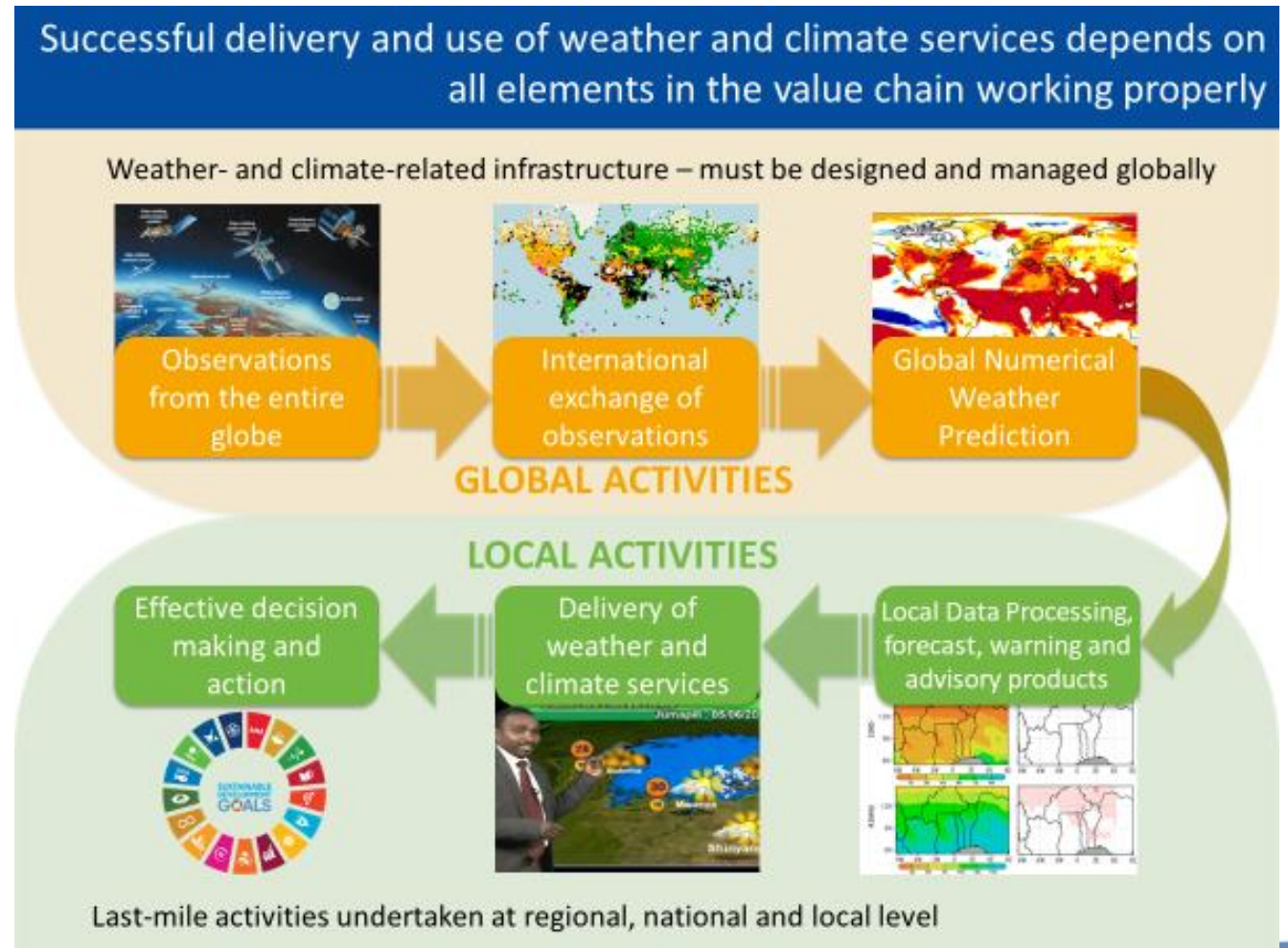


THE NEED TO EXCHANGE DATA

- Weather and climate are local in impact, but the weather and climate systems are global – hence forecasting and monitoring depends on the international exchange of observations and other data
- However, the present exchange of data is incomplete and does not meet the needs of current and future modelling capabilities
- Will be addressed by 3 linked WMO initiatives
 - New Unified Data Policy
 - The GBON (Global Basic Observing Network)
 - The SOFF (Systematic Observations Financing Facility)



WMO UNIFIED DATA POLICY - RESOLUTION 1 (CG-EXT(2021))

Adopts the following policy on the international exchange of Earth system data:

