

*The forty-second session of the United Nations Inter-Agency Meeting on Outer Space Activities (UN-Space)
(16-19 October 2023, Brindisi, Italy)*

WMO Updates

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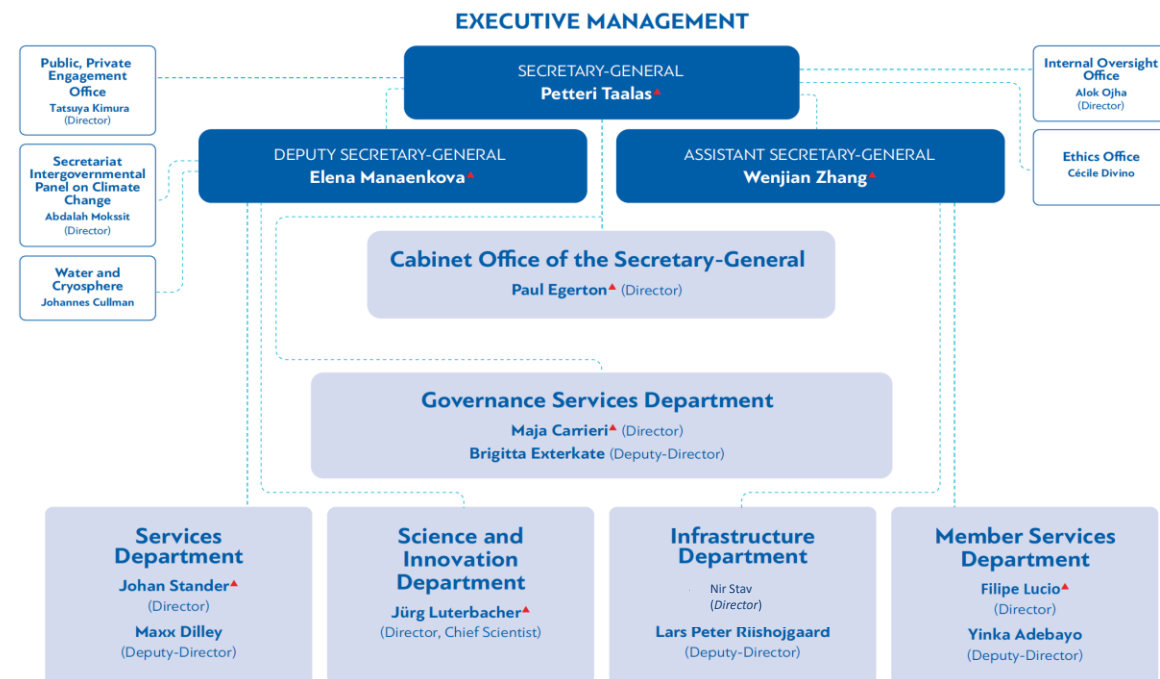


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Space System and Utilization Division a.k.a. WMO Space Programme

- Space System and Utilization Division (SSU) under Infrastructure Department
 - New head of Infrastructure Department is Nir Stav from Israel from 1 Oct 2023
- Staff
 - Natalia Donoho (Division Head)
 - Zoya Andreeva, Jesse Andries and Heikki Pohjola
 - Chang Liu (CMA), JPO
- Expert teams
 - ET-SSU (Space System and Utilization)
 - ET-RFC (Radio Frequency Coordination)
 - ET-SWX (Space Weather)
- Consultants
 - Roger Saunders (OSCAR/Space)
 - Mikael Rattenborg (CGMS SEC, DBNet)



Congress Outcomes



Elections

- Professor A. Celeste SAULO as the Secretary-General
- Dr Abdulla AL MANDOUS (United Arab Emirates) as President
- Mr Daouda KONATE (Côte d'Ivoire) as First Vice-President
- Mr Eoin MORAN (Ireland) as Second Vice-President
- Dr Mrutyunjay MOHAPATRA (India) as Third Vice-President
- Executive Council

Early Warnings for All

One Request

“Today I announce the United Nations will spearhead new action to ensure every person on Earth is protected by early warning systems within five years.”

