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International Geoscience
and Geoparks Programme



INTERNATIONAL GEOSCIENCE AND GEOPARKS PROGRAMME

AN UPDATE OF IGGP ACTIVITIES

DECEMBER 2021 • ISSUE 02 •

"UNESCO is the only United Nations organization with a mandate to support research and capacity building in Earth Sciences, and the International Geoscience and Geoparks Programme is our flagship."



Quebrada de Humahuaca, World Heritage Site, Argentina

A WORD FROM UNESCO

There are currently 57 active IGCP projects, delivered by 326 leaders from 91 countries and 169 Geoparks in 44 member-states.

With the support of UNESCO, IUGS, Jeju Province Development Corporation, Global Geoparks Network and the National Commission of the People's Republic of China for UNESCO, IGCP and UGGP's are more alive than ever despite the difficulties imposed by the pandemic.

In this issue we are proud to present a great collection of inputs that demonstrate how the oldest geoscience cooperation programme in the world, the IGCP, has been delivering a multitude of actions that contribute for science literacy, sustainable development and the advancement of science.

From UNESCO Global Geoparks, we received a series of contributions that show how these territories are on the forefront of climate action.

In 2022 IGCP will celebrate its 50th anniversary, whereas IUGS will turn 60! We are looking forward to celebrate these important milestones with UNESCO's Earth sciences community! Until then, we wish you a Merry Christmas and a Happy 2022!



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IGCP Projects Update

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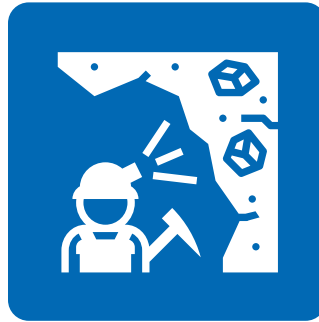
IGCP 727 Field work in Batken region, Kyrgyzstan
Credit: Alexey Dudashvili

IGCP PROJECTS UPDATES

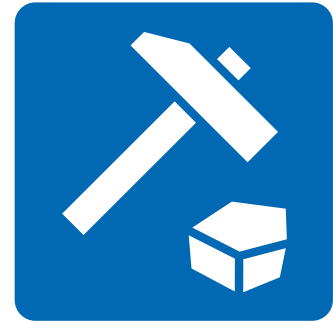
Click on the icons to find out what these projects have been working on...



IGCP 685
Geology for Sustainable Development



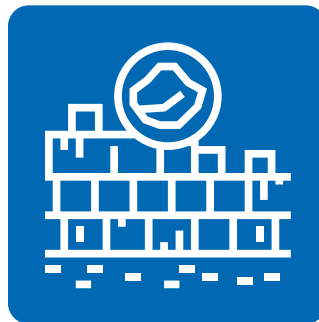
IGCP 698
Next Mine



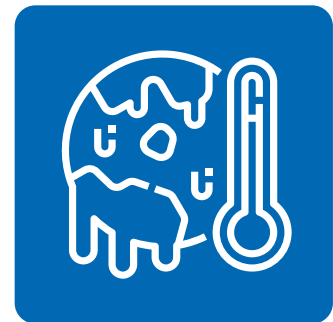
IGCP 722
Stone for Development



IGCP 668
Equatorial Gondwanan History



IGCP 700
Carbonate Build-Ups In South East Asia



IGCP 739
The Mesozoic Paleogene Hyperthermal Events



IGCP 659
Seismic risk assessment in Africa



IGCP 692
Geoheritage for Geohazard Resilience



IGCP 705
Global Capacity for the Observation of Volcanic and Atmospheric Change



IGCP 740
West Makran Paleo-
tsunami Investigation



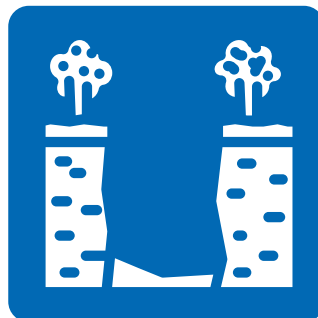
IGCP 643
Water Resources in
Wet Tropics of
West-Central Africa



