology-related which makes the input of Earth scientific expertise essential to identify such resources at economic and environmentally sustainable conditions. Also, processing of mineral resources and the environmental impact of those processes requires significant geo-expertise. Earth materials can be collected only through a wide variety of mining techniques. Key questions include: How can better knowledge of mineral resources contribute to better planning, governance, social stability and advancement? How much can geo-methane and methane hydrates contribute to global energy production, and what is their likely environmental impact? Can the increasing industrial use of mineral resources and especially the Platinum Group Elements be supported by sustainable new production?

### **6. Megacities – our global urban future**

Megacities are more than just large cities. Their scale creates new dynamics, new complexity and new simultaneity of events and processes – physical, social and economic. Megacities are ‘hot spots’ of more than 5 million urban dwellers. They may generate major opportunities as well as strong pressures for change accompanied by environmental degradation. In the developing world, megacities grow faster than their infrastructure. Scientists estimate that, by 2015, our planet may have as many as 60 megacities. Key questions include: Are megacities inherently unsustainable and how can their high ecological footprints be reduced? What do mega-citizens need? What and who are the real drivers behind urban planning? How can megacities become more competitive, creative, safer and attractive human environments? How can human-induced risks in megacities be reduced? How can development at the surface be better matched with underground urban development? How can longer term water and food supplies for megacities be safeguarded? What new tools should be developed to monitor and predict physical and social changes in megacities?





## 7. Deep Earth – from crust to core

Only relatively recently have geologists begun to understand the solid Earth in measurable, quantitative terms. Reliable models can help to reconstruct the past and forecast the future processes in the solid Earth. We can describe how deep Earth systems work. We may also link past evolution in this system with changes recorded in the sediments in the Earth's crust. Seismic technologies allow us to 'look into' the deep Earth. At the same time, satellites can monitor landscape modifications from space and in high-resolution. The structure and processes in the deep Earth are quite relevant for humanity's basic needs such as water supply and mineral resources, protection against natural hazards, and control of the environmental degradation of planet Earth. Key questions are: how can we improve understanding of mass transfer at the Earth's surface and its feedbacks with deep Earth recycling? How can our improved understanding of Earth processes lead to better prediction?

## 8. Ocean – abyss of time

Geological research on the ocean floors uncovered the mechanics of plate tectonics. Ocean floors and margins will highlight new geoscientific discoveries in the near future. Ocean sediments capture records of climatic signals over the last 200 million years as detected in over forty years of major scientific ocean drilling and sampling programmes. Where magma erupts at the ocean floor in mid-oceanic ridges, toxic hot springs (black smokers) interact with an abundance of life forms in complete darkness. Such spots may act as bio-engines relevant, perhaps, to learning more about the genesis of early life forms. The same holds true for the development of mineral deposits. Although our knowledge of the oceans has been revolutionised, we still know relatively very little about them. Key questions are: how do the lithosphere, hydrosphere and biosphere interact at mid-oceanic ridges, and what role did they play in the origin of life on Earth? What Earth processes affect the formation and evolution of continental margins, and what benefits and threats do continental margins offer to humankind?



Figure 9. Brochures for each of the ten IYPE themes explaining the relevance of the topic and posing key questions to be addressed.





## 9. Soils – Earth’s living skin

Soils are the substrate for plants and storage place for water and nutrients that sustain life on planet Earth. They are also home to innumerable micro-organisms and microscopic animals. Most of the land’s biodiversity lives in the soil, not above ground. We build on it, in it and with it. The abundance of life, habitats, and opportunities for human occupation mirror the enormous variety of soils. Urbanisation puts special demands on soils and their management due to distortion and drainage. Until quite recently, soil was considered a resource only, but today soils are increasingly acknowledged as vital support systems that sustain ecology, human life and welfare. Key questions are: where should we expand our soil expertise for the greatest benefit to society and the environment? How can we better link the soil sciences with other Earth scientific disciplines? How can we communicate better with society? How can we maximise use of indigenous soil knowledge?

## 10. Earth and Life – origins of diversity

The biosphere makes the Earth unique in our planetary system. When life on Earth began to take off, some 2.7 billion years ago, it also began to impact the atmosphere, oceans and lithosphere. Understanding the multiple factors that control life’s processes is a joint research target for biologists and palaeontologists. As they can look back in deep time, Earth scientists may significantly contribute to sustain a functioning global ecology by producing 4D (space and time) biodiversity and ecological vitality assessments. Ancient biospheres and their links with geological phenomena may explain biological ‘explosions’ and the mass extinctions this planet has faced during its history. As the past is the key to the present and to the future, such understanding may provide scientific time and spatial frames to current debates on declining biodiversity. Key issues deal with environmental change and dynamics of biodiversity, evolutionary palaeobiology, the development of life on land, the biosphere-geosphere interplay (‘Geobiology’), and the stability and variability of ancient ecosystems.

Implementation of the science programmes was meant to resemble closely the successful International Geoscience Programme (IGCP), which was another joint IUGS/UNESCO Programme. If sufficient funds had been available in good time, the Year’s science programme would have operated essentially in ‘bottom-up’ mode inviting scientists to submit proposals for the 10 science Themes, preferably addressing the ‘key questions’ mentioned in the science brochures, through Expressions of Interest (Eols). Selection criteria for evaluating the Eols included: geoscience based, genuinely international, holistic and multidisciplinary, human impact, potential for developing countries and for outreach.

The Eols and subsequent proposals would have been evaluated by Science Implementation Teams (SITs), one for each of the Themes (Table 3). The SITs were composed of 8-10 experts and became effective in January 2007. From February 2008, the Chair of the Science Programme Committee was Sospeter Muhongo.

Table 3. Composition of the IYPE Science Implementation Teams (SITs).

Theme	SIT Leader	SIT Members; co-leader in italics
<b>Groundwater</b>	Jones (UK)	Struckmeijer (Ge), Adelana (Nig.), van der Gun (Netherlands), Zhang (Cn), Xu (S. Afr.), Christian (USA), Wang (Cn), Zheng (USA), <i>Lobo-Ferreira (Portugal)</i>
<b>Climate</b>	Dodson (Au) <i>Vice Chair SPC</i>	Alverson (USA), Nield (UK), Yuan (Cn), <i>Yim (Cn)</i> , Wigand (Ge), Larocque (Ca), Meadows (SA)
<b>Earth &amp; Health</b>	Selinus (Se)	Centeno (USA), Finkelman (USA), <i>Weinstein (Au)</i> , Derbyshire (UK), Manay (Ur), Dogan (Tu), Davies (Ta)
<b>Deep Earth</b>	Cloetingh (NI)	Mulugeta (Et), van der Pluijm (USA), Friedrich (Ge), <i>Gabrielsen (No)</i> , Roure (Fr), Ludden (UK), Zoback (USA)
<b>Megacities</b>	Kraas (Ge)	Nenonen (Fi), Marker (UK), de Mulder (NI), <i>Coy (Au)</i> , Aggarwal (In), Xue (Cn), Yu (Ko), Ribeiro e Sousa (Port)
<b>Resources</b>	Sinding-Larsen (No)	Shields (USA), Gleditsch (No), <i>Ekdahl (Fi)</i> , Mienert (No), Cherkasov (Ru), Kouda (Jp), Persson (Sw), Dong (Cn)
<b>Hazards</b>	Beer (Au)	Marsh (UK), <i>Bobrowsky (Ca)</i> , Chadka (In), Cutter (USA), Pagliai (It), Supharatid (Th), Wu (Cn), Heuzé (USA)
<b>Ocean</b>	Chen (Cn) Faleide (No)	<i>Lin (USA)</i> , Fischer (USA), Devey (Ge), Whitmarsh (UK), Cannat (Fr), Suyehiro (Jp), Wiens (USA)
<b>Soil</b>	Hartemink (NI)	Nortcliff (UK), Frossard (Sw), Boettinger (USA), McBratney (Aus), Mendonca-Santos (Br), <i>Zhang (Cn)</i> , Bationo (Kenya)
<b>Earth &amp; Life</b>	Talent (Au)	Blieck (Fr), Codrea (Ro), Hartzhauser (Au), Liebermann (USA), Mocanu (Ro), <i>Reichenbacher (Ge)</i> , Shen (Cn)





Owing to lack of funds, the Science Programme could not be pursued as planned. Instead, National IYPE Committees identified issues compliant with the IYPE themes in existing and forthcoming national science programmes. Many of these were co-labelled as IYPE projects, thus contributing to the IYPE legacy.

Forty three proposals to support scientific projects were submitted during the Triennium before the call for applications was closed (1 February 2008). Based on the above criteria, the Science Implementation Teams considered that ten proposals were acceptable (five of which were within the Hazards theme), while six were kept on hold for further consideration.

A more direct and international approach was followed by providing financial support to the IGCP 2009 Programme. IGCP Projects supported by the IYPE include:

- IGCP 506: Marine and non-marine Jurassic ([www.nigpas.ac.cn/IGCP506index.asp](http://www.nigpas.ac.cn/IGCP506index.asp))
- IGCP 511: Submarine mass movements and their consequences ([www.geohazards.no/IGCP511](http://www.geohazards.no/IGCP511))
- IGCP 521: Black Sea Mediterranean Corridor during the last 30 kY: Sea level change and human adaptation ([www.avalon-institute.org/IGCP](http://www.avalon-institute.org/IGCP))
- IGCP 559: Crustal architecture and landscape evolution ([www.earthcrust.org](http://www.earthcrust.org))
- IGCP 565: Geodetic monitoring of the global Water cycle ([www.iag-ggos.org/igcp565](http://www.iag-ggos.org/igcp565))
- IGCP 567: Earthquake Archaeology – Archaeoseismology along the Alpine-Himalayan Seismic zone (<http://ees.kuleuven.be/igcp/567/>)
- IGCP 572: Permian – Triassic Ecosystems ([www.igcp572.org](http://www.igcp572.org))

At national levels, many scientific projects received moral support from the National IYPE Committees, several of which are mentioned in Chapter 4.c. Apart from scientific research projects, many national and international Conferences, Seminars and Congresses received moral and logistic support by National Committees and carried the IYPE logo. From a self-evaluation in April 2009, it appeared that the most successful science themes at a national level were Groundwater, Hazards, Climate and Resources. Deep Earth, Ocean and Megacities received least positive feedback.

Monographs on each of the science themes are being published through a joint IYPE-SPRINGER book series. As of 1 September 2011, six such issues (New frontiers in Integrated Solid Earth Sciences, Geophysical Hazards, Changing climates, Earth Systems and Society, The Black Earth and Sustaining Groundwater Resources and Medical Geology) were published and the books on the other four themes are progressing as expected (page 68 and 69).

## **b. The Outreach Programme**

International implementation of the Outreach Programme was ignited by the publication of the first IYPE brochure: Planet Earth in our Hands, late 2003. In total, 15,000 copies of the brochure were printed through three issues, and distributed to Earth science communities all over the world. Tens of thousands smaller sized flyers entitled 'International Year of Planet Earth' informed the reader what the IYPE is, who is behind it, how the IYPE works, and how people could contribute to it. A wide range of outreach examples was presented. In addition, one-page flyers were produced in English, French, Russian, Spanish, Arabic and German in particular to collect UN member country support for proclamation of the IYPE as a UN Year. A dedicated prospectus *Outreach – bringing Earth sciences to everyone* was produced as number 11 in the series of IYPE brochures. 5,000 copies of that brochure were printed by courtesy of the Chinese Ministry of Land & Resources. In that prospectus, the types of outreach projects that might be eligible for funding were described and the application rules outlined. The application process broadly followed a similar, bottom-up, model as described for the science projects. In total, 59 requests for central IYPE support of outreach activities was received by the International Year Secretariat. Most of these complied with the Outreach Programme criteria, which were essentially similar to those for the Science Programme (see above). However, as insufficient funds were available to the IYPE in general, only those outreach projects that did not require additional IYPE funding were approved. The funds that became available were mainly used to support





the three main international events: the Global Launch Event in Paris, the African Launch Event in Arusha, and the PEL2009 in Lisbon.

The IYPE website was another major implementation tool of the IYPE. The first version ([www.esfs.org](http://www.esfs.org)) went live in 2003, soon to be also accessible through the site at [www.yearofplanetearth.org](http://www.yearofplanetearth.org). In September 2007, the website was significantly revised and expanded, thereafter maintaining its format throughout the Triennium. The website was frequently updated and all information was made accessible to everyone, including condensed minutes of the IYPE Board meetings. From 1 January 2008 until 30 June 2010, the total number of registered individual visitors to the IYPE website was 527,532, an average of 17,585 per month. Peak months were April to June and September 2008 (>23,000 each month), November 2009 (18,592) and May 2010 (25,629).



Figure 10. The two IYPE outreach brochures.

The IYPE logo proved to be a major asset in the outreach campaigns, both nationally and internationally. There were numerous requests to use the IYPE logo for publications, posters, banners et cetera. Before and during the Triennium, National Committees translated the IYPE logo into their own languages resulting in IYPE logos in at least 30 languages, including in Braille.

Outreach was realised at an international level by the Planet Earth Magazines. These volumes contained a mixture of content dedicated to the issues addressed by the International Year of Planet Earth and advertisements. Editor-in-chief for the IYPE, Edward Derbyshire, checked all texts including the advertisements and the respective companies. The first issue was printed in March 2008 and was issued in an international version and one designed for the American public. In total, 20,000 copies were printed and distributed. The same was true for the second issue, printed in March 2009, which also contained an overview of the activities of the (by then) 74 National IYPE Committees. The third issue of Planet Earth Magazine was published in February 2010.

During the Triennium, the IYPE publicised its programmes and publications at a large number of international geoscientific conferences, normally through a booth but also by way of some plenary or session presentations. These included the annual AAPG, AGU, EGU, and GSA Conferences, with such exhibits also taking place on a more incidental basis at AASG, AIPG, AOGS, EAGE, ESOF, IGU, IUGG, IUSS, MAEGS, PDAC, SEG and other international geoscientific events. The vital contribution of Goodwill IYPE Ambassador Werner Janoschek in organising and implementing such IYPE exhibits is gratefully acknowledged.

Attempts to promote the aims and ambitions of the IYPE to the public at large by displaying videos on big screens in city centres failed mainly because of the economic downturn that reduced the level of interest on the part of potential advertisers. A video was produced with the logos of International Partners in April 2009. This was displayed at the EGU meeting in April 2009 and, in a modified form, at the IAGE Conference in Sopron, Hungary in August 2009.

Planet Earth Radio was a successful initiative by the US National IYPE Committee, financially supported by the US National Science Foundation and the US Geological Survey. In the period February-April 2009, ten 90-second podcasts were broadcast through the EarthSky networks, each highlighting one of the IYPE themes. The total number of listeners reached through the EarthSky Broadcast Network was 120 million, 12 million for each podcast. Forty seven percent of these programmes were broadcast through the Voice of America and 20% through US Terrestrial Radio. The registered





number of headlines from the earthsky.org homepage was 2,379,116, while 24,240 podcasts were downloaded from the article page. During the IYPE Triennium, radio broadcasts were also held on a regular basis in Estonia and the Slovak Republic.

In 2008 and 2009, joint AGI- IYPE photo contests were held within the framework of the annual Earth Science Week. Both contests attracted many applicants. The three winning photographers received financial awards from 500 to 100 USD and copies of the AGI video Faces of the Earth.

Following the Art & Earth exhibition organised by ArtLinks Asia (Hong Kong), at which many Chinese artists presented their work on the IYPE themes, IYPE pins were produced. Tens of thousands of slightly modified IYPE pins were subsequently produced and distributed to many audiences on a great variety of occasions.

Significant IYPE outreach impact was realised through IYPE labeled Events. Most were held at the national level, in particular the IYPE Launch events. Often, high level politicians, scientists and industrial representatives spoke in support of the IYPE aims and ambitions. Frequently, such events included contributions by schools. The presence of VIPs attracted media attention and many such launches and other events were broadcast by national TV and Radio Stations. In addition, a number of events were organised at the international level (Chapter 4d).

A wide variety of other items were produced or organised for the International Year of Planet Earth worldwide. These are described in the brief country reports below. A short compilation is given here:

- TV Series in Canada, Cuba, Czech Republic, Israel, Poland and Slovak Republic;
- Radio broadcasts in Estonia, Slovak Republic and USA;
- IYPE movies were produced in Cameroon, Cuba, Czech Republic, Indonesia and Vietnam;
- IYPE-labeled Art Exhibitions were held in UK and China;
- IYPE-labeled concerts were held in Mexico (with Placido Domingo) and in Norway;
- Geo-Songs were composed in Italy (World Anthem for Geologists), in Portugal (Fado), for the Global Launch Event in Paris and for PEL2009 in Lisbon;
- Love the Earth Ballet was composed by the Kamu Suna Ballet in Portugal and performed at PEL2009;
- An IYPE-labeled musical was performed in Bulgaria;
- IYPE-labeled poetry events were organised in Ireland;
- School competitions on IYPE issues were held and dedicated school kits were made in Angola, Canada, Georgia, Iran, Lithuania, Mauritius, Mozambique, South Africa, Sri Lanka, Uruguay and Yemen;
- School drawing contests were held in Angola, Chile, China, Peru and Poland;
- Youth Science Fairs were held in Bulgaria and Costa Rica;
- Teaching the teachers on Earth science issues events were organised in Australia, Finland and Norway;
- Earth-related comics were made in Brazil;
- IYPE Photo contests were held in Bulgaria, Mongolia and USA;
- A 'Geothon' was held in Mexico;
- IYPE bill-boards were placed along highways in Austria;
- IYPE-labeled field trips and Geo-tours were organised in Albania, Canada, Denmark, Estonia, Finland, France, Germany, Japan, Korea, Mongolia and Spain;
- Geoparks and geoh heritage issues were highlighted in Albania, Austria, Cape Verde, Chile, China, Croatia, Czech Republic, Germany, Hungary, Italy, Japan, Namibia, Philippines, Slovak Republic, Turkey, USA, Vietnam, Yemen, SE Asia;
- Via GeoAlpina was developed in Austria, France, Italy, Slovenia and Switzerland;
- National rocks were assigned in Latvia and Norway;
- IYPE coins were produced in Australia, Spain and Switzerland;



- IYPE related stamps and official post cards were printed in Cost Rica, Cyprus, Greece, Ireland, Korea, Portugal, Spain and by the United Nations;
- A science express train crossed the Indian subcontinent;
- A Geo-truck travelled through the Netherlands and Flanders (Belgium), Austria;
- Stratigraphic charts were displayed in Belgium and France;
- IYPE-related wines were produced in Portugal;
- IYPE-related balloons were launched or performed in Brazil, India, UK and USA.

