

The Sixth Global Environment Outlook: The Road to Singapore



The Fourth and final Global Authors Meeting of the Sixth Global Environment Outlook (GEO-6) will be held at the Regent Hotel on 1 Cuscaden Road in Singapore, from 19 to 23 February 2018. The meeting is co-organised by UN Environment and the Ministry of Environment and Water Resources of Singapore. The major theme of the meeting is cities and urbanization. Significant communications and outreach events are planned around this theme throughout the week of meetings.

As in previous meetings, five main groups will participate in the meeting, including:

- Authors and experts who are writing the report;
- The High-level Intergovernmental and Stakeholder Advisory Group, which is responsible for ensuring the policy relevance of the Global Environment Outlook;
- The Scientific Advisory Panel, which will work to ensure the scientific credibility of the Global Environment Outlook process;
- And the authors drafting team for the Summary for Policy Makers;
- The Global Environment Outlook Fellows, who are assisting the authors on research questions and other areas of developing the chapters.

With so many groups participating, the meeting has several key objectives:

- Begin drafting of the Summary for Policy Makers;
- Address all comments received from the first order draft review for the first Policy and Outlooks chapters;
- Move the Policy Effectiveness chapters towards second order draft quality, by:
 - Improving coherence of chapter text
 - Reducing overlap and duplication in the coverage of issues
 - Ensuring adequate coverage of each thematic and cross-cutting issues
- Move the Outlooks chapters towards second order draft quality by:
 - completing the scenario/outlook review chapter
 - advancing the methodology and conclusions chapters
 - finishing the 'seeds' chapter
- Gather more data for the Outlooks component of the report with another stakeholder visioning workshop;
- Advance the drafting of the cross-cutting issues and 'common threads' throughout Global Environment Outlook.

The meeting will involve a lot of drafting and discussion sessions that will begin after the opening ceremonies and high-level panel discussions. As in previous Global Author's meetings, Singapore will host an Outlooks workshop and Stakeholder dialogue on 21 February. The workshop will be geared towards gathering data for the outlooks component while the high-level panel discussions will seek to lay the groundwork for a Global Environment Outlook for Cities by having conversations on how to achieve green cities. The Outlooks workshop and stakeholder dialogue will be followed by a green city site visit and after that a dinner reception where stakeholders are invited.

The inception meeting of the Global Environment Outlook for Youth- Asia-Pacific, which is led by the UN Environment Regional Office for Asia-Pacific, will happen in parallel to the Fourth Global Authors Meeting in Singapore. The GEO for Youth publication will be 'drafted by youth, for youth.' The inception meeting in Singapore will discuss and agree on the GEO for Youth report structure, content and placeholders for multimedia features, case stories, etc., and then the author team will begin drafting the publication which will continue into the period that follows the meeting. The first draft will be subject to review and comments available by the second GEO for Youth Author's meeting planned to coincide with the Environment Day in June 2018 and held at the Tongji University, Shanghai in China. This conference will further develop the draft while addressing the first round of reviewer comments. The second order draft will be reviewed and comments provided before the third and final

GEO forYouth Author Meeting in September in Tongji University which will coincide with the Asia-Pacific Leadership Programme on Environment and Sustainability, Tongji University.

The expected completion of the GEO-6 for Youth - Asia-Pacific is October 2018, the development of which will follow the proven Global Environment Outlook process and its participatory approach. Young authors and reviewers have been identified through an open invitation to partners active in education or research on sustainability. Academic and research institutions in the region have volunteered 47 young scholars and practitioners to serve as authors and reviewers. In addition to the registered youth reviewers, the team of authors who developed the GEO-6 Regional Assessment for Asia-Pacific will be invited to review successive drafts and provide feedback. The regional Assessment will serve as the primary source of input for the GEO for Youth publication; however, the author team will undertake an additional literature review and analysis to update and complement the existing data and information.