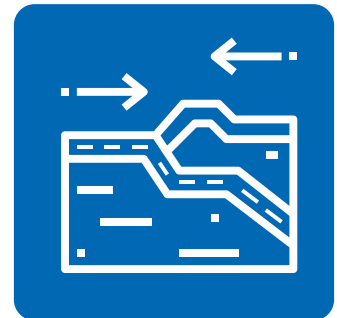
IGCP 706
Recent
Transformations of
the Eastern Rift
Valley Lakes



IGCP 730
Hydrogeological
Significance of
Mediterranean
Geoparks



IGCP 715
A new karst
modelling approach
along different
tectonic contacts



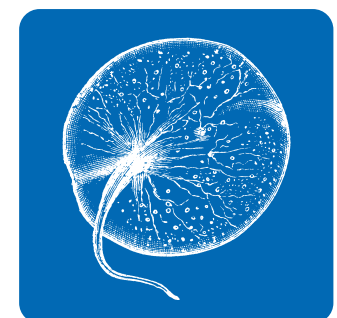
IGCP 667
World Map of the
Orogens



IGCP 727
Geological heritage
sustainable
management of
geological hazards
and water resources



IGCP 731
IUGS Geological
Heritage sites



IGCP 681
History of Toxic
Phytoplankton in
Patagonia

UNESCO GLOBAL GEOPARKS UPDATES

IGCP and UNESCO Global Geoparks at COP26



Alongside organisations such as the Geological Society of London and Geology for Global Development, UNESCO Chair Professor Iain Stewart, project leader of IGCP 685 Geology for Sustainable Development, chaired a closing plenary session on 'Climate Adaptation, Damage and Loss' and provided commentary on the critical role of geoscientists in a sustainable future. Check GeoSoc YouTube Channel and learn more about COP26.

During the COP 26, UNESCO launched a social media campaign to highlight the UNESCO Global Geoparks actions on climate change. Check our social media to find out about these actions and read the extended article.

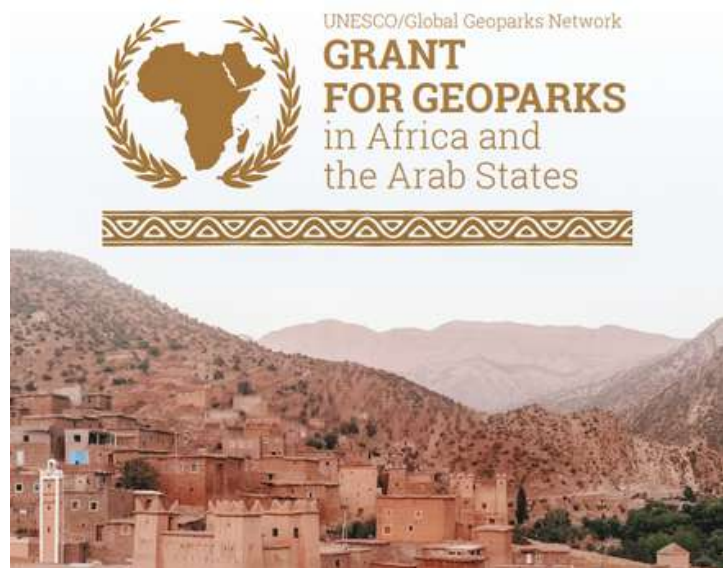


[Read the full story](#)

UNESCO/GGN grant for geoparks in Africa and the Arab States 2022

UNESCO and the Global Geoparks Network (GGN) launched a joint initiative to promote the Geopark concept in Africa, the Arab States.

**UNESCO-GGN Geoparks
Africa & Arab States**



UNESCO / GGN Geoparks in SIDS Countries



The International Geoscience Programme (IGCP), since 1972, has harnessed the intellectual capacity of a worldwide network of geoscientists to lay the foundation for our planet's future, focusing on responsible and environmental resource extraction, natural hazard resiliency and preparedness, and adaptability in the era of a changing climate.

