

WMO Unified Policy for the International Exchange of Earth System Data



WMO OMM

World Meteorological Organization

Organisation météorologique mondiale

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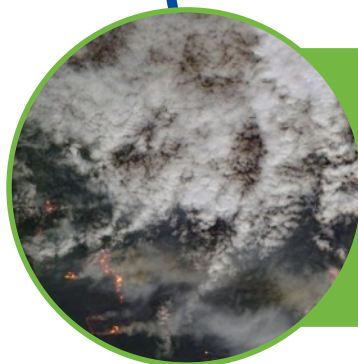
Content

1. Need for international sharing of Earth System monitoring data
2. Modernization & streamlining of WMO data sharing policy – Data Policy
3. Impact on Aircraft-Based Observations

Demand for information about weather, climate and their impacts is exploding



As the climate changes, the frequency of extreme weather events is increasing



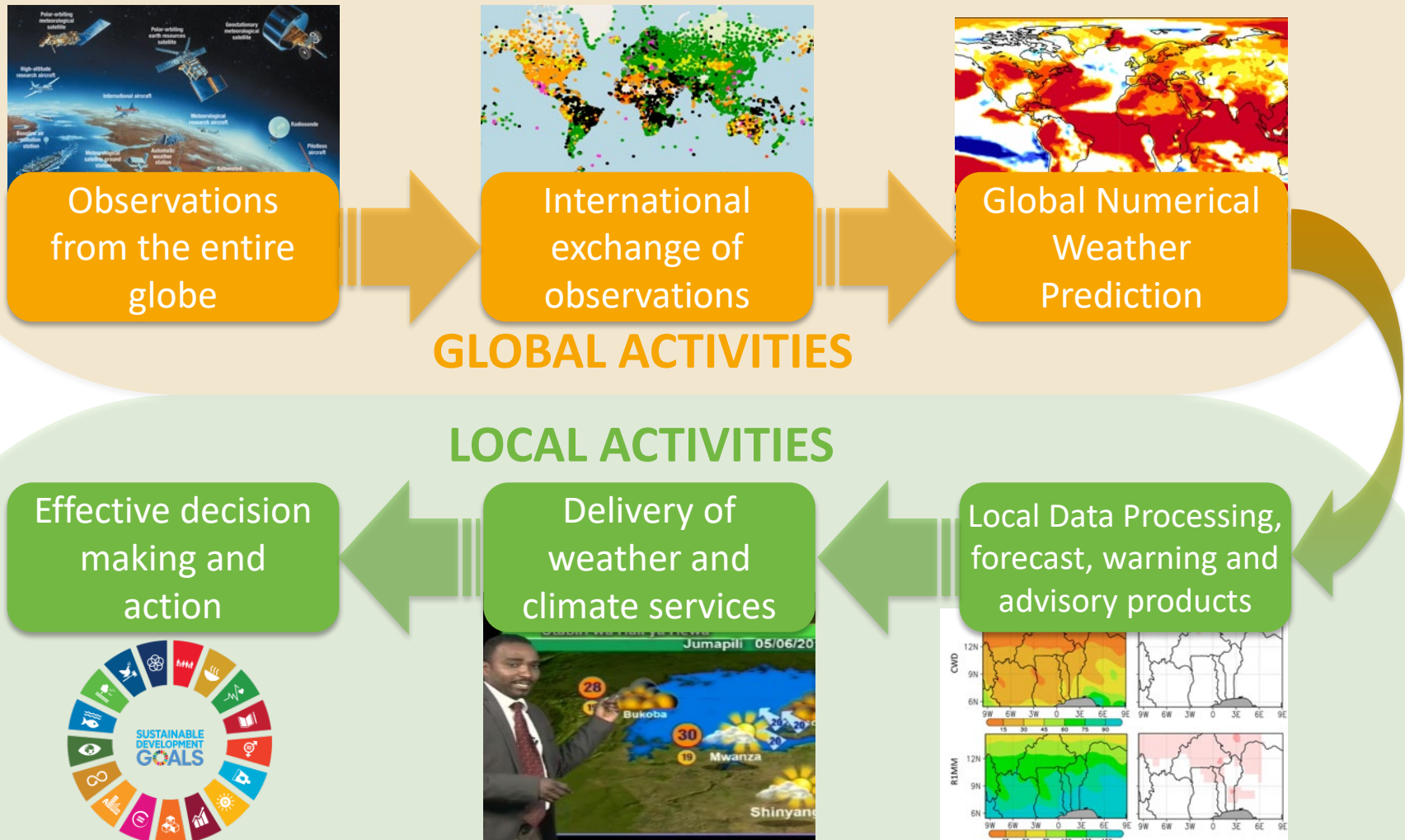
Increased vulnerability due to large populations living in high-risk areas – e.g. concerns about issues such as food security and migration.



