# International Year of Planet Earth

12 13 2 8 0 UNESC 0 S R I P A

www.yearofplanetearth.org



Dear representatives of the media,

It is our pleasure to present you a series of documents concerning the UN proclaimed International Year of Planet Earth (IYPE) and in particular to its GLOBAL LAUNCH EVENT, at UNESCO in Paris, on 12 and 13 February 2008. These documents include:

- 1. Press Release briefly introducing the International Year of Planet Earth;
- 2. Facts and Figures about the International Year of Planet Earth;
- Position Paper lists several concrete examples of cases where knowledge of the Earth or the lack of it made a difference;
- 4. Tentative Programme of the Global Launch Event in Paris;
- 5. List of Global Launch Event participants as registered per 10 January 2008;
- 6. Student contest and tentative list of award-winning students;
- 7. Paris Declaration (draft) by the International Year of Planet Earth Corporation to be presented on 12 February;
- 8. Brief description of national activities by National Committees of IYPE;
- 9. Summary of IYPE as published in a Supplement of the journal Nature;
- 10. Flyer with the major publications and examples of international and national outreach activities.

We kindly invite you to explore these documents to support your communications about the IYPE through the media. More information can be found on **www.yearofplanetearth.org**. For specific information you may wish to contact the IYPE Secretariat: **iype.secretariat@ngu.no**.

Yours sincerely,

Prof. Eduardo de Mulder Executive Director IYPE Secretariat



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# **Press release**

# The UN International Year of Planet Earth 2008

## Welcome to the greatest geo-show on Earth!

The United Nations International Year of Planet Earth (2008) receives its Global Launch at UNESCO Headquarters, Paris, on February 12 and 13. The aim of the Year is to persuade public and governments worldwide to make better use of Earth science when framing planning decisions, and by using Earth science to inform the sustainable use of Earth resources, to make the world a healthier, wealthier and safer place in which to live.

# Why 2008?

Never before has any living thing been able to move more materials around the globe than the Earth herself, through erosion, sedimentation, plate tectonics, and mountain building. Human beings have now overtaken nature in their power to drive global change. Moreover, humans can also impact the Earth's climate - as many IPCC Reports have shown. Humans have become a global geological force. This new scale of human impact on the Earth System is very worrying.

We believe that henceforth all development should be sustainable, and our operations should be environmentally neutral. But this is not easy to achieve when we know that the world population will grow by at least another 40% by 2050, and when commodity prices are already high.

The International Year believes there are at least two good reasons for optimism, however – science, and cooperation.

### Science

Our knowledge has increased enormously since the first satellite was launched 50 years ago, and saw our planet from space for the first time. We know much more today about how the Earth System works, from tiny microbes to crustal plates. Our monitoring systems, both on the ground and in space, can now register even the smallest changes in our planet's physical and chemical state. Progress in the Earth sciences has taught us how to extract our precious natural resources from the subsurface without significantly compromising the environment. We also have the knowledge to repair environmental damage done in the past.

Geologists have always found new and more natural resources to address societal needs. They will continue to do so in the future, in a more environmentally friendly manner. But there are not enough qualified Earth scientists in the world to make this possible. Earth scientists lack the numbers and the influence to ensure that their knowledge is properly applied and people's lives made to benefit from their understanding. >



# **Political cooperation**

We are seeing an increasing tendency among political leaders to cooperate in the face of urgent global problems. The Indian Ocean tsunami prompted governments to rapidly install tsunami warning systems. A comparable joint action by governments was seen at the Climate Summit in Bali, preceded by joint actions in Rio de Janeiro (1992) and in Johannesburg (2002). Despite great variety in political aims and ambitions, surely all political leaders want to make our planet Earth a better place for our children and grandchildren, and know now that with the increasing power we hold over our planet the only way to tackle adverse effects is to cooperate.

We believe that most politicians are realizing that science is the key to this problem - and in particular, Earth System Science.

The time is now ripe to raise new generations of geo-experts, who can better understand the processes that have sustained our planet for 4.5 billion years, and pass that wisdom on to all peoples of the world.  $\blacksquare$ 



# International Year of Planet Earth (IYPE) Facts & Figures

# WHAT is IYPE?

The International Year of Planet Earth is designed to foster outreach and research activities to raise worldwide public and political awareness of the vast (but often under-used) potential of Earth sciences for improving the quality of life and safeguarding the planet.

# WHY an IYPE?

Geoscientific knowledge can save lives and protect property if threatened by natural disasters. Such knowledge is also needed to sustainably satisfy the growing need for Earth's resources by more people. Earths scientists are ready to contribute to a safer, healthier and more prosperous society if called upon by politicians and decision makers. IYPE aims to develop a new generation of such experts to find new resources and to develop land more sustainably.

# WHO is behind IYPE?

The International Union of Geological Sciences (IUGS) and UNESCO are the IYPE initiators; there are 12 Founding Partners, 26 Associate Partners and (so far) 13 International Partners. Moreover, all 191 UN member countries supported the UN Resolution proclaiming the IYPE for 2008.

# HOW and WHEN was the IYPE proclaimed by the United Nations?

In April 2005, the Permanent Delegation of Tanzania gained support for this initiative in the UNESCO Executive Board. UNESCO's General Conference (October 2005) voted unanimously in favour for IYPE. Tanzania again took the lead among a core group of 82 nations, and UN Resolution 60/192 was unanimously adopted by the UN General Assembly in December 2005.

# IYPE organization

IYPE is a not-for-profit and non-religious 501 (c) (3) Corporation, registered in the USA. It has a Board, a Secretariat (based in Norway) and 3 Advisory bodies.

# IYPE Patrons

The Founding President of Namibia, Sam Nujoma, the former President of Tanzania, Benjamin Mkapa, the Chairman of the Board of Anglo American, Sir Mark Moody-Stuart, the former Prime Minister of the Netherland, Ruud Lubbers and King Carl XVI Gustaf of Sweden.

# Which nations have established a National Committee for IYPE?

By 11 January 2008, National Committees are operational in 62 countries: Albania, Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Cameroon, Chile, China, Costa Rica, Cuba, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Ethiopia, Finland, France, Gambia, Georgia, Germany, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Malaysia, Mexico, Mongolia, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Tanzania, Thailand, Turkey, UK, USA and Yemen. These National Committees have produced exciting outreach and science programmes for the IYPE. **More information: www.yearofplanetearth.org** 



# International Year of Planet Earth Global Launch Event 12-13 February 2008

# Five Cautionary Tales and Five Good News Stories

Here are 10 stories showing how the importance of proper understanding of Earth science has either been lacking and resulted in an avoidable disaster, or been properly employed to good effect.

## 1. Vajont, Italy

The Vajont reservoir disaster is a classic example of the consequences of the failure of engineers and geologists to understand the nature of the problem that they were trying to deal with. During the filling of the reservoir a block of approximately 270 million cubic metres detached from one wall and slid into the lake at velocities of up to 30 metres per second (approx. 110 kilometres per hour). As a result a wave overtopped the dam by 250m and swept onto the valley below, with the loss of about 2500 lives. The dam remained unbroken by the flood and is still there today. Proper understanding of the geology of the hillside would have prevented the disaster.

Vajont is located in the south-eastern part of the Dolomite Region of the Italian Alps, about 100km north of Venice. It was built as a part to provide hydroelectricity for the rapidly-expanding northern cities of Milan, Turin and Modena. A proposal to site a dam at this location was made in the 1920s; excavation of the site began in 1956 and the dam was completed in 1960. The completed doubly curved arch dam was, at 265.5 metres above the valley floor, the world's highest thin arch dam. The volume of impounded water was 115 million cubic metres.

• Further information: http://www.land-man.net/vajont/vajont.html

# 2. Kolka Glacier, North Ossetia-Alania

On the evening of 20 September 2002, the Kolka glacier collapsed and plunged 24km down into the Genaldon Gorge. Locals believe as many as 300 people may have been killed – a death toll that could have been avoided by proper monitoring of the glacier. The area had not been studied for more than a decade.

The collapsing glacier sped down the mountains at around 150km an hour, and buried the village of Karmadon and adjacent holidaying areas under a 50m thick layer of stones and ice. Local geologists estimated that the debris may have comprised between 80 and 150 million tons of rock and costing c. 15-17 million US dollars, according to early reports.

The glacier's first movement was registered in 1885. Seventeen years later, heavy rains and an intense thaw caused it to slide over a distance of 12km, causing a violent mudflow which wrecked the village of Genal and the Tmenikau resort, killing many people. North Ossetia's scientists frequently spoke of the need to set up a research institute to study ice flow developments in mountainous areas. It is believed such a programme could have helped them forecast large-scale natural catastrophes such as Kolka, preventing loss of life.

Before 2002, the last time Kolka had shifted was in 1969. While the glacier moved less than four kilometres, residents of Gizel were evacuated as a precaution. Following this, a group of glaciologists was set up to monitor the glaciers of the North Caucasus – but later broke up for lack of funding.



**Further information:** http://earthobservatory.nasa.gov/Study/Kolka/

# 3. Indian Ocean Tsunami, 26 December 2004

The magnitude 9 earthquake that struck the southern coast of Sumatra, Indonesia on 26 December 2004 resulted in for first "Global Geophysical Event" since the eruption of Krakatoa in 1883. Almost a quarter of a million people died, mostly around the Indian Ocean coasts that were ravaged by the resulting tsunami. The Pacific Ocean, which is itself surrounded by destructive plate margins where the Pacific sea floor is being overridden by the continents, is also prone to large earthquakes and tsunamis. However there, an early warning system, combined with an international programme of education and training and well-established drills for acting upon warnings received, has saved thousands of lives since it was first set up by the US immediately following World War 2.

The geophysical tools to enable tsunami early warning existed but were not deployed in the Indian Ocean, which is of course surrounded by much poorer countries than the Pacific. Now, a system modelled on the Pacific one is in place; however it will prove useless without the political will to educate the populations around the Indian Ocean – highlighting the fact that science alone is not enough. There must also be social and educational infrastructure in place as well.

• Further information: http://iri.columbia.edu/~lareef/tsunami/

### 4. Flooding – a worldwide problem

Flooding causes more death and destruction of property worldwide than any other single form of natural disaster. Yet most of the deaths that occur do so because of a combination of a) lack of advice about wise places to build b) poor or non-existent mitigation strategies in flood-prone regions c) ill-advised actions upstream (denudation, building, canalization) that deliver more water more quickly to downstream areas. Rivers often traverse national boundaries, which means that decisions in one country need to be made with other countries' needs in mind - demanding international cooperation that has been slow to materialise.

In 2004 the World Bank said in a report on the cost of the natural disasters of the 1990s that \$40 billion spent on risk reduction and preparation could have cut that decade's final bill in half - from \$535 billion to \$255 billion. The Bank also estimated that in the forty previous years, \$3.15 billion invested in flood control by China averted losses of \$12 billion.

Such strategies are most effective when dealing with floods. China's flood casualties have dropped throughout the century, partly though increased investment in protection and evacuation planning. During the 1930s and 40s, 4.4 million people died from flooding in China. In the next two decades that number fell to 2 million, and by the 1970s and 80s it was down to 14,000.

But flooding is not a problem confined to the developing world. While lives are rarely lost to floods in same degree, economic losses in developed nations are increasing as floods become more frequent (possibly a symptom of global warming and increased "storminess", but also to do with canalization, denudation of watersheds and the spread of impermeable man-made surfaces). Adding to this is rising pressure for new building land. Planners often turn to the flat expanses of river floodplains.



River floodplains exist to absorb excess runoff – they are meant to flood. Building on them, and reinforcing riverbanks to protect the development, merely sends yet more water downstream – displacing the problem first, and then ultimately failing themselves. The unwisdom of such developments is rooted in a failure to apply long-established hydrological and hydrogeological knowledge to planning decisions.

# Further information: http://www.worldbank.org/ieg/disasters/.

See also "Flooding" in the series of brochures "The Earth in our Hands" in the "General information" section below.

### 5. Armero tragedy, Colombia

On 13 November, 1985, the volcano known as Nevado del Ruiz erupted. Pyroclastic flows melted ice and snow at the summit, and the resulting water mobilised the poorly consolidated volcanic ash on the volcano to form mudflows – known as "lahars" - that rushed down several river valleys draining the volcano slopes. The lahars were up to 50 metres deep and many travelled more than 100 kilometres.

The town of Armero was completely covered by debris, killing approximately 21,000 people (out of a total population of about 28,700). The eruption was the second most deadly volcanic disaster of the 20th Century (the 1902 eruption of Mount Pelée, Martinique, was the worst).