UNESCO Global Geoparks (UGGp) are laboratories for sustainable development which promote the recognition and management of Earth heritage, and the sustainability of local communities. As of July 2020, there are **169** UNESCO Global Geoparks within 44 Member States, covering a total area of 325,179 km².



In the framework of the International Geoscience and Geoparks Programme and as part of one of UNESCO's priorities – the Small Island Developing States (SIDS) – a series of two webinars dedicated to the promotion of the UNESCO Global Geoparks concept in these countries, was organized together with GGN. The first, “UNESCO Global Geoparks for the SIDS in the Caribbean, Africa, Indian Ocean, Mediterranean and South China Sea (AIMS)” was held on the 2nd of December 2021 with simultaneous interpretation in English, French and Spanish. The second “UNESCO Global Geoparks for the SIDS in the Pacific region” was held on the 3rd of December 2021.

[Read More](#)

[Watch the Webinars](#)

UNESCO Geoparks in Central Asia

On September 18-21, an international seminar on “UNESCO Global Geoparks in Central Asia: areas for geotourism promotion and sustainable management of geological heritage, natural resources and disaster risk reduction” was held in Batken, Kyrgyzstan, supported by UNESCO.

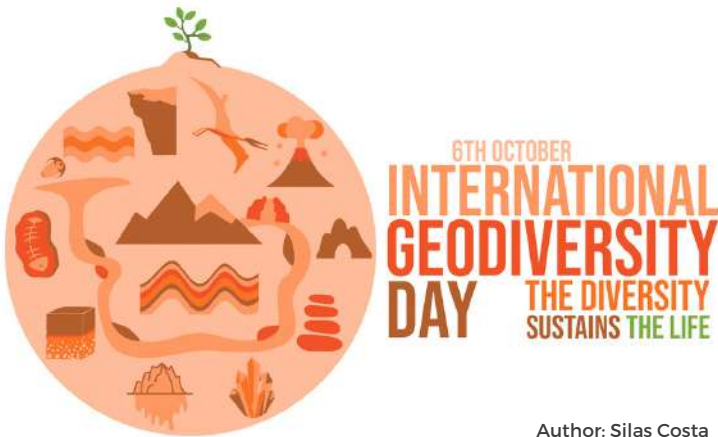


On 12-16 November 2021 an international seminar "UNESCO Global Geoparks in Central Asia: Opportunities and Potential" was held in Uzbekistan. The event started with, a 3-day field trip to the potential Kitab Geopark of Uzbekistan followed by a seminar on 16th of November, held in Tashkent. The meeting was organized by UNESCO office in Almaty, supported by the IGPP Secretariat, in close partnership with the State Committee on Geology and Mineral Resources, and the Ministry of Tourism and Sport of Uzbekistan.

[Read More](#)

INTERNATIONAL GEODIVERSITY DAY

**Mark it on your calendar!!
From now on, 6th October will be International Geodiversity Day!**



Author: Silas Costa

This annual celebration of geodiversity was approved on 22 November by 193 member states attending UNESCO's biennial General Conference in Paris. The approval followed a request from the International Union of Geological Sciences (IUGS) and 108 other scientific organisations for the proclamation of an International Geodiversity Day to raise awareness of the many benefits geodiversity provides for people, society, and the environment.

The first event of celebrating IGD was delivered by the Turkish National Commission for UNESCO in cooperation with the Chamber of Geological Engineers.

Dr. Franziska Schrodtt and Dr. Richard Field, from the University of Nottingham, created a beautiful infographics as part of the project "Geodiversity for science and society" that brings together experts across disciplines to strengthen the scientific core around geodiversity and enhance its policy input by developing 'essential geodiversity variables', related to human well-being and natural resource management.