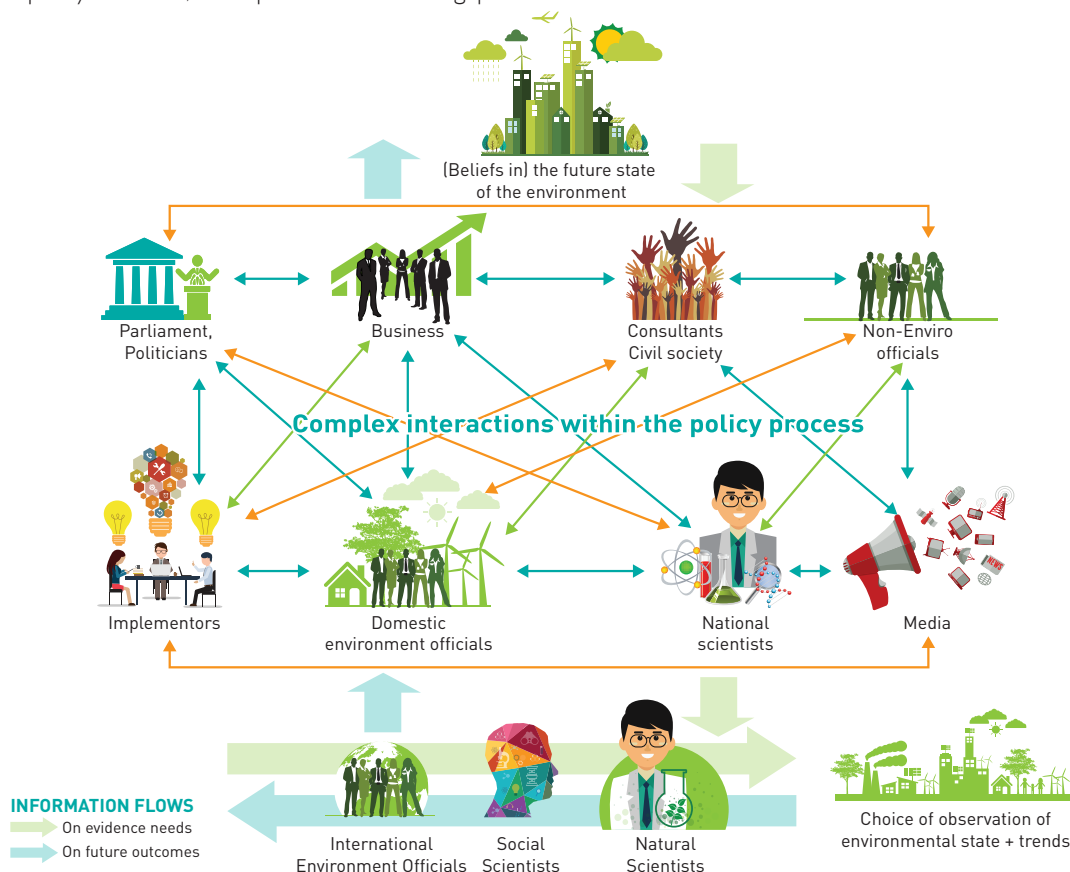
The Fourth Global Authors meeting will combine several activities which will encourage broad collaboration among the participants, information sharing and networking. Although authors will focus mainly on improving their draft chapters, the opportunity for collaboration is expected to allow a more holistic view to be presented in the report, in line with the focus on providing guidance on how to best achieve Sustainable Development Goals.

Strengthening the Science-Policy Interface: A gap analysis

Responding to United Nations Environment Programme Governing Council decision 27/2 and United Nations Environment Assembly (UNEA) I resolution 1/ 4, United Nations Environment Programme is ready to launch its new study called: **Strengthening the Science-Policy Interface: A gap analysis.**

The world is increasingly faced with environmental challenges which are exacerbated by an absence of coordination among different actors around the globe. In a global political context where scientific evidence is not often understood or used by policy-makers, there is a growing disconnect that has emerged, which not only dismisses but excludes opportunities for collaboration. Science and policy are at a crossroads. The interface needs to be framed by an effective and efficient governance structure to promote better interaction between the two. This intersection can be facilitated by operational knowledge from non-state actors. A dynamic science-policy interface can be a core instrument to support well-informed decision making on the environment while also engaging the right actors in achieving the Sustainable Development Goals.

The figure below indicates current thinking on the stylized information and evidence flows within participants in a science-policy interface, to help consideration of gaps and solutions.