The UNFCCC Paris Agreement focus on adaptation and mitigation leads to dramatically increased demand for climate services

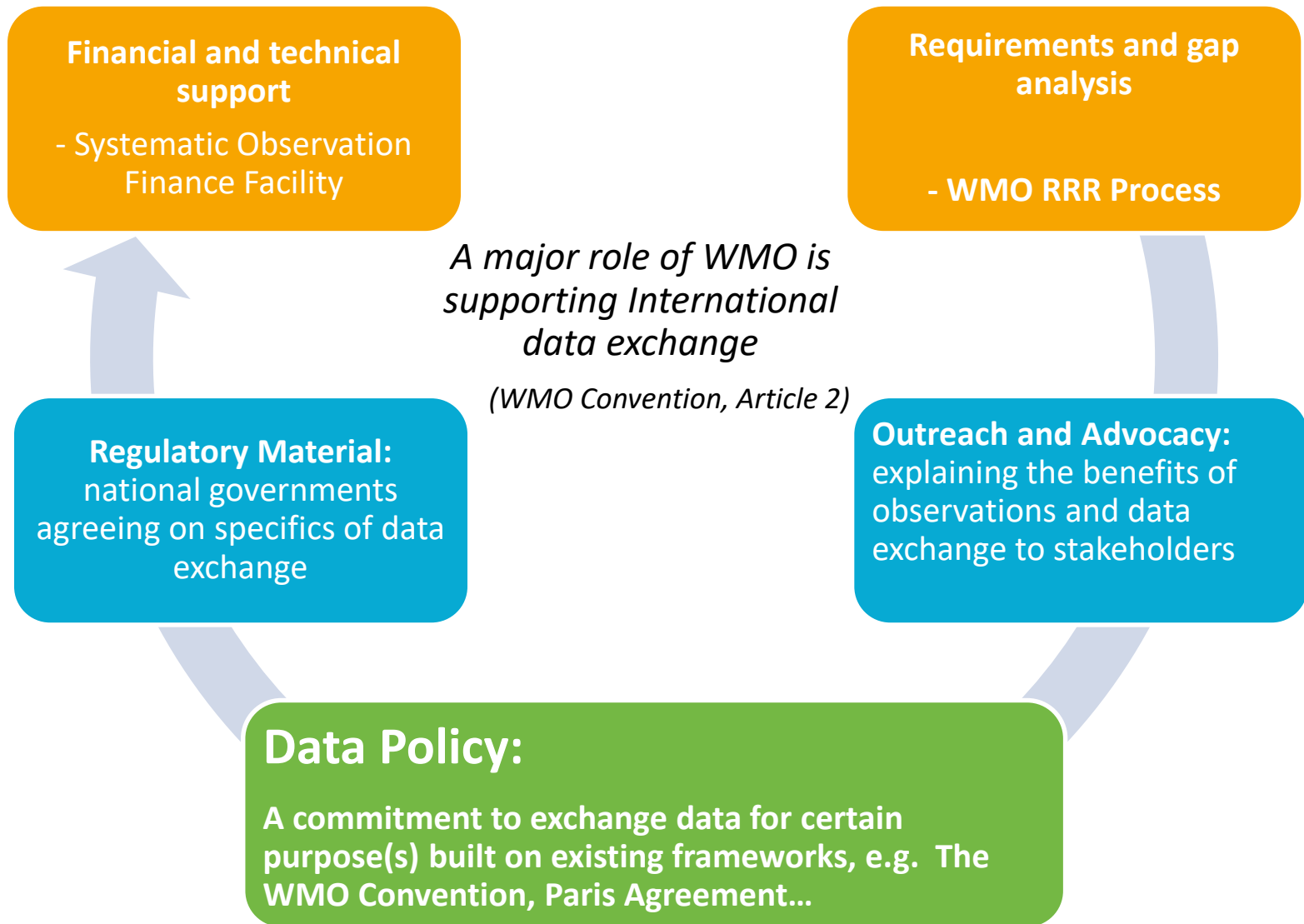
Successful delivery and use of weather and climate services depends on all elements in the value chain working properly

Weather- and climate-related infrastructure – must be designed and managed globally



Whole value chain relies fundamentally on exchange of global, high-quality, Earth Systems data

Five essential ingredients for successful data exchange



Achieving WMO's vision for the future

Improvements are needed to all parts of the value chain from observations to service delivery.

