

GEO WEEK & MINISTERIAL SUMMIT 2023

Showcase



#TheEarthTalks



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



GEO WEEK
2023 MINISTERIAL
SUMMIT

GEO GROUP ON
EARTH OBSERVATIONS

Fire and Ice: Space for Climate Action

High Level Summary of the IAF Global Space Conference on Climate Change (GLOC 2023)

Results and Findings

07.11.2023, 11.30-12:00 GMT / UTC



Christian Feichtinger

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GLOC 2023 IPC Co-Chair



Richard Spinrad

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National Oceanic and
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Myriam Morabet

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23 - 25 MAY 2023 | OSLO, NORWAY



A non-conventional conference – bringing together the space community and influencers from the outside

500+ in person participants and 4000+ remote viewers met in Oslo in May 2023

Participants include space and non-space agencies, users, policy makers, commercial industry, philanthropies, and the media

Duration was over 3 days

Summary of GLOC 2023 Conference





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GLOC 2023 Objectives

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Explore how to increase the use of space to enhance climate action

Determine the effectiveness of the public engagement

Evaluate ability to achieve societal benefits based on existing data and services

Identify shortcomings and gaps



Challenges



New methods must be developed to predict extremes in the future

Severe environmental phenomena like floods can no longer be predicted based on historical facts

GLOC 2023 Findings Divided into 5 Categories

1

COLLABORATION

Call for greater collaboration among organizations and countries, especially with the emerging new space entities.

2

COMMUNICATION

More effective space community communication strategies with policymakers and the public, at large.

3

GAPS, LAST MILE AND MORE

Ensuring that 'the last mile' is not forgotten, e.g., reaching everyone on the Earth.

4

DEMONSTRATION TO ACTION

Scaling up successful demonstration projects for global long-term implementation is essential.

5

ADDITIONAL MAJOR POINTS

Other overarching points not captured elsewhere.



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Collaboration

- Existing agencies share data freely and open
- Many agencies are adopting an open-source science policy
- Emerging capability like philanthropies and commercial companies are making contributions
- Robust commercial sector has emerged to acquire, reprocess, and use data
- The connection to the local users needs strengthening



Communication

- **“What”** and **“how”** are common space press themes - but communicating **“why”** is critical to politicians, citizens and end-users
- There is a **gap in knowledge and awareness** across different sectors of how satellite data can help address climate change mitigation and adaptation

“The space community talks to itself as if it were in a bubble”

Ru Abbas - BBC journalist and GLOC Moderator



“Transparency is necessary to align governments, NGO’s and the private sector with common goals”

Espen Barth Eide

Minister of Climate and Environment, Norway





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Addressing the gaps – « The Last Mile »

- Local users need access to information and data that inform local mitigation and adaptation.
- The space community provides great global coverage and numerous and voluminous data-bases, but the need is to “act local” for effective impact and visibility at the local level.
- Countries with poor infrastructure or little wealth from which to build capacity are at risk of not accessing the data streams.



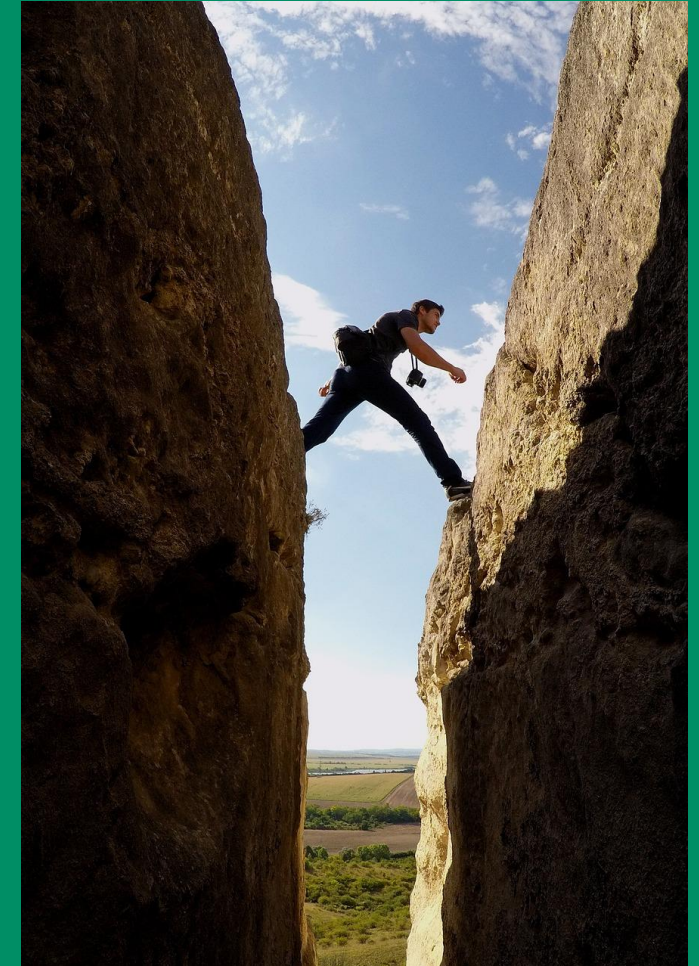
Speed gaps

- The intensity and increasing numbers of climate-related issues are appearing more often, calling for increased measurements of climate variables.
- Agencies need to be faster in developing missions in response to needs.
- The emerging *New Space* may contribute with the implementation of more rapid, smaller missions.



