



## Minutes: 4<sup>th</sup> Open Session of the International Geoscience Programme (IGCP) Council and presentation of the new UNESCO Global Geoparks applicants

21 February 2019, Venue: UNESCO Headquarters, Paris

**Participants:** Representatives of UNESCO Permanent Delegations, UNESCO National Commissions, IGCP National Committees, UNESCO IGCP Secretary

**IGCP Council members** – Dr Brigitte Vlaswinkel (Chairperson, The Netherlands); Prof Sobhi-Nasir (Earth Resources, Oman), Prof Weijian Zhou (Global Change, China), Prof Carlos Alberto Vargas J. (Geohazards, Colombia), Dr Yongje Kim (Hydrogeology, Republic of Korea), and Dr Nellie Mutemeri (Geodynamics, Zimbabwe),

**UNESCO IGCP Secretariat:** Dr Miguel Clusener-Godt, Dr Margaret Patzak, Dr Ozlem Adiyaman Lopes

**Apologies: IUGS** – President, Prof Qiuming Cheng (sent preregistered video presentation)

[Presentations of the meeting can be found at: http://www.unesco.org/igcp](http://www.unesco.org/igcp)

[Pictures of the meeting can be found at: https://flic.kr/s/aHskPM3RPR](https://flic.kr/s/aHskPM3RPR)

### 1. Welcome by Mr Xing Qu, the Deputy Director-General of UNESCO

Mr Qu welcomed all participants to the 4<sup>th</sup> Open Session of the International Geoscience Programme Council meeting and presentation of the new UNESCO Global Geoparks applications meeting at UNESCO Headquarters. He explained that:

- Reformed in 2015 with two components, the new International Geoscience and Geoparks Programme – IGGP- is an important part of UNESCO’s work towards Agenda 2030 and the implementation of the Sustainable Development Goals.
- Through its two pillars, IGGP explores and celebrates the links between Earth sciences and Earth heritage for sustainable development. The International Geoscience Programme (IGCP), for almost 50 years, has been bringing geoscientists from around the world to study the Earth’s geological processes of societal relevance.
- IGCP’s scientific objectives include increasing our understanding of the geological factors affecting the global environment in order to improve human living conditions, thereby contributing to SDG 1.
- IGCP’s “Young Scientists Projects” support international cooperation between young scientists from the developing and developed world early in their careers, thereby contributing to SDG 4.
- The IGCP also contributes towards SDG’s 5, 6, 7, 13 and 17 where its projects address interdisciplinary research and capacity building in Earth Science including the sustainable management and development of the Earth’s mineral and energy resources.
- IGCP supports scientific research within five themes: Earth Resources, Global Change, Geo-hazards, Hydrogeology, and the Geodynamic control of our Environment.
- In this year alone, over 4485 scientists participated in our 27 active different projects.

- Mr Xing Qu, the Deputy Director-General of UNESCO, sincerely thanked the Scientific Board of the IGCP for their work. These are the people who assess new IGCP project applications and annual project reports and who do this work voluntarily in their homes and offices all over the world.
- Finally, Mr Xing Qu welcomed the three newly elected members of the IGCP Council members, thanked them for their continued support, and wished them a successful meeting.

## **2. Welcome by the Director of the Division of Ecological and Earth Sciences of UNESCO – Dr Miguel Clüsener-Godt**

Dr Clüsener-Godt warmly welcomed the members of the International Geoscience Programme Council, IGCP National Committee Members, and Distinguished representatives of UNESCO's Member States. He expressed his thanks to the IUGS for their on-going support to the IGCP.

Dr Clüsener-Godt also expressed his appreciations to the IGCP Scientific board and council members for supporting the IGCP, and he explained that this is another example of the strength of UNESCO networks and the commitment and dedication of the people who constitute these networks.