The villagers were warned about the possibility of the disaster but because of past false information and conflicting messages from local political leaders that contradicted the scientific advice, many people did not believe the warnings. A hazard risk map of the region, produced some months before by the Colombian Geological Survey, was reportedly not used. This was a classic example of inadequate regard being given to the warnings issued by Earth scientists.

• **Further information:** For more on the deadly lahars of Nevado del Ruiz, 1985: *http://volcanoes.usgs.gov/Hazards/What/Lahars/RuizLahars.html* 

# Now for the good news!

# 6. Enhanced oil recovery and carbon capture

Capturing carbon and locking it safely away underground is a new technique that offers huge potential for meeting emissions targets and deflecting the imminent threat of global warming. However it can also help improve the yield of oil reservoirs.

Oil reservoirs are often under pressure, and when first pierced used to "gush", before technology consigned this spectacular phenomenon to the history books. Initial pressure soon reduces however and soon pumping becomes necessary. Reservoir pressure may be driven by a rising aquifer underneath the oil, but often water has to be pumped down below the oil to force it out.

This process involves pumping CO2 into an oil reservoir, increasing the reservoir pressure and allowing CO2 to dissolve into the oil and so reduce its viscosity and increase its volume. All of these effects allow oil to flow out more easily. This method is used extensively in older fields where the original reservoir pressure has been lost.



CO2 is pumped into the reservoir through an 'injection well' forcing oil towards a 'production well' where it is pumped to the surface. In most commercial onshore oil fields the CO2 is extracted at the surface and is then re-injected back into the reservoir. The CO2 is then left and stored within the oil reservoir, thus improving yield and reducing carbon emissions. Carbon capture potentially allows the continued use of gas and coal, whilst still meeting ambitious CO2 reduction targets.

- **Further information:** Scottish Centre for Carbon Storage *http://www.geos. ed.ac.uk/sccs*
- How old wells can still make a contribution http://gsa.confex.com/gsa/ 2007AM/finalprogram/abstract\_131716.htm
- Web article on EOR and carbon capture *http://www.climatechangecorp.com/ content.asp?ContentID=4791&ContTypeID=4*

### 7. Radon

Radon is an inert gas. It is not poisonous, but is a problem in the environment because it is radioactive, cannot be seen, heard or felt, and is all around us. Radon is created when the element uranium and thorium undergo radioactive decay. These elements are more common in some rocks than others, so radon varies in concentration according to the geology. These are typically areas underlain by acid igneous rocks like granite, dark shales rich in organic matter, and rocks rich in phosphate minerals.

Radon emits high energy alpha particles, which can damage genetic material and cause cancer. There is therefore a higher cancer risk in areas where radon is present in greater abundance in the underlying rocks. It is thought that between 2000 and 3000 people in the UK die through natural radon-induced lung cancer every year.

Since this link was discovered, geoscientists worldwide have devised advice and guidance on which areas estimated to contain homes exceeding the required action levels – these mirror the geological map very closely. Houses in these areas act as traps for radon gas, and must be adequately ventilated to reduce the risk to acceptable levels. This is particularly true for cellar areas. Authorities with jurisdiction over these areas are then able to implement proper procedures, warning householders of the danger and advising on the best course of action to prevent dangerous build-ups. In the UK as in other countries this is one of the best examples of how geoscientific advice can lead, through effective policy implementation, to a great improvement in quality of life.

- **Further information:** See "Radon", no. 5 of the general information sheets referred to below under the series title *"The Earth in our hands"*.
- The UK Radon website: http://www.ukradon.org/

## 8. Cancer – Cappadocia, E. Turkey

We all know that rocks can kill us by landing on our heads, but rocks often have a much greater influence on our health than we realise (see 7 for an example). Dust is usually thought of by westerners as the cause of industrial diseases like silicosis and asbestosis. However in many parts of the world these same diseases occur among the general population. "Non-occupational" silicosis in China, with its dusty climate caused by wind-blown rockflour created by the glaciers of the Himalayas, is a common health problem unknown in less dusty climates.



Asbestosis - cancer caused by inhaling dust formed by friable fibrous minerals - has been occurring in the Cappadocia region of Eastern Turkey for thousands of years. There, the rare cancer mesothelioma could (in some clusters) be so common a cause of death that even names of villages reflected its common symptoms.

These clusters of mesothelial cancer were discovered as recently as 1975, among peoples who inhabited caves carved into soft, weathered volcanic ash deposits. Since being laid down in huge thicknesses from a nearby volcano, these deposits have been eroded into fantastical tepee-shaped masses into which the dwellings are cut – and which are now a great tourist attraction. The problem is – these weathered ashes contain a mineral called erionite, which is the most virulent known promoter of mesothelial cancers. These people were not only breathing dust – they were living in it, drinking it and eating it.

Discovery of the dangers of living in troglodyte homes led to evacuation and resettlement programmes. Subsequent studies have also revealed that the environmental medical situation in Cappadocia is complex. Many of the unfortunate inhabitants of the region are also victims of a genetic predisposition to this particular form of cancer, which helps explain the anomalously large clusters of this normally very rare disease.

• **Further information:** The Toxic Potential of Mineral Dusts by Fubini and Fenoglio: *http://elements.geoscienceworld.org/cgi/content/full/3/6/407* 

## 9. Geothermal energy

The Earth is a source of inexhaustible heat, generated mostly by natural radioactivity in the rocks beneath us. Heat escapes from the planet everywhere, but some areas have a higher heat flow than others, and this makes them ideal for certain types of geothermal power plant.

Geothermal energy offers a number of advantages over traditional fossil fuel. The energy harnessed is clean and safe for the surrounding environment. It is also sustainable because the hot water used in the geothermal process can be re-injected into the ground. In addition, geothermal power plants are unaffected by weather conditions; they work continually, making them suitable as "base load" power plants. Geothermal energy is competitive in some areas and reduces reliance on fossil fuels. Geothermal plants are also efficient at different scales: a large geothermal plant can power an entire city while smaller power plants can supply more remote sites.

There are several different sorts of geothermal power plant; but all rely on deep-seated heat flow. Another source of heat, now increasingly being used for domestic heating where enough land available, is a Ground Source Heat Pump – of which there are also several different kinds. The energy of the sun is absorbed by the ground and can be extracted by a heat exchanger (often covering many hectares) consisting of underground pipes.

Taken together, geothermal heat is now beginning to provide a valuable contribution to the mix of renewables that will be needed to plug the world's looming energy gap.

- Earth Sciences for Society 2007 - 2009
- Further information: The Canadian Geoexchange Coalition http://www. geo-exchange.ca/en/what\_is\_geoexchange\_p10.php >>

- Geothermal Heat Pumps http://www.eere.energy.gov/consumer/your\_home/ space\_heating\_cooling/index.cfm/mytopic=12640
- International Ground Source Heat Pump Association *http://www.igshpa. okstate.edu/*
- BBC page on Geothermal Energy *http://www.bbc.co.uk/climate/adaptation/geothermail\_energy.shtml*

## 10. Arsenic remediation in a bucket

The inhabitants of Zimapàn, Mexico, live with water supplies that are contaminated with arsenic (As), but cannot afford commercially available domestic purifying systems. In 2001 geoscientists revealed that the answer lay all around them.

Zimapàn, 200km north of Mexico City, has been a mining district since the 16th Century. Lead, silver and zinc have been extracted from mineralised ores related to Tertiary-age igneous intrusions. These natural sources contaminate some water supplies, while others may be polluted by modest quantities of rainwater leaching through mine tailings. Some tailing leachates have As concentrations of almost 16 g/litre.

About half of the water supplies samples tested by Mexico's National Water Commission have As concentrations above current WHO guidelines (0.01mg/litre). The wells used for municipal water supply are heavily contaminated, and even after dilution from unpolluted water sources, still have concentrations up to about 0.4mg/ litre, with likely local health consequences. Over 40% of residents are not connected to this municipal supply and rely on local springs and norias (bucket-wheel wells) for drinking water. Unfortunately many of these are also polluted with As. In a region where 72% of the population earned less than US\$3.00/day in 1994, commercial purification systems lay well beyond their reach.

In 1994, the Lois Ongley (Androscoggin Valley Environmental Center, Lewiston, USA) and Aurora Armienta (Instituto di Geofisica, Universidad Nacional Autonoma de Mexico) and others created contaminated water (ECW) by shaking pure water with samples of mine tailings. This was then reacted with samples of various local rocks. The experiments demonstrate clearly that As is reduced below detectable levels in any sample of ECW that has been mixed with rocks of the local Soyatal Formation.

This Formation, which crops out throughout the area of contamination, is a calcareous shale containing up to 15% clay minerals (kaolinite and illite). Both of these are known to adsorb As. Water sources emerging through the Soyatal Formation are uniformly low in As.

Where commercial purification mechanisms (which use ion exchange to resins, green sand filtration and reverse osmosis) are too expensive, this low-tech mechanism lies well within the pockets of local residents, requiring no more sophisticated equipment than a bucket. The researchers discovered that one or two kilograms of crushed rock, added to about 20 litres of contaminated water, stirred frequently over 24 hours effectively removed As to below acceptable levels.

 Further information: Ongley, LK et al., 2001: Arsenic removal from contaminated water by the Soyatal Formation, Zimapàn Mining District, Mexico a potential low-cost, low-tech remediation system. Geochemistry, Exploration, Environment, Analysis, vol. 1. Available at: http://geea.geoscienceworld.org/ cgi/content/abstract/1/1/23



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# **Further reading**

# General information on geological hazards and their avoidance

IDNDR-ESCAP Risk Reduction & Society in the 21st Century: Bangkok, 23-26 February 1999. Geology-related Hazards, Resources and Management for Disaster Reduction in Asia; Water and Mineral Resources Section. (Environment and Natural Resource Development Division Economic and Social Commission for Asia and the Pacific (ESCAP))

http://www.unescap.org/enrd/water\_mineral/disaster/geopaper.htm#part4

General information sheets with internet links on Earthquakes, Flooding, Landslides, Volcanoes, Radon, Tsunamis, Coastal Erosion, Contaminated Land, Landfill & Waste, Groundwater, Aggregates and Marine Aggregates can be downloaded from the website of The Geological Society of London. All these sheets come from a series entitled "The Earth in our Hands" and are downloadable here: http://www.geolsoc. org.uk/gsl/education/page2673.html



# Global Launch Event Tentative Programme

# February 12th and 13th 2008, UNESCO Headquarters

# Day 1

- 09.00 Registration of guests at UNESCO Headquarters (Entrance 125 Avenue de Suffren, 75007 Paris)
- 10.00 Opening by Master of Ceremony, Ted Nield, Chair IYPE Outreach Programme Committee
  - Address by UNESCO Director-General, Koïchiro Matsuura
  - Address by President of the International Union of Geological Sciences (IUGS), Zhang Hongren
  - Address by Chair of IYPE, Larry Woodfork
  - Introduction by Mr Nicolas Sarkozy, President of the Republic of France, or his representative
  - Statements by Heads of State/Ministers and UN Heads
  - Presentation of Paris Declaration
  - Introduction to the sessions by Aubrey Manning, Independent Correspondent
- 13.00 Lunch and Press
- 15.00 Cultural Event

# 15.20 Theme 1: Population growth and climate change: challenges for Planet Earth

- Introduction by A. Manning, moderator
- Student winner of IYPE contest reads his/her winning essay
- Views on theme by Secretary of Intergovernmental Panel on Climate Change (IPCC), Dr Renate Christ
- Views on theme by Prof. Ghislain de Marsily, French Academy of Sciences
- 16.20 Coffee/Tea breaks
- 16.40 Views on the theme by Prof Ruud Lubbers, former Prime Minister of the Netherlands
  - Views on theme by Mayor of New Delhi, India, Ms Arti Mehra
  - Discussion with audience chaired by Aubrey Manning, moderator
  - Concluding remarks by moderator, Aubrey Manning

**Evening Reception** 



# Day 2

- 09.00 Arrival of participants at UNESCO Headquarters
- 09.30 Opening by Master of Ceremony, Ted Nield, Chair of IYPE Outreach Programme Committee
  - Introduction by Professor M. Sheya, Minister Plenipotentiary, United Republic of Tanzania