By the middle of 2007, the outreach programme was supposed to be of similar dimensions to the science programme. That balance shifted when increasing numbers of National Committees decided to prioritise their outreach programme. At the same time, outreach began to focus on youth and particularly targeted school children and education in general. One of the reasons for this development was the lack of sufficient funds to fuel new and expensive longer-term scientific programmes. National Committees used their limited funds for outreach and education, targets that were seen as more achievable especially given the often large workforce of volunteers. Reaching out for the Earth sciences was quite a new phenomenon in most countries and the National Committees learned that the results of such efforts could have a significant positive impact on the IYPE Triennium. In a self-evaluation held in April 2009, three times more National Committees rated their outreach programmes as very successful compared to their science programmes. Out of 59 responding National Committees, 91% believed that their outreach programmes were, at least, moderately successful. This was also reflected in the view of 52% of the respondents who recognised significant potential for follow-up activity following closure of the IYPE Triennium (Chapter 10).

Ted Nield retired as the Chair of the Outreach Programme Committee on 1 April 2009, and was replaced by Phil Manning (UK).

### c. Global participation: IYPE Country Reports



#### **Albania**

The Albanian National Committee for IYPE was established on 5 December 2006 and operated under the joint umbrella of the Geological Survey of Albania and ProGEO-Albania. On that occasion, an Action Plan for IYPE Albania was presented. During the IYPE Triennium, ten major national IYPE activities were organised, including a Conference & Exhibition on 'Albania, a Destination for investments', the production of a new national Mineral Resources

Map and a national Erosion Map, various scientific presentations, several Geo- and GeoEco trips held in the Albanian mountains and Kosovo. Other activities included field geological heritage conservation and geotourism, translation and distribution of relevant books, and a joint project with Slovenia on Digitalisation of the Regional Geosites, Geoparks and Mineral deposits. During the IYPE Triennium proposals were made for new Geoparks, one in the territory from the Bradaleci Pass up to the border of Montenegro and one in the northern part of the Kelmendi Highland, Rugovo Valley in Kosovo, and the territories of Gucia and Plave in Montenegro. Many students were involved in the National Committee and in scientific and geotourism activities dedicated to the IYPE. Lack of interest by the Albanian government, the IUGS National Committee and the UNESCO National Commission were the main challenges faced by the National IYPE Committee together with a lack of funds. Nevertheless, Albania is prepared to embark on the work of a follow-on initiative.



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### Andorra

Andorra established its National Committee in 2008 and organised a wide variety of activities. Some were focused on the youngest, while others were for the general public, including educational workshops, exhibitions, conferences and lectures. The topics of such events

included climate change, waste management, sustainability and the mountains or water as sources of life.

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Logo in Catalan of the National IYPE Committee in Andorra.



### Angola

The IYPE Committee in Angola was created in February 2009 and consists of an Honorary and an Executive Sub-Committee. The latter sub-Committee is chaired by the Minister of the Environment and includes representatives of 6 other ministries, UNESCO and other relevant networks. The National Committee produced an Environment Kit based on the six selected themes: Earth & Health, Climate, Natural Resources and Energy, Megacities and Ocean. The

kits were distributed among schools and other social sectors, targeting students from secondary schools, public and private organisations, civil society and others. Several actions were undertaken by the Committee to promote the Environment Kit, including workshops, seminars and media sessions. A special IYPE drawing competition was organised for children in primary schools who expressed their views on the 6 selected themes. This competition and the Kit were officially launched in Huila Province on 15th March 2010. All activities of the Angola IYPE Committee are funded by Banco Espírito Santo Angola and other partners. On 12 November 2009, the National Committee was officially presented to the media. Angola was recognised as one of the seventeen best performing IYPE nations.

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The National Committee of Angola with Minister Fatima Jardim (centre) and IYPE's Executive Director (left)



### Argentina

The National IYPE Committee was established in March 2007 and consists of representatives of professional geoscience organisations, museums and academia, spearheaded by the Geological Survey. During the IYPE Triennium the Committee organised some 20 events

for scientists and for the general public. IYPE was launched at a public meeting on 5 September 2007, in the Argentine Museum of Natural Science, entitled: *Earth Science for Society*. One of the most important events was the Seminar and Round Table in October 2009 at the Bernardino Rivadavia Natural Sciences Museum: *The Planet in our hands – From the Geosciences another view is possible*. Other activities included publication of a widely distributed IYPE poster and a survey among colleagues exposing how difficult it is translating generic interest into real actions and collecting commitment. Publication of a special IYPE issue of *Ciencia Hoy* and papers in the



Poster announcing the International Year of Planet Earth in Argentina





Geotemas Magazine generated quite an impact among geoscientists. The main result and legacy of the IYPE in Argentina is considered to be the consensus and personal commitment by Committee members to continue outreach and educational activities beyond the IYPE Triennium and to participate in a dedicated, top-level Expert Group.

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**Australia** ([www.ga.gov.au](http://www.ga.gov.au))

The IYPE Committee was the National Committee for Earth Sciences and represents universities, research centres and Geoscience Australia. The Committee linked major geophysical and geochemical programs in 2007-2009 to IYPE. These include extensive seismic surveys and airborne geophysical acquisition programs, geothermal gradient and conductivity measurements, the national geochemical survey of Australia and marine zone swath mapping and related studies. These programs are designed to help locate future mineral and energy resources, underpin management of terrestrial and marine environments and enhance understanding of the nature and evolution of the crust. But the main focus of the National Committee was on outreach. In 2007, a set of IYPE coins was released by the Australian Mint. Geoscience Australia and the Geological Society of Australia jointly selected and sponsored a winner of the student contest to participate in the Global IYPE launch in Paris, February 2008. In the Planet Earth Lisbon Event 2009 the Committee participated with 4 students. The Australian Bureau of Statistics Yearbook (2008) included an IYPE theme; this was also the case for the 2008 resource book for high school science teachers. Several public addresses by eminent geoscientists with the theme *IYPE Earth science for everyone* were given in 2008. Three national and international conferences in Australia, and Earth Science Week, bear the IYPE logo. Australia will continue to contribute to OneGeology and highlight the IYPE themes at the 34<sup>th</sup> International Geological Congress in Brisbane, 5-10 August, 2012.



Dr Ian Lambert, Australian IYPE Senior Advisor, with the CEO of the Royal Australian Mint at the release of the collector's IYPE coin set.

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**Austria** ([www.geologie-ist-alles.at](http://www.geologie-ist-alles.at))

The National IYPE Committee in Austria operated under the Academy of Sciences and was launched on 10 November 2007. It developed a wide array of outreach and education-oriented activities, including drawing competitions, IYPE billboards along the highways and in public places, major exhibitions, Geoparks, publication of popular books on the Earth, and artist impressions. In spring 2008, a student's poster contest was financed by the Austrian mineral industry and the award winning poster was displayed nation-wide. Austria participated actively in the Via GeoAlpina project, a joint effort by the National IYPE Committees in the Alpine region. The Committee will continue its activities beyond the IYPE Triennium. It has been recognised as one of the 17 best performing nations worldwide.



Winning poster in Austrian contest for IYPE.

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**Belgium** ([www.annedelaterre.be](http://www.annedelaterre.be); [www.jaarvandeplaneetaarde.be](http://www.jaarvandeplaneetaarde.be))

The Programme and website of the Belgium National Committee were launched in April 2008 during the Earth & Space Week when astronauts and scientists met with more than 4,000 young people in several major cities to discuss environmental issues and to convey how the Earth is viewed from space. Throughout the IYPE Triennium there has been a strong focus on teaching programmes for schools, and Earth Science education aimed at a broad public. The National Committee participated in several youth science fairs, for example in the *Expo Sciences* in Brussels, and *Wetenschapsfeest* in Mechelen. A book presenting the rich geological background of Wallonia was published. In the spring of 2009, the University of Liège installed a huge stratigraphic time chart alongside the banks of the Meuse river. In Limburg, a permanent promenade through 500 million years of geological history was created. In 2009, the Flemish government funded several interactive projects to increase Earth science awareness for secondary school children. The Flemish Geosciences community responded with enthusiasm and introduced several projects using highly participative means to raise public awareness of the ten IYPE topics. The number of students in the Earth sciences increased in Ghent University.

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*Presentation to high school students in Brussels at the launch of the Belgian IYPE in April 2008.*



**Botswana**

The IYPE Committee in Botswana includes government representatives, UNESCO, and NGOs. Several geoscientific meetings were co-labelled IYPE. An outreach activity was organised by the University of Botswana Geology Club with sponsorship of UNESCO Harare Cluster Office, to spread geoscientific knowledge among 500 high-school students, in June 2009. As Botswana's economy is

largely dependent on mineral resources, this topic was highlighted. This was the first time ever that outreach on geoscience topics has taken place in the country's schools. Other outreach activities included an exhibition, distribution of pamphlets on each of the IYPE themes, powerpoint presentations, and rock-samples collected for teaching purposes. Clearly, education and outreach were the prime targets of the Committee. Student participation was exceptionally good and they were encouraged to serve as junior IYPE ambassadors in Botswana.

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*The Botswana IYPE outreach team.*







**Brazil** (<http://aipt.mct.gov.br>)

The Brazil National IYPE Committee launched its programme in January 2007 in Sao Paulo and operated under the auspices of the National Academy of Sciences and the Ministry of Science and Technology. Fourteen supporting organisations, including UNESCO and PETROBRAS were represented in the National Committee. It organised or supported as many as 20,000 activities all over Brazil, during the IYPE Triennium. The Science Programme included several national and international Earth scientific conferences, often with a strong focus on Latin-American and Portuguese speaking language countries. In 2008, the annual National Science and Technology week was dedicated to Planet Earth. Large crowds were excited about the IYPE in Brazil, including some 20,000 children participating in a contest on 'Planet Earth in 2057'. Many thousands of other outreach activities, including slide shows, exhibitions, comics and art performances, were organised throughout the IYPE Triennium. Through national competitions, Brazilian students were selected to participate in the Global Launch Event (2008) in Paris, France and in the Planet Earth Lisbon (PEL) Event in 2009. In April 2008, the Latin American Launch of the International Year was held in Brasilia. The National Committee benefited from the moral and financial support by Brazilian organisations and companies, mainly Petrobras, and managed to convey the IYPE messages to politicians and to bring together a wide variety of groups while involving many youngsters in its operations. The Brazil National Committee received the IYPE Outstanding Achievement Award in November 2009.



*IYPE launch, Estação Ciência, São Paulo, Brazil, 2007.*

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**Bulgaria** ([www.geology.bas.bg/planetearth/plearth\\_bg.html](http://www.geology.bas.bg/planetearth/plearth_bg.html))

The National IYPE Committee for Bulgaria was established as early as 14 July 2006 which makes it one of the very first National Committees for IYPE. The Committee is composed of an Honorary, an Organising, and a Programme committee. They work in close cooperation with the Bulgarian National (IUGS) Committee of Geology, the Bulgarian Geological Society and other geoscientific organisations. Despite the lack of funds supplied by the State, the National IYPE Committee organised about 60 scientific and outreach events in Bulgaria during the Triennium. Many of these had a strong educational component. They included lectures on Planet Earth and various aspects of the geosciences, media articles (often in specialised journals) and radio broadcasts, production of a web site, exhibitions and annual competitions (musical, literary, photographic etc.) in the National Museum *Man and Earth*, excursions and field trips, special IYPE events, a musical, photo contests, literary competitions, 4 national geological conferences with international participation and 3 international symposia (with field trips), the production of a popular book and a brochure and three scientific books. Although the Committee states that relations with the government and with neighbouring countries improved, media attention could have been much better and bureaucracy less. During the IYPE Triennium the Committee noted a slight increase in students enrolling in the Earth sciences.



*IYPE excursion with gypsy children and geologists at Kotel, East Balkan.*

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### **Cameroon**

The National Committee for IYPE in Cameroon became operational on 6 August 2007 and is composed of representatives from 6 State universities and the Ministry of Scientific Research & Innovation. The NC prepared a country contribution to an exhibition at UNESCO: *Planet Earth: from Space to Place* for which a short film was prepared on the Lake Nyos disaster. The 21<sup>st</sup> commemoration of the disaster in August 2008 was a nation-wide event with much media attention and awareness actions for the public. Another IYPE-labelled event was the *Week of Scientific Research and Innovation* in October 2007, where geoscientific data were made accessible to the public and students. The National IYPE Committee decided to continue its activities after the Triennium.

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### **Canada** ([www.iypecanada.org](http://www.iypecanada.org))

In the Canadian IYPE Committee, government, industry, academia and youth were represented. It was operational early in 2007 and held its national launch in Ottawa on Earth Day, 22 April 2008. The National Committee produced a brochure for fundraising with a list of potential projects and several of them were funded. IYPE was a sponsor of a 5-part CBC TV mini-series on Canadian geology *A Geologic Journey*. The legacy website contains a careers section for junior high school students and material from the popular IYPE book on Canadian geology *Four Billion Years and Counting*. It is also the home of the WHERE Challenge, a contest for Canadians aged 10-14 years that was run in 2008-09 and 2009-10. This was a web-based contest for school children designed to give them an understanding of the importance of our resources to their quality of life and to interest them eventually in a professional career as an Earth scientist. The Geological Survey produced thirty-two fact sheets on energy and minerals that are available on-line. A *GeoTime* trail was opened in Waterloo, Ontario. It is 4.6 km in length, each km representing one billion years of Earth's history. The IYPE supported Centennial Celebration of the discovery of the famous Burgess Shale that brought scientists and members of the public to Banff for a special symposium; a book on the Burgess Shale was published. During the Triennium, IYPE presented exhibitions at various conferences throughout the nation. The Canadian Federation of Earth Sciences will continue outreach and education activities and maintain the website when the IYPE Triennium is over. Canada was recognised as one of the seventeen best performing IYPE nations.



Homepage website Canadian IYPE Committee.

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### **Cape Verde**

([www.ise.cv/aipt](http://www.ise.cv/aipt))

In Cape Verde, the National Committee for IYPE was established in close cooperation with the

National UNESCO Commission. The Committee organised its national launch event on 16 October 2008, in Praia. The IYPE was opened by the Prime Minister and attended by several ministers. School children played a significant role in the opening Ceremony. The Committee received strong support from the National Committee for IYPE in Portugal,



IYPE site visit to Ilha do Fogo in conjunction with national launch event in Cape Verde, October 2008.





and developed a dedicated website and organised several activities focused on outreach and education. An IYPE-labeled booklet with information on Ilha do Fogo was produced and a Planet Earth Symposium on the creation of a Geopark in that area is in an advanced stage of development.

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**Chile**

The National IYPE Committee in Chile was established on 20 December 2007 and was spearheaded by the National Geological Survey. Its activities focused on the successful creation of the first Geopark in Chile. In addition, IYPE was involved in *Energy and Climate Change* workshops with politicians. The Academy of Sciences organised a training course and field trip for school teachers. Chile participated actively in the IYPE flagship project *OneGeology*. Lack of funding hampered the ambitions of the enthusiastic Committee, but the numbers and the quality of students in the Earth sciences rose during the IYPE Triennium. Moreover, the IYPE generated a renewed political interest in introducing Geosciences in primary and secondary schools.

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**China**

China was one of the nations that supported the IYPE from its onset, in particular at UNESCO's Executive Board and in the General Conference. The National Committee was spearheaded by the Ministry of Land and Resources and developed an exciting programme, particularly focused on education and on popularisation of the Earth sciences. The media were heavily involved. In 2008, the Committee organised a wide variety of events, including a national launch on Earth Day, 22 April 2008 and a media Programme on *Geology and the Olympics*. The Committee participated in the Global Launch Event in Paris, February 2008 and offered dedicated IYPE silk neck ties to all participants. A special exhibit was organised in the China Museum for Geology and some 50,000 school children participated in a drawing contest dealing with the ten IYPE themes. All 12 IYPE brochures were translated into Chinese, printed and widely distributed. In Hong Kong, ArtLinks Asia organised a dedicated IYPE art exhibit and Fair *Art and Earth: Past Present and Future 2008*. In 2009, an International Seminar on Hong Kong Geopark Inauguration was organised. In October 2009, China hosted the First Young Earth Scientists Congress in the University of Earth Sciences, Beijing with some 300 participants discussing a wide variety of issues including career opportunities connecting geoscience and politics.

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Speeches delivered at the National launch of the IYPE in Beijing, China on 22 April 2008.







### Congo

The National Committee for IYPE was established in February 2008 and focused its activities on science and outreach events based on

the ten IYPE themes. Moreover, Congo had a major contribution in the IYPE Flagship project OneGeology. Finally, the National Committee organised information and outreach Seminars on the importance of Environmental and urban geology in the large urban areas, including Kinshasa.



Screen view of the IYPE Flagship Project OneGeology showing the digital geological map of Congo.

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### Costa Rica ([www.geologos.or.cr](http://www.geologos.or.cr))

The Costa Rica IYPE Committee held its opening Ceremony on Earth Day, 22 April 2008, attended by the President of the Republic, the Minister of Energy and Mines, and the Mayor of San José. At the same time, an *Earth Fair* was organised with an exhibition

on public and private geoscience initiatives. The Earth Fair traveled to other cities and towns in Costa Rica, also in 2009 and 2010. The National Committee issued a set of two IYPE stamps, one on the scenic springs of San Vicente (related to groundwater) and the other on Peninsula Santa Elena (linked to the Deep Earth theme). By these and other means, the Committee managed to raise public awareness and to collect political support. The Committee was also successful in raising funds from private organisations. IYPE provided them with a unique opportunity to communicate with geoscientific communities spread around the world. The 9<sup>th</sup> Central American Geological Congress, dedicated to the IYPE and held on 1 July 2008 in the National Theater was one of the scientific highlights of the IYPE in Costa Rica. The Committee focused strongly on education. One of the initiatives was to introduce geosciences into the national school curriculums. This began in Guanacaste province for the period 2009-2011. The Santa Elena Peninsula, where the oldest rocks are exposed and mantle rocks can be touched, was proposed as a National Geological Monument to be declared soon by the Government.