Geodiversity

completes the ecosystem

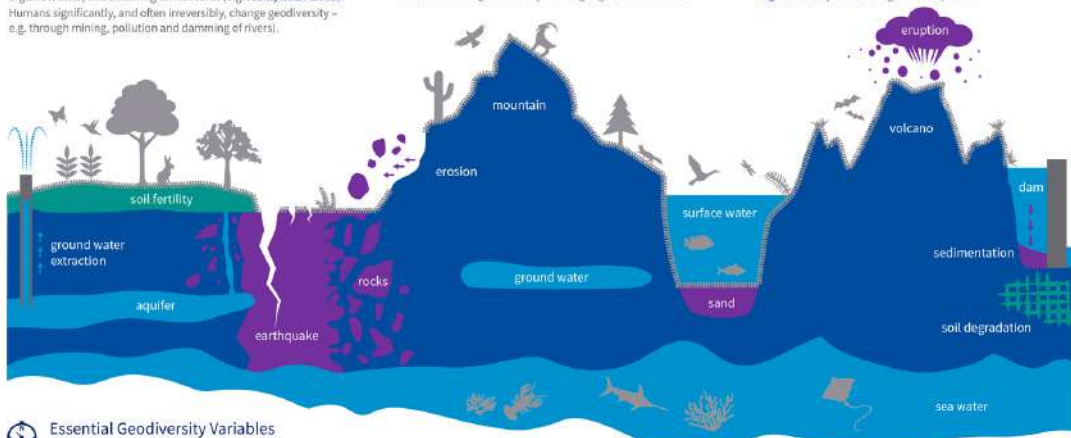
Geodiversity refers to the range of features that characterise the nonliving constituents of an ecosystem. A healthy ecosystem results from the balanced interplay between diverse living constituents (animals, plants, microorganisms & organic matter) and nonliving constituents (e.g. rocks, water & soil). Humans significantly, and often irreversibly, change geodiversity – e.g. through mining, pollution and damming of rivers).

regulates the environment

Geodiversity plays a key role in environmental regulation and biodiversity conservation. Areas with high geodiversity act as excellent buffers against climate change, moderating the impact of environmental changes and providing the necessary conditions for a great variety of living organisms to thrive.

guides decision-making

Essential Geodiversity Variables are efficient tools for guiding environmental decision-making and policy development. They capture the dimensions of the nonliving world (geology, geomorphology, hydrology & soil) and enable the monitoring of geodiversity levels in a given ecosystem.



Essential Geodiversity Variables examples of use in decision-making

SOIL	GEOLOGY	GEOMORPHOLOGY	HYDROLOGY
Mixture of organic matter, minerals, gases & liquids – physical & chemical characteristics	Solid constituents of the Earth – processes of transformation through time	Mountains, hills, valleys, volcanoes, landforms – features of land surfaces	Surface water & ground water – occurrences, distribution, movement & properties
<ul style="list-style-type: none"> sustainable soil use policies pollution impact assessment combating desertification 	<ul style="list-style-type: none"> environmental impact assessment building regulations early warning systems 	<ul style="list-style-type: none"> hazard / risk assessment flood regulation evacuation plans 	<ul style="list-style-type: none"> sustainable water policies energy generation land use planning



Read the full story



Watch the Video

The Earth Project Young Ambassadors

In April 2021, UNESCO connected with The Earth Project (tEP), to provide a 6-month virtual internship to talented young environmental enthusiasts from around the world.

More than 350 individuals responded to the call and through a rigorous selection process, 22 young ambassadors from 19 countries were chosen.



Science - communication training - through IGCP project workshops

YAP challenge: was to digest a subset of UNESCO IGCP projects and create short videos explaining this research to a general audience

