06/12/2022

Drought: a Global Challenge

An EU Side Event at COP27

Introduction

In the framework of the COP27 conference in Sharm-el-Sheikh under the Presidency of Egypt, the European Commission organised more than 120 Side Events from 7 to 18 November 2022.

One of these was the thematic side event on drought, in the aftermath of the 2022 extreme drought episode in Europe. As highlighted in its title, Europe is not the only region which has been affected by such an extreme event. Indeed, the Global and European Drought Observatories (GDO and EDO) have released a series of reports throughout the year detailing the drought episodes affecting many areas of the globe: Europe (with focused reports on the Western Mediterranean, Northern Italy, and the Netherlands), Eastern Africa (with focused reports on Somalia, Kenya, Tanzania, and Ethiopia), and China. South America continues to experience- since 2019 one of its worst droughts and an updated report on the situation in the La Plata Basin and its impacts is in preparation.

Furthermore, in the coming decades, drought events are expected to be more frequent, affect larger areas and become more severe, affecting key socio-economic sectors and ecosystems, often triggering cascading effects.

Key takeaways from the side event

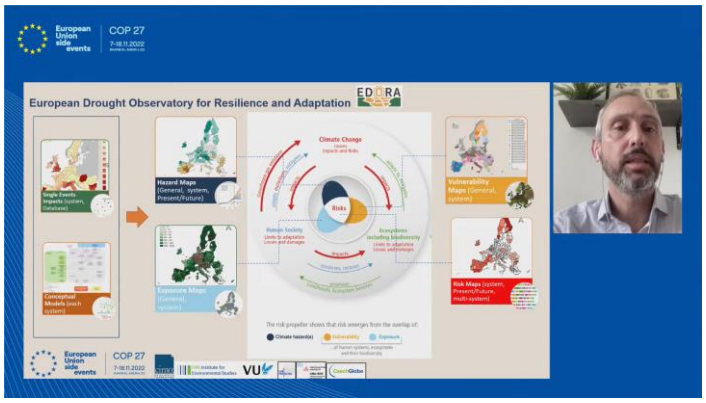
Andrea Toreti, GDO and EDO Coordinator, moderated the high-level panel of eight senior experts from around the world who gathered online to discuss drought in its various aspects, from early warning systems to its consequences on the migration of affected populations.

This side event allowed the over 100 participants to better understand why drought events are expected to occur more frequently, shedding light on the complexity of their cascading effects, presenting some of the most relevant initiatives for drought resilience, and discussing how the introduction of state-of-the-art technologies could play an essential role in the years to come.

The highlights of the side event are summarised below:

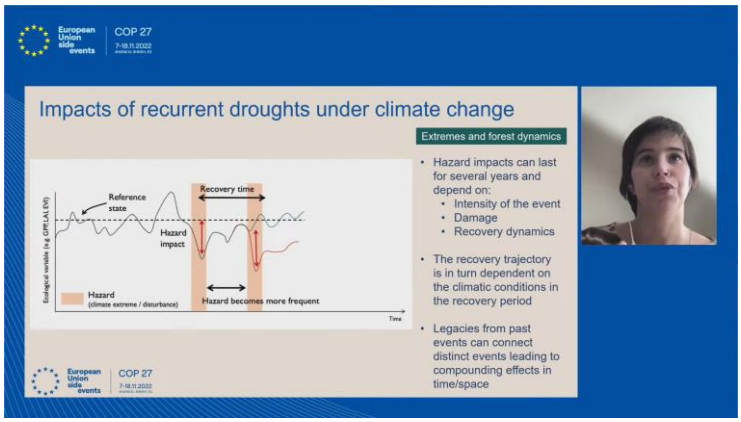
Gustavo Naumann, from the CIMA Foundation, presented the work carried out within the European Drought Observatory for Resilience and Adaptation (EDORA) project, which aims at creating a continental drought risk atlas which will include the three dimensions of hazard, exposure and vulnerability together with a novel approach for multi-sectoral risk assessment.

"We need to move beyond hazard oriented or a single sectorial perspective and develop proactive, risk-informed, multi-scale, but also multi-sectoral, and adaptive drought risk management policies, plans, and strategies that consider the whole spectrum of all possible impacts.