Dr Clüsener-Godt explained that:

- Since 2014, the level of young scientists involved in IGCP has risen from 31% to 56%, and, in 2018, 32% of all IGCP scientists are women.
- This last year, UNESCO has enjoyed working alongside our international partners. Our new partner this year, the Jeju Province Development Corporation (JPDC) from the Republic of Korea, have been integral to making our activities possible. Continued financial support from Member States like the People's Republic of China are also key components to our programme's success.
- UNESCO is also very grateful for the distinguished IGCP National Committees who help us to fully engage the geoscientific communities of our member states.
- The UNESCO Secretariat shared the IGCP 2018 Annual report of the programme before this meeting and today Dr Ozlem Adiyaman Lopes will present IGCP Secretariat 2018 activities. The IGCP Council members also presented the projects of their respective themes, receiving comments and suggestions following the presentations.
- Mr Clüsener-Godt stated that the cooperation between UNESCO and IUGS continues to deepen. The IUGS are now tasked with obtaining statements on the international importance of the geology of all new UNESCO Global Geopark applications as this is the core measure of whether or not an area can become a UNESCO Global Geopark. Mr Clüsener-Godt thanked the IUGS and its team of desktop reviewers for doing this work for UNESCO. Last year reviews for a total of 17 areas were needed and this year again, UNESCO will need reviews for 18 more areas as we received aspiring Geoparks applications which were later presented by Margarete Patzak at the end of this meeting.
- Mr Clüsener-Godt again thanked all the participants for coming to this morning's meeting, recognizing that most attendees had arrived from abroad.

## **3. Welcome by the President of the International union of Geological Sciences (IUGS)**

Prof Qiuming Cheng could not personally join this meeting, but provided a preregistered video. Prof Qiuming Chen welcomed Mr Xing Qu, the Deputy Director-General of UNESCO, Miguel Clüsener-Godt, the Director of the Division of Ecological and Earth Sciences of UNESCO, the distinguished representatives of UNESCO Member States, the international geoscience community members, and IGCP National Committee members for joining this meeting and for their ongoing interest in the International Geosciences and Geoparks programme (IGGP). He sincerely apologized for not being able to participate in person today due to prior commitments in China. Prof Qiuming Cheng congratulated the work of the UNESCO IGCP Secretariat in 2018 regarding the management of the IGCP projects as well as increasing the visibility of the programme receiving high number of new project

proposal applications. He thanked UNESCO for the excellent work regarding the appointment of three new IGCP Council members in collaboration with the Executive Committee of the IUGS. The IUGS was very satisfied by the transparent management of the process and the Secretariat's work during the screening and analyses of 106 applications. The IUGS president also thanked to the UNESCO National Commissions and JPDC from Korea for their financial support to the IGCP, which is a unique partnership between UNESCO and the IUGS, as well as further financial contributors, which is needed to extend the impact of the programme within international geoscience community. Prof Qiuming Cheng reminded participants the sine 1972, the IGCP is an established geoscience research and capacity building programme, which is highly regarded by the scientific community and early career scientists from developing world.

Prof Cheng pointed out that the IGCP has been a flagship programme of UNESCO and the IUGS for nearly 50 years, with successful completion of over 350 project in more than 150 countries. IGCP projects focus on the understanding of the societal and geoscientific issues by facilitating international scientific cooperation in the geosciences and sustainable use of natural resources, in particular mineral resources, and to advance new initiatives related to geo-diversity and geo-heritage. The IUGS, with 121 national members, also aims to promote development of the Earth Sciences through the support of broad-based scientific studies relevant to the entire Earth system, apply the results of these and other studies to preserving Earth's natural environment, using all natural resources wisely to improve the prosperity of nations and the quality of human life, to strengthen public awareness of geology, and to advance geological education. The IUGS is initiating a new large scientific project, which will be integrated to the IGCP in the coming years. The new IUGS initiative, namely, the Deep-time Digital Earth (DDE) programme aims to establish linked Earth big-data hubs that are interoperable with other databases including published data in the public domain and unpublished data in institutions and centers of expertise. DDE will provide the geologies and geographies of deep time, as well as data on the properties of those geologies, and thus will provide insight into the distribution and value of earth's resources and materials, as well as hazards – while also providing a glimpse of the Earth's geological future. DDE serves as a new platform for facilitating efficient and additive international collaboration along with knowledge sharing. The programme will run as an open programme which encourages broad collaboration among geosciences as well as in interdisciplinary fields. Prof Cheng announced that the DDE will be launched next week in Beijing, China and Dr Ozlem Adiyaman Lopes from UNESCO Secretariat will represent UNESCO. Finally, Prof Cheng wished an enjoyable meeting.