Poster Exhibit, 22 April, 2010, Liberia downtown Guanacaste province, Costa Rica.

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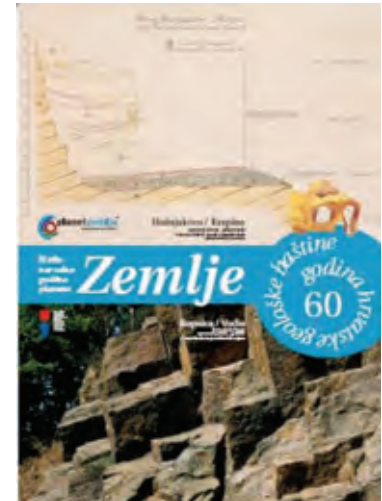






### Croatia

In close cooperation with the Croatian UNESCO Commission for UNESCO, the Croatian IYPE Committee organised a series of scientific and outreach events, including a national Calendar of IYPE events, the celebration in Krapina of the 60th anniversary of geological heritage protection, the Week of European Geoparks in Nature Park Papuk, International symposium ProGEO, International interdisciplinary scientific conference ‘Sustainability of the Karst Environment – Dinaric Karst and other Karst Regions’, promotion of book ‘Karst Without Boundaries’ and thematic lectures and exhibitions.



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### Cuba ([www.medioambiente.cu/planeta\\_tierra/inicio.asp](http://www.medioambiente.cu/planeta_tierra/inicio.asp))

The IYPE was officially launched on 10 January 2008, in Havana. Throughout the Triennium, the IYPE Committee focused on three major campaigns: 1. to improve public perception of the geosciences, 2. to capture the interest of young people for Geology, Geophysics and Mining, and 3. to increase awareness of the general public to reduce vulnerability to geohazards and impact of climate change. Implementation took place through conferences, video-debates, exhibitions, and newspaper articles. More than 40 original documentary films were produced about the geosciences and Cuban nature, by *Televisora Mundo Latino* ([www.redciencia.cu/cdorigen/arca/documml.html](http://www.redciencia.cu/cdorigen/arca/documml.html)). Moreover, 25 hours of TV lectures to popularise the *Geological Nature of Cuba* were broadcast (2007/2008). With reference to these lectures, 60,000 newspaper-style brochures and the book *Geology of Cuba for everyone* were published. This resulted in the opening of a *School of Geophysics* in September 2010, in the Highest Polytechnics Institute J.A. Echevarría in Havana. The Cuban IYPE Committee translated three IYPE brochures into Spanish. A most prominent activity was the production of seven brochures and posters, digitally and in hard copies, *Protect your family from ....* concerning polluted waters, earthquakes, landslides, erosion & loss of soil, terrestrial inundations, marine invasion & tsunami, and impact of climate change ([www.redciencia.cu/cdorigen/arca/protegefam.html](http://www.redciencia.cu/cdorigen/arca/protegefam.html)). A second version of these documents is in production and will soon be available online. In addition, the Committee dedicated the 3<sup>rd</sup> Cuban Earth Science Convention, with about 900 delegates from all over the world, to celebrate the Planet Earth Initiative. Upon closure of the IYPE, the Cuban Geological Society inherited the IYPE activities and will continue spreading IYPE messages, under the international umbrella of a follow-on initiative.



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Poster to promote the series *Protect your family from ....*





### Cyprus

The National Committee of the IYPE in Cyprus focused its activities on outreach. These included lectures, discussions and articles on the IYPE themes. A special IYPE stamp was issued by the National Cyprus Post following a contest for Cyprian artists

whose designs were inspired by the IYPE themes.



Planet Earth stamps on First Day envelope issued by Cyprus Mail.

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### Czech Republic ([www.rokplanetyzeme.cz](http://www.rokplanetyzeme.cz))

The National IYPE Committee was established by the Czech Geological Committee. Main parties involved were the Geological Survey, the Academy of Sciences, the UNESCO Commission, Universities and the Ministry of the Environment; it included representatives of regional networks as well as consultants. The IYPE was launched on 11 January 2008, in Prague. Activities started by producing an IYPE brochure and ten posters, all dedicated

to IYPE themes. In addition, a TV spot was made and broadcast. The Committee had a strong focus on education and all 50 Czech UNESCO Associated schools were involved in the IYPE. Schools also participated in a painting contest, *Gaia, my piece of land*, organised by the Czech Geological Survey. This contest became a popular event and a valuable promotional item as an IYPE legacy. The roving exhibition, *The Planet Earth Powerful and Vulnerable*, started in Prague and moved successively to other cities. Another geological exhibition, *The Story of Planet Earth*, took place in the National Museum in Prague, late in 2009. The website was a key to outreach; it was active throughout the Triennium and was linked to the IYPE flagship projects *OneGeology* and *Earth-learning Idea*. Geoparks and local groups picked-up IYPE ideas and performed more and more such activities. Also, *Science Week*, media series and the audiovisual *Ekofilm Festival* adopted IYPE themes. The Committee participated in the Global Launch Event in Paris (2008) and in the Lisbon Event (2009). It has been quite successful in the regions but less so in politics. Follow-up activities are anticipated by the Czech Geological Committee.



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### **Denmark**

The Danish IYPE National Committee operated under the umbrella of IUGS and the Danish National Committee for Geology and focused on outreach, science and education. An issue of the popular periodical *Geoviden* was dedicated to the IYPE themes. These themes were translated and then placed in a web-based facility. Publication of a book on the Geological History of Greenland, also translated into English, was a contribution to the outreach and education programmes. Another educational event was a field trip for youth organisations (scouts) and the *Days of Geology* with some 60 activities all over the country, all dedicated to IYPE. The Danish National IYPE Committee further contributed in co-organising the International Geological Congress in Oslo, Norway (2008). Also, Denmark contributed to the IYPE flagship programme of OneGeology. Denmark will continue its contributions to OneGeology and to the Themes on the Web, beyond the IYPE Triennium.

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*Geologist Stig A.S. Pedersen explains complex glacial geology to laymen.*



### **Egypt**

The National Committee for Egypt was established on 9 November 2007. Several scientific geological meetings were organised during the IYPE Triennium in Egypt including international Conferences. The National Committee focused on presentations in the Assiut University on Climate change and their impact on Planet Earth. An IYPE brochure was produced on natural hazards and was distributed in Egyptian schools and universities. One of the major events was the International Conference, on *Planet Earth: Earth Sciences and Developments of Civilisations in Major River Basins*, held in Luxor in October 2010. The National Committee plans to continue its activities until at least 2012.

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*'Desert roses' gypsum crystals, one of the natural treasures of Egypt, highlighted during the IYPE.*



### **Estonia** ([www.planeetmaa.org](http://www.planeetmaa.org))

The National IYPE Committee for Estonia was established by the Academy of Science in June 2006. A launch event was organised simultaneously in Tallinn and Tartu, in March, 2008. Outreach was the main focus of the IYPE Triennium. Public events included *Vilsandi Kivipäevad* (stone-days, anniversary of the Vilsandi National Park), excursions, public lectures and special presentations to teachers and students. The Museum of Natural History in Tartu organised IYPE-labelled exhibitions. IYPE themes were integrated in a lecture course at the University of Tartu and interactive web-based teaching materials on geological topics were developed at the Tallinna Technical University. Publication of popular papers and more than 2 hours of radio broadcasts were part of the outreach programme. Estonia supported the IYPE flagship project OneGeology. The National Committee organised several conferences, including *Forgotten Mineral Resources* and the 7<sup>th</sup> Baltic Stratigraphical Conference, both in 2008. Eight scientific and popular







volumes bear the IYPE logo. The National IYPE Committee received financial support from the Government, the Universities of Tartu and Tallinn, the Geological Society and Estonian Naturalists' Society, and the Estonian Geological Survey.



*Impression of IYPE Opening Event in Tallinn, March 2008.*

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**Ethiopia**

The Ethiopian National Committee was established by the Ethiopian Science and Technology Agency, in December 2007. It held its national Launch event on 14 August 2008 in Addis Ababa, with 250 participants including Federal Ministers and Commissioners. The National Committee managed to bring together a wide variety of geoscientists from public and

private organisations. Four public universities have opened their doors to Earth science students since 2006. Two more universities did the same in 2010. At the same time, student numbers in the Earth sciences have been rising in Ethiopia, from 180 in 2006, 230 in 2007, 370 in 2008 and more than 500 in 2009. Committee activities focused on outreach and education projects. After the IYPE Triennium, the Ethiopian National Committee will continue its activities under the umbrella of an international follow-on initiative, together with other African nations. They consider the IYPE legacy important because it provided the Committee with an international platform to communicate with colleagues in other countries. The Committee proposes to develop a 'Marshall Plan' for Earth scientific research in Africa.



*The IYPE-Ethiopia launch event with the Minister for Science and Technology and other high level officials present in the audience.*

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**Finland**

In Finland, the IYPE National Committee has operated under the National Committee for Geology since 2007. The main focus of the IYPE in Finland has been to raise public awareness among students and school teachers at the Annual National Geology

Day. The Geology Day includes local public events in various locations in Finland and several thousands of people participated in these events. In 2010 the Geology Day will be dedicated to Geological diversity as part of the activities of the IUCN Biodiversity Year. The National Committee for Geology will continue its activities beyond the IYPE Triennium.



*Geology Day excursion at Kesonsuo peat bog in Iломantsi, Eastern Finland.*

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### **France** ([www.anneplaneteterre.com](http://www.anneplaneteterre.com))

The French National IYPE Committee organised a total of 346 special projects throughout the country during the IYPE Triennium. Together with UNESCO and the IYPE Secretariat, the Committee organised the IYPE Global Launch Event at UNESCO Headquarters in Paris, February 2008. This Event was attended by about 1000 participants including 100 award-winning students from around the globe. Together with the French Geological Survey (BRGM), the French Natural History Museum and TOTAL, a major exhibition was organised in Paris showing a 420 m<sup>2</sup> Geological map of France. That spectacular IYPE project was awarded the golden *Top COM Prize* for 2009 for best outreach impact. The Time Alley showed the Earth history along a 450 m track representing geological time. The *Rocks of France* displayed large dimension stones to expose the nation's large diversity of rocks. All these exhibits were held in the Paris Botanical Garden, attracting more than 1 million visitors and 225 schools and where 150,000 explanatory booklets were distributed. IYPE was presented in all corners of France, for example in the Pyrenees where, together with the Spanish National IYPE Committee, a well-documented, bi-lingual geological excursion route was developed. By the end of the Triennium, geological excursions had been held all over France, attracting 8,284 people. Finally, the IYPE served as an important instrument in uniting the fragmented French geoscientific community. Several elements developed for IYPE were incorporated in the national school and university curriculums. For its many high quality activities, the French National Committee was recognised as one of the three best performing Committees worldwide during the IYPE Triennium.



*Giant geological maps of France mounted on the Museum facade and on the floor in front.*

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### **The Gambia**

The National Committee for IYPE in The Gambia was created in December 2007 and operated under the Office of The President. The Committee began its activities by developing a schedule of national science and outreach activities based on the 10 themes of the International Year of Planet Earth.

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### **Georgia**

The National IYPE Committee for Georgia, in collaboration with the National Science Foundation and the Nodia Institute of Geophysics, organised a series of popular lectures in schools, reaching about 500 children in Tbilisi, Gori and Kutaisi. The Committee also began linking Georgia to the worldwide primary and secondary school-based science and education programme GLOBE (Global Learning and Observations to Benefit the Environment). In November 2008, almost 100 scientists attended the international Conference on Natural Resources, Catastrophes and Climate of the Southern Caucasus. In the same years, the National Committee on Disaster Reduction was launched in the IYPE framework. In January 2008, a competition on *Humans, Earth, Space* started on the computer networks of 30 secondary schools in Georgia. The National Committee will proceed after the IYPE under the umbrella of an international, outreach-oriented geoscientific follow-on initiative.

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**Germany** ([www.geounion.de](http://www.geounion.de))

The German Committee for IYPE was established on 11 May 2007 and was placed under the GeoUnion Alfred-Wegener-Stiftung, the association of the geo-related organisations and institutions in Germany, together with National Committees of IUGS, IGCP and UNESCO and the National Geological Survey. The International Year of Planet Earth benefited considerably from the experience gained in Germany, when in 2002 a successful, nation-wide outreach activity for the Earth sciences was organised with substantial support from the federal government: the 'Year of Geosciences 2002'. This 'geo-year' served as a model for IYPE and permission was granted to use its logo worldwide. About 60 IYPE activities organised in Germany included conferences, lectures and other events (guided tours, rallies etc.) on the 10 IYPE topics and other geoscientific issues; a calendar was produced on the GeoUnion's Homepage where all German and the most relevant international IYPE events were listed. The German National Committee considered the Conference *The Earth-Humankind System* (2008) in Berlin, on the state-of-the-art and the relevance of geosciences for society, economy, and politics, together with the 3<sup>rd</sup> International UNESCO Conference on Geoparks (2008) in Osnabrück, as the most successful events in the Triennium. *The Earth-Humankind System Conference* will be succeeded by similar outreach conferences, to be organised jointly by GeoUnion and Geokommission; one was held on questions of 'Energy and the geosciences' in April 2010. Despite the lack of governmental funds, the German National Committee belonged to the 17 best performing National IYPE Committees worldwide.



Start of the 3<sup>rd</sup> UNESCO Geoparks Conference, Osnabrück 2008 as one example of the IYPE-driven activities in Germany.

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**Greece**

The Greek National Committee for IYPE was coordinated by the Greek Geological Survey (IGME). The International Year was

highlighted at the World Space Congress for Youth, held in Athens, 17-20 April 2008 and opened by the Minister of the Environment. The University of Crete organised presentations on IYPE themes by renowned speakers for broad audiences in Heraklion, in March 2008. Together with French organisations, a Festival entitled: *Les Rencontres de la Terre/ΓΕΩδουαντήσεις* was organised in Athens on 12-15 October 2009, aimed at raising the public's awareness and understanding of new issues in geosciences. The Festival included a presentation and exhibit by photographer Yann Arthus-Bertrand. Hellenic Post issued a maxi-card on the occasion of the IYPE in Greece. Two international conferences were IYPE co-labeled – *Geology and Water Management* (May 2008) in Athens, and *Geosciences in the Service of the Society* (October 2008) in Kozani city.



Poster announcing the joint French-Greek Festival: *Les Rencontres de la Terre/ΓΕΩδουαντήσεις*.







The book *PAN-GIA, ΠΑΝ-ΓΑΙΑ* by Spyros Pavlidis was published and a series of geotours Geotrails in Greece was published by IGME. A Report on the EU-supported Project *Designation of geosites-geoparks, a contribution to sustainable development* was published and dedicated to the IYPE in 2009.

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**Honduras** (*conades.hn*)

The National Committee for IYPE in Honduras was established on Earth Day, 22 April 2008 and was placed under the umbrella of the National UNESCO Commission and CONADES (Consejo Nacional de Desarrollo Sostenible). The Committee activities focused on outreach, science and education.

Sustainable development was the main drive in organising the more than 200 activities in Honduras during the IYPE Triennium, including scientific fairs, forums, youth camps, training operations with fire brigades, and addressing (re-)forestation issues. Most successful were activities with a scientific dimension offering young people the opportunity to show their talents, together with energy projects (solar, wind power) and stewardship of natural resources. Awakening interest in care for the planet among the (in particular young) public is seen as the most important and lasting legacy of IYPE in Honduras. Another important legacy is the increase in registered students in the Earth sciences in Honduras (National Autonomous University), from 328 in 2007, via 598 in 2008, to 715 in 2009, with prospects for further increased numbers in 2010. Committee activities were hampered by the lack of sufficient funds to implement its ambitions effectively.



Poster of the IYPE National Committee in Honduras.

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**Hungary** (*www.foldev.hu*)

The Hungarian National IYPE Committee organised a launch event on 17-20 April 2008 in Budapest. Throughout the Triennium they organised a series of activities and events. One of the most remarkable was the Conference *Earth & Heaven – Geology & Theology*, which was held in October 2008, the nation's Year of the Bible.

This Conference was well received by the historical churches in Hungary. Supervised by the Archbishop of Esztergom & Budapest and by the President of the Hungarian Academy of Sciences, the Conference saw no antagonism between science and Christian religion but more so between science and pseudo-science and between religion and pseudo-religion. Aggressive atheism and aggressive creationism were rejected as extreme



Discussion Panel Earth & Heaven Conference, Sopron.







views. The Conference book *Earth & Heaven* ignited interesting follow-up discussions in Hungary. In 2009, a popular Geological Map of Hungary for Tourists was published. Geotourism is an expanding field in Hungary. The IYPE science brochures were translated into Hungarian and adapted to the national situation. These brochures, printed in A5 format, found their way to school teachers throughout the country and were widely used for teaching purposes. In 2009, an international geoscientific Congress was held in Sopron. On that occasion the IYPE video was displayed through wide screens in a public place. Hungary was recognised as one of the seventeen best performing IYPE nations.

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**India** ([www.iypeinsa.org](http://www.iypeinsa.org))

The Indian National Committee for IYPE is part of the National Coordination Group constituted by the Indian National Science Academy for the concurrent four International Year initiatives (IYPE, IPY, eGY & IHY). The IYPE activities started in October 2006 and were launched at the National Science Congress dedicated to *Planet Earth* that was inaugurated by the Prime Minister of India in the presence of leading politicians, administrators and some

5,000 other participants, in January 2007. There was a separate and parallel Congress and exhibition for the young people inaugurated by the President of the Republic and broadcast nation-wide. A *Science Express* train travelled across the country for 220 days containing two wagons with exhibits highlighting the themes of IYPE. This *Science Express* was visited by 2.5 million school students. Many other science and outreach projects were organised during the IYPE Triennium mainly on educating school children and on archiving data of use in scientific and societal interventions. The outreach activities included student rallies, displaying of posters and calendars for public education in local languages and guidance in natural and human-induced hazard issues. A novel concept of *Earth Explorer* was floated in which primary school teachers from separate districts were trained to popularise Earth science topics. Many other science and outreach projects were taken up by government and non-government organisations.



President of India (centre left) releases balloons to inaugurate the Science Planet Earth Congress for the youth, January 2007.