New WMO Data Policy

Supports the value chain from observations, prediction to exchange of data products

Observations from the entire globe

- GBON & SOFF
- WMO Regulations & Requirements

International exchange of observations

- WIS 2.0

Global Numerical Weather Prediction

- Adopting Earth system approach
- GDPFS

Support to local activities

- Capacity Building
- CREWS

NMHSs provide improved weather, climate and environmental services

The new WMO Data Policy

- Covers all WMO disciplines and domains, not just weather – Amalgamation of several WMO Resolutions
- Is modular, therefore easy to maintain and update
- Precise definitions of terms, e.g. “free and unrestricted”
- Extends applicability from NMHS to Member (States) as a whole (all data providers)
- Core data “shall” and Recommended data “should” be exchanged
- Core and Recommended data specified in technical regulations, not in policy



WMO Unified Data Policy

Background and timeline

- **Congress-18**, June 2019, Res. 55, **56**; launch of data policy review
- **SG-DIP-1**; Feb 2020; Review; proposal to draft new resolution
- **EC-72**; Sep 2020; Authority to proceed w/ draft Congress resolution
- **WMO Data Conference** and preparatory events; Sep-Nov 2020; Broad consultations on WMO data policy
- *{Sessions of RAs, TCC, PAC, ...} – throughout 2020 and Q1, Q2 2021*
- **INFCOM-1(III)**; Apr 2020; Intergovernmental recommendation
- **EC-73; June 2021**; Recommended consideration of draft policy at Cg-Ext(21)
- **Cg- Ext(21)**; Oct 2021 – **APPROVED !**



Key changes from Resolution 40

Resolution 40 (1995)

1. Covers weather data only;
2. Two main categories of data:
 - Essential (*shall* be exchanged);
 - Additional (*should* be exchanged);
3. Specific “*essential*” datasets listed directly in Annex I to the resolution (with some reference also to RBSN);
4. “*Free and unrestricted*” exchange (term not defined in the Resolution);
5. Covers exchange of data between NMHSs