#### **4. Overview of the UNESCO IGCP Secretariat activities in 2018 – Dr Özlem Adiyaman Lopes**

The IGCP Secretariat introduced the Open session explaining that UNESCO is the only UN agency with a mandate to increase capacity building in geology and geophysics within UNESCO Member States. The International Geoscience and Geoparks Programme (IGGP) is a knowledge hub of UNESCO to facilitate international scientific cooperation in the geosciences. International Geosciences Programme (IGCP) supports capacity building in the Earth sciences with specific focus on achieving the Sustainable Development Goals. Dr Ozlem Adiyaman Lopes explained how this programme aims to advance new initiatives related to geo-diversity and geo-heritage, as well as geo-hazards risk mitigation.

##### **[Overview of the IGCP UNESCO activities in 2018](#)**

Dr Özlem Adiyaman Lopes explained UNESCO 2018 IGCP Secretariat Activities as the following:

- The oversight of IGCP Projects,
- New Project partnership agreement with the Jeju Province Development Cooperation (JPDC) of the Republic of Korea,
- An open call for three new IGCP Council members and ten scientific board members,
- The dissemination of IGCP projects achievements, the collaboration with UNESCO National Commissions and IGCP National Committees, and
- The IGCP 2018 New Project Proposal Call & preparation of the 4<sup>th</sup> IGCP Council meeting.

Next, the Secretariat delineated the 2018 timeline of new project proposals and ongoing project evaluation process managed by UNESCO IGCP Secretariat. The programme set a submission deadline of 15 October 2018 for all new project proposals, followed by a November to February review period, and 31 December 2018 deadline for ongoing project annual reports, followed by a January to February review period. Projects were then provided funding between March and December of each year. The fundraising criteria listed the relevant conditions, which were mainly that projects must submit a meeting plan and demonstrate a priority for involvement from young scientists and participants from developing countries.

Dr Özlem Adiyaman Lopes announced that, for the appointment of three new IGCP Council members, in 2018, the IGCP Secretariat received 106 applications from 36 member states, of which 62 applications from 33 member states were qualified to be IGCP council members for the three currently open positions, including 20 applications from qualified female candidates (from 14 member states).

The Secretariat announced that in 2018, a total of 160 project leaders from 57 Member states brought together 4485 project participants from 105 countries to deliver the objectives of 22 active IGCP projects. The Secretariat recognized the contribution from the Jeju Province Development Corporation (JPDC), which pledged to contribute yearly 100,000 USD to support these IGCP projects and the UNESCO Global Geoparks between 2018 and 2022. The Secretariat presented the budgets from 2015 to 2019, with a consistent increase in available funding overall. Dr Ozlem Adiyaman Lopes announced that in 2019, JPDC's financial contribution will also support two new initiatives of the International Geosciences and Geoparks Programme (IGGP):

- the IGCP will initiate a new IGCP field trip exchange programme, starting with an open call for PhD students from developing countries who are interested in participating in fieldwork programmes in the geosciences.
- the IGGP will initiate a Mentorships and Knowledge Exchange programme to further knowledge exchange and capability-building with a view to developing new UNESCO Global Geoparks and creating new partnerships between Member States.

Dr Adiyaman Lopes explained that two new open calls for both initiatives will be published at [www.unesco.org/earthsciences](http://www.unesco.org/earthsciences) and she announced that the IGCP aims to increase the outreach of the IGCP National Committees to all UNESCO member states, improve the collaboration between the IGCP Secretariat, UNESCO National Commissions and IGCP National Committees.

Finally, the Secretariat announced that as of 15 October 2018, new project proposals received by UNESCO included 108 project leaders from 49 member states, who jointly submitted 21 new IGCP project proposals. Following the evaluation and decision of the IGCP Council, the Secretariat announced that in 2019, IGCP will fund 25 projects, will provisionally support two projects for one year without funding. Four completed IGCP projects will be extended without funding, and a total of 31 projects will be managed by the UNESCO Secretariat and the IUGS. The new projects are listed as follows.