António Guterres, Secretary-General of the United Nations, 23rd March 2022



Added Value of the Initiative to the Members



Disaster risk knowledge

Systematically collect data and undertake risk assessments

- Are the hazards and the vulnerabilities well known by the communities?
- What are the patterns and trends in these factors?
- Are risk maps and data widely available?



Detection, observations, monitoring, analysis and forecasting of hazards

Develop hazard monitoring and early warning services

- Are the right parameters being monitored?
- Is there a sound scientific basis for making forecasts?
- Can accurate and timely warnings be generated?



Preparedness and response capabilities

Build national and community response capabilities

- Are response plans up to date and tested?
- Are local capacities and knowledge made use of?
- Are people prepared and ready to react to warnings?



Warning dissemination and communication

Communicate risk information and early warnings

- Do warnings reach all of those at risk?
- Are the risks and warnings understood?
- Is the warning information clear and usable?

- Pillar 2 led by WMO relies on the existing WMO Multi-Hazard Early Warning System.
- It adopts a programmatic approach, encompassing global, regional, and national levels.
- Primary focus is on supporting the 30 less developed countries.



Specific responses needed by the space agencies

SERCOM/SC-DRR/ET-EWS: Expert Team on Early Warning Services

Priority hazards defined:

- Tropical cyclones – multi-hazards: wind, rain, storm surge, high wave...
- Floods
- Drought
- Heatwaves
- Other priority hazards identified by Regions/Nations

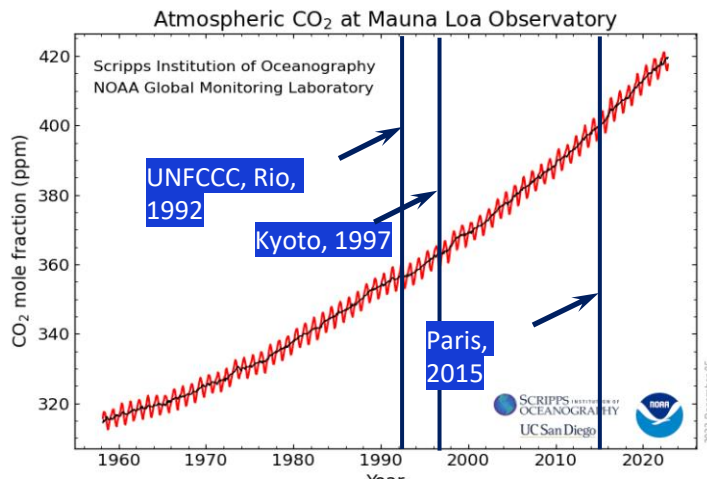
INFCOM/TT-EW4All - Task Team on EW4All:

For satellite products/applications, including nowcasting products:

- Gap Analysis of existing products/applications against priority hazards in WMO regions (RA-I/VI, RA-II/V, RA-III/IV)
- Gap filling: Recommendations for additional products/applications

WMO's Global Greenhouse Gas Watch (G3W)

- Progress toward reducing net anthropogenic GHG emissions under the Paris Agreement continues to be slow
- The assessment of the effectiveness of mitigation action does not take into account its impact on atmospheric greenhouse gas concentrations



Internationally coordinated, global, top-down monitoring of greenhouse gas fluxes will help support the efforts of the Parties to the Paris Agreement meet their targets

WMO Greenhouse Gas Monitoring Symposium, 30.01-01.02 2023
Consensus Statement authored by 170 participants (excerpt):

- *There is an urgent need to {...} develop global, internationally coordinated GHG monitoring to help accurately quantify greenhouse gas sources and sinks*
- *WMO {...} is uniquely positioned to play a significant role in advancing this*
- *Recognizing the urgency, we therefore call on WMO, {...}, to take ownership via*
 - *Convening experts and stakeholders across UN, international programs,*
 - *Leading the development of an initial concept for an integrated framework {...}*

WMO Cg-19 outcome of Cryosphere day

Cg-19: new Strategic Objective 1.5:

Accelerate the **development of integrated systems and services to address global risks associated with irreversible changes in the cryosphere** and downstream impacts on water resources and sea level rise.