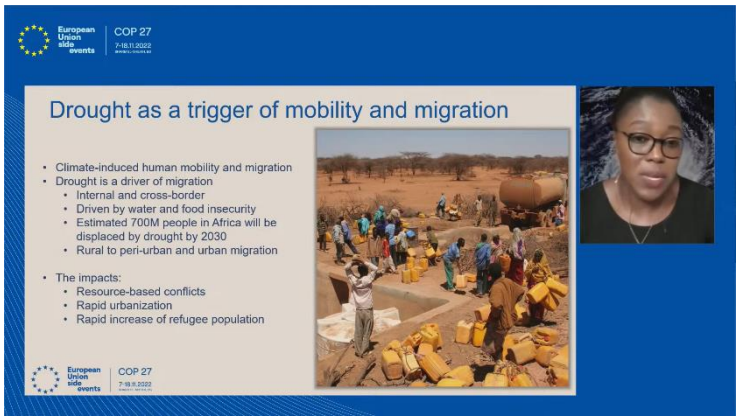
It is projected that in the coming decades, drought events will become more frequent. **Ana Bastos**, Group Leader at the Max Planck Institute for Biogeochemistry, presented a study on the compounding impacts of recurrent droughts due to climate change.

"Not taking into account the compounding impact of droughts might lead to overestimating the potential of forests to absorb CO2 and mitigate Climate Change in the future"



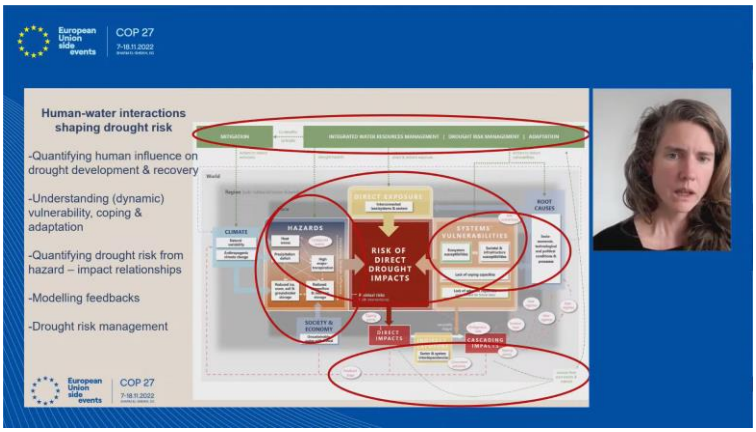
Moving to the societal impacts of droughts, **Viola Otieno**, EO expert for Early Warning Systems at Africa's IGAD Climate Prediction and Applications Centre (ICPAC), highlighted the role of drought as a trigger for migration. She also discussed measures that need to be implemented to reduce drought's impact on populations.

"Migration is one of the consequences of climate change. What we are seeing right now is a drought episode probably induced by climate change taking place in Eastern Africa region and contributing to increased mobility and migration."



Anne Van Loon, Associate Professor in Drought Risk at the Water & Climate Risk group at the Institute for Environmental Studies (IVM) of the Vrije Universiteit Amsterdam, explored the complex human-water interaction that is currently observed and how human activities are exacerbating droughts and increasing their impact.

"Droughts are something on which humans have quite a lot of influence. Understanding the complex human-water interaction system could help to reduce drought risk in the future."



After human-water interaction, **Katrin Ehlert**, Associate Scientific Officer at the World Meteorological Organization (WMO), explored the role of international standardisation and cooperation frameworks for early warning in drought management. She also presented the activities of the Integrated Drought Management Programme (IDMP).