# 09.45 Theme 2: Earth resources: threat or treat?

- Introduction by moderator, Marina Mielczarek, Independent Correspondent
- Student winner of IYPE contest reads his/her winning essay
- Views on theme by President of TOTAL, Thierry Desmarest
- Views on theme by Dr Mark Myers, Director of United States Geological Survey
- Views on theme by Vice Minister Shouxiang Wang of the Ministry of Land and Resources of the People's Republic of China
- Discussion with audience chaired by Ms Marina Mielczarek
- Concluding remarks by Ms Marina Mielczarek
- 11.20 Coffee/tea breaks

# 11.40 Theme 3: Geohazards: minimizing risk, maximizing awareness

- Introduction by moderator, Marina Mielczarek
- Student winner of IYPE contest reads his/her winning essay
- Views on theme by Dr Peter Hoeppe, Münich Reinsurance, Germany
- Views on theme by Prof. Sospeter Muhongo, Director Regional Office of International Council for Sciences (ICSU) South Africa
- Discussion with audience chaired by Ms Mielczarek, moderator
- Concluding remarks by moderator, Ms MarinaMielczarek
- 13.15 Closing remarks by UNESCO Director-General Koïchiro Matsuura
- 13.25 video message Sir Arthur C. Clarke of Sir Arthur C. Clarke Foundation



# Registered to GLE as of 14 January 10:00

# IYPE Board members & keynote speakers

Last_Name	First_Name	Position	BodyName	country
Bracht	Mart van	Director	Built Environment and Geosciences	The Netherlands
			National Geological Survey	
Buttimer	Anne	Founding Partner Representative	International Geographical Union	Ireland
Clague	John J.	INQUA, Founding Partner	International Year of Planet Earth Inc.	Canada
Cloetingh	Sierd	Founding Partner Representative	International Lithosphere Programme	The Netherlands
Dent	David	Founding Partner Representative	ISRIC	The Netherlands
Derbyshire	Edward	Chair Science Programme Committee	International Year of Planet Earth Inc.	UK
Hess	John	GSA, representative		
		of the International Partners (2007)	International Year of Planet Earth Inc.	USA
Ismail-Zadeh	Alik	IUGG, Founding Partner	International Year of Planet Earth Inc.	GERMANY
Leahy	Patrick	Founding Partner Representative	American Geological Institute (AGI)	USA
Li	Zhijian	Representative East Asia (2007)	International Year of Planet Earth Inc.	China
Manning	Aubrey	IYPE Good Will Ambassador	International Year of Planet Earth (inc)	UK
Mehra	Mayor Arti	Mayor	City of New Dehli	INDIA
Missotten	Robert	Representative, UNESCO	UNESCO SC/EES/GEO	France
Muhongo	Sospeter	IYPE Senior Advisor	International Year of Planet Earth Inc	South Africa
Myers	Marc	Director	U. S. Geological Survey (USGS)	USA
Nield	Ted	Chair	Outreach programme committee	United Kingdom
Nortcliff	Stephen	Secretary General	International Union of Soil Sciences	United Kingdom
Porturas	Francisco	Representative	American Association of	
			Petroleum Geologists	Bolivia
Rubio	Eduardo	Vice-Chair, Regional Representative		
		Latin-America (2007)	International Year of Planet Earth Inc.	Peru
Toteu	Félix	Representative Africa (2007)	International Year of Planet Earth Inc.	Cameroon
Woodfork	Larry	Chair, Regional Representative		
		North America (2007)	International Year of Planet Earth Inc.	USA
Zhang	Hongren	President	International Union of Geological Sciences	China

# Guests

Last Name	First Name	Position	Body
Abler	Ronald Francis	Vice President	International Geographical Union
AbreuSá	Artur	Member	Commission nationale portugaise pour l'UNESCO
Achache	Jose	Director	Group on Earth Observations (GEO)
Ademi	Nermin	Counselor in the Cabinet	Ministry of Culture of the Republic of Macedonia
Agterberg	Frits	President	International Association for Mathematical Geology
Aïssi-Camara	Fatoumata	Delegate	Permanent Delegation of the Republic of Mali to UNESCO
Al Kadsi	Mohamed	Member of the Board of Managers	Geological Survey and Mineral Resources Board
Al-Aawah	Mohamed	Program Specialist	UNESCO
Al-Awadi	Nader	Director	Kuwait Institute for Scientific Research
Al-Fuhaid	Abdullah	Director	Kuwait University
Al-Fusail	Mohamed	International Cooperation Officer	Yemen IYPE National Committee
Al-haj	Mohamed	A Trueserer and academic member	IYPE Yemen National Committee

# Registered to GLE as of 14 January 10:00

Mohamed

Abdulrazzak

Ziad Bin Abdullah

Said

Noor

Khalid

Muhyi K.

Ruhul

Jeanne-Marie

Al-Kahdasi Al-Kitani Al-Mansour Al-Nafisi Al-Thour Aldrees

Alkateeb Amat-Roze Amin

Andresen Guimaraes Aravena Audouze Badman Barbey Barrier Baudin Beck Bennink-Opotskaia Berbert Berkman Bin Shmlan Biwott Bjorlykke Blieck Bobrowsky Boisson Boitier

Bokova

Bondar Bonhoure Booth Bourdas-Magail

Bowell Boyd Boye Brambati Brezsnyánszky Brilha Broska Brugal Bull Calnan Calvo Sorando Carlson Cartagena Díaz Fernando Andresen Marisol Iean Tim Pierre Pascal François Christian Nina Carlos Oiti Paul Arthur Ali Lojomon K. Arne Alain Peter Jacques Franklin Irina Roberta Gérard Kathryn Corinne Robert John Ron Abd El Kader Antonio Károly Iose Igor Jean-Philip Kathrvn Richard José Pedro David Patricio Cartagena

Secretariat General Deputy Permanent Delegate Member Ambassador, Permanent Delegate Senior Advisor Ambassador, Permanent Delegate Ambassador, Permanent Delegate Vice-Présidente Ambassador Extraordinary and Plenipotentiary of Bangladesh to France, Permanent Delegate Président Vice Minister Vice Président Special Adviser, World Heritage Conseiller + CNFG IUGS Representative Professeur Coordonateur FNC Exhibitor Chair Chair of the Board Vice President Head of Department **IYPE** Senior Advisor Member IYPE Senior Advisor Permanent Delegate and Ambassador echnical communication manager Ambassador Extraordinary and Plenipotentiary of the Republic of Bulgaria to France, Permanent Delegate Honorary Patron IGEN SVT Exhibitor, OneGeology Deputy Permanent Delegate President Chair Secretariat President IUGS Treasurer Chairman Member Chair Member Exhibitor, OneGeology Contact Director

Director

Director

Yemeni National Commission for UNESCO Permanent Delegation of the Sultanate of Oman to UNESCO Kuwait National Commission for UNESCO Permanent Delegation of the State of Kuwait to UNESCO International Year of Planet Earth Inc Permanent Delegation of the Kingdom of Saudi Arabia to UNESCO Permanent Delegation of Iraq to UNESCO Comité National Français de Géographie

Permanent Delegation of Bangladesh to UNESCO Commission nationale portugaise pour l'UNESCO Chilean Ministry of Mining Commission nationale française pour l'UNESCO IUCN - The World Conservation Union Min. Enseignement Supérier et Recherche (MESR) Institut Polytechnique LaSalle Beauvais University Paris 6 CNRS UMR 5025 / Université de Savoie Springer IYPE National Committee for Brazil Electronic Geophysical Year Geological Survey and Mineral Resources Board Mines and Geological Department International Year of Planet Earth Inc French National Committee for IYPE International Year of Planet Earth Inc Permanent Delegation of the Principality of Monaco to UNESCO TOTAL

Permanent Delegation of Bulgaria to UNESCO Canadian National Committee for IYPE Min. Education Nationale (MEN) British Geological Survey Permanent Delegation of the Principality of Monaco to UNESCO Association of Applied Geochemists Canadian National Committee for IYPE International Union of Geological Sciences Permanent Delegation of Senegal to UNESCO International Union of Geological Sciences Hungarian IYPE National Committee Commission nationale portugaise pour l'UNESCO IYPE National Committee for Slovakia French National Committee for IYPE British Geological Survey Circum-Pacific Council Instituto Geológico y Minero de España International Polar Year Servicio Nacional de Geologia y Mineria (SERNAGEOMIN)

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# Registered to GLE as of 14 January 10:00

Carter Casaer Cavazza Cawood Cham Chang Chang

Chanin Charalambous Charvet Cho

Choi Christensen Christofides Christofidou Chun Chung Chung Chung Cina Citron Coakley Cochonat Collins Corbett Corotis Courtillot Crasquin D'Iorio Daniel Darby-Prendergast De Coster De Graaf de Ruiter De Wever Demicheli Dent Dilek Dodson

Dong Dordain Dowman

Duchesne Durn Dyment Ebbing Eder

Seok Won Lars Lindberg Georgios Aikaterini Hee-Young Suk-koo Jong Shin In-Soo Aleksander Bob George J.

Mary

Karolien

William

Peter A.

Abdoulie

Ho Wan

Se Won

Marie-Lise

Maria

Jacques

Il-hwan

Pierre David Ian F Ross Vincent Svlvie Marc Jean-Yves Angella Dirk Rutger Peter Patrick Luca David Yildirim Iohn

Shuwen Jean-Jacques Ian

Jean-Clair Goran Jérôme Jan Wolfgang Chair Deputy head of mission Member Member Director Chair Director of International Cooperation Office Member Member Ambassador Extraordinary and Plenipotentiary of the Republic of Korea to France, Permanent Delegate Chair Press Officer President Accompanying person Christofidou Director Minister, Deputy Permanent Delegate Member General Manager President Executive Director, FFF Coordinator, Europe and Central Eurasia Program Deputy Manager Representative Assistant Secretary General Member

Drirecteur de recherche/ Vice-Présidente Director Doyen des sciences physiques First Secretary

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Korea Institute of Geoscience and Mineral Resource French National Committee for IYPE Geological Survey Department French National Committee for IYPE

Permanent Delegation of the Republic of Korea to UNESCO Korea National IYPE Committee International Astronomical Union Carpathian Balkan Geological Association

# CCOP

Permanent Delegation of the Republic of Korea to UNESCO Korea National IYPE Committee Korean Hydro & Nuclear Power Co., Ltd IGCP National Committee for Albania Foundation For the Future (FFF)

U.S. Geological Survey IFREMER International Association for Mathematical Geology International Astronomical Union United States Department of State French National Committee for IYPE SGF + Paris 6 Geological Survey of Canada MInistère de l'éducation nationale Permanent Delegation of Jamaica to UNESCO European Federation of Geoscientists Deltasync Geological Society of the Netherlands (KNGMG) French National Committee for IYPE IYPE National Committee for Italy ISRIC - World Soil Information IGCP Scientific Board

International Year of Planet Earth (Inc) Chinese Academy of Sciences European Space Agency ESA International Society for Photogrammetry and Remote Sensing University of Liege Croatian National IGCP Committee CNFGG TNO IYPE National Committee for Germany

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Chair

Ekdahl El-Baz Emmermann Engels Errami Eyraud Farrow Fayze Fernandez Fondi Fontero Fort Ganssen Gauhar Gebremichael Gerel Gimalac Giusti Govoni Grappin Grieve Gupta Haddad Hadjigavriel Hafner Haghipour Haldorsen Halimi Hamid Han Hartemink Hell Henriques Herbosch Hernández González-Pardo Hill Hines Hoffman Hood Hooghart Hubberten Hupert Hung Iturralde Vinent Janoschek

Janyska

Kenawy

Jebrak

Elias Farouk Rolf Patrick Ezzoura Charles-Henri John Adam Isabel Patrizio Bernard Monique Gerald Syed Hasan Mekonnen Ochir Maud Christian David Christiane Richard Harsh Chafica Loukia Marjutka Abdolazim Sylvi Avni Ahmed Hamid Elfaki Uk Alfred Joseph Victor Maria Helena Alain Héctor-Pastor Wesley Donna Carolyn Mary Anne Hans Hans-Wolfgang Pierre Do Tien Manuel Werner Petr Michel Shadia

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Finnish National Committee for Geology US National Committee for IUGS ICDP. GFZ Potsdam Unit of Geopedology - Gembloux Agricultural Univer Association of African Women Geoscientists INRP International Space University Geology European Federetation of Geologists Permanent Delegation of Italy to UNESCO Commission nationale française pour l'UNESCO International Association of Geomorphologists European Geoscience Union (EGU) Pakistan Academy of Geological Sciences University of Connecticut IYPE National Committee for Mongolia TOTAL. University of Paris-Sorbonne Italian Geological Society -Young Section CNRS IYPE National Committee for Canada International Year of Planet Earth Inc Permanent Delegation of Grenada to UNESCO Cyprus National Commission for UNESCO Ministry of Science, Higher Education and Technology IYPE National Committee for Iran International Year of Planet Earth Inc Ministry of Culture of the Republic of Macedonia

