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**Advancing the WMO WIGOS Vision for 2040**

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The WMO Strategic plan outlines the key long-term goals of the organization. Of particular importance is to enhance Earth system observations and predictions. The last decades have seen explosive growth in the demand for weather, climate and water monitoring and prediction data to support essential services needed by all sectors of society, as they face issues such as climate change, increasing frequency and impact of extreme weather, and implications for food security. The free and unrestricted exchange of observational data from all parts of the world and of other data products among all WMO Members is critical to accommodate this growing demand.

The 2021 Extraordinary World Meteorological Congress (11-22 October) approved the new WMO Unified Data Policy Resolution (Res.1). It reaffirms the commitment to the free and unrestricted exchange of data, which has been the bedrock of WMO since it was established more than 70 years ago and is key to addressing the future challenges in access to critical weather, and in general to Earth system monitoring data from space. WMO is therefore working with the Space Agencies to define what kind of space-based observations should be designated as “core” data as per the WMO Unified data Policy, that is data that should be exchanged on a free and unrestricted basis.

The Vision for WMO Integrated Global Observing System in 2040 (Vision2040) presents the ground and space-based observing system we need to operate in 2040 to address the future observational needs of the WMO community. The Vision takes into account not only the changing user requirements, but also builds on anticipated technical and scientific evolutions driving a change in observational capabilities, presenting an ambitious, but technically and economically feasible vision for an integrated observing system that will meet them. However, there are today some key drivers that warrant a stronger engagement by the Space Agencies and a continued level of coordination. Issues like the increase in extreme weather events, the provision of Early Warning Systems for all, as per UN Secretary-General Guterres charge, and provision of high-quality observations for greenhouse gas/carbon monitoring in support of the Paris agreement are just some examples of the increased challenges we are facing.

This paper will give a brief overview of the WMO WIGOS Vision 2040 and new challenges that need to be taken into account in advancing the Vision.