



World Meteorological Organization

Weather • Climate • Water

WMO Data Policy (Resolutions 40, 60) and Update on CBS Discussions

CM-13

Item 3: Data Exchange Policies

World Meteorological Organization (WMO)

28 January 2016

Background and Motivation

- Prospect of private-sector operators of basic satellite systems has triggered renewed attention to the issue of data access for global WMO applications, in particular for near-real-time applications.
- Private actors propose models of data commercialization and utilization whereby they plan to sell data under a restricted use licence to users
- There is potential value in exploiting data from private operators of meteorological satellite observing systems
- Potential risks include:
 - loss of transparency in data generation and quality control
 - detriment to global exchange of data under WMO Res. 40
 - more difficult int'l coordination of satellite missions
 - diversion of public funds needed for the operation of other observing systems



WMO Resolution 40 (Cg-XII, 1995)

- To secure free and unrestricted international exchange of meteorological data to enable all WMO Members to generate forecasts and warnings for the provision of services



WMO Resolution 40 (Cg-XII, 1995) (Extract, 2/6)

- Recognizes:
 - (5) The continuing need for, and benefits from, strengthening the capabilities of NMSs, in particular in developing countries, to improve the provision of services,
 - (6) The dependence of the research and education communities on access to meteorological and related data and products,
 - **(7) The right of Governments to choose the manner by, and the extent to, which they make data and products available domestically or for international exchange,**



WMO Resolution 40 (Cg-XII, 1995) (Extract, 4/6)

- Adopts the following **policy** on the international exchange of meteorological and related data and products:
- As a fundamental principle of the World Meteorological Organization (WMO), and in consonance with the expanding requirements for its scientific and technical expertise, WMO commits itself to broadening and enhancing the free and unrestricted¹ international exchange of meteorological and related data and products;
- (1) Non-discriminatory and without charge



WMO Resolution 40 (Cg-XII, 1995) (Extract, 5/6)

- Adopts the following **practice** on the international exchange of meteorological and related data and products:
- (1) Members shall provide on a free and unrestricted basis **essential** data and products which are necessary for the provision of services in support of the protection of life and property and the well-being of all nations, particularly those basic data and products, as, at a minimum, described in **Annex 1 to this resolution**, required to describe and forecast accurately weather and climate, and support WMO Programmes;
- (2) Members should also provide the **additional** data and products which are required to sustain WMO Programmes at the global, regional, and national levels and, further, as agreed, to assist other Members in the provision of meteorological services in their countries. While increasing the volume of data and products available to all Members by providing these additional data and products, it is understood that WMO Members may be justified in placing conditions on their re-export for commercial purposes outside of the receiving country or group of countries forming a single economic group, for reasons such as national laws or costs of production;



WMO Resolution 40 (Cg-XII, 1995) (Annex 1)

- Annex 1 to Resolution 40 is broad regarding “essential” satellite data, saying that
- “...data from the RBSNs and as many data as possible that will assist in defining the state of the atmosphere...”
- “Those data and products from operational meteorological satellites that are agreed between WMO and satellite operators. (These should include data and products necessary for operations regarding severe weather warnings and tropical cyclone warnings). “
- Comment: “Satellite operators” include intergovernmental agencies such as EUMETSAT; could include other public or private entities



Comments on WMO Resolution 40 (Cg-XII, 1995)

- The distinction of “essential” and “additional” data in the sense of Res. 40 has helped that different data access and distribution policies could coexist among WMO Members:
 - Those Members with a data policy favouring open and free access declared most or all their data “essential”
 - For others with more restricted data policies, the Resolution enabled commercial / restricted distribution of some data while declaring other data as “essential”



Comments on WMO Resolution 40 (Cg-XII, 1995)

- Satellite data exchange and use has dramatically changed since 1995, due to:
 - A transformed ICT landscape, allowing for a range of data access and exchange mechanisms beyond managed, point-to-point lines (e.g., internet, DVB-S), and data reproduction at virtually no cost to providers;
 - Dramatic improvements in temporal and spatial resolution from satellites; and
 - The NWP community being the single largest satellite data user today, whereas Res. 40 Annex I is formulated against a 1990s backdrop of mainly using (geostationary) satellite imagery for nowcasting and severe weather warnings



Climate data: WMO Resolution 60 (Cg-17, 2015)

- Regarding (non-real-time) climate data, Resolution 60 advocates that GFCS relevant data and products developed or acquired under WMO auspices should be made accessible among Members on a free and unrestricted basis;
- The Annex to the Resolution specifies that such data include, among others:
 - “(3) Climate relevant coastal interface data, in particular sea level, waves and storm surges;
 - (4) Data on the composition of the atmosphere including aerosols;
 - (5) Climate relevant satellite data and products;
 - (6) Climate relevant cryospheric data, in particular snow cover, snow depth, glacial monitoring, permafrost and lake and river ice.”



Update on discussions in CBS Expert Teams

- Expert Team on Satellite Systems (9th session, 2015):
 - Recognized potential value of exploiting private-operated satellite assets
- Identified associated risks, in particular:
 - Loss of transparency of the observation and processing chain, and control over integrity and reliability of the data. This may happen if some information cannot be disclosed because they involve proprietary knowledge, or in case of conflict of interests. This risk has to be fully controlled through contracts.
 - Limitations to data access. Maintaining and expanding international data sharing is a fundamental goal of WMO, regulated by Resolution 40. Essential data must be exchanged openly without any restrictive condition, but the exchange of additional data may be subject to conditions and possibly charged.
 - Preserve international mission coordination for the smooth implementation of the WMO-agreed vision, with priority effort to fill the gaps, and on interoperability.