Permanent Delegation of Soudan to UNESCO Korea National IYPE Committee International Year of Planet Earth (Inc) Institute for Geological and Mining Research National Commission of Portugal for UNESCO Belgian National Committee for Geology

Permanent Delegation of Cuba to UNESCO US National Committee for IYPE Foundation For the Future (FFF)

UNESCO SC/EES/GEO University of Fort Hare TNO Inro International Permafrost Association International Association of Hydrological Sciences (IAHS) Department of Geology and Minerals of Vietnam National Museum of Natural History IYPE Good Will Ambassadors Permanent Delegation of the Czech Republic to UNESCO IYPE National Committee for Canada Permanent Delegation of the Arab Republic of Egypt to UNESCO

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Khairallah	Michel	Coordonateur FNC	Rectorat d'Orleans-Tour
Khan	Yassin	Secretary	IYPE National Committee for Gambia
Kibelloh	Hassan Omar Gumbo	Ambassador Extraordinary and	
		Plenipotentiary of the United	
		Republic of Tanzania to France,	
		Permanent Delegate	Permanent Delegation of the United Republic of Tanzania
Kim	Jong Shin	Member	Korea National IYPE Committee
Kim	Kyung-Ryul		School of Earth and Environmental Sciences, Seoul
Kim	Chon-hong	First Secretary	Permanent Delegation of the Republic of Korea to UNESCO
King	Chris	Director	Earth Science Education Unit
Kodoma	Kisaburo	Emeritus Advisor	Geological Survey of Japan (AIST)
Komac	Marko	Director	Geological Survey of Slovenia
Kondo	Seiichi	Ambassador Extraordinary and	
		Plenipotentiary, Permanent Delegate	Permanent Delegation of Japan to UNESCO
Koppán	András	Scientific co-worker	Geodetic and Geophysical Research Institute of Hun
Kordos	László	Director	Geological Institute of Hungary
Koren	Tatiana	Head of Department	VSEGEI
Korn	Henri	IBRO Representative in ICSU	IBRO
Kronenberger	Jean-Pierre	Representive	Association CeRF-IUFM
Kraas	Frauke	IYPE Senior Advisor	International Year of Planet Earth Inc
Kuvikas	Olga	Russia, Kamchatka region,	
	0	Petropavlovsk-Kamchatsky	Kamchatka State Universite
Kümpel	Hans J.	Director	The Federal Institute for Geosciences and Natural Resources
Köberl	Christian	Member	Mineral Deposits, Petrology, Volcanology, Geochemistry
Köck	Günter	Representative	Austrian Academy of Science
Lakatos	András	Ambassador Extraordinary and	5
		Plenipotentiary,	Permanent Delegation of the Republic of Hungary to UNESCO
Laoudi	Monique	Manager	Intellego
Laurin	Gilbert	Ambassador, Permanent Delegate	Permanent Delegation of Canada to UNESCO
Le Goff	Yves	Chef Dpt. Relations extérieures	TOTAL
Le Lann	François	Directeur Production	BRGM (Bureau de Recherches géologiques et minières)
Lee	Jin	Member	Korea National IYPE Committee
Lee	Woo-Bang	Vice President	Korea National IYPE Committee
Lerouge	Walter	Président	Commission flamande pour l'UNESCO
Lesjak	Dušan	State Secretary	Government of Slovenia
Lexa	Jaroslav	Director	Geological Institute Slovak Academy of Sciences
Lips	Andor	Theme Leader	IGCP Scientific Board
Liu Dunyi		Chairman	IGCP National Committee
Luby	Štefan	President	Slovak Academy of Sciences
Ludden	John	Director	British Geological Survey
Luksevics	Ervins		Department of Geology, University of Latvia
Mahmood	Sarmad Shakir	President	Iraq Geologists Union
Majanen	Pertti	Ambassador, Permanent Representative	
		of Finland to OECD,	Permanent Delegation of Finland to UNESCO
Majidi	Mohammad Reza	Ambassador, Permanent Delegate	Permanent Delegation of the Islamic Republic of Iran to UNESCO
Mamecier-Demounen	Annie	Member	French National Committee for IYPE
Mansfield	Sally	Permanent Delegate	Permanent Delegation of Australia to UNESCO
Marker	Brian	IYPE Senior Advisor	International Year of Planet Earth Inc
Masselot	Laurent	Chief of Projects	PlanetObserver
Mastronardi	Severo	-	Permanent Delegation of Italy to UNESCO
Matthiessen	Christian	Member	Danish National Commission
Mc Ardle	Peadar	Chair	Irish National Committee for IYPE

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Patrick

Nicoline

Michel

Darge

Johan

Luca

Catherine

Vunganai

Jean-Claude

Berit Forbod

Marina

Victor

Claire

Hormoz

Busiswa

Mohlalefi

Ludovit

Hugues

Claire

Alan

Lutz

Jerzy

Pierre

Harald

Vallat

Dong

Van

Edmund

Hudson

Pascal

Iai Ho

Maryse

Louise V.

Guglielmina

Michael Abiola

John Paul

Victor

Abdallahi

J. O.

Jacob Dickie

Bhaswati

Al-Awadi

Céline-Dorothée

Eldridge M.

McKeever Meijer Menvielle Meshesa Meulenkamp Mevel Micucci Midzi Misitano Miskovsky Mocanu Modaressi Moeglin Moen Molefe Moletsane Molnar Monrose Moores Moras Morgan Mukherjee Möller Nader Nawrocki Ndeme Nehlig Neple Neveu

Nguyen Dac Nguyen Thanh

Nickless Nkate

Nkotagu Nkurunziza Ochieng Oh Ohnensetter Oliver

Oliveros-Toro Oluoch Omolewa

Osipov Ould Yeba Ould Khalifa

 Overfeld
 Günter

 Panajotovic-Cvetkovic
 Tatjana

 Papachristopoulou-Tzitzikosa
 Maria Ekaterini

Representative Member Deputy Permanent Delegate Chair Professeur Council member

Representative

Member IYPE Senior Advisor Directeur Aménagements et risques Office Assistant for Second Secretary Communications Director Secretariat Alternate Permanent Delegate Chairperson Coordinator for Hazards IUGS Vice President Vice présidente chargée de communication Treasure Ambassador, Permanent Delegate Head of the section for Science Representative Deputy Director for Scientific Affairs Second Secretary Responsable Sous-sol Ambassador, Permanent Representative of the Kingdom of Norway to OECD, Representive Deputy Director General of Science & Tech Dept Chairperson **Executive Secretary** President

Chair Chief of Earth Sciences The Commissioner Representative Secretary Ambassador, Permanent Delegate

Trésorière Senior Research Assistant Ambassador, Permanent Delegate

IYPE Senior Advisor Delegate

Ambassador, Permanent Delegate Chargée d'Affaires a.i. President European Geoparks Network IYPE National Committee of the Netherlands French National Committee for IYPE Permanent Delegation of Ethiopia to UNESCO IYPE National Committee of the Netherlands IPGP Italian Geological Society Council for Geoscience Permanent Delegation of Italy to UNESCO French National Committee for IYPE International Year of Planet Earth Inc BRGM (Bureau de Recherches géologiques et minières) Permanent Delegation of Sri Lanka Norges Geologiske Undersøkelse National Research Foundation Permanent Delegation of the Kingdom of Lesotho to UNESCO Slovak Commission for UNESCO SAID & French IYPE committee International Union of Geological Sciences Comité Aquitain de la Planète Terre International Geoscience Education Organisation Permanent Delegation of India to UNESCO German Commission for UNESCO Kuwait National Commission for UNESCO Polish Geological Institute Permanent Delegation of Cameroon to UNESCO BRGM (Bureau de Recherches géologiques et minières)

Permanent Delegation of the Kingdom of Norway to UNESCO UMR LOUEST/université paris10 nanterre

Ministry of Natural Resources and Environment IGCP National Committee The Geological Society Botswana National Commission for UNESCO / Ministry of Education IYPE National Committee for Tanzania UNIVERSITY OF BURUNDI Mines and Geology Korea National IYPE Committee International Mineralogical Association Permanent Delegation of the United States of America to UNESCO Fédération Française de Géologie Kenya Delegation to UNESCO Permanent Delegation of the Federal Republic of Nigeria to UNESCO IYPE National Committee for Russia Permanent Delegation of the Islamic Republic of Mauritania to UNESCO Permanent Delegation of Germany to UNESCO Permanent Delegation of the Republic of Serbia to UNESCO Hellenic National Commission for UNESCO

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Soutsakhone

Pathammavong

Patiño Peng Peryt Petroff Petrov Piller Pinard Platte Poss Prentice Prera Flores

Puglisi Quesada Ochoa Radavidson Rafatrorafatro Ramalho Ortigão Rava

Ravenne Regueiro y Gonzalez-Barros Rigollet Robert Rogers Rolet Ross Rosswall Ruellan Sakashita Salado San Segundo Schalke Schettino

Schreiner Schaaf Seghrouchni Sekutowicz-Le Brigant Shamir Shamir Shoya Shoya Sibya Silota Silota Silota Silva Simonin Sinding-Larsen Sintubin Jorge Qiming Tadeusz Yves Oleg Dr Francois Mr Peter Roland Geoffrey Anaisabel Prera Giovanni Cecilio Andriamparany Mialinirina José Duarte Margus Christian Manuel Christophe Doe Katina Ioël Jorgina Thomas Alain Suzuka Teresa María Jesús Henk Luiz Fernando Bryan T. André

Rachid

Helene

Leonello

Mohamed S.

Uri

Liping

Mohsen

Gérard

Michael

Elizabeth

Richard

Manuel

Guy

Ambassador Extraordinary and Plenipotentiary of the Lao People's Democratic Republic to France Délégué permanent adjoint Director-General Chair Past President Director Chairman Manager Deputy Permanent Delegate Member Science Attache Ambassador Extraordinary and Plenipotentiary of Guatemala to France, Président Secretary Minister Representative Ambassador, Permanent Delegate Ambassador Extraordinary and Plenipotentiary of the Republic of Estonia to France. Président President Representative Publisher Assistant Secretary General President Treasurer Executive Director Member First Secretary Attachée Ambassador, Permanent Delegate **IYPE** Senior Advisor Subsecretary of the Research Units Coordination Chairman Coordonateur CNF-AIPT First Secretary Second Secretary Director IYPE Senior Advisor IYPE Good Will Ambassador Program Officer Supervisor of Scientific & Cultural Relations Member President Programme Specialist - Science Direction scientifique IYPE Senior Advisor

Permanent Delegation of the Lao People's Democratic Republic to UNESCO Délégation de Panama auprès de l'UNESCO Ministry of Land and Resources IYPE National Committee for Poland IUPAP A. P. Karpinsky All Russia Geological Research Institute IYPE National Committee for Austria International Center for Training and Exchanges in the Geosciences Permanent Delegation of Germany to UNESCO French National Committee for IYPE US Mission to UNESCO

Permanent Delegation of Guatemala to UNESCO Commission nationale italienne pour l'UNESCO Comisión Nacional de Geología Ministry of National Education and Scientific Research Ministry of National Education and Scientific Research Permanent Delegation of Portugal to UNESCO

Permanent Delegation of the Republic of Estonia to UNESCO Société Géologique de France European Federation of Geologists Gaz de France Springer Science and Business Media IUGG International Center for Training and Exchanges in the Geosciences International Association for Mathematical Geology International Council of Science French National Committee for IYPE Permanent Delegation of Japan to UNESCO Permanent Delegation of Portugal to UNESCO Permanent Delegation of the Kingdom of Spain to UNESCO International Year of Planet Earth Inc Ministério da Ciência e Tecnologia

Canadian National Committee for IUGS Ecole & Observatoire des Sciences de la Terre Permanent Delegation of the Kingdom of Morocco to UNESCO Permanent Delegation of the French Republic to UNE Italian Agency for Environmental Protection and Technical Services International Year of Planet Earth Inc International Year of Planet Earth (inc) Ministry of Land and Resources Academy of Scientific Research and Technology French National Committee for IYPE International Association of Geodesy (IAG) Commission nationale portugaise pour l'UNESCO Palais de la découverte International Year of Planet Earth Inc Katholieke Universiteit Leuven