As a fundamental principle of WMO and in consonance with the expanding requirements for its scientific and technical expertise, WMO commits itself to broadening and enhancing the free and unrestricted⁵ international exchange of Earth system data;

Agrees further to maintain a two-tiered approach to the international provision and exchange of Earth system data via the following practice⁶:

- (1) Members shall provide on a free and unrestricted basis the **core** data that are necessary for the provision of services in support of the protection of life and property and for the well-being of all nations, at a minimum those data described in [Annex 1](#) to this resolution which are required to monitor and predict seamlessly and accurately weather, climate, water and related environmental conditions;
- (2) Members should also provide the **recommended** data that are required to support Earth system monitoring and prediction activities at the global, regional and national levels and to further assist other Members with the provision of weather, climate, water and related environmental services in their States and Territories. Conditions may be placed on the use of recommended data;⁷

⁵ "Free and unrestricted" defined in [Annex 4](#).

⁶ The basis for the practice is that Earth system data required to fulfil Members' commitments under the WMO Convention and WMO strategic objectives are encompassed by the combination of core and recommended data exchanged by Members and relevant international organizations.

⁷ "Conditions" may be applied by licensing agreements or other appropriate arrangements.

Word or Phrase	Definition
Free and unrestricted	Free and unrestricted means available for use, re-use and sharing without charge and with no conditions on use.
Without charge	Without charge, in the context of this resolution, means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.

WMO UNIFIED DATA POLICY

- Covers all Earth system data: Weather, Climate, Hydrology, Atmospheric Composition, Cryosphere, Oceans and Space Weather
- Addressed to Members, but covers exchange of data between all partners, including private sector, academia, etc.
- Is not legally binding, and acknowledges

- (8) The need for consistency of WMO Data Policy, and of national implementations thereof, with other policies based on international law, including, in particular, the rules governing marine scientific research in the United Nations Convention on the Law of the Sea (UNCLOS),
- (9) The right of governments, having done their utmost to implement the decisions of Congress, to, based on their national laws and policies, choose the manner by, and the extent to which, they make data available domestically or for international exchange, while still understanding that without reciprocity, international data exchange cannot be sustained,

OCEAN DATA (ANNEX 1 SECTION 6)

- Covers in situ and remotely sensed observational data both in and above the ocean and at the sea surface, from the open ocean to the coast, along with other data that provide necessary input to ocean monitoring and prediction and for a variety of other Earth system applications

Core data (<u>shall</u> be exchanged on a free and unrestricted basis)	Recommended data (<u>should</u> be exchanged)
Marine meteorological and oceanographic observations, as defined in the WIGOS Manual (WMO-No. 1160)	Physical GCOS ECV and physical GOOS EOV observations that have been collected outside of designated GOOS activities
All other physical GOOS EOVs and physical GCOS ECVs collected as part of a GOOS observational network, programme or project consistent with the IOC Oceanographic Data Exchange Policy (IOC Resolution XXII-6)	All other observed biogeochemical and biological/ecosystems GCOS ECVs and GOOS EOVs;
Ocean analysis and prediction fields provided by global NWP systems operating under the auspices of the GDPFS, as defined in the Manual on the Global Data-processing and Forecasting System (WMO-No. 485);	Observations of pH, chlorophyll-A, suspended particles and downwelling irradiance which are fundamental to address significant scientific and societal ocean/climate-related issues
All ocean reanalysis fields provided by the Global Processing Centres of the GDPFS;	
All watches, warnings, advisories and alerts for public safety (protection of life and property) issued by Members' designated warning and alerting authorities according to WMO Technical Regulations	

EOVs AND GOOS OBSERVATIONS OF PRIORITY TO WMO

- A SUGGESTED INITIAL CONTRIBUTION TO GBON

Being part of GBON implies a commitment to exchange the data in line with the WMO Data Policy

EOVs

- Surface Air Pressure (AP) – critical for anchoring NWP models
- Sea Surface Temperature (SST) – provides lower boundary condition over the ocean for most NWP models
- Upper ocean temperature – critical for tropical storm forecasting and in coupled ocean-atmosphere models

OBSERVATIONS

- AP and SST from drifting buoys (Global Drifter Array and Arctic/Antarctic buoys)
- Surface meteorological measurements from VOS (automated and manual) in both EEZs and the High Seas
- Upper ocean temperature (and salinity) data from the global array of Argo floats
- Surface meteorological measurements and where available upper ocean temperature (and salinity) from moored data buoys (in both coastal/EEZ waters and the Tropical Moored Buoy Array)