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**Indonesia**

The Indonesian Committee for IYPE was launched at the Geological Museum in Bandung. The Committee consists of representatives of a wide variety of organisations, including LIPI, BG, Ristek, LAPAN, BKMG, ITB, IAGI, HAGI, and PU. During the Triennium many activities took place under the IYPE umbrella, mainly directed to science and education. The first IYPE-labeled activity was a Public

Lecture on Climate Change, held in January 2007 in Bandung. This was followed by a series of lectures, short courses, writing competitions and exhibitions on climate and meteorology. To raise awareness of tsunami and earthquake hazards, the Indonesian Institute of Sciences (LIPI) contributed to strengthening community disaster preparedness through a series of lectures for senior and junior high school students, seminars for teachers,



Indonesian logo for the IYPE Triennium.





exhibitions and tsunami drills in several places. The Earth sciences were also promoted through media campaigns, expositions and a movie dedicated to the IYPE. In order to ensure wider communication of information to the public, LIPI invited journalists to participate in a *Bandung Basin Geological Field Course* including a visit to Laboratories of the Ministry of Public Work (PU) about earthquake-resistant building.

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### **Iran**

In the Iranian National IYPE Committee leading Earth and Natural scientific institutions, communities and societies were represented, together with educational, environmental and urban planning organisations. The IYPE National Committee was considered the most relevant Earth science Committee in Iran. In cooperation with UNECO, IUGS, CGMW and IUCN a wide variety of scientific and outreach IYPE activities were organised during the Triennium. On 11 November 2008, the Committee launched the IYPE in Iran at a major event in Tehran. Outreach activities were usually accompanied by significant media attention ensuring nation-wide broadcasting. IYPE related scientific events included active participation in the OneGeology Project and the production of the World Kinematics Map, contributions to Middle East & West Asian Geology and the release of the Geological Evolution Booklet. Much emphasis has been placed on primary and secondary school education for which information packages were produced and distributed. Beyond the IYPE Triennium, the Committee will continue its activities under the international umbrella of a follow-on initiative and mainly focus on raising public (youth) awareness on natural hazards, Geobiotechnology, World Heritage and Geoparks. Special attention will be devoted to issues including *Climate and Sea Level Changes* and *Optimising Earth Sciences for School and International Publics*. Student enrolment in the Earth sciences increased in Iran during the IYPE Triennium.

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*Damavand Volcano, Iran's highest mountain, translating the IYPE logo into natural phenomena.*





### Iraq

Despite the difficult security conditions in the country, the National IYPE Committee in Iraq organised a series of activities. Symposia, lectures

and Conferences were held in the cities of Baghdad, Basra, Karbala and Babylon. Political leaders attended the IYPE Environment Celebration in April 2008 and the IYPE-labelled Oil Conference one year later. The Government encourages young researchers to study desertification, groundwater problems, climate change and the health impact of regional dust storms. Scientific excursions throughout the country were organised with a focus on environmental deterioration during the 2008-2009 droughts, an event that affected the marshes in Southern Iraq. The Ministry of the Environment and the College of Science in Bagdad University played a key role in the outreach and education aspects of the IYPE in Iraq, resulting in drawing competitions for primary schools and TV programmes. This resulted in a 30% increased student enrolment in the Earth sciences per year since 2007.

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Poster for the Celebration of the International Year of Planet Earth in Iraq.



### Ireland ([www.planeteearth.ie](http://www.planeteearth.ie))

The National Committee was spearheaded by the Geological Survey of Ireland and composed of representatives from some 20 organisations. On 18 January 2008, the IYPE was launched in Dublin. All ten IYPE themes were highlighted by high-profile lectures on Earth science, but the Committee's main focus was on education and outreach, including the production of a Calendar of Public Events. The issue of the world's first round, IYPE dedicated stamps proved

to be award winning in a national stamp competition. At the BT Young Scientists and Technology Exhibition in Dublin, under the aegis of the IYPE, a geoscience stand was set up incorporating personnel and props from different organisations; the stand became a central feature of the Exhibition's Eco Zone. This exhibit, attended by 30,000 people, communicated to students, teachers and parents the varied nature of geology in an interesting and engaging way. Ireland actively participated in the Global IYPE Launch at UNESCO in Paris, where Nikita White was selected as one of the three students who addressed an audience of 1,000 people.

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Launch of the IYPE in Ireland. From left to right: Eduardo de Mulder (Executive Director IYPE Secretariat), Aubrey Manning (IYPE Goodwill Ambassador), Eamon Ryan (Minister of the Environment) and Peadar McArdle (GSI Director and Chair of the National IYPE Committee).







**Israel** ([www.gsi.gov.il](http://www.gsi.gov.il))

The National Committee for IYPE in Israel has been promoting outreach activities highlighted by television mini-series produced in collaboration with the Israel National TV, and several radio programmes. The highlight was a series of 13 broadcast lectures about geology and our daily lives. That series aimed to emphasise the relevance of the geosciences in their social, cultural, economic and political contexts.

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**Italy** ([www.annodelpianetatterra.it](http://www.annodelpianetatterra.it))

The National Committee was formally established on 13<sup>th</sup> March 2007 by the Chair, the Minister for Environment and Land & Sea Protection. The Italian Institute for Environmental Protection and Research (ISPRA) was in charge of coordinating the activities. The National Committee was officially launched by the President of the Republic. The launch ceremony was opened by the Minister for Environment who, together with the Minister for Public Education and Research, delivered diplomas to the Italian winners of the IYPE Student Contest. The ceremony was broadcast in real time by National TV and the World's Anthem for Geologists (*Fanfare and theme for the Planet Earth*), as composed for the IYPE, was performed by an orchestra. The National IYPE Committee organised over 200 events, including more than 20 on *Geology & Wine*. Outreach has been the main component of the Italian activities, which included events, seminars, workshops, distribution of information through the main national media and press organisations, web sites and social networks. Italy played a prominent role in the IYPE, for example by initiating the Young Earth Scientists (YES) organisation and through its leading position in establishing the Via Geoalpina ([www.viageoalpina.org](http://www.viageoalpina.org)) with a very successful launch in the Alps in 2009. New Geoparks were also established in Italy during the IYPE Triennium and media attention was successfully generated by publishing more than 80 press articles, 6 educational books and several national and local TV broadcasts. Italy was recognised as one of the seventeen best performing IYPE nations. The Italian National Committee for IYPE decided to proceed with their activities beyond the IYPE Triennium.



*The Minister of the Environment (right) and the Minister of Research and Education (second from left) awarding the diploma to one of the students (centre right) who was a winner of the IYPE contest.*

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**Japan** ([www.gsj.jp/iype/en](http://www.gsj.jp/iype/en))

The National IYPE Committee was established on July 26, 2006 under the National Committee of IUGS, Science Council of Japan. The Geological Survey of Japan (AIST) served as its Secretariat. During the IYPE Triennium, the Committee organised more than 10 scientific meetings. One of the international scientific Symposia was entitled *Fifty years after IGY – Modern Information Technologies and Earth and Solar sciences*, held in November 2008.

That Symposium resulted in the Tsukuba Declaration which is a call for action to build on the legacies of the IYPE and the other international years. Despite the lack of governmental financial support, some 80 outreach events were held. One of the most attractive outreach events was the *Planet Earth Forum 2010 in Akiba*, March 2010 in Tokyo. During the Triennium, the Committee placed much emphasis on creating more Geoparks in Japan. Eleven Geoparks entered the Japanese





Geoparks Network, including three that were approved as members of the Global Geopark Network in August of 2009. *Geology Day* was launched on 10 May 2008. This was a success leading to participation of 250,000 people in the next *Geology Day*, in 2009. Hundreds of Geotours all over Japan were organised mostly based on Natural Museums. The 2012 International Geological Olympiad will be held in Tsukuba, Japan. The IYPE Committee signed a Memorandum of Understanding with Korea and Vietnam on joint activities and on exchanging students. Japan was recognised as one of the seventeen best performing IYPE nations. The National Committee plans to continue the discussion on future activities beyond the IYPE Triennium.

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*International symposium of 'Fifty years after IGY' in Tsukuba, November 2008.*



### **Kenya**

The National Committee for IYPE in Kenya was created in February 2008 and is coordinated by the National Council for Science and Technology. The Committee consists of 10 Sub-Committees, one for each of the IYPE themes. A National Launch event for IYPE was held on 17 May, 2009, in Nairobi. A total of 150 invited guests, including representatives of the government and the private sector participated in the event that was held under the patronage of the Director General of UNESCO. A DVD of the event was made and distributed. The Committee managed to make an impact on the government and it plans to continue its outreach and educational activities together with other African nations under the international umbrella of a follow-on initiative. This is fuelled by the fact that the numbers of students in the Earth sciences have been rising during the IYPE Triennium.

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### **Korea**

The Korean Committee for IYPE was established in May 2006, supported by 14 national Geoscientific societies including the Geological Society of Korea and the UNESCO Commission. The Minister of Science & Technology (MOST) co-chaired the Committee and provided very significant financial support resulting in an IYPE office and the boosting of Korean IYPE activities to very high and international levels. The Committee started by issuing a dedicated postcard and IYPE stamp. IYPE was made part of the *Korean Year of Earth Sciences 2008*. During the IYPE Triennium, thousands of events and activities took place throughout Korea, including exhibitions, concerts, broadcasts, field trips, domestic-foreign student exchanges, scientific programs of conferences, lectures, workshops and seminars, articles and reports in the news media. The Committee's most successful events included the National IYPE Launch, on 23 April 2008 in Seoul, the *Grand Conference on Earth Sciences*, the *Earth Science specials in Korea Science Festival*, and *Construction of the Monument commemorating IYPE*. The IYPE Triennium left many legacies but perhaps its most significant has been the increased self-respect of Geoscience practitioners and recognition of the importance of the social role of Earth scientists. The Committee was dissolved by June 2010 but will again be instrumental in organising a new national organisation to cooperate with a follow-on initiative.



*Monument commemorating IYPE, in KIGAM at Daejeon, Korea.*

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### **Latvia** ([www.planetazeme.lu.lv](http://www.planetazeme.lu.lv))

The National Committee for IYPE in Latvia organised a launch event on 28 January 2008 at the University in Riga. IYPE activities included production of a brochure and establishment of an IYPE web-page. Latvia selected freshwater limestone as its National Rock and IYPE symbol. Many events were organised at the Natural History Museum, including 'Water's Day' in March, 'Earth's Days' in April, and 'Sea Days' in September 2008. IYPE in Latvia was most successful in education. There was one joint IYPE event with neighbouring Baltic States. The number of Latvian students in the Earth sciences is slightly increasing.



*Information material produced by Latvia National IYPE Committee, including a picture of the Geological Object of the Year 2008 of Latvia, Nelku klintis (right).*

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**Lithuania** ([www.zemesmetai.lt](http://www.zemesmetai.lt))

In the National IYPE Committee for Lithuania, a wide range of organisations is represented, including geological organisations, two ministries, the UNESCO Commission, industry, municipalities and the National TV & radio. Lithuania held its national launch on 19 March 2008 in the Parliament. The Committee supplemented all IYPE theme brochures with national cases, translated them into the Lithuanian language and posted these on the website. *Earth Day*, celebrated on 22 September 2008, was a successful major national educational event. IYPE themes were integrated in a wide variety of school curricula. Other schools preferred to hold discussions, performances or concerts, while children not only expressed their concern about the state of our planet but also proposed solutions. Geoscientists or local authorities participated in the event. *Earth Day* was advertised on Radio, TV and by other media. This event uncovered the need for more education on the societal necessity for the geosciences and on improved understanding of how our planet works. Competitions, camps and seminars followed *Earth Day* and 40,000 dedicated calendars were printed and distributed in cooperation with the Ministry of Education and Science. Each calendar month was sponsored by another organisation and all were linked to Earth sciences for sustainable development. The same Ministry organised a competition *Earth in our hands* for all types of Lithuanian schools resulting in many presentations, movies, photographs and posters.



Winners and organisers of the competition 'Earth in our hands', 25 September 2009.

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**Malaysia**

The National IYPE Committee was established on 12<sup>th</sup> June 2007 and was spearheaded by the Ministry of Natural Resources and Environment, Malaysia, while the IYPE implementation Committee was led by the Minerals and Geoscience Department. Members of the IYPE National Committee include representatives from several government agencies, academia, private sectors and non-governmental organisations. In total, the Malaysian government invested 500,000 Ringgit (143,000 USD) in the IYPE and supported most national and some international events. Prime focus in Malaysia was on outreach. Five IYPE events were organised in 2007, 13 in 2008, including a national Launch in Kuala Lumpur on 14 January 2008, a public lecture by the UNESCO Director General on 14 March 2008 at Kuala Lumpur Convention Centre, a national geoscience conference in Ipoh, an exhibition and drawing competition in Kelantan, a National Level University Debate in Sabah, awareness campaigns on earthquake hazards and leaflets on urban management by LESTARI, UKM. Finally, three major IYPE-labeled events were held in 2009, two in Kuala Lumpur and one in Putrajaya. During the IYPE Triennium student enrolment in the Earth sciences rose 20% in Malaysia: from 185 in 2007 to 222 in 2009.



School children at the official launch of the IYPE in Kuala Lumpur.

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### **Mauritius**

The National IYPE Committee consists of 10 people representing a wide variety of research institutes and government departments; its first meeting was held on 4 February 2008. Its Action Plan for 2008 and 2009 included a nation-wide awareness campaign, the holding of a Workshop on Geohazards in Small Island Developing States, the organising of a series of presentations on relevant

geo-environmental issues, debating contests by students on national TV, and a poster contest on geohazard issues in Mauritius. IYPE-labeled presentations were delivered by members of the National Committee, often together with NGOs. The Committee plans to continue its activities under an African and International umbrella after 2009, together with many other African National Committees for IYPE.



*University of Mauritius, seat of the National IYPE Committee.*

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### **Mexico** ([www.planetatierra.org](http://www.planetatierra.org))

The IYPE Committee for Mexico was established as early as 2006. On 12 February 2008, the Committee organised inaugural events in Mexico City and in seven other Mexican cities, at the same time as the Global Launch Event in Paris. The Committee placed much emphasis on distributing the IYPE message through education for school children and publications. These included leaflets, special issues of *El Faro* (edited by the National University), a book on History of Planet Earth, and a book series on Earth scientific experiments for children of which tens of thousands of copies were distributed nationally. Scientific meetings adopted the themes of IYPE during the 3 years, including the international 2007 Meeting of the Americas. A special event was organised on the Hazards and Megacity themes in the Three Cultures Palace Tlalotelolco. In 2009, a Planet Earth Exhibition and public events were held in the Mining Palace in the historic district of Mexico City, Science Museum Universum and Queretaro. A Geothon, 4.5 kilometres long run was organised in January 2009 and IYPE was also involved in a well attended concert given by Placido Domingo, in Chichen Itza. Partnerships with other Latin American countries under the IYPE umbrella were a major long-term legacy of the IYPE. This resulted, for example, in translation of all IYPE brochures into Spanish. As the IYPE was quite successful in enhancing public awareness, bringing geosciences to political levels and in being the biggest collaborative, outreach-driven effort ever seen in the Earth sciences in Mexico, the National Committee aims to continue its outreach programme under the Academy of Sciences with emphasis on Latin America and the Caribbean.



*IYPE Exhibit by the Mexico NC at the Concert of the Thousand Columns by Placido Domingo, Chichen Itza, October 2008.*

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### **Mongolia**

The Mongolian National IYPE Committee encouraged collaboration between the Mongolian University of Science and Technology and Trieste University (Italy) in running a geological photo contest aimed at undergraduate and graduate students. Photographs were exhibited on 16 February 2009 during

the International CIDA Workshop at the Mongolian University. The contest aimed to interest large crowds in understanding our Planet Earth and thus bringing the geosciences to the public. The contest results were published in Italian and English and the Photo Album *Earth Vision* was presented at the PEL2009, in Lisbon. Students advertised IYPE during a field trip in Eastern Mongolia. In April 2008, school children contributed to the IYPE themes on Deep Earth, Water and Resources at a contest in Moscow, Russian Federation.



*Closing meeting of photo contest, May, 2009.*

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### **Morocco**

The National Committee for Morocco held its first IYPE meeting in early December 2007. A competition on *Arts & Geosciences* for secondary schools in the El Jadida Province, extended to a national level, was held in April 2008. A Round Table discussion with students was organised on *Climate change and economic development: the role of the cinema*, on 12 June 2008. A two-day IYPE outreach event on *Earth sciences – sustainable development*

vector was held in the same month, as was a Conference on *Teaching Earth sciences: from school to University* at the Ain Chock Faculty of Sciences. Several other, IYPE labelled scientific events were organised in Morocco during the IYPE Triennium, normally in close cooperation with other scientific organisations such as the Association of African Women Geoscientists and Civilisations without borders. The First International Colloquium on scientific and touristic Speleology entitled *Underground world: heritage and sustainable human development* vector was organised in Agadir.

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### **Mozambique**

The National Committee for IYPE in Mozambique was established in May 2007, but revitalised in December 2009 when a National

Celebration took place in Maputo, one highlight of which being the President of the Republic's public statement in support of the Earth sciences. In the audience of 300 were Ministers, Vice Ministers, the Governor of Maputo and other dignitaries. As in many other countries, young people played a major role in the Celebration as many Mozambique schools participated in Earth science competitions, the finals of which were broadcast 'live'



*Award winning students in front of the Hall of the Celebration in Maputo, 10 December 2009.*





on TV on the day before the Celebration. During the Triennium, several IYPE-labeled Workshops and Conferences were held in Mozambique, including one on *Geoheritage and Geoconservation*. The National Committee plans to continue its activities under the umbrella of an international follow-on initiative at least until the end of 2012.

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**Namibia**

The IYPE Committee in Namibia was the first of its kind on the African continent and was driven by the Geological Survey of Namibia in collaboration with the national Geological Society. Namibia was also the first nation to bestow a Patron on the IYPE, namely the Founding President of the Namibian Nation, Sam Nujoma, who holds a M.Sc. degree in geology, obtained during IYPE. The National Committee organised several interesting events and outreach activities to promote the Earth sciences. One of the highlights of the IYPE in Namibia was the production of customised IYPE posters using national examples set in a Namibian context. The posters were launched on 23<sup>rd</sup> July, 2009, at the University of Namibia, an event that was graced by the presence of Dr Sam Nujoma as the keynote speaker, an event that was broadcast nationwide. The IYPE posters were distributed to all secondary schools. The Committee also commissioned a Namibian artist to design a colouring book targeting primary school pupils and covering the IYPE themes with a Namibian flavour. For the purpose of promotion, the IYPE logo was translated into all 11 Namibian languages. The National Committee was also involved in preparing a proposal for the Gondwanaland Geopark, which could be the first Geopark on the African continent. To continue promotion of the Earth sciences in the future, the Ministry of Mines and Energy and the Ministry of Education will be involved in extensive media campaigns to that end.