#### **Earth Resources Theme**

- IGCP 682: Mine Tailing Revalorization
- IGCP 675: Sandstone-Type Uranium Deposits

#### **Global Change Theme**

- IGCP 673: The End of a Supereon – Winners and Losers at the Precambrian-Phanerozoic
- IGCP 679: Cretaceous Earth Dynamics and Climate in Asia
- IGCP 681: History of Toxic Phytoplankton in Patagonia

**Hydrogeology Theme**

- IGCP 689: A Better Management of the Ali-Sabieh Aquifer
- IGCP 684: The Water-Energy-Food and Groundwater Sustainability Nexus (WEF-GW Nexus)

**Annually defined special topics:**

- IGCP 685: Geology for Sustainable Development
- IGCP 692: Geoheritage for Geohazard Resilience

**5. Welcome by the Ambassador of the Kingdom of the Netherlands to France, H.E. Mr Hans Wesseling**

H.E. Mr Hans Wesseling welcomed all participants and indicated that this important meeting is reflecting several aspects of the UNESCO Natural Sciences sector mandate by addressing UN 2030 agenda and Sustainable Development Goals. The Ambassador expressed his sincere recognition for the IGCP Council members who contribute to the UNESCO Natural Sciences sector voluntarily by providing scientific guidance and expertise during the evaluation of the scientific project proposals and projects annual reports as well as supporting UNESCO during the identification of the scientific vision and future geoscience research portfolio and strategy for the geosciences. Mr Hans Wesseling explained that he is proud to introduce a Dutch citizen, Dr Brigitte Vlaswinkel, who is chairperson of the IGCP Council. Mr Hans Wesseling explained that Dr Vlaswinkel is a senior geoscientist and has extensive experience in the energy sector working for the academia, private sector and a non-profit organization, and that she has contributed to the IGCP since 2016, initially as the Council member for the Earth resources theme of the IGCP and now as the Chairperson. Mr Hans Wesseling said that even though he is not a scientist, as a diplomat, he is closely following the effects of the climate change and he recognizes the importance of the geoscientific research activities and the IGCP. Based on his previous assignment as the Ambassador of the Kingdom of the Netherlands to Russian Federation, he gave the example of his interactions with the trade industry, which is deeply affected by the melting of the glacial and sea-level changes from cargo vessel construction to trade transport around the world as well as the insurance industry. He concluded that the Earth sciences research and capacity building, which is the core of today's statutory meeting, is an impactful scientific programme of UNESCO, and that his country would continue to support the activities of the Natural Sciences sector. He finished his speech by wishing the Council a successful meeting.

**6. [IGCP Overview and Vision, Chairperson of the IGCP Council, Dr Brigitte Vlaswinkel](#)**

Dr Vlaswinkel welcomed all participants and individually introduced each Council Member. The Chairperson of the IGCP personally thanked the Council members for their dedication and voluntary contributions to the IGCP. She explained that today's meeting is the combined result of the extensive work carried out over four months from their home, as well as from the last three days of the intensive closed Council meeting at UNESCO HQ for the evaluation of over 35 projects. Dr Vlaswinkel explained that all the Council members deeply recognize the dedication of Dr Ozlem Adiyaman Lopes from UNESCO to the IGCP covering all aspects of the programme from its outreach to the organization of the Council meeting working closely with the Council members and IGCP project leaders.

Dr Vlaswinkel explained that she obtained her PhD in Marine Geology and Geophysics and worked over 15 years for an International Oil and Gas corporation, and since 2016 she has worked as the Research Director at Oceans of Energy, which is a non-profit organization. She explained that as a geoscientist working for the industry, she was not aware of the UN 2030 Agenda and the SDGs, but she is now committed to disseminate these to the scientific community and contribute to the achievement of the UN 2030 agenda.

Dr Vlaswinkel presented the current projections of global greenhouse gas emissions in the 21<sup>st</sup> Century, and the importance of climate policy to reduce the potential impact of climate change. She described the need for a

global energy transformation, and how this shift can lead to improvements in the global socioeconomic footprint of the energy system. She discussed how these goals pertained to the Paris Climate Agreement, UN Sustainable Development Goals (SDGs), and Sendai Framework for Disaster Risk Reduction, which will shape the way politicians and the public view the 21<sup>st</sup> Century's grand challenges.

Dr Vlaswinkel discussed the direct contribution of the geological sciences to the SDGs, and where the geological conditions impacted issues related to global poverty, water resources, energy resources, geohazards and resilience, and health. She explained how the geoscience community is central to meeting these societal and environmental goals, and needs to become more involved in the sustainability arena. She explained that this year the Council approved several new projects addressing the SDGs, natural disasters and geoheritage topics. She showed that one new project, IGCP 685, "Geoscience for Sustainable Development", aims to establish a sound science base for how geoscience can contribute to sustainable development within the energy and extractive industry. Another example is the IGCP Project 684, "Water Energy Food Nexus," which will examine global groundwater resources and the various threats to water security.

