

# GEO MATTERS



#### A lively start to the sixth Global Environment Outlook global assessment First authors meeting, European Space Research Institute, Frascati, Italy, 20-24 February 2017

More than 120 experts met for five days in Frascati, Italy to develop a comprehensive work plan and to create the zero order drafts for the first nine chapters of the sixth Global Environment Outlook. Authors from the Policy Effectiveness and Governance chapter(s) and the Outlooks chapter(s) met to develop work plans for drafting their subsequent sections. Authors also gathered to consider how the process for producing an assessment has evolved, define the drafting approach for the chapters as well as the new tools and methods that are available to do so, including the new Integrated Environmental Assessment Guidelines. With the presence of the High-level Intergovernmental and Stakeholder Advisory Group as well as the Scientific Advisory Panel, the authors were able to interact and receive presentations from these experts to better understand the roles of these advisory bodies. The Secretariat then explained how communications and outreach for the Global Environment Outlook would be undertaken. The different authors teams then spent the remaining 3 days considering how different cross-cutting issues such as food, energy, human health and resource use affected the five environmental areas of air, fresh water, oceans, land and biota.

The Co-chairs of the sixth edition of the Global Environment Outlook emphasized the Global Environment Outlook's relevance to the Sustainable Development Goals and urged authors to illustrate linkages among the environmental themes and cross-cutting issues. The Co-chairs also stressed that a synthesis approach should be used for drafting the introductory and State of the Environment chapters, referencing existing assessments where possible and filling gaps in the analysis where necessary. Also, new platforms and data sources such as Environment Live and the European Space Agency geospatial datasets should be used by authors to work towards an indicators-based assessment.

The High-level Intergovernmental and Stakeholder Advisory Group (HLG) advised the Secretariat, Co-chairs and author teams that a precautionary approach should be applied to the timing of the development of the Global Environment Outlook, since there is a possibility that the fourth UN Environment Assembly could occur earlier in 2019 than originally planned (e.g. February or March). A change in the date of the fourth UN Environment Assembly would affect the time of the fourth authors meeting, moving it from March to February 2018. This would also change the dates for production of the Policy Effectiveness and Outlooks chapters, as well as the Summary for Policy Makers. Authors of the Policy Effectiveness and Outlooks chapters were advised that innovation should be demonstrated in their chapters of the sixth Global Environment Outlook, since these will be the sections of most interest to policy makers.



The Scientific Advisory Panel (SAP) advised the Secretariat that a multi-stage review process for the different chapters of the Global Environment Outlook should include both a First Order Draft review and a Second Order Draft review. They also noticed gaps in expertise in the current author teams which they recommended be filled by the end of March to ensure that comprehensiveness and scientific integrity of the assessment are assured.

The full Outcomes document of the meeting is available here.

## The Global Environment Outlook Community of Practice as a tool in the Global Assessment Process

A Community of Practice (CoP) is a collective of stakeholders who collaborate to discuss issues, share data and information, and generate new knowledge around issues of importance to them. Environment Live has now 'evolved' to allow more collaboration and sharing with privacy protections and personal work spaces available. This is an evolution from the Global Environment Outlook Regional assessment process. Users now have the ability to create folders and upload files, providing them more control of how information is presented. Also of importance for Global Environment Outlook participants is the linking from the Global Environment Outlook Community of Practice to the other drafting functionalities outside the Community of Practice in Environment Live. These include Mapping services, GEO personal workspaces, as well as access to regional or country data, access to key term definitions through an ontologies page and finally the different options for data downloading. Users now have the resources and support from credible scientific sources while at the same time having a platform for storage and collaboration.

The overall purpose of this platform during the Global Environment Outlook process is to strengthen the science-policy interface by providing experts, policymakers, and practitioners the opportunity to contribute and share their knowledge and experience via an online platform. The platform also serves as a repository for resources used in this knowledge exchange and also supports the quality of the drafting process by linking author groups and other governing and advisory bodies to credible sources of data, among other resources.

The Global Environment Outlook Community of Practice is a closed community, therefore once participants have registered, the Moderator grants them access to the appropriate community. The Global Environment Outlook Community of Practice currently has 1076 members who are primarily tasked with drafting and reviewing the documents. All approved members of the Community are free to participate by contributing ideas, files, information; joining into or introducing new discussion topics; creating blogs on high-level issues, etc. In principle, the greater the level of participation in the Community of Practice, the more fruitful will be the exchanges and results. The Moderator of the community (UN Environment Secretariat) has a role in administering and ensuring the smooth and effective functioning of the entire Community of Practice.