*HE Sam Nujoma, Founding President of the Republic of Namibia and Patron of the IYPE, participating in an IYPE field trip.*

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**The Netherlands** ([www.mijnaarde.nl](http://www.mijnaarde.nl))

The Netherlands National IYPE Committee was established under the umbrella of the Royal Netherlands Academy of Arts and Sciences. Its activities comprised science, education and outreach, coordinated by the *Stichting Planet Earth Foundation*. During the Triennium, 50 activities were organised, 12 pertaining to science (congresses, symposia, workshops) and 11 to education (elementary through upper high school level). The outreach activities were dedicated to eleven themes covering all major IYPE targets. In retrospect, all activities are considered to have been successful. In science, this was mainly due to the cross-disciplinary approach of selected scientific themes. The *Geotruck* was the highlight of the education programme, raising great interest during its tour around The Netherlands and Flanders. The award



*IYPE 'kick-off' ceremony at Katwijk sea resort.*







winning team of high school students went to Peru where they participated in a project. *Spiegelzee*, a unique, dismountable beach pavilion visualising 18,000 years of sea level change, was the most impressive outreach event and attracted 30,000 visitors. An outreach-centered follow-up of IYPE is presently under consideration in the Netherlands. The Netherlands was recognised as one of the seventeen best performing IYPE nations.

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**New Zealand** ([www.rsnz.org/advisory/astronomy/iype](http://www.rsnz.org/advisory/astronomy/iype))

The New Zealand National Committee was established under the auspices of the New Zealand National Commission for UNESCO and the website was hosted by the Royal Society of New Zealand. The New Zealand Committee authorised the following outreach and educational activities to be

associated with IYPE and for the use of its logo: a roving exhibition entitled *Dead Precious*, displaying a range of classic New Zealand fossils; two books entitled *Life on the Edge* and *A Continent on the Move*; three conferences involving the Geological, Geophysical and Soil Science Societies of New Zealand; issue of a special stamp set on *Weather Extremes*, released by New Zealand Post; an IYPE Student Contest in New Zealand; and the production of the IYPE thematic brochures on a CD-Rom for distribution to all New Zealand schools. Finally, the book entitled *A Continent on the Move* was awarded the Environment Prize in the New Zealand Montana Book Awards.



Cover of the book 'A Continent on the Move', issued on the occasion of the IYPE in New Zealand.

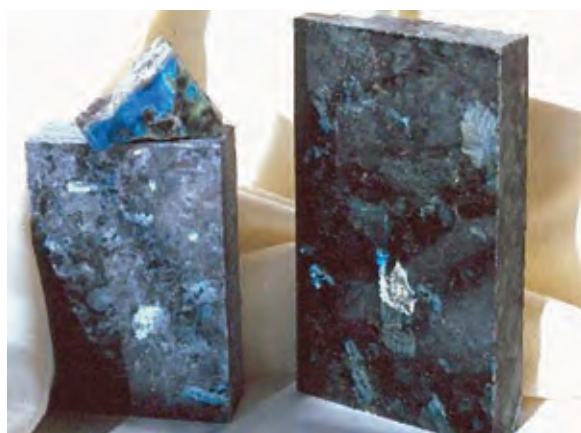
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**Norway** ([www.planetenjorden.no](http://www.planetenjorden.no))

The Norwegian National Committee operates in close cooperation with The Norwegian Geological Society (NGF) and was established on 9 September 2007. At the launch event, attended by several thousands of Oslo citizens, the State Secretary of the Ministry of Higher Education and Research announced governmental

support of 500,000 € to the IYPE International Secretariat based at the Geological Survey of Norway, in Trondheim, and 50,000 € for IYPE operations at national level supporting 70 different activities. These included an exhibition booth at the 33<sup>rd</sup> International Geological Congress, the Nordic Geological winter meeting in Ålborg (in January 2008), the Darwin exhibition at the Natural History Museum in Oslo 2009, the Early evolution of primates and how to tell the story, and a Seminar at the University of Oslo November 7, 2009. Through competition in the media, the national Norwegian Rock was selected: larvikite, a monzonitic rock from the Oslo Rift (see picture). A small sculpture in larvikite was presented



Larvikite, the Norwegian National Rock selected during a public media competition on the occasion of IYPE.





to King Harald of Norway. Earth science has recently been introduced in the high school curriculum in Norway and all high schools received a rock collection, sponsored by STATOIL. The Day of Geology, organised in cooperation with the Geological Society in all major Norwegian cities, was the most important information channel to the public. This event attracted thousands of participants in seminars, exhibitions, excursions and activities, every year. Finally, the IYPE closed with a seminar on Climate Change, Geo-medicine and Mineral, Hydrocarbon and Water Resources. Norway was recognised as one of the seventeen best performing IYPE nations.

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### Peru

The Peruvian IYPE Committee came under the Geological, Mining and Metallurgical Institute (INGEMMET), a Governmental Agency. The Committee published a volcanic hazard map of the Misti volcano, 18 km from Arequipa (1 million inhabitants). Although at least 3 historical eruptions are known, population and politicians tend to forget and are unaware of the high potential volcanic risk from the volcano. In 2008, the Committee introduced IYPE programmes on education and conducted other activities, including setting urban expansion limits, distribution of a hazard map to key civic institutions, meetings and drawing competitions for children.



Earth scientists convinced Arequipa's municipal authorities to limit urban growth towards the Misti volcano and to install early warning systems alerting the community to the volcanic hazard.

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### Philippines

The IYPE Committee was proclaimed by the President of the Republic on 10 April 2008. Its membership includes the Department of Environment and Natural Resources (DENR) as the lead agency and the National Committee for Geological Sciences, the UNESCO Commission, the Geological Society and the National Institute of Geological Sciences.

April was proclaimed the *Month of Planet Earth* with promotion of activities for the Earth sciences for a better society. Outreach included *Teaching Earth Sciences for Science Teachers* (in the provinces of Leyte, North Cotabato and Bataan) and the creation of Geology Clubs in high schools. A UNDP-JICA assisted Programme was launched to identify geohazards and undertake information and education campaigns that include dissemination of geohazard maps and teaching rural people how to read such maps. In 2007, an IYPE-labeled Symposium on Volcanic Ecotourism took place. During the IYPE Triennium, preparations to declare Puerto Princesa, on Palawan Island, a Geopark were conducted with



Outreach Program for teaching geosciences to secondary level science teachers held in April 2009 at Kidapawan, southern Philippines.





the support of France. Other IYPE-labeled activities included poster presentations in the Mall of Asia, participation of Philippine students in the Earth Science Quiz Olympiad (2008 in the Philippines and 2009 in Taiwan), and participation in the Global IYPE Launch Event at UNESCO in Paris where a Philippine student was selected to present her personal view in front of an audience of 1,000 people. The Committee will continue its operations beyond the IYPE Triennium by pursuing the declarations of geoparks and of Mayon Volcano as a geological monument, as well as by retaining the momentum created by the IYPE. Increased awareness of the importance and appreciation of the geological sciences during the IYPE Triennium is reflected in the dramatic increases in student enrolment in geological courses and the opening of two schools in the provinces of Camarines Sur in southern Luzon and Davao in Mindanao offering bachelor degrees in geology.

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**Poland** ([www.planetaziemia.pan.pl](http://www.planetaziemia.pan.pl))

The Polish National Committee for IYPE was established in 2007 by the Polish Academy of Sciences, later joined by the Polish Geological Institute, which also became an International IYPE Partner. The Committee's activities during the IYPE Triennium aimed to raise public interest and awareness of Earth sciences' achievements. Following the Polish Launch Event on 11 April 2008 in Warsaw, the outdoor exhibit *10 Questions About the Earth – the Past for*

*the Future* attracted many visitors in 11 major Polish cities. This exhibit focused on the 10 IYPE themes and addressed geo-solutions to important societal problems. Another activity was the production of all 10 IYPE theme brochures in the Polish language while popularising Earth sciences and their service to society. Similar to IYPE booklets, but with a different design, all texts and illustrations were prepared by members of the National Committee. Most of the booklets together with posters, flyers and calendars were distributed to schools and museums. Also, the Committee arranged radio and TV broadcasts, participated in science festivals and in many local geoscience shows and contests, for example in schools. The website designed for outreach purposes will be permanently updated after the end of the IYPE Triennium in order to provide authorised explanations and comments on current Earth-triggered hazardous events and to ensure that information about results of recent scientific research is widely distributed. In view of its high level of performance, the Polish National Committee was recognised as one of the 17 best National IYPE Committees worldwide.



*School children engaged in a street performance organised by the Polish Committee for IYPE.*

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**Portugal** ([www.anoplanetaterra.org](http://www.anoplanetaterra.org))

The Portuguese National IYPE Committee was established in April 2007 under the umbrella of the National UNESCO Commission. Contributions from 220 private and public organisations were received, mainly municipalities and educational institutions which sponsored more than 500 activities during the IYPE Triennium. The IYPE Science programme was developed in close cooperation with other Portuguese speaking countries in the world.

A First International Conference on the Development of Geosciences in CPLP countries was held in October 2008 at the University of Coimbra, resulting in the Coimbra Declaration. Subsequent Conferences were held until June 2010. In







addition, all 12 IYPE brochures were translated into Portuguese; 5,000 copies were printed and disseminated worldwide. Eighty four percent of all IYPE activities in Portugal dealt with outreach, including IYPE dedicated stamps, exhibitions in schools, museums, shopping malls, fairs and Geoparks, an IYPE Port wine, shows, etc. IYPE-dedicated TV Programmes were broadcast in Portugal and in other CPLP countries. Several books for children (Mother Earth) were written and published in Portuguese and in Braille. The official IYPE launch in Portugal was on 10 November 2007. It was a zero-sum CO<sub>2</sub> event compensated for in a National Park. In November 2009, the Planet Earth Lisbon (PEL) event, a joint activity of the National Committee and the International IYPE Corporation, was held to mark the closing of the IYPE and to present follow-on initiatives. One of the IYPE legacies was the doubling of students enrolling in the Earth sciences in Portuguese universities, from 736 in 2006/2007 and, 1,162 in 2007/2008 to 1,485 in 2008/2009. As one of the three most successful IYPE Committees worldwide, it received the outstanding achievement Award during the PEL in November 2009.



Students participating in PEL2009 performing the Geo-Song.

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**Romania**

The National Committee for IYPE in Romania operated under the umbrella of the Academy of Sciences. It organised conferences including *Terra & Life, Natural Resources, Geoscience & Society, Natural Risk & Climate Change, Du terroire a la Terre, Sustainable Development & Resource Management, and The Soil*. Other events included monthly conferences for children and a Journey into Geological Time.

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**Russian Federation**

From 2007, the Russian National IYPE Committee operated under the Academy of Sciences. The Committee was established by Decree of President Putin and was chaired by Andrei A. Fursenko, the Minister of Education and Science, with Nikolai P. Laverov, the Vice

President of the Russian Academy of Sciences, as Deputy Chair. The Committee was active in 2007 and 2008. Its activities comprised organising conferences on Economics and Climate Change, the Development of underground space in Moscow City, the Russian North, Strategic Problems in Water Use and Environmental Problems of big rivers.



Meeting Executive Director IYPE Secretariat with members of the Russian Academy of Sciences and the National Committee of IYPE of the Russian Federation, May 2007.

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### **Slovak Republic**

The National IYPE Committee for the Slovak Republic operated under the Slovak National Committee of IUGS. The launch of the IYPE in the Slovak Republic took place in Bratislava on 23 April 2008, in the presence of, and active participation by the Minister of the Environment. During the Triennium (and beyond), the Committee organised 53 IYPE-labeled events. These included three popular exhibitions: in the Trade Center Bratislava (2008), in the Natural History Museum Bratislava (2008/2009), and in the Regional Museum in Spišská Nová Ves (2010), the opening of two Geoparks (Banská Štiavnica and Novohrad), over 30 popular TV, radio and press programmes, 13 lectures, excursions for students and pupils on the mining history of fossil Slovak volcanoes, two popular and two scientific conferences and publication of two popularised scientific books. The Committee considered *The Planet we live on*, an exhibition in the Natural History Museum (Bratislava) with almost 50,000 visitors, its most successful activity. As an IYPE legacy, the *Planet Earth* exhibition will move from the museum of Spiš region, in Spišská Nová Ves, to the regional museum in Komárno. A new Committee will be created under the international umbrella of a follow-on initiative to continue these types of outreach activities, including the production of popular books and exhibitions.

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Children watching an 'active volcano' in *The Planet we live on*, Natural History Museum.



### **Slovenia** ([www.planetzemlja.si](http://www.planetzemlja.si))

The National IYPE Committee for Slovenia was established on 29<sup>th</sup> January 2008. It was chaired by the Minister for Higher Education, Science & Technology and spearheaded by the National UNESCO Commission and the National Geological Survey. Most of about 50 IYPE-labeled activities by the Committee were conducted by volunteers (professional geoscientists and students), while publications were produced by way of public institutions. On *Earth Day*, the President of the Republic visited the Geological Survey where geologists presented challenges of modern society and the role of geosciences with respect to hazards, energy supply and environmental problems. More than 30 renowned Slovenian scientists contributed to the (bilingual) book *Geology of Slovenia* as a tribute to the IYPE. The Geological Survey also published landslide and debris-flow susceptibility maps together with the Geological Map of Slovenia at a scale of 1:250,000. Slovenian geologists appeared on prime-time TV news and in daily newspapers more than 20 times, taking part in interviews and items in papers that reached a wider public. Slovenia was strongly involved in two IYPE flagship projects *OneGeology* and *Via GeoAlpina*. This contribution will be continued beyond the time-frame of the IYPE Triennium. Lack of financial support also affected operations by the Slovenian National IYPE Committee.

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President of Republic of Slovenia Dr Danilo Türk (centre) and the First Lady visit the Geological Survey of Slovenia on *Earth Day* and get acquainted with activities of the Slovenian National Committee, presented by Dr Marko Komac, Director of the Geological Survey of Slovenia.



**South Africa** ([www.iype.org.za](http://www.iype.org.za))

The South African Committee for IYPE was established in September 2007 by the National Research Foundation. It started by distributing an IYPE poster, development of an IYPE website and translation of the IYPE logo into six South African languages. All IYPE activities in South Africa had a strong focus on youth. One of the award-winning South African students was selected to present a personal contribution to the Global Launch Event at UNESCO in Paris. A special IYPE edition of the popular science magazine QUEST was published in March 2008, followed by the national launch at the annual Science Festival in Grahamstown which attracted 65,000 young visitors. The Committee sent 15 (mostly young) people to IYPE's African Launch in Arusha, where they took part in a competition with a group of Tanzanian counterparts to help launch the *Earth Alive* and the *Africa Corridors* board game, named Imizila. The *Africa Alive Corridors* project aims to draw the 900 million Africans into co-curating the continent's uniquely rich heritage. It was a big 'hit' in Africa and declared one of the international IYPE Legacy items. September 2008 was the national IYPE month and attracted wide media attention and school participation. The IYPE was also the theme for the National School Debates 2008 which ended in a national finals event with 15 competing teams in the presence of the Deputy Minister of Science and Technology. South Africa adheres to the African voice. Activities will continue after the IYPE Triennium.

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*The President of the United Republic of Tanzania, H.E. Mr Jakaya Mrisho Kikwete, participating with student Rushaan Ruiters in the Africa Alive Corridor board game in Arusha, May 2008.*



**Spain** ([aiplanetatierra.igme.es](http://aiplanetatierra.igme.es))

The Spanish IYPE Committee consisted of an Honorary Committee chaired by HH Princess Cristina de Borbón and included many members of the Spanish Cabinet, and an Executive Committee. The Ministry of Research & Innovation issued a call for proposals addressing all ten IYPE science themes while IYPE was involved in some World Congresses in 2008, including the IUCN World Conservation Congress and the World Water Forum, and in several national congresses. Most activities focused on outreach. The Committee issued many IYPE brochures and produced a DVD for schools, organised field trips and workshops for elementary and secondary school children and youngsters, as well as student journalism contests. A TV documentary addressing all IYPE themes was produced at the end of 2007. Stamps and a 12 Euro IYPE coin were produced by the National Mint in October 2008. Also, weekly lectures were delivered in Tenerife and Madrid, and in universities all over Spain. The national launch in February 2008 attracted significant political and media attention as well as the itinerant exhibition 'Planet Earth', which moved across the country during 2008 and part of 2009. International cooperation was achieved through the Trans Pyrenees project together with the French National Committee. IYPE was mentioned in the Spanish Complementary Action Plan. After a long period of



*12 Euro coin and IYPE stamp produced by the National IYPE Committee in Spain.*



declining numbers of students enrolling in the Earth sciences, these numbers began to rise again in 2008 and 2009. Owing to lack of funds, the number of IYPE activities declined rapidly after 2008. Spanish geoscientists showed keen interest in continuing outreach activities after closure of the IYPE Corporation.

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### **Sri Lanka**

The National Committee for IYPE was established on 26<sup>th</sup> December 2008. That was during its Silver Jubilee and was followed by two national and three provincial activities. Promoting the Earth sciences among youngsters was timely as any education on the Earth sciences was lacking in school curricula. Therefore, most IYPE activities focused on school children, school teachers and undergraduate students in Sri Lanka. On 25 July 2009, the First Sri Lankan Earth Science Olympiad was held, which was one of the most successful events organised by the National IYPE Committee. The main topics were focused on the four colours of the IYPE logo representing the Geosphere, Hydrosphere, Biosphere and Atmosphere. Students from many schools actively participated and the four best performing students were selected to participate in the 3<sup>rd</sup> Earth Science Olympiad competition in Taipei, Taiwan, in September, 2009. The IYPE encouraged young professionals to create a national YES team in Sri Lanka. Despite the lack of financial support, workshops were arranged at provincial and district levels. These included teacher training sessions, seminars and awareness programmes for the general public, an annual research session and workshops for undergraduates and postgraduates. IYPE appeared to be more successful at provincial or district rather than at national levels.