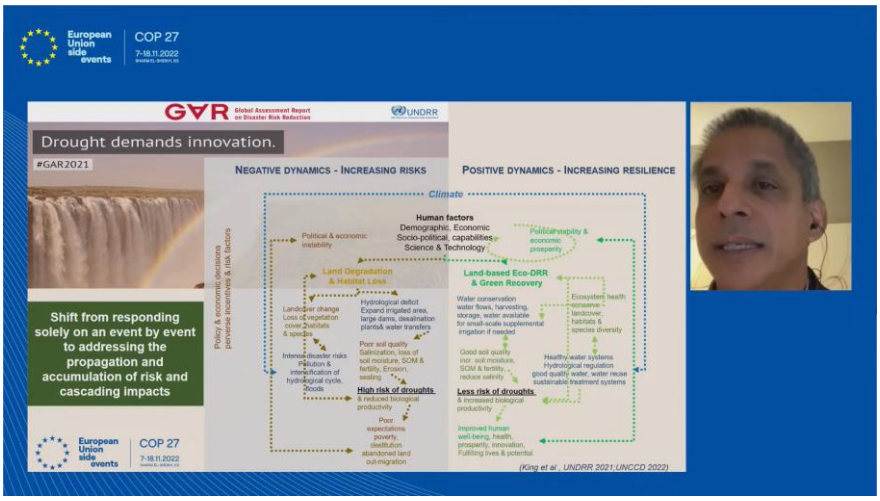
"We should support joint bottom-up approach initiatives such as the IDMP, so we can speak with one voice to increase drought resilience."

Likewise, **Daniel Tsegai**, Programme Officer at the United Nations Convention to Combat Desertification (UNCCD), provided the UN point of view on the current drought situation around the world and presented the International Drought Resilience Alliance (IDRA).

"We should foster North-South and South-South exchange of experiences to increase synergistic impacts and enhance drought resilience"

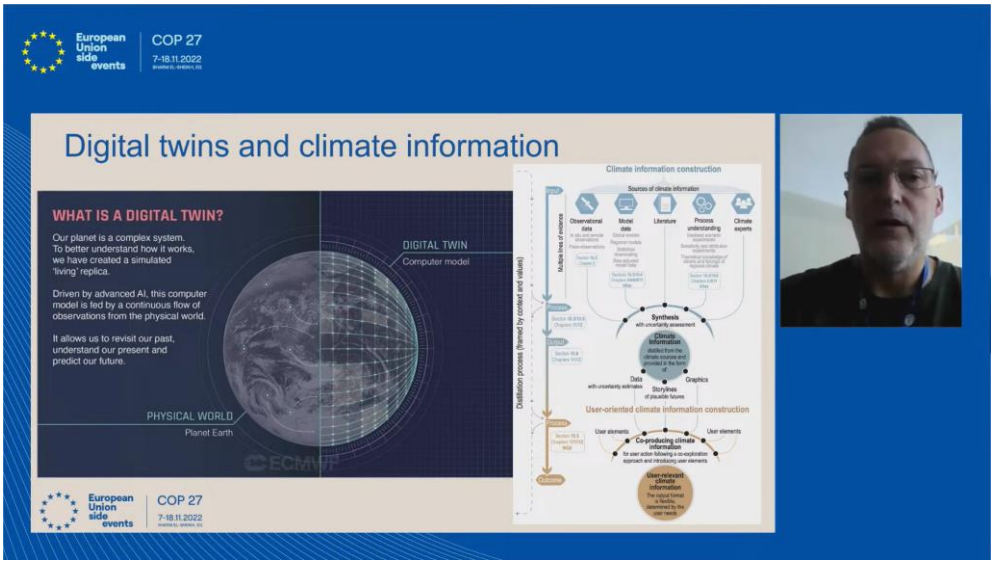
Thereafter, **Roger Pulwarty**, Senior Scientist at the NOAA Physical Science Laboratory, focused on adaptation and in particular on the fact that drought "requires" innovation as a key step to truly understand and address its accumulating risks and cascading impacts.

"The damage and costs resulting from droughts are usually underestimated because of their widespread and cascading impacts"



Finally, **Francisco Doblas-Reyes**, Head of the [Department of Earth Sciences of the Barcelona Supercomputing Centre (BSC-CNS)], presented the benefits of digital twins in accelerating the process of analysing climate information related to drought to support resilience and adaptation policies as well as early warning systems.

"We believe that with this kind of new approaches – the digital twins – we will be able to respond not so much to the increasing demand for more data, but to the growing demand for more information."



You can watch the recording of the side event at: [e.copernicus.eu/COP27_Drought]