Prof Iain Stewart, Dr Sergio Carreiras Esperancinha, Dr Ozlem Adiyaman Lopes

unesco International Geoscience Programme

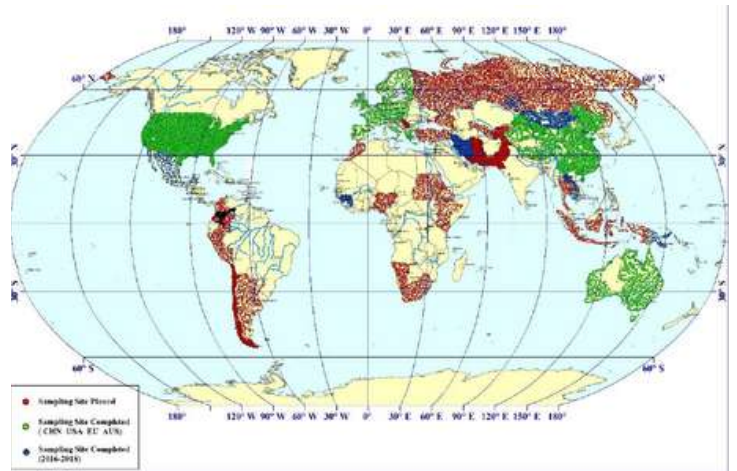
As part of the capacity-building activities, UNESCO IGCP project leaders provided enlightening talks about their projects. Following that UNESCO's and tEP's science communication team, provided the young ambassadors a crash course on how to make science appealing to a global audience. The ambassadors then chose a sub-selection of the IGCP projects to practice their own science communication skills.

"The Earth Project's mission is to showcase planet Earth and promote sustainable Earth stewardship, bringing people together to solve the planet's greatest environmental and societal challenges."

[Read the full story.](#)

2021 ICGG International Training on Geochemical Mapping

The International Centre on Global-scale Geochemistry (ICGG), a UNESCO's Category 2 Centre, successfully held online the "2021 ICGG International Training on Geochemical Mapping" in September 28-29. The course had the participation of 51 overseas trainees from 18 countries in Africa, Asia and South Africa. Since its establishment in 2016, ICGG has successfully held 25 international training courses home and abroad and attracted 830 participants from 48 countries, which has effectively enhanced the international influence of China geochemical technologies.



Sampling locations of global geochemical baselines.
X. Wang, B. Zhang, L. Nie, et al., 2020

[Learn more about the ICGG](#)

Earth-Ocean Link course in Ghana - October 2021



UNESCO's International Geoscience programme delivered the course "Earth-Ocean Link (EOL)", a trans-African International Itinerant Master Class (seminars, tutorials, fieldwork, floating university) on the Earth-Ocean links and the intersphere connections, in partnership with the National Institute for Ocean Science (IFREMER), local industry and universities.

[Read the full story](#)

Organized by the [Society for Geology Applied to Mineral Deposits \(SGA\)](#), the Geological Survey of Namibia, the Namibian Uranium Association, the International Union of Geological Sciences (IUGS) and financially supported by UNESCO, this short course addressed geological, technical, and societal challenges associated with “energy metals” that are needed for low carbon energy systems.



[Learn More](#)

[Read the Article](#)

KIT Webinar Series: Advancing Frontiers of Geosciences

The KIT international webinar series was established at the beginning of 2021 as an online programme with the aim of providing Karlsruhe Institute of Technology earth and space science community the opportunity to gain comprehensive knowledge on the latest advancements in geoscientific developments. On the 4th of November Dr. Ozlem Lopes from UNESCO's IGCP Secretariat gave a talk entitled “International Geoscience Programme - Enabling Early Career Geoscientists to Achieve Sustainable Development Goals”

Learn more about this [webinar series](#).

Sustainable Earth, sustainable societies



**International Geoscience Programme
Enabling Early Career Geoscientists to
Achieve Sustainable Development Goals**

Özlem Adiyaman Lopes (PhD)
Earth Sciences and Geo-hazards Risk Reduction Section
Division of Ecological and Earth Sciences

[Download UNESCO's
Presentation](#)



The Asociación de Servicios de Geología y Minería Iberoamericanos - ASGMI organized a webinar series in November dedicated to “Critical and Strategic Minerals in IberoAmerica”; “The role of Geological Surveys in Geoheritage valorisation” and “Geochemistry at society’s service”. In the latter, UNESCO’s secretariat presented the work/involvement on the global geochemical mapping activities as well as IGCP’s current status and invited geological surveys from South America to support the programme.

