



Development of a WMO Position on Critical Satellite Data

Presented to CGMS-46 Plenary session, agenda item C

Contents

- Background
- Purpose
- Basic Principles for Critical Satellite Data
- Critical Satellite Data – GEO
- Critical Satellite Data – LEO
- Next Steps

Background

- The prospect of private-sector operators of basic satellite systems has triggered renewed attention to the issue of data access and availability for global WMO applications, in particular for near-real-time applications.
- The fourth session of the Inter-Programme Expert Team on Satellite Utilization and Products (IPET-SUP-4), convened in Geneva, Switzerland, from 26 February to 1 March 2018, finalized a position paper on critical satellite data for WMO applications, and implications of a possible revision of WMO Resolution 40 Annex 1.

Purpose

- To provide a satellite data user perspective on the principles that should apply to critical satellite data generation and distribution, i.e., to data that are critical for the protection of life and property.
- It is intended to guide public agencies responsible for the provision of satellite data for weather, water, climate and related environmental applications, and commercial operators of Earth-observing satellite systems.

Basic Principles for Critical Satellite Data

- **Principle 1:** Free and unrestricted international exchange between WMO Members of critical satellite data in near real-time
- **Principle 2:** Transparency in instrument characteristics and processing steps
- **Principle 3:** Documented user engagement and potential impact on applications
- **Principle 4:** Documented algorithms and information to support validation (indication of maturity)

Basic Principles for Critical Satellite Data

- **Principle 5:** Information on data latency, data format, processing tools available
- **Principle 6:** Timely provision of pre-validated data to users
- **Principle 7:** Unrestricted access to archived data
- **Principle 8:** Plans for sustained data provision

Critical Satellite Data - GEO

GEO imagery	Nowcasting, NWP
GEO sounding channels	Nowcasting, NWP
GEO lightning	Nowcasting
GEO space environment and weather data	Space weather

Critical Satellite Data - LEO

Operational LEO VIS-IR imagery	Nowcasting, Ocean applications, Agricultural meteorology
LEO IR sounding	Global NWP
LEO MW sounding	Global NWP
LEO MW Imagery	Global NWP, Nowcasting, Ocean applications
Scatterometry	Ocean applications, Global NWP
Ocean surface topography by radar altimetry	Ocean applications
Radio-occultation sounding	Global NWP
Broadband VIS/IR radiometry for Earth Radiation Balance	Global NWP
Total Solar Irradiance	Global NWP
Atmospheric composition	Atmospheric Composition services in Urban and Populated Areas; Forecasting Atmospheric Composition
Narrow-band VIS/NIR imagery for ocean colour, vegetation, aerosols	Ocean applications; Agricultural meteorology; Aviation meteorology
High-resolution multi-spectral VIS/IR imagery	Agricultural meteorology; Hydrology
IR dual-angle view imagery for SST	Ocean applications, Sub-seasonal to longer predictions
Particle detection and/or electron density	Space weather
Magnetic field	Space weather
Solar activity	Space weather

Next Steps

- CBS Management Group (CBS-MG) agreed to submit a draft decision for the 70th session of the WMO Executive Council (EC-70) to
 - translate the Critical Satellite Data Position Paper into WMO guidance material;
 - publish it as a WMO Space Programme technical publication; and
 - widely publicize it.

Key issues of relevance to CGMS:

- IPET-SUP at its meeting in 2018 finalized of a position paper on critical satellite data for WMO applications, and implications of a possible revision of WMO Resolution 40 Annex 1.
- CBS Management Group (CBS-MG) agreed to submit a draft decision for the 70th session of the WMO Executive Council (EC-70) to translate the Critical Satellite Data Position Paper into WMO guidance material, to publish it as a WMO Space Programme technical publication and to widely publicize it.
- In response to CGMS action A45.09.
- Reference to HLPP 1.1.

To be considered by CGMS:

- CGMS to take note of this development.