Finally, Dr Vlaswinkel delineated the vision of IGCP for the future, which is to develop a) efficient, safe and sustainable earth resources exploration and extraction, b) innovative renewable energy production and CO<sub>2</sub> mitigation, and c) a better understanding of climate change and geohazards risks. She explained that during the 4<sup>th</sup> Closed Session of the IGCP Council meeting, the Council defined the special topics for the new IGCP projects proposals which will be given a priority during the evaluation process in 2019. She invited participants to disseminate the new IGCP project proposal call to the scientists of their countries.

To conclude, she listed the IGCP 2019 Special topics, which will be prioritized during the IGCP 2019 project proposal call as below:

- 1) Mining geosciences and sustainability
- 2) Efficient and sustainable extractive industry technologies and stimulation methods
- 3) Geology for the Sustainable & Safe Scale-up of Renewable Energy Production
- 4) Big data, Cloud Computing and Artificial Intelligence in Geosciences
- 5) Geohazards nearby metropolitan areas
- 6) Global warming CO<sub>2</sub> emission mitigation using new methods (such as Carbon Storage and Sequestration – CCS)
- 7) Sustainable small and volcanic islands: water, energy, resource management
- 8) Geoheritage for sustainable development
- 9) Geoscience and the Anthropocene

#### **7. Overview of IGCP 2018 project assessments by the IGCP Council members**

- a) [IGCP Earth Resources Theme](#), Prof Sobhi Nasir, Director, Earth Sciences Research Centre, Sultan Qaboos University, Oman

Mr Nasir explained the importance of Earth Resources in our economy. The goal of this project is to enhance innovation, management and knowledge on natural resources, to understand origin, occurrence and exploitation of Earth Resources in terms of environmental sustainability, and to ensure availability of natural resources to future generations. The current IGCP projects in the Earth Sciences are:

- IGCP project 637: Heritage stone designation 2015-2019 Lola Pereira (Spain)
- IGCP project 636: Characterization and sustainable exploitation of geothermal resources 2016-2018 Daniela Blessant (Columbia)
- IGCP project 638: Paleoproterozoic Birimian geology for sustainable development 2016-2020 Moussa Dabo (Senegal)
- IGCP project 665: Sustainable use of black soil critical zone 2018-2022 Daming WANG (China)

Prof Nasir discussed the importance of these IGCP Projects in achieving goals related to sustainability, climate change adaptation, access to fresh water resources, and waste and pollution management. In the end, Dr Nasir reiterated how these projects will to continue to develop our Earth resources responsibly, and understand it in all its complexity, in order to meet the needs of future generations.

**b) [IGCP Geodynamics Theme](#)**, Dr Nellie Mutemeri, School of Mining Engineering, University of Witwatersrand, South Africa.

Dr Mutemeri explained how the habitable environments of the Earth's surface are linked and controlled by processes occurring deep within the planet. She discussed how earth scientists use geophysical techniques to study the deep earth zones, from the magnetic field to plate tectonics, in order to better understand these dynamic processes, which are very relevant for natural resources exploration, distribution management of groundwater resources, and the study and mitigation of natural hazards, such as earthquakes.

- IGCP project 648: Supercontinent cycles and global geodynamics
- IGCP project 649: Diamond and recycled mantle
- IGCP project 662: Orogenic architecture and crustal growth from accretion to collision
- IGCP project 667: World map of orogens

**c) [IGCP Global Change Theme](#)**, Prof Weijian Zhou, Director of Xi-an Accelerator Mass Spectrometry (AMS) Center; Director of the academic board of State Key Laboratory of Loess and Quaternary Geology

Prof Zhou described the objectives of the Global Change theme as providing important lessons regarding present-day environmental challenges, and mitigating and managing environmental damage.

Current IGCP Projects include:

- IGCP project 639: Sea Level Changes from Minutes to Millennia
- IGCP project 652: Reading geologic time in Paleozoic sedimentary rocks
- IGCP project 653: The onset of the Great Ordovician Biodiversification Event,
- IGCP project 655: Toarcian Oceanic Anoxic Event: Impact on marine carbon cycle and ecosystems
- IGCP project 668: Equatorial Gondwanan history and Early Palaeozoic Evolutionary Dynamics

Prof Zhou expressed how the achievements obtained by these projects are essential to improving our understanding of the history of Earth and the characteristics of present climate and environmental changes. She indicated that there have been a plethora of scientific publications and other media generated from these research projects, from academic journals to online sources to radio and TV.