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*Members at the Silver Jubilee Celebration.*



### **Sweden** ([www.snkg.kva.se/planetenjorden.html](http://www.snkg.kva.se/planetenjorden.html))

The National IYPE Committee in Sweden operated under the Royal Academy of Sciences and consisted of representatives from universities, government, industry and other entities. The activities in Sweden focused on outreach only. The IYPE was officially opened on 26

May, 2008 by IYPE Patron, King Carl XVI Gustaf of Sweden (see picture). This event was attended by some 300 people and was covered by Swedish and international TV and other media (for downloads, see website). In 2008, a special IYPE issue of the popular journal *Geologiskt Forum* was published. This issue contains papers on all ten IYPE topics written by leading Swedish specialists. Many copies were printed and disseminated widely, including copies



*King Carl XVI Gustaf of Sweden and IYPE Patron (centre) on his way to open the IYPE in Sweden.*





sent to all members of Parliament and many media representatives. Sweden provided leadership to the IYPE Science theme *Earth & Health* and was responsible for compilation and editing the IYPE-Springer book on the same theme. Sweden was recognised as one of the seventeen best performing IYPE nations.

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**Switzerland** (*iype.scnat.ch*)

The Swiss IYPE Committee started in February 2006 and operated under the umbrella of the Swiss Academy of Sciences. The IYPE was launched in Switzerland on June 1<sup>st</sup> and 2<sup>nd</sup> 2007 with the outreach initiative *Erlebnis Geologie/Géologie Vivante* in which more than 10,000 people participated. A second edition of the initiative took place on May 28<sup>th</sup> and 29<sup>th</sup> 2010, and this will be repeated every 3 years. The Swiss National Committee participated in two international IYPE flagship projects: *OneGeology* and *Via GeoAlpina*. In addition, numerous activities took place at national, regional or local levels. *Basecamp09* was the major Swiss IYPE outreach and educational initiative. It was an itinerant exhibition that stopped in six cities covering each of the four Swiss linguistic regions while adding local issues to the exhibition. *Basecamp09* aimed to show how the Earth and its environment evolved over time and how such changes reflect on society. This was illustrated by six out of the ten IYPE themes; *basecamp09* attracted 200,000 participants.

The Swiss IYPE and IUGS Committees and the International Lithosphere Programme dedicated a special Symposium in the 2008 Swiss Geosciences Meeting to IYPE: *Deep Earth – From Crust to Core: A Tribute to Peter A. Ziegler*. On July 7<sup>th</sup> 2008, the World Heritage Committee included the *Swiss Tectonic Arena Sardona* in the UNESCO’s World Heritage List, acknowledging in particular its educational and scientific value. The Swiss Federal Mint dedicated the 2008 commemorative CHF 50 gold coin to IYPE.



*Digging out dinosaur bones (Plateosaurus) at basecamp09.*

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**Tanzania**

As early as 28 June 2006, a Workshop was held in the presence of the former President and Patron of the IYPE, Benjamin Mkapa and 4 Ministers. Proceedings of that Workshop were published. The National Committee also organised the African Launch Event for IYPE in Arusha, 8 and 9 May. That was opened by President Kikwete and the Director General of UNESCO, Koichiro Matsuura.

In the audience of 350 there were 50 representatives of National IYPE Committees from 15 African nations and students, all sponsored by IYPE. Apart from scientific contributions, an exhibition and excursions were organised, together with a meeting of the National Committees. On May 9<sup>th</sup>, 2008, the Arusha Declaration on the future of the Earth sciences in Africa was adopted. The event was well covered by the media and a TV documentary was produced and made available on DVD. A major IYPE outreach activity was the establishment of the Earth Resource Museum at the Dodoma University.



*Massai dancers waiting to perform on the African Launch of the IYPE in Arusha, May 2008.*







The Committee was heavily involved in organising a Student Contest. The four winners went on a free trip to the Global Launch in Paris. The National Committee organised several other events, including a training course on Earth science issues for journalists and education programmes for schools. Tanzania played a leading political role towards UN proclamation of the IYPE through its Permanent Delegate to UNESCO, Mohammed Sheya. In 2009, Tanzania was recognised as one of the seventeen best performing IYPE nations.

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### **Thailand**

The IYPE Committee was spearheaded by the Department of Mineral Resources, the membership including other public bodies and the private sector. The IYPE was launched at the GEOTHAI2007 Conference where several of the IYPE themes were highlighted. In Thailand, the main emphasis of the IYPE was on education. A training Workshop on IYPE themes was held in 51 Thai Provinces. Nationwide, geoscience students were trained in

disseminating their knowledge to the public through the *Young Geoscientific Guides* Project. Other students were trained in conserving Dinosaur remains which represent a significant outreach potential. In 2008, a textbook on the Geology of Thailand was produced. The Committee translated all IYPE brochures into Thai and made these available electronically. In 2009, a major exhibition addressing IYPE themes was organised. The Committee will terminate in 2010 but may decide to continue its activities beyond the IYPE Triennium.

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### **Turkey**

The Turkish National IYPE Committee operated under the auspices of the National UNESCO Commission. By the end of a two-day's workshop in 2007, an IYPE Action Plan stating that all relevant institutions, universities and companies promise to organise activities for IYPE, was adopted. As to outreach the Committee organised symposia, congresses, exhibitions, and radio and TV presentations. The main slogans were: *Earth sciences for Society and*

*Responsibility of Earth scientists*. The Committee produced and distributed posters to schools. Protection of soil and water, geo-conservation, geodiversity, natural hazards and earthquake risks became popular media items. During the IYPE Triennium, all national Earth sciences conferences included special IYPE sessions. The 1999 Marmara earthquake and the 2008 national summer drought served as references to address public attention. *Surveying of National Parks for geoconservation and geotourism* was an IYPE item that received nation-wide appreciation. Stimulated by IYPE, the Turkish Association for Protection of Geological Heritage (JEMIRKO) spearheaded an *Earth Science for Society – Geoheritage in protected areas* project. As a result, ten national parks were surveyed on geosites and ten books, one for each park, were published by the Nature Protection Agency. In the 2007-2009 period, the Geopark concept was thoroughly explained to the public and the authorities. At the end of the IYPE Triennium, local administrators and the public began to request that Geoparks be developed in their regions. As an IYPE legacy, plans for eight Geoparks in Turkey were completed. Turkey will continue its outreach activities on Geoparks and Natural Hazards after the IYPE.

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### **Ukraine**

The National Committee for IYPE consisted of 18 members, including academicians and leading scientists representing the major Earth scientific institutes and Ministries in Ukraine. From 2008 onwards, the Committee was mainly involved in bringing scientists together in water resources analysis, natural hazards forecasting and in socio-ecological aspects of global change under the IYPE banner. Several scientific conferences, including events for young scientists, were organised with special sessions dedicated to the IYPE themes. Student enrolment began to increase in 2008. The Committee operated despite lack of financial support from the government. Membership of the IYPE did improve communication between scientists and policy makers. Also, the National Education programme benefited from the IYPE.

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### **United Kingdom**

The External Relations Committee of the Geological Society of London (GSL) served as the National Committee of the International Year of Planet Earth throughout the Triennium. On 10 January 2007, the launch of the IYPE and the 200<sup>th</sup> anniversary of the founding of the GSL were celebrated in style with the release of 4567 balloons over central London (one for every million years of Earth history), an event that included children from several local schools. From the start, the UK Committee's emphasis leaned strongly towards outreach and education. Outreach activities have included free public lectures ([www.geolsoc.org.uk](http://www.geolsoc.org.uk)) aimed at general audiences, made possible by generous support from Shell and held in Burlington House in London, an essay competition, regional events, and a lecture series delivered at universities the length and breadth of the UK. In 2009, the Committee supported, and a representative attended, the first YES Congress in Beijing, and representatives of the Committee contributed to the Lisbon Event. The National Committee, now chaired by Alan Lord, continues to monitor proposals and plans for a global Earth science initiative to sustain the momentum of the IYPE, while the former chairman Edward Derbyshire continues as co-editor of the legacy series of scientific volumes to be published in 2010 and 2011. The UK was recognised as one of the seventeen best performing IYPE nations.



*Balloon release on 10 January 2007, celebrating the start of the IYPE and the bicentennial of the Geological Society of London.*

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### **United States of America** ([www.iype-usa.org](http://www.iype-usa.org))

The National IYPE Committee for the USA was established in June 2007 as an independent organisation chaired by the Executive Director of the Geological Society of America. Throughout the IYPE Triennium, the Committee organised 80 high-impact activities with special focus on education and outreach. These included thirteen 90-second Earth science educational radio broadcasts, reflecting the ten IYPE science themes. These radio broadcasts were produced by EarthSky Communications for the National Public Radio program Earth & Sky with an audience of approximately 15 million people in 167 countries making these one of the most successful IYPE outreach activities worldwide. This IYPE legacy will proceed





beyond IYPE. The *Discovery Channel* science television network launched a web site, *Discovery Earth*, in January 2009. Seven science features, produced by the National IYPE Committee were posted and attracted a combined total of one million page-views. The Committee was an official sponsor of AGI Earth Science Week, an educational outreach effort headed by the American Geological Institute (AGI). It supplied promotional and educational materials on Earth Learning Ideas for inclusion in 16,000 science teacher packets. AGI estimates that 1 million students were ultimately reached through this effort. In addition, the Committee organised an IYPE Earth Science Public Lecture Series and co-hosted a series of Congressional briefings on Earth science issues sponsored by the US Geological Survey (USGS). It produced bi-monthly e-newsletters and a 5 minutes CD Rom on Geoheritage set to music and displaying significant global geoheritage sites around the world.



IYPE Balloon event at GSA in Houston, 2008.

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**Uruguay** ([www.dinamige.gub.uy](http://www.dinamige.gub.uy))

The IYPE Committee for Uruguay was established on 4 July 2008. It focused on education and outreach. The Committee organised an exhibition on *Mining Resources of Uruguay*, as part of *Heritage Day*, which attracted a large audience. In 2008, the Committee, together with the National Geological Society, organised a national university and high school student contest on the IYPE themes. Award winning students received their prizes from

the Minister of Mining and other senior officials. Two CDs were produced by the Committee, one of which was on *Underground Waters*, dealing with both major aquifer systems in the country. The other CD, *Semi-precious Stones*, paid attention to the exploitation of precious stones in the North of the country. Both CDs were distributed to schools. Several IYPE-labeled Conferences were organised, one of which brought to life Fernando Tobó's *Virtual Tour of Uruguay's Mineral Resources*. Perhaps most relevant was the introduction of Geology in primary school education in Uruguay, thanks to the efforts of the National IYPE Committee. The Committee plans to continue its activities beyond the IYPE Triennium despite the lack of funding and disappointing media attention.

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**Vietnam**

By decision of the Prime Minister, the National IYPE Committee was established on 28 January 2008. It consisted of representatives from Ministries and Agencies, including the Government Office and the UNESCO National Commission. The Committee was chaired by the Vice Minister of Natural Resources and Environment. The IYPE National Launch took place on 5 June 2008 in Nha Trang City. Numerous activities related to IYPE were carried

out by many volunteers. Workshops on Climate change and Sea level rise, and on Earthquakes in Vietnam were held. Several international Conferences and Symposia were co-organised by Vietnamese institutions and international partners. The first Geopark in Vietnam was set up in 2009 and recognised by UNESCO as a Global Geopark on 3 October 2010. In the framework of the IYPE, Vietnamese geoscientists contributed to various books. A monograph was published on *Geology and Resources of Vietnam* which is the most comprehensive work on the geology and resources of Vietnam ever published. A number of research projects on geoscientific topics were conducted and several National Target Programs were prepared and approved by the Government. In addition, national IYPE brochures were designed, printed and distributed nationwide and special issues of the *Journal of Geology* were produced. Despite limited budgets, the IYPE





mission was promoted through national and local newspapers, TV, radio, and video films. As a result of the IYPE activities, the position of the geosciences and geological organisations has been greatly enhanced in Vietnam. The most prominent IYPE legacy is the consideration by the Government to upgrade the Department of Geology and Minerals of Vietnam (DGMV) into the General Department of Geology and Minerals, which is expected to be launched at the 65th Anniversary of the Geological Sector of Vietnam, on 2 October 2010.

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*Vietnam National IYPE Launch, 5 June 2008.*



### **Yemen**

The Yemen National Committee was established on 24 January 2007 and consisted of 93 persons representing various governmental organisations, industry, decision makers and academia. The Committee was supervised by the Presidency Office & Sana'a University. It translated the IYPE theme brochures into Arabic and produced monthly IYPE Newsletters.

The Committee was instrumental in spreading the IYPE message throughout the Arab world and in establishing National Committees in the region. The total of 208 activities conducted during the IYPE Triennium in Yemen included revitalisation of the Yemen Geological Society (after more than ten years), the organisation of an IYPE Student Summer Festival, raising awareness among politicians, decision makers, industry, youth and women by way of TV, Radio and newspapers. Monthly and seasonal seminars and workshops were also held on the IYPE themes, with support provided for the International Stars of Science competition; preparation of a proclamation of three Geoparks was undertaken. Organisation of 2008 IYPE-labeled activities during the triennium was completed in association with relevant ministries and the private sector. Student competitions & outreach programmes were the most successful events.

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*Yemeni delegates to the Global Launch Event at UNESCO in Paris, together with the Executive Director.*



### **Zambia**

The National IYPE committee operated under the umbrella of the Geological Society of Zambia. The Committee focused on outreach specifically to promote geology, mining engineering and metallurgy and mineral processing as potential career paths for youngsters. High school students and those entering university were targeted, in particular female students. Activities consisted of awareness workshops, visits and distribution of

literature on geosciences. These covered some 20 schools in five out of the nine provinces in Zambia. Presentations were given to 1st and 2nd year university science students. Such activities resulted in significantly more student entries into the Schools of Geosciences in Zambia's two main universities, the Schools of Mines and Natural Sciences at the University of Zambia and the School of Technology at the Copperbelt University. The two universities have since started to record increasing numbers of female students taking up careers in geoscience disciplines from virtually zero before this initiative to more than 30. Zambia is a mining nation and availability of skilled geoscience experts is necessary for sustaining the





industry and the country's economy. Beyond the IYPE Triennium, the Committee will continue to encourage young people to choose careers in the Geosciences through outreach and by means of supporting scientific education and geoscientific research.



*Geoscience Club Session at St Mary's Girls High School, Lusaka, Zambia.*

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*Flags of the 12 countries joined in the Regional IYPE Committee for East and Southeast Asia.*

### **Regional Committee for East and South East Asia**

The Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP), an intergovernmental organisation comprising 12 Member Countries including Cambodia, China, Indonesia, Japan, Korea, Malaysia, Papua New Guinea, Singapore, Thailand, Timor Leste, Thailand and Vietnam was accepted as an Associate Member of IYPE in early 2006 and recognised in late 2007 as the unique Regional IYPE Committee. Many of the CCOP Member Countries have their own National IYPE Committees with various individual science and outreach activities. In support of IYPE, CCOP published 3 books, 'Role of Geoscience in Governance for Sustainable Development and Human Security', 'Geoheritage of East and Southeast Asia' and 'Geological Museums of East and Southeast Asia', and participated in the OneGeology project by supplying the single harmonised geological map of the Region. IYPE also provided the *Integration of geoscience vision* to the Congress of Geology and Mineral Resources of Southeast Asia (GEOSEA) that led to the decision in July, 2009 to expand the GEOSEA membership

from the original four founding Members to all countries in Southeast Asia. CCOP as a regional geoscience organisation has proven to be very successful and effective as it simplifies coordination and enhances participation. One of the main challenges to such a global effort is to assist and encourage less-endowed Members to take an active part. Participation of CCOP in IYPE has achieved the purpose of bringing greater awareness of the importance of geoscience to society in its Member Countries and in the East and Southeast Asia region. Building on the IYPE legacy, CCOP welcomes the initiatives proposed after the successful Triennium.

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### **d. International Events**

At the international level, the IYPE Secretariat (co-)organised several events. These included the Global Launch Event in Paris, France (February 2008), the African Launch Event in Arusha, Tanzania (May 2008), the PEL2009 Event in Lisbon, Portugal (November 2009), and the Side Event at the UN Commission on Sustainable Development (May 2010). In addition, the IYPE Secretariat supported various other events including the IYPE Launch for Latin America in Brasilia, Brazil (April 2008), the I\*Y Event held in Tsukuba, Japan (December 2009), and actively supported national launch events in Angola (November 2009) and Mozambique (December 2009). A brief description of the main events is given below.



### **Global Launch Event**

On 12 and 13 February 2008, the International Year of Planet Earth was officially launched at UNESCO's headquarters in Paris. This event was co-organised by the IYPE Corporation and the National Committee of the IYPE in France, together with UNESCO. UNESCO's Director General, Koïchiro Matsuura, hosted the Event and some Heads of State were invited to address the audience.

During the Global Launch Event three conceptual issues were addressed: (1) Population growth & climate change: challenges for Planet Earth (2) Earth resources: threat or treat? (3) Geohazards: minimising risk, maximising awareness.



These issues were introduced by IYPE Goodwill Ambassador Aubrey Manning and discussed by leading scientists, CEOs of major industries and by leading politicians. The discussions were preceded by selected essays or poems from a crowd of 200 invited, award-winning students from around the globe. National Committees played a key role in selecting the best students. The students performed a Geo-Song specially composed for the IYPE Launch event.

The event was concluded by a reading of the Paris Declaration on promoting the use of the Geosciences in decision making. Significant time was made available for participants to be involved in the discussions. IYPE Partners and event sponsors exhibited their products at a large exhibition at UNESCO headquarters. Main event sponsors were TOTAL, CCG Veritas, UNESCO, EuroGeoSurveys, Agence Nationale de Recherche (ANR), Mairie de Paris, Ministère des Affaires Etrangères et Européennes (MAEE), Ministère de l'Enseignement Supérieur et de la Recherche (MESR), and Muséum National d'Histoire Naturelle (MNHN).

### **African Launch Event**

On 8 and 9 May 2008, the International Year of Planet Earth was officially launched for the African continent in the city of Arusha, situated in the foothills of Mount Kilimanjaro, in Tanzania.

This event was co-organised by the IYPE Corporation and the National Committee of the IYPE in Tanzania, together with IUGS and UNESCO. The event was hosted by His Excellency President Jakaya M. Kikwete of Tanzania, who was accompanied by several Senior Ministers and former President and IYPE Patron Benjamin Mkapa. UNESCO was represented by Director General Koïchiro Matsuura who addressed the 300 participants from some 20 nations in the audience, among many invited students from African countries.