# Registered to GLE as of 14 January 10:00

Anne

Maria

Snoussi Sokona Soliman Soták Speelman Steenbruggen Steinhaeusl Stewart Struckmeier Styles Szarka Saad Tai Sup Lee Takara Taquet Tardy Tejale Teller Ter Haai Tisot Tran Tan

Siwicki

Tran Thi Tran Xuan Tsukuda Túnyi Ulstein Urrutia Fucugauchi Van Bueren Vandenberghe Vaslet Vazquez

Velamoor Verna Villey Vitola Vlasblom Vogler Wagiswara

Westerwinter Wickramasinghe

Wirakartakusumah Wodzynska-Walicka Woldai Wolde-Michael Woodland Xhemaili

Mohamed Salia Hassan A Ján Hessel Arian Helene Iain Wilhelm Peter László Ali Tai Sup Lee Kaoru Philippe Marc Prakash Murlidhar Jim Bas Jean-Paul Van MinhHa Huong Eikichi Igor Inger-Anne Jaime Bart Kristof Dominique Marcelo Sesh Mireille Michel Guna Johan Brigitte Chitranganee Andreas Priyanga Aman Maria Tsehaie

Sentayehu

Alan B

Arifikmet

President Chairman Minister of Culture

Permanent Delegation of Australia to UNESCO Policy Officer Member IGCP Scientific Board Ambassador Extraordinary and Plenipotentiary of the Republic of Mali to France, Permanent Delegate Permanent Delegation of the Republic of Mali to UNESCO Chairman IYPE National Committee for Egypt Representive Geological Institute Slovak Academy of Sciences Former Director Geological Survey of the Netherlands (TNO) Member IYPE National Committee of the Netherlands Deputy Permanent Delegate Permanent delegation of Austria to UNESCO IGCP Scientific Board Theme Leader Member International Year of Planet Earth Past President The Geological Society Secretary Hungarian IYPE National Committee Président Commission nationale syrienne pour l'UNESCO President Korea Institute of Geoscience and Mineral Resources (KIGAM) Executive Director International Consortium on Landslides President International Commission for History of Geology Representative Université de Savoie Director General Geological Survey of India International Year of Planet Earth Inc IYPE Senior Advisor Ambassador Extraordinary and Plenipotentiary, Permanent Delegation of the Kingdom of the Netherlands to UNESCO Permanent Delegate Ecole Nationale Supérieure de Géologie Directeur Deputy Director Vietnam Institute of Geosciences and Mineral Resou Director General of Int. Cooperation Dept Ministry of Natural Resources and Environment Director General Department of Geology and Minerals of Vietnam Chaiı IYPE National Committee for Japan Representive Geophysical Institute Slovak Academy of Sciences Special Advisor Norwegian Research Council Chair Comité Nacional Programa Internacional del Planeta Tierra Representive Deltasync Délégué adjoint du Gouvernement flamand Ambassade de Belgique - Délégation flamande Professeur Education Nationale Chargé d'Affaires a. i. , Deputy Permanent Delegate Permanent Delegation of Ecuador to UNESCO Deputy Director, Programs FFF Foundation For the Future (FFF) President AIPT aguitain comitee BRGM (Bureau de Recherches géologiques et minières) Directeur adjoint Comm. et éditions Deputy Permanent Delegate Permanent Delegation of the Republic of Latvia to UNESCO Member IYPE National Committee of the Netherlands Representative Ministère Recherche Permanent Delegation of the Democratic Socialist Republic of Permanent Delegate Sri Lanka to UNESCO Deputy Permanent Delegate Permanent Delegation of the United Kingdom Second Secretary Sri Lanka to UNESCO Ambassador, Permanent Delegate Ambassador, Permanent Delegate

Permanent Delegation of the Democratic Socialist Republic of Sri Lanka to UNESCO Permanent Delegation of the Republic of Indonesia to UNESCO Permanent Delegation of the Republic of Poland to UNESCO African Association of Remote Sensing of the Envir Ethiopian National Office for UNESCO German National Committee for IUGS Ministry of Culture of Republic of Macedonia

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Yadav Yondem Yu Zagorchev Zaide

Zana Zekster Zelazniewicz Zharmenov Zouros Zovko Jae-Young Ivan José A. Brigitte Igor S. Dr.Andrzej Abdurassul

Nickolas

Zeljana

Birender S.

Sencer

First Secretary Second Secretary Vice President Ambassador Extraordinary and Plenipotentiary of the Philippines to France, Directrice Communication Member President General Director Representative Ambassador Extraordinary and Plenipotentiary of Bosnia and Herzegovina to France, Permanent Delegate

Permanent Delegation of India to UNESCO Permanent Delegation of Turkey to UNESCO Korea National IYPE Committee Bulgarian National Committee for Geology for IYPE Permanent Delegation of the Republic of the Philippines to UNESCO Palais de la découverte Hydrogeology Group National Committee of Geology, Poland RSE European Geoparks Network

Permanent Delegation of Bosnia and Herzegovina to UNESCO

# Support Staff

Last Name	First_Name	Position	BodyName	country
Cadet	Jean-Paul	IYPE Senior Advisor	International Year of Planet Earth Inc	France
de Mulder	Eduardo	Executive Director	International Year of Planet Earth	The Netherlands
de Mulder	Eva	Member Preparatory Committee	International Year of Planet Earth	Netherlands
Habimana	Cyprien	Secretariat	International Year of Planet Earth	Norway
Liinamaa-Dehls	Anne	Secretariat	International Union of	
			Geological Sciences	Norway
Mauriaud	Pierre	Profeseur Sciences	Profeseur Sciences de la	
			Vie et de la Terre	France
Menier	Gabriela		French National Committee	
			Organization Committee of GLE	
Minde	Åse	Secretariat	International Year of Planet Earth	Norway
Often	Morten	Secretariat	International Year of Planet Earth	Norway
Reynaud	Jean-Yves	Secretary	French National Committee	
			Organization Committee of GLE	France
Vaslet	Denis	President	Comité National Francais de Géologie	France
Vermooten	Sophie	Hydrogeologist	Deltares (Geological Survey of	
			the Netherlands)	The Netherlands

# IYPE Student Contest

Participate in the IYPE Student Contest by submitting an essay, poem, drawing, video message et cetera on one of the topics Groundwater, Hazards, Earth and Health, Climate, Earth Resources, Megacities, Deep Earth, Ocean, Soil, Earth and Life

# IYPE

# Student

# Contest



# Prize

Invitation to a four-day trip to Paris, entirely free of charge, and participation in the Global Launch Event of the International Year of Planet Earth 11-14 February 2008 **Deadline** All contributions should be submitted before November 15<sup>th</sup> 2007

# Information

Visit the website for more information www.yearofplanetearth.org



# IYPE Student Contest

The IYPE Corporation organized an IYPE Student Contest for students from around the world. Students were invited to enter the competition by submitting an essay or other creative work on one of the major IYPE themes, driven by their individual cultural background and education.

# Tentative list of award-winning students

Country	Name
Australia	Lachlan O'Brien
Bangladesh	Md. Shamsuzzaman
Brazil	Francisco Ferreira de Campos Igor Marino Kestemberg Thamirez Nogueira Magalhães
Burkina Faso	Paton Guillaume Pare
Cameroon	Chanka Cyriaque Willy Ojong Mildred Arrey
Central Africa	Luis Johnson Ndakpa – Kangale Fred Pothin
Chad	Frédéric Djerambete
China	Fiona So Yuen Nam Tong chun Qin Meng Wang Xuan Wang Chao Zhao
Djibouti	Mohamed Ahmed Daoud Mohamed Hassan Magareh Nima Sohane
Ethiopia	Hawi Abate
Henok Aberra Bejiga	Wakgari Furi Brook Ahmed Mohammed
France	Agate Bruys Romain Desport Mathieu Leboucher Virginie Le Masson Jessie Mayor
Germany	Felix Schweikhardt
Ghana	Owusu Sekyere Augustine



Hungary	Krisztina Karman
India	Harish Kumar Anantha Krishnan Vineeta Luther Aditi Sinha A.M. Vandana
Iran	Niloofar Naderi Fahimeh Nekooei Afshin Rezaei
Ireland	Emma Helbert Claire Jane Taylor Nikita White
Italy	Elisabetta Ceci Stepfania Cortese Laura Langone Stefano da Pichierri Denise Cristina Ugliano
Kenya	Kelly Omondi Akuku Chrispine Juma Omondi
Korea	Jin Soo Kim Moonkyoum Kim Young Hui Na
Latvia	Kitija Balcare Arturs Polis Toms Purgailis
Madagascar	Tsiry Andrianina
Malawi	Elyvin Nkhonjera
Mongolia	Ulziiburen Burenjargal
Mozambique	Alberto Vasco Uelemo
New Zealand	Kate Synge
Philippines	Hannah Lyn C. Creencia
Poland	Andrzej Chmielewski
Russia	Olga Kuvikas
Slovak Republic	František Lipták Filip Minich
South Africa	Stephanie Ackermann Laura Byrne Fulufhelo Munyai

Inka Schomer



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Swaziland	Harris Bonginkosi
Tanzania	Deogratius Amedeus Naishorun Angel Mike Fatuma Chikawe Linus Mkula
Thailand	Patamon Nisabodee Namchoke Sasikornwong Kantapon Suraprasit
The Netherlands	Mark Bakker Hildo Bijl Esther Rosenbrand Anne Walgraven
United Kingdom	Amy Carter Thomas David Holmes Akela Silverton
United States of America	Corina Darriau
Yemen	Mohamed Abdul-kader Saif Al-Ariki Essam Abduh Ali Qaid Abdulkawy Ahmed Abdulrahman Mohebal-deen Ghaida'a Motahar Sief Abdullah Al-Absi Aya Ahmed Ali Al-Amri
Zambia	Monica Kalichini Kabwe Mulolo



# DRAFT

# Declaration presented at the Global Launch Event of the International Year of Planet Earth (IYPE)

UNESCO, Paris, 12-13 February 2008

*Recalling* that the General Assembly of the United Nations has declared 2008 as the International Year of Planet Earth,

*Guided* by the International Year of Planet Earth's motto "Earth Sciences for Society",

*Considering* that we live on a unique, diverse and ever-changing Planet Earth travelling through space in a vast universe,

*Noting* that the existence of human beings is completely dependent on a self-sustaining Earth system;

*Emphasizing* that any sound discussion about global sustainable development of the "System Earth" requires scientific data and knowledge,

*Noting* that the wealth of geo-scientific information available on issues like Climate, Resources, Energy, Health, Groundwater, Soils, Ocean, Deep Earth, Natural Hazards or Life remain largely untapped and unknown to the policy and decision makers,

*Convinced* that activities undertaken during the IYPE contribute efficiently to the UN Millennium Development Goals and will help to achieve the objectives of the UN Decade of Education for Sustainable Development,

*Considering* the major role that IYPE could play in creating respect for Planet Earth by raising public awareness of the vulnerability of soils, rocks, vegetation and landscapes, as well as of the importance of the Earth sciences for sustainable use of Earth resources, for disaster risk reduction, and for global capacity building for sustainable management of the planet Earth, its environment and resources,

Therefore, we

- 1. *Urge* politicians and other decision makers at all levels to utilize the wealth of currently available knowledge about our Planet for the benefit of all communities in the world, in particular the developing countries;
- 2. *Encourage* public and private science, technology and innovation (STI) organizations to support this initiative in order to produce a new generation of Earth science experts to couple with the current (about 6.7 billion people) and future needs of global society;
- 3. *Invite* industries, organizations and foundations to join and support the initiative to raise awareness and appreciation of the Earth as the ultimate resource for our everyday needs;
- Encourage the geosciences communities to take advantage of the IYPE to find satisfactory responses to future Earth-related dangers and to let society benefit from the opportunities provided by a sustainable use of the Earth's resources; >



- By
- a) *Re-introducing* Earth sciences in national educational systems,
- b) *Production* of a global, digital and publicly available information system of the subsurface, based on the current OneGeology Project,
- c) *Improving* access to scientific knowledge and information by reinforcing research and capacity building in Earth and Space sciences institutions and universities,
- d) *Promoting* awareness about the structure, evolution, beauty and diversity of the Earth System and its human cultures inscribed in landscapes, through the establishment of "Geoparks", Biosphere Reserves and World Heritage Sites as a public tool for conservation and development,
- e) *Monitoring* changes in the Earth's structure for the purpose of predicting its large-scale instability using Space Science (e.g. satellite images) and in-situ monitoring facilities such as the Earth Scope of North America,
- f) *Establishing* an International Research Centre on Earth sciences for sustainable development,
- g) *Producing* books, DVD's and other media tools as a legacy of the IYPE by making Earth scientific knowledge more accessible to the public.