This **report** aims to identify new ways to improve the science-policy interface by:

- Providing a summary of the characteristics of an effective science-policy interface.
- Identifying the gaps found in practice in science-policy interfaces.
- Providing practical steps that the Member States and international organizations can take to fill these gaps

The **report** addresses the existing gap in collaboration between scientists and policymakers, and how closing it could protect this planet and its people. It also suggests that non-state actors can be more closely involved in policy design. This might include businesses, city networks and non-governmental organizations who understand what's involved in implementing specific policies. Finally, it highlights the importance of making high-quality scientific data readily available to the right people.

United Nations Environment programme hopes that scientists, policy makers and decision makers from industry and civil society, will use the new tools and approaches in this report to create a better future for all of us.

The **report** will be launched during the Science Policy Business Forum, held in Nairobi from 2 to 3 December 2017. The key findings will also be presented to the Member States during the 4th Global authors meeting of the Global Environment Outlook-6, taking place from 19-23 February 2018 in Singapore.

Upcoming Review of the policy and outlooks sections of the assessment

A final but essential part of the assessment process is the review and evaluation of the assessment policies, findings, strategies, methods and recommendations. The Sixth edition of the Global Environment Outlook assessment considers this critical need of review so that it is dynamic and addresses changing needs. Technical and government experts regularly review the assessment for scientific credibility and policy relevance.

The upcoming review will include nominated students from developing countries who will have an opportunity to review different sections of the assessment. The quality of the reviewer's instructions about the assessment, the advice they propose and the constructiveness of their feedback will impact on how well the assessment process proceeds. The secretariat is working on updating the 'tools' of review; this includes the reviewers' guidelines on how to go about reviewing, the reviewers' terms of references and the templates that they will use to deliver their review. All this will be accessible to the public once the assessment is launched in 2019. The Secretariat, therefore, recognizes that the quality of these assessment tools will have a significant bearing on the accuracy of the results.

A quick review of the policy and outlooks sections of the assessment will be done by a selected team of technical reviewers from 4 -22 December 2017. The whole assessment will then go out for a full technical review followed by an intergovernmental review from June to September next year.

Know an Expert: Global Environment Outlook Author Profile



Prof. Oswaldo dos Santos Lucon from Brazil is one of the Cross-Cutting authors of the sixth edition of Global Environment Outlook. An expert in energy, he has contributed to the Intergovernmental Panel on Climate Change since 1996 and has been a Coordinating Lead Author of three reports (2006 Emissions Inventory Guidelines, Special Report on Renewables and Fifth Assessment Report). He has also taken part in several international reports such as the International Institute for Applied Systems Analysis (IIASA) Global Energy Assessment and the Climate Change and Cities of the Urban Climate Change Research Network.

He has Bachelor degrees in Civil Engineering and Law, an MSc. in Chemical and Process Engineering and a Ph.D. in Energy. He works at the São Paulo State Environment Secretariat as a Climate Change Special Adviser, and lectures at the University Of São Paulo's Institute Of Energy and the Environment. He sees the Global Environment Outlook as a significant document encompassing all Sustainable Development Goals, which is entirely relevant mainly as a background for multilateral negotiations.

The Global Environment Outlook process is, therefore, critical to most nations and the heated discussions expected will undoubtedly lead to a high-quality final product.

The pink pool with healing steam for the sick (An Endorois tale)

By Franklin Odhiambo

Indigenous knowledge is a crucial aspect of modern science. The fact that local communities have their ways of explaining phenomena, assessing their environment and guiding their locals cannot be ignored. Through indigenous knowledge, communities have emerged to ensure early warning of coming catastrophes as well conserving their resources. Their beliefs may not measure up to the scientific factual scale, but their patterns, beliefs and actions can inform better policies.

My recent visit to Lake Bogoria in the Kenyan rift valley proved just that. I was lucky enough to converse with a clan elder of The Endorois people. He claims that Lake Bogoria is a large pool of water that contains healing powers. The pool is pink in color because of the light pink birds that seasonally occupy the pool and cover it completely. The birds 'disappear' after some time and then re-emerge. The edges of the pool are decorated with steam that erupts to the ground and forms a cloud of humid surrounding at specific points. The pool area was the traditional home of the Endorois people, who were forced to leave the area in the 1970s and are now challenging their removal at the African Commission on Human and Peoples' Rights.