Learn More About
the ASGMI

PanAfGeo2 Kick Off Meeting

“PanAfGeo” for “Pan-African Support to the EuroGeoSurveys-Organisation of African Geological Surveys (EGS-OAGS) Partnership” is a project that supports the training of geoscientific staff from African Geological Surveys through the development of an innovative training programme. It aims to increase African-owned geological knowledge and skills for sustainable mineral exploitation and related infrastructures, and natural disaster prevention and mitigation.

UNESCO will be an advisory board member and will co-deliver the trainings in Africa starting from Geoheritage training in Congo Brazzaville during the summer of 2022. The kick-off meeting occurred on the 25-26 of November.



PanAfGeo

Pan-African Support
to Geological Sciences and
Technology Africa-EU Partnership
Appui panafricain aux géosciences
du partenariat Afrique-UE
Apoio pan-africano às geociências
da parceria África-UE

Learn More About
PanAfGeo

27th edition of French Earth Sciences Meeting (RST)

The 27th edition of the French Earth Sciences Meeting (RST), organized from November 1 to 5, 2021, in Lyon, was an opportunity to promote the objectives of IGCP and in particular the labeled projects and in operation.

During this Conference IGCP French National Committee Members Prof Taniel Danelian and Prof Francois Baudin organised a session where IGCP projects and geoscientists presented their work. The session, held on November 4, demonstrated through the 6 oral presentations (IGCP 635, IGCP 679, IGCP 735, IGCP 655, IGCP 659, IGCP 669), the spectrum of the different IGCP themes and the benefits of working under the IGCP umbrella.



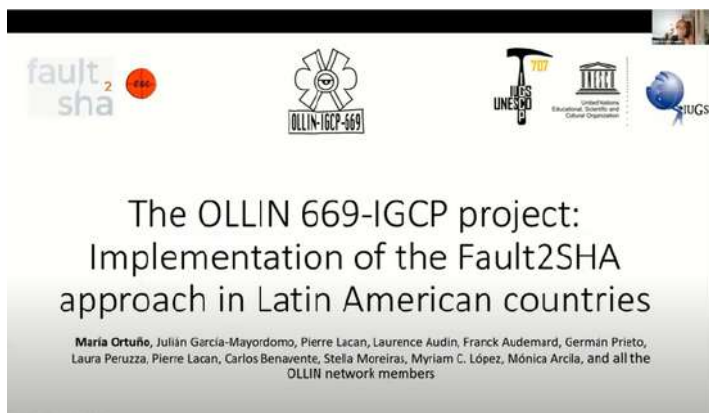
We are delighted that IGCP projects had their place in this high point of the French scientific life. The sessions stimulated discussions and allowed an exchange of experiences, which was very useful in particular for the various labeled IGCP leaders. We hope that they will also serve as a basis for reflection for future proposals.

[Learn More](#)

Annual China IGCP National Committee Meeting



The 2021 Annual Meeting of the China National Committee for IGCP successfully convened on November 13-14, 2021. The hybrid event was held with a limited in-person audience paired with a virtual meeting due to the COVID-19 pandemic. The meeting attracted a large number of geoscientists and students on the virtual platform, with an accumulated audience reaching 3,734 people and a total of 11,600 clicks.



During this meeting the following IGCP projects presented their research and results:



International Research Center on Karst (IRCK)



Between the 15th and 26th of November, the International Research Center on Karst (IRCK) Under the auspices of UNESCO (Category 2 Centre) and supported by the Institute of Karst Geology (IKG), Chinese Academy of Geological Sciences (CAGS) and the China Geological Survey, organized the International Training Course on Karst and Sustainable Development. UNESCO delivered a lecture on "International Geoscience Programme and UNESCO Designated Sites", enabling early career geoscientists to achieve the Sustainable Development Goals and KARST research/capacity building.

Learn More About the IRCK

41 trainees from 18 countries attended the course.

Evgueni Burov Medal for mid-career scientists.

In appreciation of Evgueni Burov this medal is awarded annually to honour praiseworthy mid-career achievements in lithosphere research. The medal shall promote high-class science in combination with community services.