Wolfgang Eder & Eduardo de Mulder, 7 January 2008

Including comments received 10 January by Zhang Hongren, Eduardo Rubio, Sospeter Muhongo, Edward Derbyshire, Sophie Vermooten, Robert Missotten & Ted Nield.

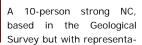


# A global campaign: national activities

Support for the International Year of Planet Earth has spread worldwide with strong political and public backing. Wide-ranging activities and programs ensure this is a truly global event. By EDUARDO DE MULDER

The proclamation of 2008 as the International year of Planet Earth (IYPE) by the General Assembly of the United Nations in the last days of 2005 excited many geoscience communities around the world. With its potentially global appeal and a clear emphasis on outreach, IYPE has progressively gained acknowledgement in the world of national and international politics. Supported by the United Nations, the geoscientific community recognizes this once-in-a-lifetime opportunity to display their knowledge and, in particular, present to young people the wealth and excitement of the Earth sciences both in its own right and as a rewarding professional career. In many cases, groups within the various geoscientific communities linked up with other, related national groups and together created a core group with the aim of presenting the nature, content and societal importance of the geosciences and, thereby, adapting and applying the IYPE's ambitions at the national level. These National Committees (NCs) announced their presence to the international IYPE Secretariat and launched their activities. Once formally established, all NCs were empowered to use the IYPE logo and to act on behalf of the IYPE Corporation at the national level. Set out below is a brief account of each of the 56 NCs, with details of their main features and initiatives undertaken so far.

# Albania aserjani@yahoo.com



tives from geography, produced the Year of Planet Earth and Albania Resolution and an IYPE poster. The main emphasis is on geoand biosites, integration of cultural and natural heritage, geotourism and climate change in Albania.

# Argentina ropage@secind.mecon.gov.ar



The NC links geoscience with decision making groups; it has developed a plan to

publicize outreach documents and to find extra money to fund research. Almost all Argentinian geo-communities cooperate within the IYPE. Although the focus is on 2008, the ambition is to extend their work for many more years.

# Australia Ian.Lambert@ga.gov.au



The Geological Society chairs the NC, which was initiated in 2006. The 'IYPE

Earth science for everyone' program and the Earth Science Week aim to promote the Earth sciences in Australia. The main thrust of Australia's program is outreach. The 2008 resource book for high school science teachers will incorporate IYPE themes.



# Austria www.geologie-ist-alles.at

The Austrian NC places emphasis on outreach by advertising the IYPE and the Earth sciences through huge billboards distributed right across the country: special attention is given to Geoparks, geotourism, the Geo Atlas Austria, and exhibitions. The IYPE was formally opened by the Minister of Science and Research in November 2007 and featured at the world-renowned New Year Opera Ball, held annually in Vienna.

# Belgium www.kvab.be/IYPE/Sites/Site/ Blank.html

Within the IYPE framework, the Royal Museum of Central Africa hired a com-

munication expert to promote all Earthrelated activities in Belgium under the coordination of the Belgian NC. These activities range from scientific meetings to various exhibitions and lectures. In March 2008, a launch event is planned for the public, journalists and politicians. In April, "Space Days" coordinated by the Eurospace Society will invite astronauts and cosmonauts to discuss different aspects of earth and environmental sciences.

# Brazil coiti@mct.gov.br



Brazil launched the IYPE in São Paulo in January 2007 and a Latin American launch

is planned for April 2008 in Brasilia. The IYPE will be the main focus at the Brazilian Geological Congress; many science and outreach activities are planned, including cartoon competitions. There will be considerable emphasis on school-level education and political connections.

# Bulgaria www.geology.bas.bg/ planetearth/plearth\_bg.html



The NC launched its IYPE program in April 2007. A series of lectures suitable for a broad audience is planned, together

with major exhibitions including photo competitions in Earth for All, production of a two-volume book on the geology of Bulgaria, two science movies (in collaboration with Bulgarian TV) and Music & the Earth concerts.

# Cameroon jvhell2@yahoo.fr

The NC's plan for outreach activities in 2008 includes several radio and TV pro-

grams on geosciences and sustainable development, an open day on geohazards in Cameroon commemorating the 22nd anniversary of the Lake Nyos disaster, and a colloquium on geoscience education.

# Canada www.iypecanada.org



The NC is developing a popular book on Canadian Geology - Four Billion Years

and Counting. Five IYPE themes are highlighted in an IYPE leader WHERE on Earth, WHERE in Canada? broadcast on national TV and as part of a national student contest. Other initiatives include a brochure to raise funds for 20 projects and sponsorship of a five-part TV series A Geologic Journey, fact sheets on mineral and energy resources and a new careers web site (part of Canada's IYPE web site) as a legacy project.

# China zhjli@mail.mlr.gov.cn



The NC is chaired by the Minister of Land and Resources and includes

many government departments, research institutes, the media and some large state enterprises. The outreach and scientific programs are already operating. TV documentaries on the relevance of the geosciences to hazards, cities and the environment are in preparation. Geocontests will be held for youngsters, lectures given by well-known scientists, and free visiting days arranged in museums and Geoparks. The 2nd International Symposium on Geopark Management, held in Lushan in June 2007, provided further publicity.



# Costa Rica www.congresogeologico.com

The NC will hold a major IYPE event at the 9th Central American Geological Congress in July 2008. Additionally, a massive poster campaign will be placed at bus stops in and around San José and posters illustrating the 10 IYPE themes will be displayed along the main boulevard of the capital city in April 2008, followed by an Earth Fair on 'Earth Day' (April 22). TV spots on the relevance of geosciences for the nation are due from February-June 2008.

# Cyprus director@gsd.moa.gov.cy



The Committee consists of eight members representing scientists from the

Geological Survey Department of the Ministry of Agriculture Natural Resources and the Environment and the Association of Geologists and Mining Engineers. Most outreach activities are planned for implementation in 2008.

# **Czech Republic** veronika.stedra@geology.cz



The NC, operating under the auspices of the Ministry of Environment, includes

consultants, regional networks, and media partners. A virtual geological encyclopedia, geo-information for regions, Geoparks, and a roving exhibition, Planet Earth: powerful and vulnerable, will become a permanent IYPE legacy. Geologists for Prague will create a permanent geo-layer within the Prague ZOO Park and the Botanic Garden. Multipurpose IYPE posters and brochures have been published. As education plays a major role, the NC is linked to 50 UNESCO associated schools.

# Denmark eny@geus.dk

The NC consists of 11 members and is based in GEUS, the Geological Survey. Denmark is actively contributing to the OneGeology Project and is involved

in preparations for the 33rd International Geological Congress (Oslo, August 2008). A publication of all the IYPE themes in the Danish context is in preparation.

# Egypt soliman1940@yahoo.com



A newly established, sevenperson NC has prepared a national science and out-

reach program for the IYPE in Egypt. The plan was issued in December 2007.

# Estonia www.planeetmaa.org



The IYPE-supported 15th meeting of the AEGS entitled Georesources and

public policy: research, management, environment, was held in Tallinn (September 2007). Educational IYPE activities are supported by a governmental grant to the Estonian Naturalists. A simultaneous launch event for the whole of Estonia is scheduled for 2008.

# Finland sinikka.roos@gtk.fi



Finland will contribute to the IYPE mainly through international scientific events such

as the International Geological Congress, the Nordic Geological Winter Meeting, the National Days of Geology and the International Congress for Polar Research and Geophysics.

# France www.anneeplaneteterre.com

The NC consists of a strategic and an executive component and has

developed a very large program including more than 200 individual projects at venues right across the country. Special emphasis is placed on outreach, and the various regions expect to play a major role in its implementation. Much attention is being given to the joint organization of the Global Launch Event in Paris, February 2008, which is also the launch of the French activities.



# Gambia geologygambia@yahoo.com

The NC is raising the awareness of the Gambian public regarding the IYPE and has developed science and outreach plans for 2008 and 2009, which were issued in December 2007. These plans include active participation in the Paris and Arusha launch events.

# Georgia

chelidze@ig.acnet.ge

The NC was established under the auspices of the Georgian National Academy of Sciences, representatives of UNESCO, Ministry of Environmental Protection of Georgia, research institutes and industry. The Georgian NC will launch several activities in 2008, including newspaper and TV interviews, shows, posters and lectures. See www.ig-geophysics.ge

# Germany w.eder-geo@hotmail.de

The NC is a non-governmental body and operates as a Steering Committee of the GeoUnion/Alfred Wegener Foundation. It builds on the very successful experiences of the GeoJahr in 2002. Ten regional launch events are planned, each reflecting one of the IYPE themes. The all-Germany launch event will be held in Berlin on June 12-13, 2008 under the title Earth and Mankind as a system - pathways and strategies for the future. Some 50 IYPE projects include book presentations, exhibitions, conferences, posters, geo-trails, student contests, an IYPE brochure in German, and the opening of new Geoparks in 2008.

# Hungary www.foldeve.hu, www.ggki.hu/planet\_earth

The NC was established under the auspices of the Hungarian Academy of Sciences, the National Committee for UNESCO and the national IUGS body. The national IYPE launch event is planned for April 18-20, 2008 at the Hungarian Natural History Museum in Budapest. Numerous programs will be organized in 2008 by the Hungarian Geological Society and related associations, as well as by universities and research institutes.

# India www.iypeinsa.org/

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The NC is part of the National Coordination Group for the four concur-

rent International years (IYPE, IPY, EGY, IHY). IYPE activities began in October 2006 and were strengthened by the Indian Science Congress (January 3-7, 2007) with its focal theme *Planet Earth*. An 18-carriage train will travel across the breadth of India to draw attention to Planet Earth. Numerous science and outreach projects are also in hand.

# Iran abdolazim@haghipour.com



The NC has prepared posters and brochures in Persian and distributed these at univer-

sities and schools. An information campaign is now operating, using all media and the Iranian Geoscience Journals. Award-winning students for the Global Launch Event will be selected during an official ceremony at the Geological Survey. As a legacy of the IYPE, a Structural and Kinematic Map of the world is being produced.

# Iraq iraqiexpertsoc@yahoo.com



The Iraqi NC represents the Iraqi Geological Society and consists of ministers, mem-

bers of Parliament and scientists. Many conferences and symposia have been arranged, including meetings dealing with environment conservation objectives. The triennial program of activity includes publication of scientific papers and geological and environmental education materials. It will also involve scientific meetings on all IYPE topics, as well as public lectures on TV and in universities across Iraq. The official IYPE launch will take place in April 2008, with a scientific conference in Karbala Governorate.



# Ireland www.planetearth.ie

Operations of the NC include both the Republic of Ireland and Northern Ireland. Highlights include: Poetry Landscape where poets and folklorists present readings on the Earth and time, Planet Earth Week, exhibitions, GSI Planet Earth lecture series, local walks and talks, the issue of special postage stamps, Planet Ireland TV series, landscape competition 'How erratic is your block?' (p. 152), a photographic competition and many school events. IYPE was launched on January 18, 2008 in Dublin.

# Italy luca.demicheli@apat.it

The NC, composed of three bodies, operates under a legal governmental decree.

Its Implementation Plan includes communication and fund-raising campaigns. The Italian IYPE launch will coincide with the Global Launch Event in Paris. Main IYPE activities are focusing on outreach and include nationwide thematic weeks on Geology, wine and olive oil and on Geology and mineral and thermal waters. The aim is to publicize the IYPE through TV, radio, magazines, etc. Special attention will be given to geoheritage, geotourism and to activities involving schools and universities.

# Japan www.gsj.jp/iype/en



The NC was established under the auspices of the Science Council of Japan. The IYPE

launch took place in Tokyo on January 22, 2007. Several international and national symposia will be IYPE-badged, including Quaternary Environmental Changes and Humans in Asia and the Western Pacific celebrating the 50th anniversary of JAQUA and the 125th anniversary of the Geological Survey of Japan, AIST. For 2008, the NC is preparing Japan's first Geology Day (May 10), the launch of a Japanese consortium for Geoparks, and the publication of educational materials for children. The NC is launching a worldwide disaster protection campaign on how to cope with earthquakes using an earthquake simulation vehicle "Kishinsha."