The Endorois people are a great example of how indigenous knowledge fits into current science and research. They worship the pool. They believe in its medicinal power by taking the sick at the pool and leaving them there naked to allow the steam to 'work on them.' They take their bush meat to the steams emanating from the lake to 'cleanse' the meat from any poison before eating the meat. They stand in specific spots of the surrounding because they believe it is sacred by local standards. This belief conserves the resource. When a stream of warm water emerges from a tunnel just beneath ground level, he asks me to watch out, and not to get too close. He goes ahead to inform me that the signposts warning "Stop - danger zone - go back" are serious. 'The earth can easily collapse under your feet and underneath there is boiling water,' he whispers.



Visitors boiling eggs in the hot geysers as the Clan elder explains



Lesser Flamingo covering Lake Bogoria to give it a beautiful light pink color

Lake Bogoria lies in a volcanic region in Kenya. It is often called a "soda lake" because of the high concentration of soda that oozes from the volcanic soil and mixes with the lake water. Lake Bogoria also has many hot springs "geysers" that pour boiling water into the lake. The Lake has over 200 geysers around it.

Its view is breathtakingly beautiful with the beautiful light pink flamingos all over it. Lesser Flamingo is the smallest species of flamingo. The Prettiest sight you will ever see is thousands of pink Flamingos feeding on algae, created from their droppings mixing in the warm alkaline waters and plankton or when they are taking off. The lake displays superb scenery of bluish hills populated with dry bush, grasslands and riverine forests, framing the calm waters pinned with flamingos. Beyond the eastern shore, the soil rises abruptly to 600 meters and at the opposite edge, the earth forms strangely colored swampy crusts, which break up in deep gaps spitting stinky sulphur waters and steam jets. The close-up geysers, the pink brush strokes of the flamingos on the lake, and the far away dramatic backdrop of the Laikipia Escarpment Bogoria convey an unrivaled scenery.



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It is a saline, alkaline lake that lies in a volcanic region in a half-graben basin south of Lake Baringo, Kenya, a little south of the equator. Lake Bogoria, like Lake Nakuru, Lake Elmenteita, and Lake Magadi further south in the Rift Valley, and Lake Logipi to the north, is home at times to one of the world's largest populations of lesser flamingos. The lake is a Ramsar site (The Convention on Wetlands), and Lake Bogoria National Reserve has been a protected National Reserve since 1973. Lake Bogoria is shallow (about 10 m depth), and is about 34 km long by 3.5 km wide. The lake is also famous for geysers and hot springs along the bank of the lake and in the lake. In four locations around the lake can be observed at least ten geysers, which erupt up to 5 m high. Geyser activity is affected by the fluctuations of lake level, which may inundate or expose some geysers.

The lake waters contain significant concentrations of sodium, bicarbonate and carbonate ions. They originate from inflow from the Sandai and Emsos rivers, and from about 200 alkaline hot springs that are present at three onshore sites: Loburu, Chemurkeu, and a southern group (Ng'wasis, Koibobei, Losaramat). Other springs discharge directly from the lake floor. Lake Bogoria also contains the highest concentration of true geysers in Africa (at least 18 are known). The lake waters are alkaline (pH:10.5) and saline (up to 100 g/L total dissolved salts). The lake has no surface outlet, so the water becomes saline mainly through evaporation, which is high in this semi-arid region. The lake itself is meromictic (stratified) with less dense surface waters lying on a more impenetrable more saline bottom waters. Although hypersaline, the lake is highly productive with abundant cyanobacteria (*Arthrospira fusiformis*) that feed the flamingoes, but few other organisms inhabit the lake.

Being a scientist, I know that my guide (the clan elder) is right. The lake is unique. The sulphur vapors are medicinal. The high temperatures of the boiling water sterilize meet instantly and render it safe for consumption. The glaciers are dangerous because of the high heat of the magma beneath and because of the active volcanic activities more glaciers are bound to erupt at different locations around the lake without notice. Standing far is safe. The migration of birds is because of changes in the breeding patterns, conditions of the weather and seasons. All these are facts. Just like those of the clan elder: On my way back am consumed with the thought of how two people can have two ways of explaining a universal phenomenon. What the world needs now seems to be the science that explains, that clarifies and elaborates. This is the missing link. Until we get this right, we fail to connect with the world. With the people. With humanity.



Basking in the sulphur fumes from the glaciers for healing purposes