#### Environmental Security in a Changing World

On 21 February 2017 a panel of policy and science experts discussed, via live webcast, the global environmental challenges that governments face and how these may change over time. The session, entitled 'Environmental Security in a Changing World' was organized by: UN Environment and the Italian Ministry for the Environment, Land and Sea and hosted by The European Space Agency (ESA)

One hundred of the world's most authoritative voices on environmental science, authors of the sixth edition of UN Environment's Global Environment Outlook (GEO-6), took part in the Open Dialogue. Speakers, including the representative of the Italian G7 Presidency, shed light on the top environmental issues proposed on the G7 Agenda in the context of global environmental priorities and multilateral obligations.

The first part of the dialogue addressed uncertainties, challenges and opportunities ahead.



Giovanni Brunelli, Head of Sustainable Development at the Italian Ministry of Environment, land and sea, representing Minister Gian Luca Galletti and the G7 Presidency, spoke about the "importance of achieving a unified G7 position for the implementation of the Paris Agreement and 2030 Agenda".

Professor Jacqueline McGlade, UN Environment Director of the Science Division, spoke about the role of science and the scientific community in supporting policy; making a case for the urgent implementation of the Paris Agreement and the 2030 Agenda. She highlighted the importance of scientific assessment to track and analyze the state of the environment and the impact of policy to inform decision making.

Josef Aschbacher, ESA Director of Earth Observations, spoke of the role space technology and Earth Observations play in achieving a more sustainable and environmentally safe world;

highlighting the technology advances in the field that can, for example, offer more evidence-based information on sources of pollution and track progress or lack there-of.

The second part of the dialogue explored the economics of sustainability and keeping global temperature change under 2°C.

Professor Paul Ekins, the Co-chair of the Global Environment Outlook, Director of University College London's Institute for Sustainable Resources and Co-Director of the UK Energy Research Centre, spoke of the conditions and policies for achieving an environmentally sustainable global economy, emphasizing that tradeoffs need not exist between growth and sustainability and that sustainability has become a pre-requisite and a driver for economic growth in the 21st Century.

Timothy Nixon, Managing Editor, Thomson Reuters Sustainability, spoke of the role of the private sector and non-state actors in lowering emissions and contributing to achieving the SDGs, citing a soon-to-be-launched report by Thomson Reuters that



On the stage, from right to left are Ann Tutwiler, Director General of Bioversity International, Joyeeta Gupta, GEO Co-chair, Josef Aschbacher, Director, ESA, Shereen Zorba, Head of Science Policy Outreach, UN Environment, Jacqueline McGlade, Director, Science Division - UN Environment, Giovanni Brunelli, Head of Sustainable Development at the Italian Ministry of Environment, Iand and sea Simone Targetti Ferri, Programme Officer - UN Environment, Timothy Nixon, Managing Director, Thomson Reuters Sustainability and Paul Ekins, GEO Co-chair.

ranked the world's climate leaders in the business sector and also top emitters, saying it was time to work with these emitters to ensure they lower their emissions and transform their industries.

Turning to the private sector, represented by the Head of Sustainability at ENEL, one of the world's leading energy companies, Andrea Valcalda, said his company hopes to achieve "full de-carbonization of the energy mix by 2050".

The third part of the dialogue focused on the environmental dimension of the 2030 agenda.



Ann Tutwiler, Director General of Bioversity International, spoke about the conditions required to build resilient ecosystems for sustainable food systems, referring to market dynamics, as well as the threats and opportunities ahead.

Professor Joyeeta Gupta, Co-chair of the sixth Global Environment Outlook, Professor of Environment and Development in the Global South, Amsterdam University, spoke of the need to

support actions by developing and most vulnerable countries towards the implementation of the Paris Agreement and the 2030 Agenda.

Click here to see more and here for the webcast.

#### Gender Equality considerations – A Game Changer for the Environment

International Women's Day held on the 8<sup>th</sup> March provided an opportunity to celebrate the progress made at national and global level towards gender equality and women's empowerment. It also provided a chance to reflect on what remains to be done.

This year International Women's day put a spotlight on the changing world of work. One of the recommendations from the Global Gender and Environment Outlook (GGEO) was the need to address unpaid work and time poverty. This case study from an Asian Perspective broadens understanding on this matter.

In Maldives, the women in a particular village in Fiyoaree are beneficiaries of a regional coastal conservation initiative that aims to empower women economically by training them in the traditional Maldivian art of weaving. The women sell these high-end handicrafts to tourists. This initiative has helped women to better understand the value of wetlands and their importance in supplying reeds for weaving. The women also become advocates for nature-based approaches. This initiative has helped the women to earn an extra income but also play a critical role in conservation.

The Global Environment Outlook report is also taking gender into consideration in the drafting process of the report with a link to the Sustainable Development Goals. The report is using the best scientific evidence in formulating gender-differentiated environmental solutions, to address wider societal and ecological challenges.