During the African Launch Event scientists of many African nations gave keynote lectures on a variety of issues all dealing with the ten themes of the International Year of Planet Earth. Many organisations made use of the opportunity to display their products and services in an international exhibition.





Representatives of 15 IYPE National Committees in Africa joined a meeting held back-to-back to the African Launch Event. They discussed progress in their IYPE outreach and science programmes and exchanged ideas and suggestions to improve their visibility to the public and politicians.

The meeting was hosted and sponsored by the Tanzanian Government, together with the South African Government. The meeting was concluded by the approval of the Arusha Declaration.

### **PEL2009**

On 20-22 November 2009, a global event was held to highlight the main results of the IYPE and to launch initiatives able to build on the IYPE legacy. Invited by the Government of Portugal, the Planet Earth Lisbon Event 2009 (PEL2009) was organised by IYPE, the Portuguese National Committee for IYPE and Bombazine, a professional event organising company.

PEL2009 brought together scientists, politicians and industrial leaders to celebrate the closing of the International Year of Planet Earth triennium (2007-2009), to evaluate the results of the IYPE and to look ahead. This forward look dominated the event and was reflected in the PEL2009 subtitle: Planet Earth, Present for the future!

In the Opening Ceremony, held in Teatro Camões at the Parque das Nações in Lisbon, messages and statements were delivered by the President of the Republic of Portugal, the President of the UNESCO Commission and National Committee of Portugal, the President of the IUGS, the Assistant Director General of UNESCO, the Executive Director of the IYPE Secretariat, the President of the European Commission, the former President of the Republic of Portugal, the Portuguese Minister of the Environment, the Cape Verde Minister of Education, the representative of the Minister of Research & Higher Education of Norway, the Tanzanian Minister of Education and Vocational Training and by the Executive Secretary of the CPLP countries.



The conceptual themes of PEL2009 were introduced by IYPE Goodwill Ambassador Aubrey Manning. These themes highlighted the issues of Renewable Energy, Sustainable Land and Water Management, and Ocean. Theme moderators began their 1.5 hours session by a message from one of the Young Earth Scientists who shared their personal views on the issue with the audience. Representatives from politics, the sciences and industry presented their views on all themes. A popular version of their presentations will be published in one of the IYPE magazines in 2010.

Separate conferences were held for the National Committees, the International Partners, the Young Scientists and Africa. All conferences enjoyed good attendance and reports are in the process of completion.

PEL2009 attracted 650 participants, including 350 international delegates. Free tickets and accommodation were provided for one representative and two students from all 80 IYPE National Committees. In total, the Organising Committee provided free flight tickets and hotel rooms for 201 delegates. The exhibits were accessible to the general public for two days, attracting 4,500 visitors.

One of the PEL2009 highlights was the Geo-Song performed by some 200 students from 80 nations. Seventeen of the National IYPE Committees, including Angola, Austria, Canada, Brazil, France, Germany, Hungary, Italy, Japan, Netherlands, Norway, Poland, Portugal, Sweden, Tanzania, UK and USA, were recognised and accepted their awards for outstanding





achievement in implementing IYPE's aims and ambitions. In addition, awards were presented to IUGS and UNESCO as the IYPE initiators, to Ruud Lubbers and Ricardo Salgado as IYPE Patrons, to BESA as Bank of the Planet 2009, to speakers and moderators, and to five companies for their contribution to sustainable development issues. The Kamu Suna Ballet Company presented a special 'Love the Earth' performance for the PEL2009 participants.

During the event, an exhibition was open in the 'Knowledge Pavilion' where the Organising Committee invited twenty-five organisations to share with all visitors their activities, educational projects and other events, accompanied by the sound of Portuguese traditional music. The whole PEL2009 event was promoted through a variety of opportune outreach activities and materials, including a special book in which the activities of IYPE International partners and National Committees are highlighted.

The event was well covered by the Portuguese and the international media. The main sponsors of PEL2009 were the Ministries of Foreign Affairs, Economy & Innovation, Banco Espirito Santo, EDP, REN and BESA. The Kamu Suna Ballet Company performance was financed by the Government of the Netherlands.

### ***UN-Commission on Sustainable Development***

With reference to its mandate as expressed in the UN Proclamation for the International Year of Planet Earth (IYPE), a special IYPE Side Event was organised on the occasion of the high-level meeting of the UN Commission on Sustainable Development, on 13 May 2010 at UN Headquarters in New York City. That Event was accompanied by a special exhibition of World Press Photo and was followed by a Conference of IYPE's International Partners at the UNESCO Office in New York City.

The IYPE Side Event was attended by some 100 participants. The event, entitled 'The Legacy of the IYPE and looking ahead', was attended by the Chair of the IYPE Board of Directors and Officers, Mr Larry Woodfork, and the Chair of the IYPE Outreach Programme Committee, Dr Phil Manning. The Event was opened by the Director *ad interim* of the New York Office of UNESCO,



*Panel of the IYPE Side Event, from left to right: Mr Victor Hugo Barnica, the Vice President of the Republic of Honduras, Mrs Gerda Verburg, Minister of Agriculture, Nature and Food Quality in the Netherlands and past President of the UN CSD, Mrs Christine Alfsen, Director a.i. of the UNESCO Office in New York City (Chair), and Mrs Leonor Sá Machado, Director Communications Banco Espirito Santo de Angola.*

Mrs Christine Alfsen, who chaired the meeting. IYPE's Executive Director presented a collection of legacy items of the International Year of Planet Earth. He continued by describing one of the initiatives developed from the IYPE. The next keynote speaker was the Vice President of Honduras, Mr Victor Hugo Barnica, who described how Honduras is implementing its national sustainable development programme while highlighting the role that the IYPE played in his country by raising awareness mainly through its education system. Mrs Gerda Verburg, President of the UN-CSD meeting last year, discussed the growing significance of Agriculture in sustainable development issues and highlighted progress made in the UN CSD. In her capacity as Minister of Agriculture, Nature and Food security, she announced that the Netherlands is exploring the option of hosting the Secretariat of the IYPE follow-on initiative at Wageningen University. Finally, Mrs Leonor Sá Machado, representing the Banco Espirito Santo (BESA) and the main sponsor of the Event, shared with the audience the benefits of partnership by the Banco with both parties.







On the occasion of the Side Event, a Summary Report on the IYPE to the United Nations was produced. In broad outline, this 8-page Report describes the background, organisation, implementation, communication, the finances and fundraising, the legacy, the future, the UN involvement, the relations with other international years, and an evaluation and some conclusions concerning the IYPE (download through [www.esfs.org](http://www.esfs.org)).

Sponsored by BESA, a remarkable contribution was made to the UN-CSD and the IYPE Side Event through a major exhibition of World Press Photo displaying a wide spectrum of photographs taken by young, award-winning African professionals on five out of ten IYPE themes. The photographs were displayed all around the main Conference Room and were accompanied by a dedicated book 'Save and protect the Planet'.

The Side Event was followed by a Conference for International IYPE Partners and hosted by the UNESCO Office in New York City. There, a fruitful exchange of views between the IYPE leadership and the International Partners took place.





## 5. Communication

Communication concerning the International Year of Planet Earth was a matter of priority both during preparation of the IYPE and throughout the Triennium. Before 2007, communication focused on informing relevant international Earth science groups about the initiative and collecting their support as partners. In the period 2004–2006, awareness of the aims and ambitions of the IYPE initiative was raised by lobbying campaigns to collect political support from nations for a UN proclamation. At the same time, Earth science communities in many nations were approached on the subject of creation of national IYPE Committees. Finally, communication with the Initiators IUGS and UNESCO and with the members of the Management Team was vital for advancing the initiative towards professional organisation status.

Communication during the IYPE Triennium focused on three target groups. Communication between the Secretariat and the Board of Officers and Directors and vice-versa was a major priority during the discussion and implementation of strategic and operational matters. To that end, six Board meetings were held, the minutes of which were produced shortly after each meeting and then, in condensed form, made available to the public on the IYPE website. Communication with the Board, International and Associate Partners, and members of the IYPE Advisory Group was primarily maintained through Quarterly Reports by the Secretariat.

Particular attention was paid to communication with the International Partners. First, they were invited to consider applying for partnership status and, once partnership was accepted, communication focused on addressing International Partner demands concerning visibility and conceptual contributions. During the Triennium, several face-to-face meetings took place with International Partners.

Communication with the National IYPE Committees was a major priority throughout the IYPE Triennium. The Secretariat and the Executive Director, in particular, were in frequent contact with the National Committees about their progress and specific developments and, from time to time, concerning the implementation of their plans. Most of the Secretariat's e-mail traffic was with the National Committees, in particular when related to major international events. Apart from electronic contacts, particular attention was given to personal contacts. To that end, a series of meetings with National Committees was organised, often coinciding with major Earth scientific events. Apart from that, the Executive Director met face-to-face with representatives from most of the 80 National and Regional Committees on a number of occasions. Such personal contacts proved to be an effective communication tool between the Secretariat and key individuals at national levels while contributing to the success of the National IYPE Committees.

The standard and most frequently used communication tool was the IYPE website ([www.yearofplanetearth.org](http://www.yearofplanetearth.org)). Its predecessor, [www.esfs.org](http://www.esfs.org) (still active during the Triennium) became operational in 2004, well before the UN-proclamation lobbying process began.

In 2008, the website was significantly expanded. The IYPE webmaster ensured regular updating of content from materials supplied by the Secretariat. The website received significant positive acknowledgment both from inside and outside the IYPE family. At least 26 National IYPE Committees developed and maintained national IYPE websites.

Other ways of communication included the 12 IYPE brochures, which were widely distributed at both international and national levels. They were translated into at least 16 languages and often adapted to the local needs and cultures. Flyers of a more general character were distributed worldwide and a Prospectus-cum-Business Plan was distributed to (potential) International Partners.





The three issues of the Planet Earth magazine served a similar purpose and reached a wider audience. These 'coffee table books' contained Earth-related and relevant articles on sustainable development, as well as information about the National IYPE Committees and Partners. By including advertisements, additional income accrued to the IYPE. The IYPE editor-in-chief checked both content and advertisements in the magazines. A special publication was the Lisbon book, issued during the PEL2009 event in November 2009. It contained more extensive articles by National Committees and advertorials by International Partners.

IYPE produced a 20-minute video that was displayed on various occasions. A 6-minute abstract was widely circulated. At national levels, numerous TV-documentaries, DVDs and radio programmes were produced as a means of maximising the reach of IYPE messages. Artistic expressions often provided very powerful tools for that purpose also.





## 6. Finances

Early in the Preparation Phase a rough estimate was made of the likely costs of full implementation of the Science and Outreach Programmes (at national and international levels) and the costs of running the professional international Secretariat. This estimate totaled 20 million USD. National Committees were financially independent and were responsible for identifying financial resources to fund their national activities. In 2007, the target for the activities by the international IYPE Corporation was set at 5 million USD for the duration of the Triennium.

In 2006, an international fundraising campaign started by the IYPE Development Committee led by Ralph Baird (USA). This Committee was actively supported by the international Secretariat. Key persons were identified to cover major cultural and language areas in the world. Committee membership included selected Senior Advisors and Goodwill Ambassadors while advice was given by several Patrons. A dedicated prospectus cum business plan was produced in support of the fundraising campaigns. IYPE fundraising focused on three main targets: the international Secretariat, international Events and international activities at a more general level through partnerships.

Fundraising for the international Secretariat in Trondheim (Norway) resulted in a total amount of 0.7 M USD, jointly provided by the Norwegian Royal Ministry of Education and Research and the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM). Financial support for international events was collected from specific event sponsors, normally companies and organisations based in the event-hosting nation. A variety of sponsors, including TOTAL, CGGVeritas, UNESCO, IUGS, Agence Nationale de Recherche, Ministère des Affaires Étrangères et Européennes, Museum National d'Histoire Naturelle, Ministère de l'Enseignement Supérieur et de la Recherche, Mairie de Paris, TNO, Yemenia, Ruimte voor Geo-Informatie, EuroGeoSurveys supported the Global Launch Event in Paris (12 & 13 February 2008). The Africa Launch Event in Arusha (8 and 9 May 2008) was co-sponsored by the Government of Tanzania and the Government of South Africa. Financial support for the Planet Earth Lisbon Event (20-22 November 2009) was provided by Banco Espírito Santo, Energias de Portugal, Rede Electrica Nacional S.A. Lisbon, Delta and the Dutch Government. The UN-CSD event in New York City (8 and 9 May 2010) was co-sponsored by Banco Espírito Santo in Angola.



Financial support for the IYPE Corporation at a more general level was provided by the Initiators (IUGS and UNESCO), Founding Partners, sponsors and the International Partners (upon UN proclamation). Some 58% of the preparation costs in cash of the International Year of Planet Earth were jointly covered by IUGS and UNESCO. The remainder of the money needed for the preparation of the IYPE (until 2007) was provided by the Founding Partners and Sponsors. 55% of the income received before 2007 was used to collect support for the IYPE in the geoscience community and to lobby for UN Proclamation at political levels.

During the IYPE Triennium (2007- mid 2010), significant cash income came from International Partners to (in bold figures) a total of 1.3 M USD. Another 0.8 M USD was supplied by organisations, companies and government bodies in support of international events while the Norwegian and Dutch governments sponsored the International Secretariat for 0.7 M USD. Other income came from publications, royalties, advertisements, etc. Total cash income of the Corporation in the IYPE Triennium was close to 3 M USD.

More than 40% of that income was invested in international outreach activities. IYPE's contribution to international Science projects was about 0.1 M USD, half of which was a contribution to the International Geoscience Programme (IGCP) in 2009. Moreover, IYPE sponsored the YES Initiative. Financial management operated within the limits of the budgets set by the Board and responded to the opportunities offered and to the needs expressed. Total Secretariat costs exceeded income from the Secretariat support by the Norwegian and Dutch governments. This together with the fact that a significant share of the financial support committed by corporate partners could not be collected has led to considerable deficit for the Corporation. This deficit was mainly absorbed by the Executive Director who refrained from claiming his full remuneration.







The 80 National and Regional Committees were responsible for raising income for their national activities. Although the international Secretariat has no direct insight in their financial reports a rough estimate based on oral communication with representatives of many National Committees demonstrates that a minimum of 15 M USD must have been raised in cash worldwide. In-kind contributions obtained by way of thousands of volunteers in addition to infrastructure and facilities provided free of charge suggest that the total amount of such value of contributions may have been at least five to ten times higher.

Moreover, IYPE served as a multiplying factor by leveraging significant amounts of funding for science and other projects, for example in the Deep Earth programme and the OneGeology IYPE flagship project, together estimated at a value of more than 100 MUSD.



## 7. Output & Legacy

The 80 National and Regional IYPE Committees are among the most important legacy items of the IYPE. At the national level, they united key players from several, sometimes competing organisations into a single campaign dedicated to raising awareness of the Earth sciences among decision makers and the public at large. An evaluation of the National Committees clearly showed that this aim was, to a large degree, accomplished.

Since the onset of the IYPE Triennium in 2007, many thousands of activities have taken place all over the globe. A majority of these were related to education. Thousands of schools around the world, each in its own language and culture, noted and took advantage of the International Year of Planet Earth.

The creation of a Young Earth Science Initiative (YES) has been another major IYPE legacy item. YES provides a platform for young professionals in the Earth sciences and was initiated by two Italian geoscientists, David Govoni and Luca Micucci. It started in 2007 and grew rapidly at the Global Launch Event of the IYPE in Paris (2008) in which many young geoscientists were invited to participate. From there, the YES Initiative expanded, eventually leading to a formal structure, a network of supporting organisations (including IYPE) and an invitation by the Chinese government to host the first International YES Conference in October 2009 in Beijing. In supporting this event with 25,000 USD, the IYPE was one of its main non-Chinese sponsors. One month later, IYPE provided another opportunity for young professionals to meet, this time in Lisbon during PEL2009. IYPE paid all travel and accommodation costs for 201 participants including many members of the YES community.

At a political level, many public statements were made by leading politicians in support of the aims and ambitions of the International Year of Planet Earth, namely to base decision making more on science and knowledge of the Earth as a means of ensuring a safer, healthier and more prosperous global human community. The most common model for that was a national launch event during which politicians spoke in support of the IYPE. These events were often connected with cultural performances, for example by school children highlighting the importance of the Earth and sustainable development for future generations.

OneGeology is another major IYPE legacy item. That initiative, spearheaded by Ian Jackson of the British Geological Survey, came under the IYPE banner in 2007. This ongoing project aims to bring together geological data from all nations into a digital database and thus transform them into a single computer language. This venture thus has the potential to create a digital map of the subsurface of the world that may eventually add a third dimension to popular geographical websites such as Google Earth. 164 organisations in 117 countries have so far joined this initiative.

Many more legacy items developed during the IYPE Triennium, most of which were at the national level. At the international level, these include cross-country geological hiking tours through the Alps as in *Via Geo-Alpina* and an elegant method of assisting teachers with simple materials to explain the often complex geological processes: *EarthLearning Idea*.

Other international legacy items include the production of a series of state-of-the-art scientific books on each of the ten IYPE Themes by Springer Verlag, six of which have already been issued, while the remainder will be published before mid 2012 (see Figure on next page).





Covers of the IYPE-SPRINGER book series for all ten IYPE themes.

IYPE legacies developed well in Africa, including the *Africa Alive Corridors* projects which concentrates on coupling cultural and geological development, the UNESCO's Earth science Education Initiative, which explores the state of Earth science education in the African continent, as offered by UNESCO's Director General at the IYPE Launch for Africa, and the book on Africa and the International Year of Planet Earth.

The International Year of Planet Earth has been a driving force for cooperation in the Earth sciences, including the development of new Earth Science initiatives.

Honduras, Ethiopia, Iran, Kenya, Latvia, Malaysia, Philippines, Portugal, Spain, Ukraine and Zambia have reported increased numbers of student entries in Earth sciences courses since the beginning of the IYPE Triennium. Although not all of the numbers for 2009 are yet available and not all such increasing numbers can necessarily be attributed to the IYPE alone, clear statements in the national reports leave little doubt that the International Year of Planet Earth contributed perceptively to such growth as was demonstrated in Germany in the years directly following their Geo-Jahr (2002). See Chapter 2.