# Korea hoonyol@kangwon.ac.kr



The NC was formally established in 2006, chaired by the Vice Premier, who is the Min-

ister of Science and Technology. It consists of seven sub-committees on science, five on outreach and one on planning and strategy. The NC is based in the Korean Federation of Science and Technology Societies (KOFST) in Seoul, with two full-time staff. The office has produced a brochure in Korean.

# Latvia Ervins.Luksevics@lu.lv



The NC was established in November 2007 and consists of 26 members from

the University of Latvia, Riga Technical University, Latvian Environment, Geology, and Meteorology Agency, Geological Society of Latvia, UNESCO Latvia, Ministry of Environment, Ministry of Regional Development and Local Government, Natural History Museum of Latvia, Vidzeme Biosphere Reserve, and Venteco Ltd. The IYPE will be launched on January 28, 2008 at the scientific conference of the University of Latvia.

# Lithuania skridlaite@geo.lt

The NC was formally established in November 2007. Both science and outreach

elements of the IYPE Program have been developed, giving rise to publications, conferences and workshops, and development of an Information Center for Natural Sciences, as well as production of movies, competitions and camps for teachers and school pupils. A calendar for 2008 and 2009, highlighting the major IYPE events in Lithuania, is in preparation.

# Malaysia yunus@jmg.gov.my



The NC received a special message broadcast from space by the first Malaysian astronaut in October 2007. Several outreach and education activities are being

prepared for 2008 and 2009, including spe-





cial attention for the IYPE in the Petrosains Museum in the Petronas Towers. An IYPElabeled Symposium for scientists and decision-makers on Cities and Conservation was held in Kuala Lumpur in November 2007. Malaysia is considering printing all of the 12 IYPE Brochures in the Malaysian language.

# Mexico juf@geofisica.unam.mx



The Mexican NC was established in mid-2007 and is proving to be a highly active

committee. Coming under the umbrella of the Mexican Science Foundation (CONACYT), it includes representatives from all major Mexican geoscience bodies. The NC has organized several outreach activities, in particular dedicated to education. Two 'Earth' books for children have been published and a third one is imminent. Much attention is given to the IYPE by the media, in particular through the journal El Faro.

# Mongolia gerel@must.edu.mn

The Mongolian NC includes members of the Mongolian Geological Society, Mineral Resource and Petroleum Authority of Mongolia, Academy of Science, and student clubs. The 2007-2009 program of activity includes the publication of books, papers. flyers, postcards, and geological and environmental education materials, as well as meetings on all IYPE scientific topics, public lectures on TV, radio and in universities, etc. The official Mongolian IYPE launch took place in February 2008. Other activities include the publication of First Steps in Geology and a series of other readily understood items on the geosciences including an IYPE calendar and IYPE stamps, several national symposia, public lectures and field trips.

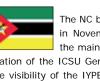
## Morocco

tagboutayeb@ yahoo.fr



The Moroccan NC is placing a strong emphasis on education. The Committee is currently preparing science and outreach plans for 2008 and 2009.

# Mozambique lopovasconcelos@gmail.com



The NC began its operations in November 2007. One of the main issues is the prep-

aration of the ICSU General Assembly and the visibility of the IYPE in that major science event. Also in production is an IYPE brochure dedicated to Mozambique. The Mozambique Mining and Energy Conference for 2008 will be held in Maputo, on April 16-17, organized by AGMM (Geological Mining Association of Mozambique) and AMETrade (UK); see www.ametrade.org/conferences/ MMEC%202008/general\_info.php

# Namibia gschneider@mme.gov.na

The Namibian NC has developed a science and outreach plan and has pub-

lished IYPE calendars and printed IYPE T-shirts. Founding President of Namibia, Sam Nujoma, became the first of the IYPE's Patrons. The opening of the first African Geopark is scheduled for 2008 in Namibia. A lecture series will be held on all 10 IYPE themes together with an awareness raising campaign for politicians on the relevance of groundwater in Windhoek.

# Netherlands www.mijnaarde.nl

The NC comprises a wide spectrum of some 40 organizations. The scientific pro-

gram focuses on densely urbanized lowlands and their vulnerability to environmental and climatic change. Some 35 projects will be implemented in 2008 and 2009, including a Geo-Truck that will visit all provinces, and exhibitions and publications. Three major events involving government ministers will be held for the public.

# New Zealand www.rsnz.org/advisory/ astronomy/iype



The Committee has developed a web site and is preparing a number of outreach

activities. These include: two traveling exhi-



bitions, New Zealand Fossils and Soils, two books entitled Life on the Edge and A Continent on the Move, conferences involving the Geological, Geophysical and Soil Science Societies of New Zealand, a special stamp by New Zealand Post, completion of New Zealand section of IYPE's Student Contest, and public floral gardens in Kawerau planted out with themes and colors of IYPE.

# Norway arne.bjorlykke@ngu.no

organized two launch events in Oslo, one on May 9, 2007, in the presence of the Minister of Education and Science and a second in September 2007. All Earth Days (April 22) in 2007, 2008 and 2009 are dedicated to the IYPE. An IYPE school program is being developed, with the aim of recruiting more students in the Earth sciences. Programs are being developed at all museums and IYPE science contests will be held. All 10 IYPE themes will be emphasized during the 33rd International Geological Congress (IGC33) in Oslo, August 2008.

The 25 members of the NC

# Peru

# ycarrasco@ingemmet.gob.pe



The NC consists of 10 members, including the Vice Chair of the Board. Scien-

tific working groups have been set up to address all 10 IYPE themes. Production of IYPE posters and brochures is in preparation. During the final meeting of the Multinational Andean Project a special session on the IYPE will be held. The NC is supported by the Peruvian Minister of Energy and Mines.

# Poland www.pgi.gov.pl/planeta\_ziemia



The NC produced a Polish version of the IYPE's logo and a web site. It has begun preparation for a roving outdoor

exhibition, entitled The Past and the Future - 10 questions about Earth. The exhibition will be open to the public by the Museum of Earth, Polish Academy of Sciences, first in Warsaw and then in other major Polish cities. Special educational broadcasts,

TV films and occasional scientific shows (science festivals) are in preparation along with other outreach activities.

# Portugal www.progeo.pt/aipt

50

IYPE activities began in April 2007 as the first of an impressive list of nation-

wide IYPE science and outreach events until 2009. The official opening of the IYPE in Portugal took place on November 10, 2007. A message by the Portuguese President was read, the Portuguese translation of the 12 IYPE brochures launched and IYPE-Port wine and Trilobite cookies were presented. The ceremony involved over 3,000 participants and was widely reported by national radio, television and newspapers.

# Romania

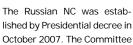
# mocanu@gg.unibuc.ro



The Romanian NC focuses on natural hazards, Geoparks, sustainable development,

and environmental problems. The IYPE is expected to stimulate the re-introduction of the Earth sciences in the school curricula. Two museums will give public IYPE lectures every week. The Romanian launch event with politicians is planned for December 2007.

# Russian Federation direct@geoenv.ru



lished by Presidential decree in October 2007. The Committee

is preparing a National Science and Outreach plan for implementation in 2008 and 2009.

# Slovak Republic igor.broska@savba.sk



The NC consists of representatives of the Academy of Sciences, the Universities

and the Geological Survey. For each of the 10 IYPE themes, a representative has been identified. Exhibitions and presentations of the ideas of the IYPE, together with press conferences, have taken place. A large exhibition at the Slovak National Museum is in preparation.



# South Africa busiswa@nrf.ac.za

The NC was appointed by the SA National Research Foundation. September 2008 has been declared the national month of the IYPE; wide participation of educational organizations, museums, national and provincial departments and the industry is envisaged. South Africa's official IYPE launch will be held at the annual SciFest Africa in late March and early April 2008, when over 40,000 visitors are expected. A professional web site and the translation of the IYPE brochures into some of the 11 official languages are in preparation.

## Spain http://aiplanetatierra.igme.es



The NC includes several ministers of the Spanish Cabinet, and is presided over by

H.H. Princess Cristina de Borbón. The formal Opening Ceremony will be held in February 2008, with the Closing Ceremony taking place in the Senate in December 2009. A TV documentary on all 10 IYPE themes will be broadcast late in 2008. IYPE lectures have been presented at universities since early 2007, and exhibitions and lectures for the general public will run throughout the triennium. DVDs, brochures and games are being produced to raise awareness among the general public.

# Sweden www.snkg.kva.se/ planetenjorden.html

The National Committee is embedded in the Swedish Royal Academy of Sciences (KVA) and includes government authorities, universities, industry, teachers associations etc. During the IYPE triennium, Geology Day will be dedicated to Planet Earth and it will focus on the education of school teachers. A Geology journal of Sweden is in preparation. The 64-page issue will be published in March 2008 and sent to all members of parliament, decision makers, mass media, etc. In addition, symposia, workshops and other activities will be conducted in cooperation with museums throughout Sweden.

# Switzerland Pascal.Kindler@terre.unige.ch

Activities related to the IYPE began in Switzerland on June 1 and 2, 2007. 160 Geo-events, organized by volunteers, under the label of *Géologie vivante* (Living Geology), took place throughout the country; more than 10,000 people participated in these events. A 'Base Camp' project is planned for 2009 and a detailed timetable has been devised.

# Tanzania hudson@udsm.ac.tz



The NC was established in June 2006 at a Symposium to adapt the aims and ambi-

tions of the IYPE for the Tanzanian situation. The NC is an integral part of the UNESCO National Commission and is chaired by the Minister of Higher Education. Tanzania is preparing to host the African Launch Event for the IYPE, in Arusha, in May 2008.

# Thailand sommai@dmr.go.th



The NC was established in April 2007 by the Minister of Natural Resources and The NC is responsible

Environment. The NC is responsible for implementing the IYPE goals while involving government, academia, industry, the media and the public. The Committee started operations at GEOTHAI 2007. A Thai launch event is planned for 2008. *Earth sciences for Society* will be the leading theme for the Thai Science Week (August 2008) with events taking place in various regions of the country.

### Turkey nizamettin.Kazanci@ eng.ankara.edu.tr



The NC operates under the national UNESCO Commission and held a meeting

on March 7, 2007 in Ankara, attended by some 100 leading Turkish scientists. The meeting's working groups produced science plans for all 10 IYPE science topics as well as an outreach plan.



### UK edwardderbyshire@ btopenworld.com

The UK NC is composed of members of the External Relations Committee (ERC) of the Geological Society, a Founding Partner of the IYPE. In 2007, the ERC was occupied almost entirely by the activities of the bicentennial of the Geological Society. One of these activities was the GSL-IYPE joint 4,567 balloon launch on January 10, 2007 in London. Others include 10 Shellsponsored public lectures, 15 'local heroes' lectures and student essay competitions.

# USA

#### jhess@geosociety.org

The mission of the USNC is to generate greater awareness among the public, decision makers, and students of Geoscience knowledge and its benefits to society. NC goals concentrate on science, education, and outreach, and awareness messages have been developed to reach target audiences. The Geological Society of America Annual Meeting in Houston, Texas (October 2008) will be a scientific highlight of the Year, as well as the American Geological Institute Earth Science Week for students k-12 (prekindergarten through to grade 12).

## Yemen sa.iype@gmail.com



The Yemen National Committee has translated much of the IYPE information into

Arabic and produced seven issues of an IYPE Newsletter. From Yemen the IYPE message is spreading throughout the Arab world and has stimulated the creation of NCs in several other countries in the region.

The leadership of the International Year of Planet Earth is greatly encouraged by the energy, imagination and ingenuity shown by these 56 National Committees, and looks forward to similar contributions from the approximately 15 National Committees still in formation. May these initiatives advance the long-term good of geoscience as servant of the world's community of nations.



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## SPONSOR FEATURE



Figure 1 | Professor M. Sheya introduced the IYPE to the UN system for the first time during the UNESCO Executive Board meeting in April 2005.

# Figure 2 Development of the IYPE since the year 2000.

# The International Year of Planet Earth: why and how?

When, in the year 2000, the International Union of Geological Sciences (IUGS) tried to match existing knowledge about the Earth to applications in daily life, it found a major discrepancy. The 2004 Indian Ocean tsunami and the 2005 Katrina hurricane confirmed the existence of such a gap: knowledge about natural hazards existed, but was applied inadequately — if at all — to save vulnerable societies from devastation.

Another observation was that fewer and fewer future experts in geoscience had been recruited by universities since the early 1980s, despite the fact that society needed more and more of them to help to reduce the impact of such disasters. Industry is now crying out for geo-experts to find the new Earth resources for which the world is desperately searching, and to discover innovative ways in which to reduce the environmental impact of such necessary exploitation.