According to the Global Environment Outlook Regional assessment for Asia and the Pacific, about 60 per cent of the mangroves in Asia and the Pacific have been cleared for coastal development. This rate of mangrove, wetlands and forest loss is among the highest in the world. Numerous studies indicate that women play a crucial role in ensuring that fragile ecosystems, such as mangroves, are protected and help their families become more resilient in the face of natural disasters.

Finally, a recent World Economic Forum report predicts that the gender gap won't close entirely until 2186, especially for some areas such as East Asia and the Pacific and the Middle East. The Global Environment Outlook can draw attention to issues where we can close the gender gap and also promote sustainable development.

#### Know an Expert: Global Environment Outlook Author Profile



Professor Muthama is one of the Coordinating Lead Authors of the Air chapter of the sixth edition of the Global Environment Outlook (GEO-6)

Professor Nzioka John Muthama is the Deputy Director of the Wangari Maathai Institute for Peace and Environmental Studies, at the University of Nairobi, Kenya. He has been involved in teaching and research at the university level for over 25 years and has supervised dozens of postgraduate research students.

He has won various awards which include the recognition by the Intergovernmental Panel on Climate Change (IPCC) for contributing to the Award of the Nobel Prize for 2007 to the IPCC, awarded in February 2008. He has also won the Italian Government fellowship to pursue a Ph.D. degree at the University of Rome 'La Sapienza', Italy from 1991 to 1994. Lastly, he won the DAAD (German Academic Exchange Program) Graduate College Scholarship for M.Sc. degree at the University of Nairobi, Kenya from 1987 to 1989, after attaining his Bachelor of Science degree from the same university in 1987.

Professor Muthama has published over 50 scientific articles and book chapters which have contributed to the understanding of the physical environmental as regards air quality, climate change, and policy. His current studies are specifically directed to providing scientifically founded quantitative answers to the status of air quality and the basis for predictions of regional climatic variations and changes in the frequency and severity of extreme events, especially over Africa.

Participating in regional and global environmental assessments has been one of Professor Muthama's keen interests. Some of them include participating as a Co-author of chapter three of Un Environment's and the World Meteorological Organisation's Scientific Assessment of Ozone Depletion-2002 from June 2005 to January 2006. From June 2015 to May 2016 he participated in UN Environment's Global Environment Outlook Assessment for Africa as the Air Chapter Author. He believes that the journey towards sustainable development is intertwined with upholding environmental integrity. To this end, the sixth edition of the Global Environment Outlook process is a means to this aspiration. Successful completion of the process will bear fruit for a cleaner and healthier environment and consequently improved the quality of life, especially in Africa.

### Hiking on the Nyiragongo volcano: the largest lava lake in the world

By Simone Targetti Ferri

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Located in the Virunga National Park (Democratic Republic of Congo), a few kilometers from the border with Rwanda, the Nyiragongo Volcano is considered extremely dangerous due to its intense activity with, 34 eruptions since I 882. The last major eruption of the volcano occurred on I7 January 2002. During that eruption, a I3 km fissure opened in the south flank of the volcano, spreading in a few hours from 2 800 m to I 550 m elevation and reaching the outskirts of the city of Goma. Lava covered the northern end of the runway at Goma International Airport, leaving the southern two-thirds usable, and reached Lake Kivu. About I47 people died in the eruption from asphyxiation by carbon dioxide and buildings collapsing due to the lava and earthquakes. The last eruption occurred on I7 May 2012.



With this in mind, I decided with some friends to undertake this journey full of adrenaline to see the volcano. Coming from Nairobi, the journey itself to reach the base camp of the Volcano is quite challenging, including a two hour flight to Kigali (Rwanda) plus four hours of driving to arrive at the Democratic Republic of Congo border and finally a I hour taxi ride to the Lake Kivu camp to spend the night.



The steep walk within the Virunga Park is a real showcase of biodiversity with one of the richest ecosystems in the world. From steppes to savannas and plains, from marshlands to low altitude and afro-montane forest belts, the vast diversity of habitats produces exceptional biological diversity, notably some unique and endemic species. The incredible vegetation and the surreal landscape and pathway made of volcanic rocks make the climb an extreme adventure. The excitement and fatigue to reach the top are fully paid back by the amazing view offered at the summit of the volcano. A huge lake of Lava, around I 200 °C was waiting for us! We spent the night on top of the volcano, lulled by the noise of lava gush (scary, I must to admit!).

The Morning view of the park is priceless. The sun comes up, shyly, the volcano noise is now familiar and relaxing, colorful birds flying around looking for some fresh breeze and food, the slow movement of the clouds and the infinite shades of green, provide you with the feeling you have just undertaken an unforgettable life experience.