Continuity Gaps

- Understanding climate change involves a long decadal time series of continuous, well calibrated measurements to see the global trends.
- These time series require sustained measurements and that requires a long-term financial commitment.
- To create a long-term data series also requires commitment to continually refine the models and calibration and reprocess of the data.

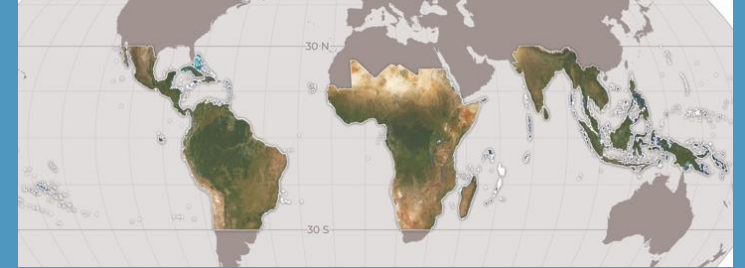


Demonstration to Global Action

Much more can be done if stakeholders for climate action have more knowledge of current successes and future applications of space-based data



Demonstration to Global Action



NICFI (Norway's International Climate and Forest Initiative) provides 158 countries with high resolution data over the tropical forests

preserving biodiversity and fighting deforestation

18.000+ unique users

NICFI-farmer Paulo Evarista tends to his crops in the Amazonas



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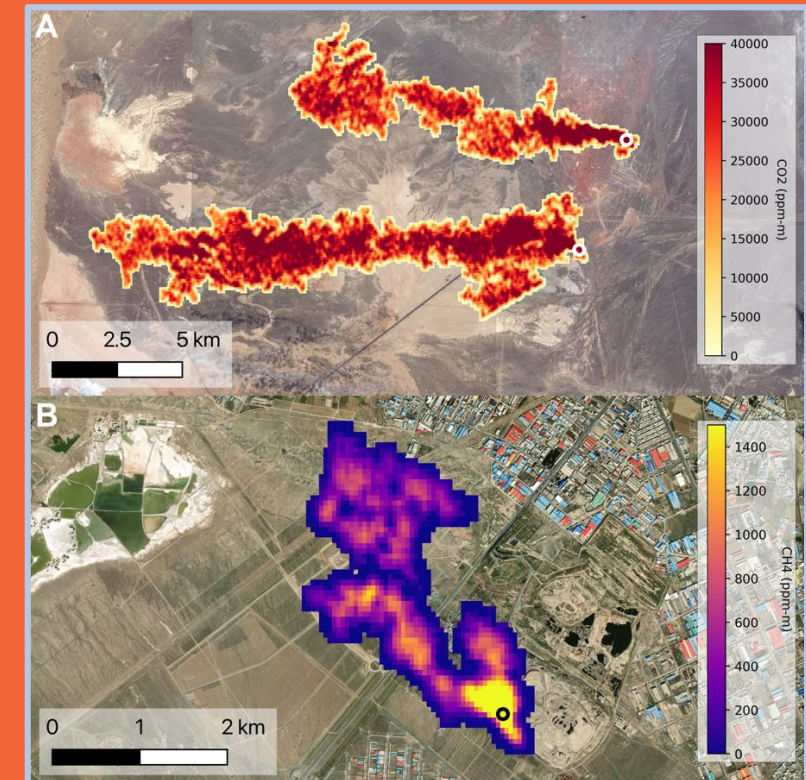
Demonstration to Global Action

Reducing GHG emissions:

- CO₂, Methane, and other GHG measurements are the objectives of some non-traditional space entities

Sustaining the world's fisheries:

- Space based monitoring is contributing to fight illegal, unregulated, unreported fishing
- Some private companies are entering this field although sustainment and business models are key



Additional Major Points

- Wildfires are devastating and are becoming more severe.
- Managers need a vast diverse data set to understand pre-conditions and associated risk as well as post-damage assessment.



Engaging the Next Generation



- Young people are severely impacted by climate change, but also are valuable contributors to climate action.
- The Next Generation should have given a prominent role in addressing the problem.



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The Need for Long Term Support

- Use of both non-space and space data is necessary for better understanding and modelling climate.
- Data continuity is exceedingly important as climate change is a centuries long challenge
- Earth Observation from space can provide a unique global understanding of Earth system phenomena





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Summary of Findings

The space community is making major contributions to modeling and assessing the changing climate

The space community needs to communicate its contributions differently and with persistence to the decision makers and public

The “last mile” to local users is a large impediment to effective climate action

Commitment to long time series of data is crucial to understanding the climate

Collaboration of traditional space community is occurring although integration of the new players needs additional effort.