Draft recommendation 3.1(4)/1

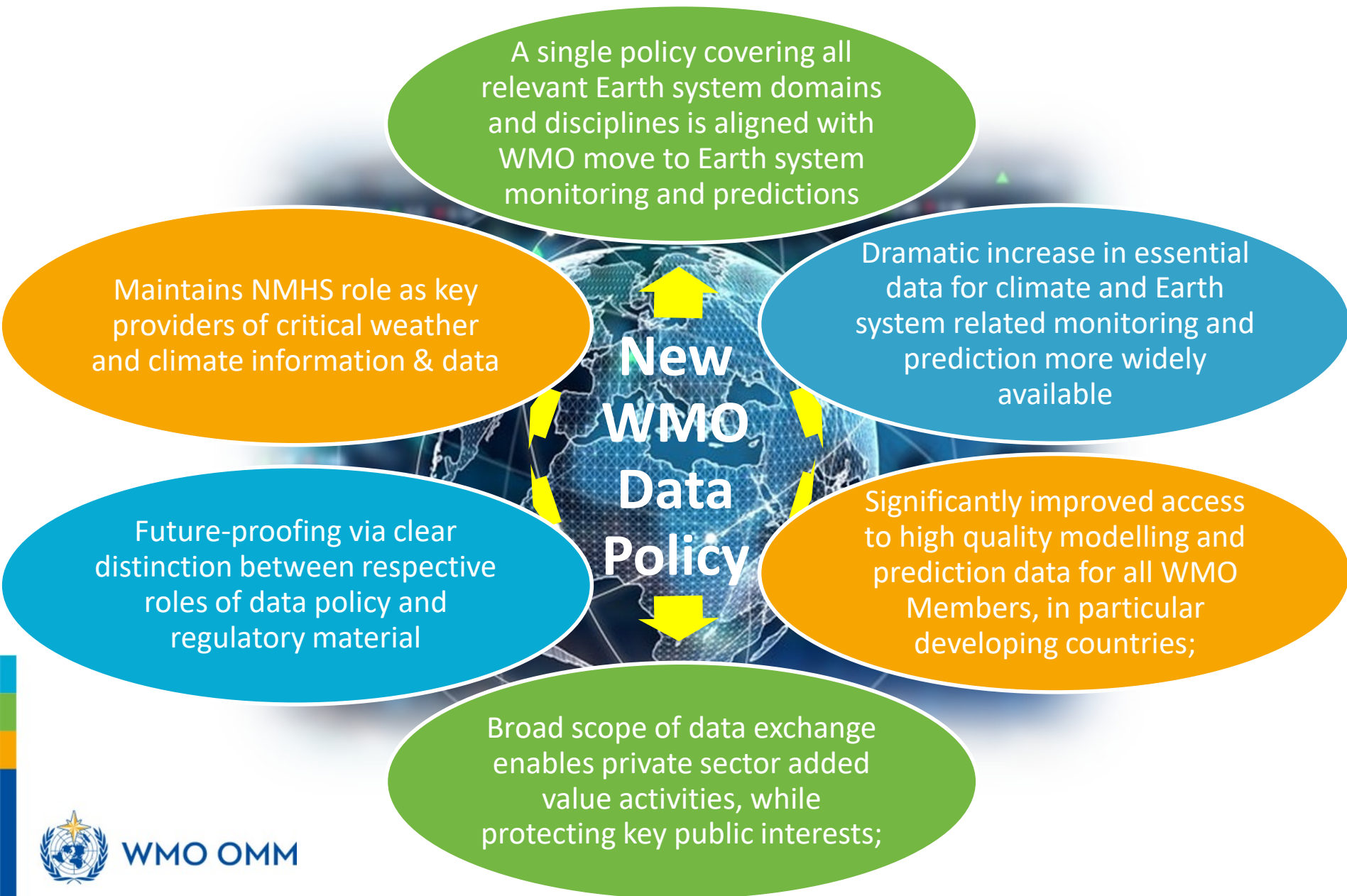
1. Covers all WMO Earth system data: weather, climate, hydrology, ...
2. Two main categories of data:
 - Core (*shall* be exchanged);
 - Recommended; (*should* be exchanged);
3. Specifics on *core* and *recommended* data referred to Technical Regulations, primarily Manuals on WIGOS, GDPFS;
4. “*Free and unrestricted*” exchange (term defined directly in the Resolution, literal interpretation);
5. Addressed to Members, but covers exchange of data between all partners, including private sector, academia, etc.

“Free and unrestricted exchange”

- **What does it mean?**
 - Per Annex 4: *“Free and unrestricted means available for use, re-use and sharing without charge and with no conditions on use¹”*;
- **Why Core data exchange must be Free and Unrestricted**
 - WMO Programs and systems, which include both users and data providers outside the NMHSs, cannot be implemented via a “closed” data exchange;
 - Socioeconomic benefits of open data exchange fully demonstrated in many studies; only way to ensure maximum benefit to all Members, including protection of life and property;
 - Emergence of global NWP as core underpinning capability has demonstrated the critical need for fully global exchange of both observations and model output;
 - Research and operational communities are inextricably linked; two-way data exchange is essential;
 - Private sector now major data user and data provider; clear rules needed in order for both public and private sectors to thrive and benefit mutually;

¹Requests for attribution not considered a condition; attribution recommended

Benefits of new Data Policy



Impact on Aircraft-Based Observations

- Very difficult to impose “Free & Unrestricted” on “3rd Party” data sources
- AMDAR never should have been “Essential Data” under Resolution 40
- Under the WMO-IATA Collaborative AMDAR Program (WICAP), restrictions dictate ABO cannot be “Core” exchanged data
- Turbulence data has even tighter restrictions – at this time, WMO has not come to terms with IATA for a global data-sharing arrangement



Summary

Weather forecasts and climate predictions of more than a few days require global inputs

Global free and open exchange of observations and data products is the vital link between measurements and weather and climate and other environmental services

Improving the WMO data policy is a key part of WMO's efforts to support the whole value chain from observations to services

The new WMO Data Policy will

- Support free and unrestricted data exchange of Earth system data
- Better align with WMO strategic plan and Earth system approach
- Lead to improved forecasts and predictions, and improved services
- Improve access to prediction data
- Save lives, protect livelihoods

Thank you

<https://public.wmo.int/en/our-mandate/what-we-do/observations/Unified-WMO-Data-Policy-Resolution>



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The WMO Unified Data Policy Resolution



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