During the IYPE, Earth sciences education was (re-)introduced in school curricula in Chile, Costa Rica, Norway and Uruguay. In Ethiopia, 6 universities opened their doors to students in the Earth sciences and, in Tanzania, a Museum on Earth Resources was opened. In Vietnam, the Department of Geology and Minerals of Vietnam (DGMV) was upgraded to the status of General Department of Geology and Minerals. Finally, a Monument to commemorate the IYPE was erected in Korea.



## 8. Relations with other International Years

In 2007-2009, three other Earth-related international year initiatives were active: the International Polar Year (IPY), the electronic Geophysical Year (eGY) and the International Heliophysical Year (IHY). In September 2005, an agreement on active cooperation and involvement in each others' science and outreach programmes was signed with the leaders of all science year initiatives (the 'Celimontana Declaration'). As the science programme of the International Year of Planet Earth closely matched the priorities set by the Global Earth Observation System of Systems (GEOSS), cooperation with GEOSS was formalised on August 4, 2006.

In contrast to the other three initiatives, the IYPE was formally proclaimed a UN Year, for 2008. IPY, eGY and IHY all had a strong focus on scientific research. As the science aspect of the IYPE did not develop nearly as well as its outreach component, overlap between the activities of these initiatives inevitably became almost non-existent. In November 2008, representatives of all four international years met again in Japan, thus providing an opportunity to set out their achievements and their relations to the 1957/58 'mother initiative' – the International Geophysical Year. By the end of the meeting, the Tsukuba Declaration, highlighting future scientific cooperation and a call for action based on the legacies of the four initiatives, was adopted.



*Participants in the Celimontana meeting representing the four international year initiatives, in September 2005.*







## 9. UNESCO's involvement in the International Year of Planet Earth

Proclamation of the International Year of Planet Earth by the United Nations has been the prime driver for many of the National IYPE Committees in their quest to develop and to carry forward the IYPE agenda at the national level. UN Proclamation also proved instrumental in engaging leading politicians, Ministers and Heads of State to address large audiences, as occurred during many national launch events on the important contribution of geoscience and geoscientists to sustainable development.

UNESCO played a vital role in the UN Proclamation of the IYPE. This process was initiated by the United Republic of Tanzania's Permanent Delegation to UNESCO. The first step towards UN proclamation was the adoption of UNESCO's Executive Board of a draft Resolution inviting UNESCO's Director General to support all efforts leading to a declaration by the United Nations General Assembly of an International Year of Planet Earth (Figure 5). The second step was taken in October 2005, when UNESCO's 33rd General Conference adopted this draft Resolution. The process was completed on 22 December 2005 by the UN General Assembly's proclamation of 2008 as the International Year of Planet Earth (see Annex 1).

As UNESCO was designated the lead Agency in the UN System, many National UNESCO Commissions endorsed the IYPE and took action to implement IYPE's aims and ambitions. A good example was Portugal; its National UNESCO Commission acted as the National IYPE Committee and co-organised the PEL2009 event in November 2009 in Lisbon. Several of the UNESCO National Commissions involved UNESCO Associate Schools in their events and activities. Even beyond the IYPE Triennium, several National UNESCO Commissions showed keen interest in further continuation of this type of activity by expressing support for follow-on initiatives.

UNESCO was one of the two Initiators of the IYPE. Together with IUGS, UNESCO had the power of veto on the IYPE Board of Officers and Directors. This responsibility fell to Robert Missotten, representing UNESCO's Division of Ecological and Earth Sciences. UNESCO supplied significant in-kind support during the Preparatory and Transition Phases of the Initiative, totalling 147,600 USD (Table 4). UNESCO continued to provide moral and in-kind support during the IYPE Triennium. In addition, UNESCO supported the Global Launch Event with almost 100,000 USD, as well as providing secretariat support and a wide array of services. UNESCO also supported the editing and printing of one of the ten theme brochures (Groundwater) at a cost of 10,000 USD. In turn, the IYPE materially supported the joint IUGS-UNESCO International Geoscience Programme (IGCP) with a donation of 50,000 USD for IGCP projects related to IYPE themes in 2009.

The UN proclamation also spurred the IYPE event at the UN Commission on Sustainable Development meeting in May 2010 as described in Chapter 4. That Side Event was hosted by the UNESCO Office in New York and chaired by the Director *ad interim* of the Office, Christine Alfsen. It was followed by an IYPE Partnership Conference, also hosted at the UNESCO Office.

The UNESCO Director General participated in several of the IYPE Events, including the Global Launch Event held in UNESCO's main hall in Paris on 12 and 13 February 2008 and the African Launch Event in Arusha, Tanzania, on 8 and 9 May 2008. On the latter occasion the Director General launched the UNESCO Initiative for Earth Science Education in Africa. To that end, five workshops were held in the course of 2009 and 2010. These explored the current state of Earth science education in the various language and geographical areas on the continent and developed strategies to strengthen the training in geoscience in Africa. IYPE also supported one of the Workshops for the UNESCO Earth Science Education Initiative for Africa and its follow-up activities. UNESCO's prominent role in the IYPE proved to be a decisive factor in stimulating many International Partners to engage energetically in the work of the IYPE.





## 10. IUGS' involvement in the International Year of Planet Earth

As its prime initiator, IUGS played a leading role in the launch, development and success of the International Year of Planet Earth. As the number of students in the Earth sciences were dropping worldwide over more than two decades at the beginning of this century and as public appreciation for development of Earth resources was at about the lowest levels for half a century, the necessity for communicating the added value, beauties and exciting knowledge of Planet Earth reached a climax by that time.

The IUGS Executive Committee adopted the proposal to equal the success of the International Geophysical Year (1957-1958), an approval rapidly followed by UNESCO. As a next step, IUGS campaigned to collect support from other Earth-related ICSU Unions and other major international and national geoscientific organisations. That joint effort also paved the way for successive concerted actions among the Geo-unions in the ICSU family. This action added significantly to the profile of the IUGS among its peer organisations.

IUGS provided leadership to the International Year of Planet Earth all along its course toward proclamation by the United Nations, in December 2005. This proclamation was the prime driver for many of the National IYPE Committees in their quest to develop and to carry forward the IYPE agenda at the national level. Often, IUGS Adhering Organisations stimulated creation of the 80 National and Regional IYPE Committees worldwide. Normally, IUGS was well represented in such National Committees as witnessed from their annual reports to the IUGS Secretariat. Their joint effort to make the IYPE a success fueled national geoscience communities with enthusiasm, energy, additional funds and raised the profiles of the Earth sciences at national levels. That, in turn, inspired local and national geoscientific entities to cooperate, often on a lasting basis.

Although IYPE's contribution to science development has been much lower than its success in terms of outreach, state-of-the-art scientific publications have been or are being published on all ten IYPE science themes. The IYPE also inspired leading politicians, Ministers and Heads of State to address large audiences, as occurred during many national launch events on the important contribution of geoscience and geoscientists to sustainable development. Although it is still too early for firm conclusions, already eleven nations reported a significant increase in the number of students enrolling in the Earth sciences.

With a total direct investment of USD 173,000 IUGS has been the main financial scientific contributor to the IYPE and its prime overall supporter in the period 2001-2006. IUGS's preparedness to financially support the IYPE was an example for other scientific and corporate partners to invest in this opportunity as well. Moreover, IYPE's success served as a model for the International Geographical Union (IGU) to launch an initiative for an International Year of Global Understanding (IYGU) to be proposed for UN proclamation in the next few years.

In recognition for its initiative, IUGS received the highest status in the IYPE Board. Together with UNESCO, IUGS had the power of veto in IYPE's Board of Officers and Directors. This responsibility fell to IUGS Presidents Zhang Hongren (2004-2008) and Alberto Riccardi (2008-2010). In addition to its direct financial support, IUGS also provided significant moral and in-kind support throughout the IYPE Triennium. In turn, the IYPE materially supported the joint IUGS-UNESCO International Geoscience Programme (IGCP) with a donation of 50,000 USD for IGCP projects related to IYPE themes in 2009.

The IUGS President participated in several of the IYPE Events, including the Global Launch Event held in Paris on 12 and 13 February 2008 (Zhang Hongren) and the Planet Earth Lisbon Event, on 20 to 22 November 2009, in Lisbon Portugal (Alberto C. Riccardi).

The International Year of Planet Earth and its wide range of legacy items would never have occurred without the support, leadership and vision by the IUGS.





## 11. Evaluation & Conclusions

The UN-proclaimed International Year of Planet Earth drew political attention to the crucial role played by the Earth sciences in sustainable development. That was achieved by the delivery of many public speeches by politicians throughout the world in support of the aims and ambitions of the IYPE. Through its National Committees, the IYPE raised public awareness of the importance of knowledge of the Earth in making human societies safer, healthier and more prosperous. The IYPE focused in particular on young people – vital instruments in the process of increasing Earth science student enrolment in universities after more than two decades of decline. While data are still scarce, at least eleven countries reported that such (sometimes strong) growth had occurred by the end of 2009.

The UN Proclamation was of fundamental importance in achieving these ambitious aims. In many nations, the UN proclamation set in motion processes at higher political and other levels not normally approached by scientists. This forward step on the part of the 80 National and Regional Committees for the IYPE established before the end of the Triennium leaves no doubt that they constitute one of the most important legacies of the International Year. Many of the same Committees urged the IYPE Corporation to prepare the way for a follow-on initiative in order to sustain the aims and spirit raised between 2007 and 2009.

By nature of their format, composition and joint targets, the National IYPE Commissions brought together sometimes fragmented and isolated geoscience communities, stimulated exchange of ideas, and generated support from scientific entities and from the private sector. Also, by way of the Founding Partners all of whom were represented on the IYPE Board of Directors, international key players in the Earth sciences were unified twice each year while stimulating joint activities and mutual cooperation, as well as considering this global achievement's potential beyond the formal timescale of the IYPE.

The IYPE was particularly successful in its outreach programme, implemented by the National and Regional IYPE Committees and at the international level. National and international Launch Events often with superb outreach components attracted media attention and thus reached the public at large. The broad spectrum of the tens of thousands of outreach activities conducted worldwide during the Triennium left an impressive legacy and demonstrated the ingenuity of the thousands of volunteers in National Committees and at an increasingly international scale.

As fundraising started to bear fruit quite late in the Triennium, funds were insufficient to provide proper support for a (costly) science programme. Several of the ten science themes of the IYPE were addressed at the national level by way of current university curricula and special programmes. Nevertheless, the IYPE has been instrumental in assisting the emergence of national and international research programmes with an estimated total contribution of more than 100 M USD. By means of limited funding for the IGCP, by badging the IYPE science projects with major science programmes, and through the IYPE-SPRINGER book series addressing all ten IYPE themes, the International Year of Planet Earth gained further substantial exposure. Financially, the IYPE closed with a deficit that was mainly absorbed by not paying the full remuneration of the Executive Director.

In sum, the International Year of Planet Earth has greatly benefitted the Earth sciences in that the IYPE also raised its profile among other related sciences, stimulating cooperation within and among Earth science communities around the world, locally contributing to raising of the self-esteem of Earth scientists, revitalising interest among the general public, in particular among young people, and contributing to increased student enrolment in the Earth sciences.





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## Annexes

1. UN Proclamation
2. IYPE Board of Directors
3. IYPE Senior Advisors





General Assembly

Distr.: General  
20 February 2006

Sixtieth session  
Agenda item 52 (a)

**Resolution adopted by the General Assembly**

[on the report of the Second Committee (A/60/488/Add.1)]

60/192. International Year of Planet Earth, 2008

*The General Assembly,*

*Reaffirming* Agenda 21,<sup>1</sup> the Plan of Implementation of the World Summit on Sustainable Development (“Johannesburg Plan of Implementation”)<sup>2</sup> and the Hyogo Framework for Action 2005–2015,<sup>3</sup>

*Noting* that the wealth of scientific information available on planet Earth remains largely untapped and hardly known to the public or to policymakers and decision makers,

*Convinced* that education in Earth sciences provides humankind with tools for the sustainable use of natural resources and for building the scientific infrastructure essential for sustainable development,

*Welcoming* the decision of the General Conference of the United Nations Educational, Scientific and Cultural Organization to support the declaration of 2008 as the International Year of Planet Earth with a view to highlighting the importance of Earth sciences,

*Taking into account* the crucial role the Year could play, inter alia, in raising public awareness of the importance for sustainable development of the Earth’s processes and resources; disaster prevention, reduction and mitigation; and capacity-building for the sustainable management of resources; and its important contribution to the United Nations Decade of Education for Sustainable Development,

1. *Decides* to declare 2008 the International Year of Planet Earth;
2. *Designates* the United Nations Educational, Scientific and Cultural Organization as the lead agency and the focal point for the Year to organize activities to be undertaken during the Year, in collaboration with the United Nations Environment Programme and other relevant entities of the United Nations system, as well as the International Union of Geological Sciences and other Earth science societies and groups throughout the world, and in this regard agrees that the activities of the International Year of Planet Earth will be funded from voluntary contributions, including, inter alia, from industry and major foundations mobilized by a consortium of international organizations, led by the International Union of Geological Sciences;
3. *Encourages* all Member States, the United Nations system and all other actors to take advantage of the Year to increase awareness of the importance of Earth sciences for the achievement of sustainable development and to promote action at the local, national, regional and international levels;
4. *Requests* the Secretary-General to report to the General Assembly at its sixty-second session on the progress of the preparations for the International Year of Planet Earth.

68th plenary meeting  
22 December 2005

<sup>1</sup> *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.L.8 and corrigendum), resolution 1, annex II.

<sup>2</sup> *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August–4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

<sup>3</sup> Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters (A/CONF.206/6 and Corr.1, chap. I, resolution 2).

## Annex 2 – Board of Directors of the Corporation in 2009

*Chairman:* Larry D. Woodfork

*Vice-Chairman:* Eduardo Rubio

*Chair Science Programme Committee:* Sospeter Muhongo

*Chair Outreach Programme Committee:* Phil Manning

*Chair Development Committee:* Ralph Baird

*UNESCO:* Robert Missotten

*IUGS:* Alberto Riccardi

*Geological Survey of the Netherlands TNO:* Mart van Bracht

*Geological Society of London:* Edmund Nickless

*American Geological Institute (AGI):* Patrick Leahy

*American Association of Petroleum Geologists (AAPG):*  
Francisco Porturas

*American Institute of Professional Geologists (AIPG):*  
Kelvin Buchanan

*International Union for Quaternary Research (INQUA):*  
John Clague

*International Lithosphere Programme (ILP):* Sierd Cloetingh

*World Soil Information (ISRIC):* David Dent

*International Union of Geodesy and Geophysics (IUGG):*  
Alik Ismail-Zadeh

*International Geographical Union (IGU):* Ron Abler

*International Union of Soil Sciences (IUSS):* Stephen Nortcliff

*Representative of the Associate Partners:* Dirk de Coster  
& Ian Dowman

*Representative of the International Partners:* John Ludden

*Representative for Africa:* Félix Toteu

*Representative for Europe:* Wolfgang Eder

*Regional Representative for Latin America:*  
Jaime Urrutia Fucugauchi & Carlos Oiti Berbert

*Regional Representative for North America:* Jack Hess  
& Jim Teller

*Representative for West Asia:* Khalid Al-Thour

*Representative for East and Southeast Asia:* Jae-Young Yu

*Representative for Central and South Asia:* V.P. Dimri

*Four star Sponsors:* Arne Bjørlykke



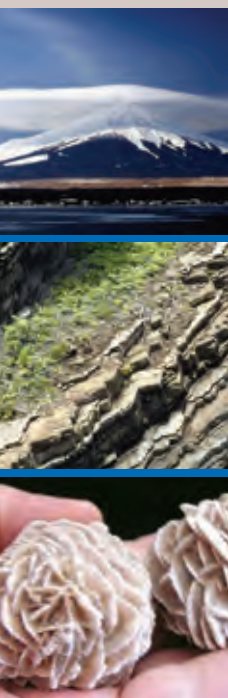
## Annex 3 – IYPE Senior Advisors

Tom Beer (Australia, Chair SIT)  
Ian Lambert (Australia, Chair National Committee)  
Carlos Oití Berbert (Brazil, Contact National Committee)  
Peter Bobrowsky (Canada)  
Jim Teller (Canada, Board member)  
Chen Shick Pei (CCOP, Contact Regional Committee)  
Jean-Paul Cadet (France, Board member)  
Jean Dercourt (France)  
Frauke Kraas (Germany, Chair SIT)  
Fritz Steininger (Germany)  
Wilhelm Struckmeier (Germany)  
Harsh Gupta (India, Contact National Committee)  
Anne Buttimer (Ireland, Board member)  
Peadar McArdle (Ireland)  
Amos Bein (Israel)  
Yoram Rubin (Israel)  
Uri Shamir (Israel)  
Kazue Tazaki (Japan)  
Tadashi Sato (Japan)  
Joy Pereira (Malaysia)  
Gabrielle Schneider (Namibia, contact National Committee)  
Henk Schalke (The Netherlands, former Chair Management Team)  
Sierd Cloetingh (The Netherlands, Board member)  
Salle Kroonenberg (The Netherlands)  
Vince Neall (New Zealand, contact National Committee)  
Richard Sinding-Larsen (Norway, Chair SIT)  
Arne Bjørlykke (Norway, Board member, contact national Committee)  
Sylvi Halderson (Norway)  
Victor Mocanu (Romania, contact National Committee)  
Victor Osipov (Russian Federation, contact National Committee)  
Emilio Custodio (Spain)  
David Gee (Sweden)  
Olle Selinus (Sweden, Chair SIT, contact National Committee)  
Bruno Messerli (Switzerland)  
Sospeter Muhongo (Tanzania, Chair SPC)  
Tony Reedman (UK)  
Brian Marker (UK)  
Edmund Nickless (UK, Board member)  
Stephen Nortcliff (UK, Board member)  
Stephen Testa (USA)  
Jose Centeno (USA)  
Gerald Friedman (USA)  
Bob Ginsburg (USA)  
Robert Jordan (USA, contact State of Delaware)  
John LaBrequé (USA)  
Deborah Shields (USA)  
Roy Shlemon (USA)  
Cathleen May (USA)  
Khalid Al-Thour (Yemen, Board member)  
Imasiku Nyambe (Zambia)  
Leonor Sá Machado (Angola)









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