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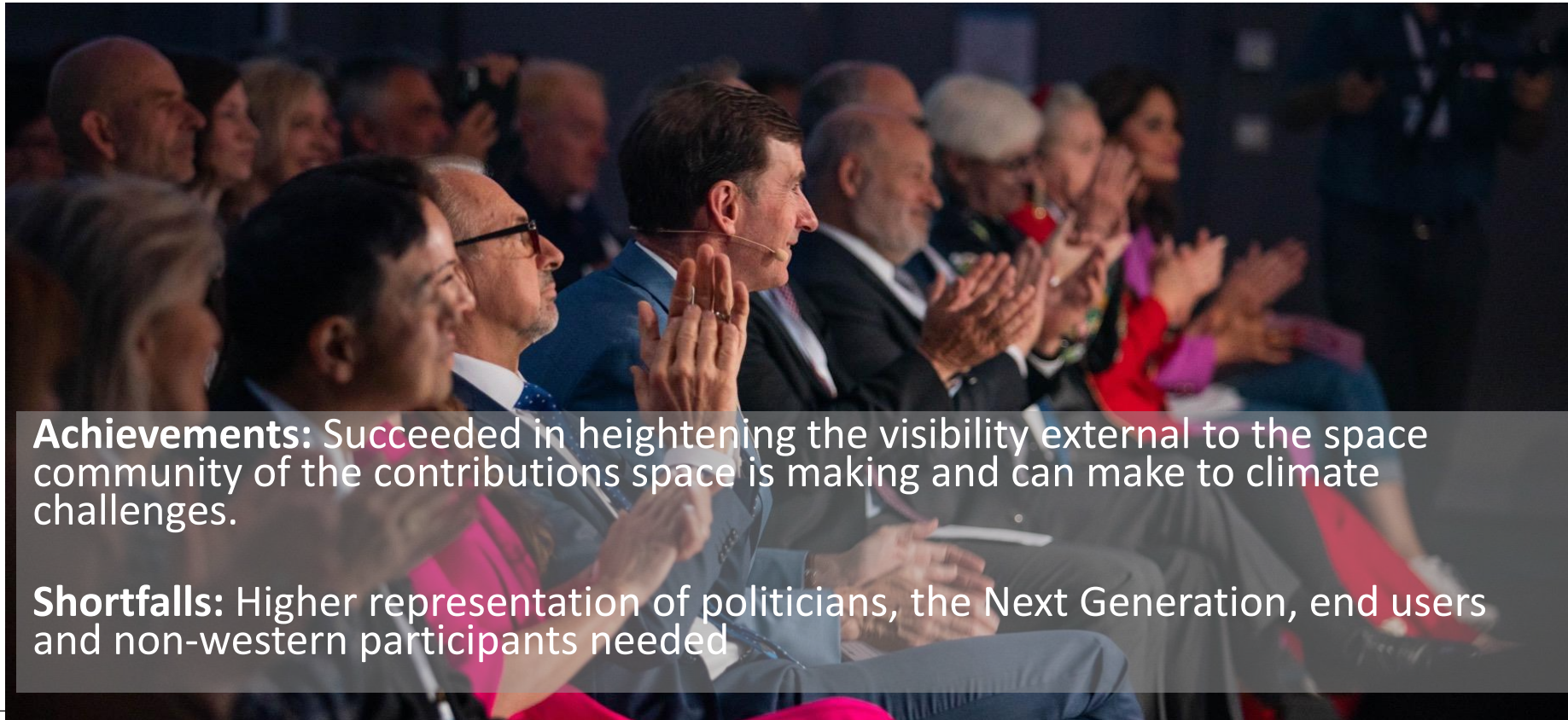


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How did we do?



Achievements: Succeeded in heightening the visibility external to the space community of the contributions space is making and can make to climate challenges.

Shortfalls: Higher representation of politicians, the Next Generation, end users and non-western participants needed





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Next Steps

Now informing the GEO-community during the Group on Earth Observations Ministerial Summit, Cape Town – November 2023

Apprise politicians and policymakers during COP28 in Dubai, December 2023

IAF to plan the next GLOC





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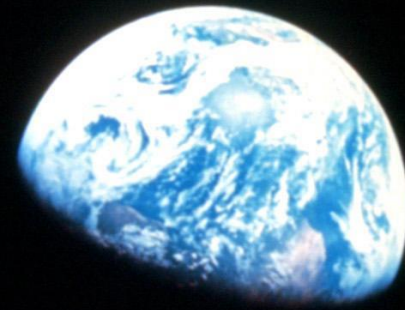
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**“Space will not save the planet, but the planet
will not be saved without space.”**





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6-10 NOVEMBER

CAPE TOWN, SOUTH AFRICA



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