These observations motivated us to explore how the public and the politicians could be urged to reverse such trends. We chose an international (rather than a national) approach, and set out on the long road towards the proclamation of an International Year of Planet Earth (IYPE) under the United Nations (UN) system. The IYPE is intended to capture the public imagination using exciting knowledge about our planet, and to ensure that this information is used more effectively to make the Earth a safer, healthier and wealthier place for our children and grandchildren. We believe that these goals can be achieved by building on the knowledge that has been accumulated by the 400,000 Earth scientists worldwide, as reflected in the IYPE subtitle "Earth Science for Society".

Two earlier events served as our models. In 1957/1958, the International Geophysical Year (IGY) uncovered many facts about our planet, which was then being seen from space for the first time. The IGY attracted great public attention, and many youngsters were inspired to begin professional careers in the Earth sciences. More recently, in 2002, the Germans celebrated their GeoJahr with numerous public events, and with an attractive logo that was later donated to the IYPE. This public exposure resulted in a much increased intake of German students to the Earth sciences in subsequent years.

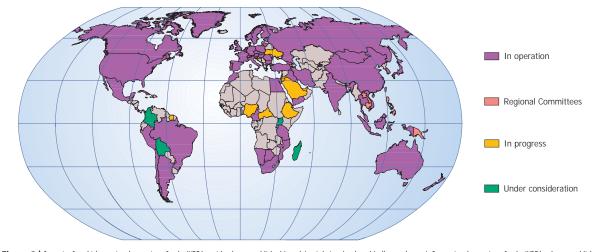
Soon after the inception of the IYPE project, the former Earth Science Division of the United Nations Educational, Scientific and Cultural Organization (UNESCO) joined, followed by 12 founding partners and 26 associate partners. To achieve our aims and ambitions, and to collect public and political support for this issue, we then approached the UN. The process went through various stages, beginning at UNESCO where the United Republic of Tanzania successfully launched the initiative at the Executive Board in April 2005 (Fig. 1), followed by the General Conference in October. In December 2005, the General Assembly of the UN adopted Resolution 192 and proclaimed 2008 as the IYPE.

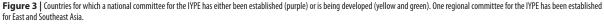
Shortly afterwards, the IYPE Corporation was registered in the United States as a not-for-profit 501(c)(3) corporation that comprised a board of directors, along with an international secretariat based at the Norwegian Geological Survey in Trondheim (Norway). Following the UN proclamation, support for the IYPE grew rapidly. By December 2007, 13 new international partners were providing financial and other support. Simultaneously, geoscientific communities in individual countries began to establish IYPE national committees (Fig. 2); the number of these had increased to 60 by December 2007, and 15 more are currently in an advanced stage of development. The participating countries are widely distributed across the globe (Fig. 3).

The UN originally declared 2008 as its IYPE. However, its initiators brought forward the start date to early 2007 and put back the end date to December >

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2009 as it became obvious that the implementation of such an ambitious plan could not be achieved in less than a triennium.

The main activities of the IYPE are coordinated through the science and outreach programmes. Both essentially operate in a response or 'bottom-up' mode. The science programme consists of the following 10 broad, societally relevant and multidisciplinary themes: health, climate, groundwater, ocean, soils, deep Earth, megacities, resources, hazards and life. Brochures for each of these themes are available in hard copy or can be downloaded from the IYPE website (www.yearofplanetearth.org).

The outreach programme is being implemented mainly at the national level. A global launch event at the UNESCO headquarters in Paris, France, is planned for February 2008. In addition, continent-wide launch events are being prepared for Africa (Arusha, Tanzania) and Latin America (Brasilia, Brazil). On an international level, brochures and flyers are being produced, and a global IYPE web portal is being maintained. Moreover, the numerous activities in the many countries with an IYPE national committee are being monitored and registered. As one of the many legacy items, a report on the entire IYPE operation will be produced for the UN in 2010.

Education is an essential element of the IYPE. Many of the national and international activities involve students, and focus on the participation of secondary and primary school pupils. An example of student involvement is the upcoming IYPE global launch event in Paris. In preparation for this event, students aged 18–22 years from around the world were invited to submit an essay or poem dealing with one of the IYPE themes. These works were evaluated by the national committees and the secretariat, in order to select the best. Through national and international sponsorship, about 200 students from around the globe have been awarded a free trip to Paris to participate in the launch event, where they will interact with luminaries on pressing issues concerning the Earth.

The IYPE offers a once-in-a-lifetime opportunity to highlight the urgent need to improve knowledge about the Earth, which will help to make human societies wiser, safer and healthier. Individuals who wish to contribute either by generating ideas for the implementation of these goals or by actively supporting current ideas on both national and international levels — even after the triennium is over — can contact their national committee or the IYPE secretariat (e-mail: iype.secretariat@ngu.no).

Representatives of industry or foundations might wish to consider supporting the IYPE both conceptually and financially. The German 2002 GeoJahr demonstrated that an international year can, and will, work. As such excitement was generated by one country in just 1 year, we are confident that the worldwide exposure and planned outreach activities in more than 70 countries over 3 years will call forth the new generation of Earth scientists that we need. In 2008 and 2009, thousands of volunteers and professionals will ensure that "The greatest geo-show on Earth" will not pass unnoticed. Don't miss out — join us now!

Eduardo de Mulder, Executive Director of the IYPE Secretariat Larry Woodfork, Chair of the IYPE Board Ted Nield, Chair of the IYPE Outreach Programme Committee Edward Derbyshire, Chair of the IYPE Science Programme Committee



Flyer a5 format with the major publications and examples of international and national outreach activities.

# International Year of Planet Earth 2007-2009

Earth sciences for society



The International Year of Planet Earth aims to capture people's imagination with the exciting knowledge we possess about our planet, and to see that knowledge used to make the Earth a safer, healthier and wealthier place for our children and grandchildren

Visit www.yearofplanetearth.org





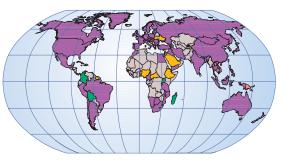


What is the International Year of Planet Earth? The International Year of Planet Earth aims to ensure greater and more effective use by society of the knowledge accumulated by the world's 400,000 Earth scientists. The Year's ultimate goal of helping to build safer, healthier and wealthier societies around the globe is expressed in the Year's subtitle 'Earth science for Society'.

The International Year runs from January 2007 to December 2009, the central year of the triennium (2008) having been proclaimed by the UN General Assembly as the UN Year. The UN sees the Year as a contribution to their sustainable development targets as it promotes wise (sustainable) use of Earth materials and encourages better planning and management to reduce risks for the world's inhabitants.

### Who is behind the International Year?

The International Year of Planet Earth is a joint initiative by UNESCO and the International Union of Geological Sciences (IUGS). Twelve Founding Partners, 26 Associate

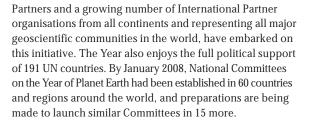


In operation Regional Committees In progress Under consideration

"The International Year of

Planet Earth aims to ensure

#### more effective use of Earth science"



### How does it work?

The main activities of the International Year of Planet Earth operate within its SCIENCE and OUTREACH programmes. Funding for projects in both programmes is sought from industry, Foundations and governments worldwide. Both programmes essentially operate in a response, or 'bottom-up' mode.

The Science Programme consists of 10 broad, societally relevant and multidisciplinary themes: health, climate, groundwater, ocean, soils, deep Earth, megacities, hazards, resources, and life. Brochures on each of these themes are available in hard copy, and can be downloaded from the Year's website. Some 100 Scientists from all countries of the world are invited to submit Expressions of Interest (EoIs) dedicated to specific questions within each theme.

### For example ...

Through the OneGeology project, Geological Surveys all across the planet will compile their maps into one database thus making the Earth 'transparent' and providing a third dimension to the current packages. Launch of NATURE GEOSCIENCE in 2008. 'Planet Earth' will dominate numerous (inter)national scientific congresses in 2007 - 2009. IYPE will specially focus on the youth and students.







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- The World's IYPE Launch Event will take place in Paris, 12-13 February 2008
- Release of 4,567 bio-degradable balloons, each representing 1 My of Earth history, by India President and in London UK in January 2007
- IYPE balloon launches in India, Brazil and Portugal in 2007
- National IYPE Launch events with politicians, scientists and representatives of industry in Tanzania, Portugal, Malaysia, Austria, and many other countries
- TV Documentaries on Earth Sciences in USA, Spain, Canada and other nations
- 100,000 copies of IYPE book with worldwide distribution
- International Congresses with focus on IYPE in IGC and IGU (2008), GSA (2007, 2008 and 2009), and many more
- National science congresses labelled with IYPE logo in many nations
- First world conference of Young Earth Scientists (YES), 2009
- Development of International Standards in Geo-Information (CGI)
- Special Nature Supplement on IYPE in 2008
- Portuguese and UN Stamps for IYPE to be issued in 2008
- IYPE coins in Australia
- Launch of "Geoheritage" journal
- Award-winning students in Geo-Contest to participate in Global IYPE Launch Event in Paris
- Mosaic artists will focus on 'Planet Earth' in 2008
- Books on IYPE science themes in 2008 and 2009
- 18-wagon Years train crossing the Indian subcontinent (India)
- The world's biggest deep drilling research vessel ('Chikyu') will carry IYPE logo (Japan)
- Earthlearning to involve youngsters in geoscience (IGEO, UK)
- IYPE books, journals, exhibitions and articles in more than 20 countries
- Fado song composed for the International Year (Portugal)
- Geo-bus and -truck tours (Austria, Netherlands, Belgium)
- Rock concert dedicated to the IYPE in central Oslo (Norway)
- Geoparks (China, Austria, Switzerland, Iran, Germany)







The UN Year (2008) will be formally opened at UNESCO's headquarters in Paris. This Launch Event includes presentations on three selected topics by world leaders in politics, science and industry who will share their views on geo-related societal problems and raise issues concerning their solution or mitigation. In addition, they will debate these issues with some 200 youngsters from all around the world. The Paris 'Launch Event' will be a model for comparable Events of a more regional character to be held in most continents in 2008. Other international events with a significant outreach component include a content-wide launch event in Arusha, Tanzania for Africa and one in Brasilia (Brazil) for Latin America.

### How can YOU contribute and support?

The International Year of Planet Earth provides a oncein-a-lifetime opportunity to highlight the urgent need for knowledge of the Earth that will help to make societies on the planet which is our home safer, healthier and wealthier. You may contribute by generating ideas for implementation of these goals or by actively supporting current ideas, on both national and international levels.

As an individual, you may wish to contact your International Year of Planet Earth National Committee. Contact can be made by way of our Secretariat. In the event that no such Committee exists in you country, you may wish to help establish one. If you wish to support this initiative financially, please contact the Secretariat.



to highlight the need

for geoscientific knowledge"



If you are a representative of the industrial sector or of a Foundation, you may wish to communicate your ideas about implementation and/or sponsoring certain elements of this initiative. Please note that industry and nations need many more scientists to find and sustainably extract and produce Earth materials, without which the advance of human society will be seriously impeded. A national Earth science event held in Germany in 2002 clearly demonstrated that initiatives of this kind can greatly stimulate the renewal of such expertise, thoroughly justifying investment in sustainable use of the Earth while, at the same time, securing its more fragile aspects for future generations. You may wish to support this initiative at the national or international level but, in all cases, please contact the Secretariat.

If you are a scientist, you may wish to submit research proposals on one or more of the 10 themes by completing an Expression of Interest (EoI) form. You may also wish to contribute by linking existing or forthcoming (applied) scientific research programmes to those of the Year. In either case, please contact the Secretariat.

If you are a representative of the media or of other sectors in the outreach industry, you are invited to share your ideas with the Outreach Programme Committee through the Year's Secretariat.

If you are a government representative with suggestions or questions about fitting this initiative into new or current plans on sustainable development, mining, energy, science and technology, international cooperation, environment, land-use planning, or education, please contact the Secretariat.

What does the International Year's logo mean? The International Year is intended to bring together all scientists who study the Earth System. Thus, the solid Earth (lithosphere) is shown in red, the hydro-sphere in dark blue, the biosphere in green and the atmosphere in light blue. The logo is based on an original designed for a similar initiative called Jahr der Geowissenschaften (Earth Sciences Year) (2002) organized in Germany. The German Ministry of Education and Research presented the logo to the IUGS.



### International Year of Planet Earth

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## www.year of planetear th.org