**d) [IGCP Geohazards Theme](#)**, Prof Carlos Alberto Vargas, Professor, Department of Geosciences, Universidad Nacional de Colombia at Bogota.

Prof Vargas introduced this section by defining geohazards as geological and environmental conditions which involve long-term or short-term geological processes. He explained how the UNESCO IGCP operates in accordance with the four 'Priorities for Action' of the Sendai Framework for Disaster Risk Reduction 2015-2030. These include: priority 1, understanding disaster risk, priority 2, strengthening disaster risk governance to

manage disaster risk, priority 3, investing in disaster risk reduction for resilience, priority 4, enhancing disaster preparedness for effective response and to Build Back Better in recovery, rehabilitation and reconstruction.

The four projects within the IGCP Geohazards theme are the following:

- IGCP project 640: Significance of Modern and Ancient Subaqueous Slope Landslides (S4LIDE),
- IGCP project 641: Deformation and Fissuring Caused by the Exploitation of Subsurface Fluids (M3EF3),
- IGCP project 659: Seismic Risk Assessment in Africa (SEISMOSHAF),
- IGCP project 672: Himalayan glaciers and risks to local communities.

These projects address complex issues through multidisciplinary research, focusing on the risks for highly exposed communities and infrastructures, and the economic significance of these hazards.

e) [IGCP Hydrogeology Theme](#), Dr Yongje Kim, Korea Institute of Geoscience and Mineral Resources (KIGAM)

Dr Yongje Kim began the discussion on the IGCP Hydrogeology theme by discussing how life on Earth depends on water and how its sustainable use is crucial for continued human existence. He indicated that earth and water resources include surface and groundwater sources, ocean water, and ice. He discussed how the study of Earth's water involves understanding and managing both surface and groundwater systems, including the sources, vulnerability, history and potential contamination of water systems.

The projects within the hydrogeology IGCP Theme are the following:

- IGCP project 643: Water resources in Wet tropics of West-Central Africa (3WCA),
- IGCP project 661: The Critical Zone in Karst Systems,
- IGCP project 663: Land Subsidence in Coastal Cities.

The projects considered the water resources' sustainability, assessment, protection, and related social services. This research was accomplished via activities such as workshops, meetings, and training programs, aimed at expanding the networks between countries and continents, in order to reach issues of global geoscientific interest, and to ensure that the results are responding to society's modern challenges.

**8. The IGCP project participant videos, created and submitted by the IGCP project leaders in their respective sites of research and meeting locations, were played for the session attendants, explaining the scope and subjects of some of the ongoing IGCP projects.**

**9. IGCP National Committees and UNESCO National Commissions presented their IGCP 2018 reports and their involvement with the IGCP in 2018:** Austria, China, Czech Republic, France, Portugal, Spain, Turkey, United Kingdom.

**10. The list of new aspiring UNESCO Global Geoparks, which will be reviewed over the course of 2019,** Dr Margarete Patzak, UNESCO Global Geoparks Programme Specialist.

Dr Patzak introduced the Global Geoparks programme milestones from the Digne declaration in 1991 up until the UNESCO General Conference 2015 approval of the International Geoscience and Geoparks Programme, after which point all parks within the Global Geoparks Network would receive the label "UNESCO Global Geopark". She then explained the application process for new UNESCO Global Geoparks, from the expression of interest, through evaluation missions, to the final review by the Executive Board. Finally, she announced the New Candidates, to be reviewed in 2019, which are the following:

**New candidates (for evaluation in 2019):**

1. Belitong, Indonesia
2. Bohol, Philippines
3. Cliffs of Fundy, Canada
4. Dak Nong, Vietnam
5. Discovery, Canada
6. Granada, Spain
7. Hantangang River, Rep. of Korea
8. Kula Salihli, Turkey
9. Lauhanvuouri-Haemeenkangas, Finland
10. Maestrazgo, Spain
11. Majella, Italy
12. Waitaki Whitestone, New Zealand
13. Xiangxi, China
14. Zhangye, China

**Extension requests:**

1. Dunhuang, China
2. Haute Provence, France
3. Troodos, Cyprus
4. Zhijindong Cave, China

Closure of the meeting at 13:30.