Evgenii Burov was the initiator and leader of Task Force VIII – Lithosphere dynamics: interplays between models and data. He is a recipient of the Edward A. Flinn-Pembroke J. Hart Award awarded to him by ILP in 1999 which was just one of the many distinctions Evgenii has received in the geoscientific community.



Evgueni Burov

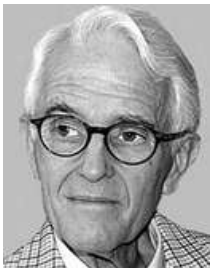
Edward A. Flinn / Pembroke J. Hart Award for early-career scientists

The Flinn-Hart Award is presented by the Bureau of the International Lithosphere Program to an outstanding young scientist for contributions to the solid earth sciences covered by the International Lithosphere Program. It consists of a travel grant and a citation, and aims to encourage the participation of promising young scientists in the Program.



Edward A. Flinn

Edward A. Flinn III was a geophysicist and mathematician who led efforts to apply digital signal processing techniques and statistical methods to seismology. He helped establish the Flinn-Engdahl seismic and geographical regions to characterize the world's earthquake zones, a system that has become standard across the globe for earthquake regionalization.



Pembroke J. Hart

Pembroke J. Hart was a geophysicist who, sponsored by the International Upper Mantle Committee, wrote a seminal work on the state of knowledge about the Earth's crust and upper mantle. The book was published by AGU and was reprinted twice. It was by far the most successful of the AGU monographs of its time. The success of the Upper Mantle Project prompted the initiation in 1970 of the International Geodynamics Project.

[Learn More](#)

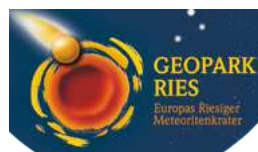
6th UNESCO Global Geoparks Council

At its sixth statutory meeting held online between the 8th and 11th of December 2021, the UNESCO Global Geoparks Council assessed 18 new applications for UNESCO Global Geoparks (submitted in 2019 and 2020) and 29 revalidation applications from current UNESCO Global Geoparks.

As a result of this examination and in presence of more than 50 observers and representatives of more than 30 Member States, the UNESCO Global Geoparks Council proposed to forward the nomination of 8 new UNESCO Global Geoparks to the Executive Board of UNESCO, for its endorsement during the 2021 Spring session.

[Learn More](#)

Congratulations to:



Upcoming Events

7th IGCP Council & 50th Anniversary Celebrations



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International Geoscience Programme

As of 15th September 2021 - deadline of new IGCP proposals submission - UNESCO received **24 new IGCP project proposals**. Those which are aligned with the 2021 call are now being evaluated by IGCP Scientific board members ahead of the 7th IGCP Council meeting session which will be organized during the week of 14th March.

This session will finalise the evaluation of the new proposals and of the 57 active projects.

UNESCO and IUGS collaborated for nearly 50 years to advance international geoscientific collaboration and delivering the IGCP projects. Together, the two institutions will celebrate IGCP's 50th and IUGS' 60th anniversaries in 2022! We will soon communicate the programme of the celebrations and of the 7th IGCP Council.

Upcoming Events



Earth Futures Festival

Earth Futures Festival connects geoscience and the arts raising international awareness of the role Earth Science plays in building our sustainable future.

The Festival is organised in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO), International Geoscience Programme (IGCP) Project 685: Geology for Sustainable Development and with the International Union of Geological Sciences (IUGS).

The Festival Advisory Board will provide advice on the approach and direction of the festival to maximise the festival's impact in alignment with its goals. Part of the board are Dr. Özlem Adiyaman Lopes, Prof. Chris Jackson, Stephen Oliver and Catherine Jackson to the advisory board.

The Festival is looking for films or artistic works in video format on the topic of geoscience, within the following themes and categories:



The Dynamic Earth



Future Earth



Human Connection

The Earth Futures Festival is free to enter

Submission

Opens 1 February 2022

Closes 15 May 2022

Submission times in Coordinated Universal Time (UTC)

[**More Information**](#)



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International Geoscience
and Geoparks Programme

UNESCO

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Division of Ecological and Earth Sciences
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