Cg-19: Resolution (3.2(3)):

High-level priorities to address global and regional impacts of changes in the cryosphere:

- ***Including action: Sustain advocacy for critical satellite observations and data over polar and high mountain regions to support risk monitoring and assessments and the development of necessary services.***



WMO's role in coordinating with Space Agencies on cryosphere (polar and high mountains) observations

- 2007/08: International Polar Year – Space Task Group: planning, processing, archiving of EO legacy datasets
- 2011-2020: Polar Space Task Group, EC-PHORS: acquisition and distribution of fundamental satellite datasets and products
- **2022: INFCOM2 – agree to establish Task Group – coordination for advancing access to space-based cryosphere observations**
- **2023: CGMS Working Group II recognizes the need for advancing space-based observations for cryosphere, polar and high-mountain areas and recommends WMO to continue the proper mechanism to foster such activities**

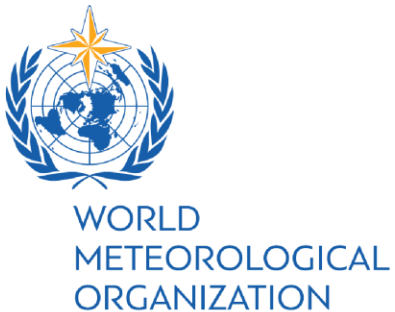
2023 WMO Core Satellite Data Workshop



- New WMO Unified Data Policy (Res. 1) was approved by WMO members in 2021 replacing the old Res 40 (weather), 25(hydrology) and 60 (climate)
- Two main categories of data:
 - Core (*shall* be exchanged)
 - Recommended (*should* be exchanged)
- The policy is addressed to national governments of WMO Members and cannot dictate private sector entities
- Exchange of core data is considered mandatory, irrespective of data origin

Satellite data in WMO Unified Data Policy

- The concept of Core satellite data is framed primarily in terms of importance to global NWP and Nowcasting
- No specific satellite datasets are listed as neither core nor recommended in current draft of policy.
- This is referred to the Manual on WIGOS.



1. Weather-related data

This section lists observational and other data necessary to support weather monitoring and prediction efforts of the WMO Members. Such data are generally exchanged in real or near-real time, depending on the specific application.

1.1 Core observational data:

1.1.1 Surface-based:

Observations provided by the Global Basic Observing Network (GBON) and other observational data, as specified in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160).

1.1.2 Space-based:

(a) Satellite data required in order to ensure the performance and quality of NWP output, as agreed with Members operating satellites or relevant satellite operators, and listed in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160);

(b) Satellite data required to support nowcasting applications including the generation of warning and advisory products, as agreed with Members operating satellites or relevant satellite operators, and listed in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160).

Core Satellite Data Workshop 4-7 December 2023 in Geneva, WMO HQ

- Stakeholder consultations framed primarily in terms of importance of the satellite data for global NWP and nowcasting
 - To get common view of Core satellite data definition for global NWP.
 - To develop an initial list of Earth system data to be exchanged as core data and documented in WIGOS regulatory material
- Target audience (by invitation): space agencies, NWP community members in WMO regions
- Will seek endorsement from INFCOM 3 in April followed by Executive Council and finally WMO Congress for the decision by WMO members
- Status update will be presented in CGMS-52

WMO Position on the WRC-23 agenda

- WMO through Expert Team on Radio Frequency Coordination (ET-RFC) has developed the Position Statement on the World Radiocommunication Conference 2023 (WRC-23) agenda
- Position Statement was adopted by Cg-19 in 2023
- It contains the positions on 21 agenda items of WRC-23 that are of prime interest or concern to WMO members, for example:
 - Continuity of sea surface temperature (SST) measurements
 - Under a significant threat especially due to the planned massive deployment of International Mobile Telecommunications (IMT), in the 6/7 GHz frequency range (WRC-23 Agenda Item 1.2)
 - The recognition of space weather in the context of the ITU Radio Regulations to ensure the protection of space weather sensor operations in the future (WRC-23 Agenda Item 9.1)

Thank you



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