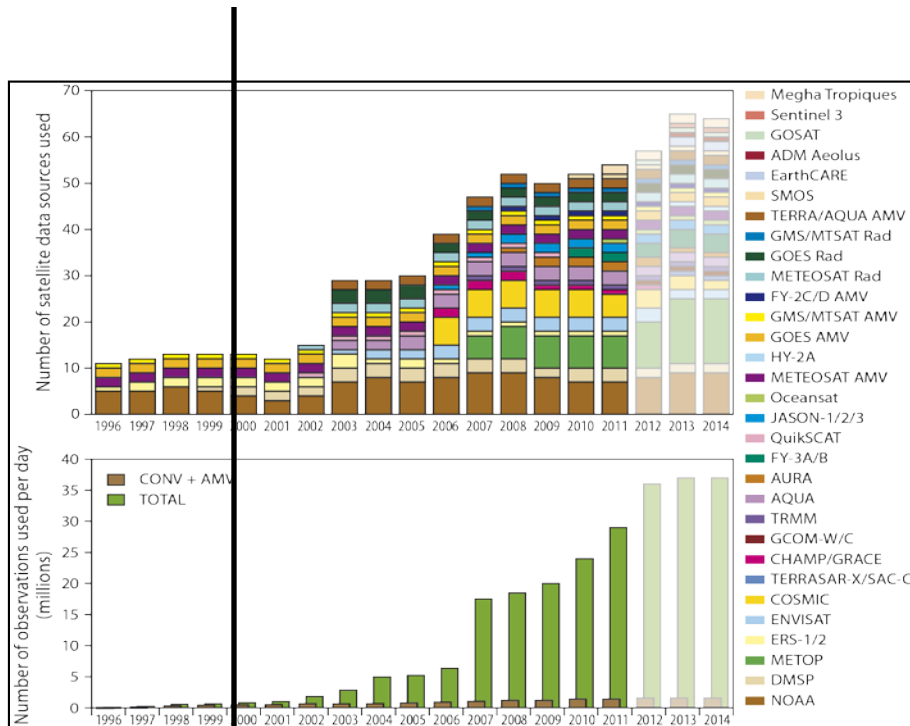
Update on discussions in CBS Expert Teams

- Inter-Programme Expert Team on Satellite Utilization and Products (1st session, 2015):
 - decided to develop a Position Paper from the satellite user perspective on what types of satellite data should be considered essential, i.e. available on a free and unrestricted basis (in the sense of Resolution 40), for the protection of life and property (WMO applications)
 - this is work in progress.

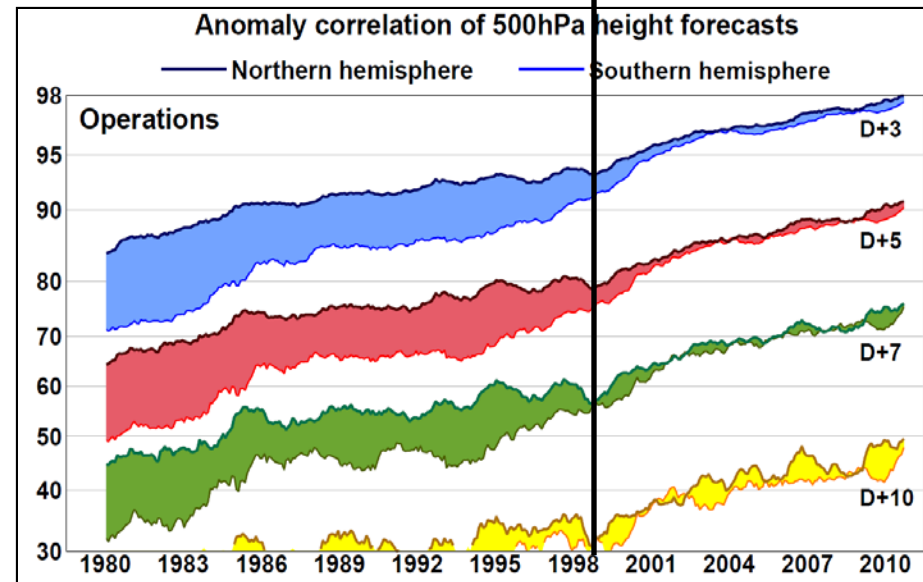


Concluding Remarks

- Progress over past 20 years in using satellite data for WMO applications has been critically dependent on international satellite data exchange



Source: ECMWF



Satellite datasets used at ECMWF

Concluding Remarks

- Session invited to discuss a WMO position on the potential implications of satellite data provision by private operators, on access and quality of such data for WMO applications.
- Such a position should focus on how WMO Members can derive best value from satellite data (and avoid reduced quality of services, e.g. due to reduced data exchange or decreased data quality)
- May also consider data derived from private-operated non-satellite observing systems
- It is the responsibility of Governments and WMO to ensure quality of service for end users





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Thank you for your attention

www.wmo.int/sat

