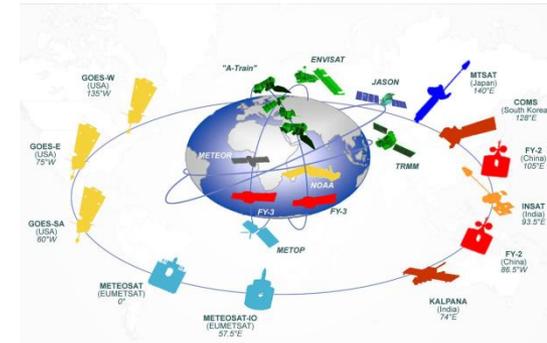


WMO-Related Issues on Climate Architecture

Presented to CGMS-47
(Plenary Session, Agenda Item 3.1.4)

Abstract/Summary:

- Discussions on the development of an “Architecture for Climate Monitoring from Space” which aimed to engage “R&D space agencies” in the same way as operational space agencies were engaged in weather monitoring began around 2005-2009.
- This led to the adoption of Resolution 19 (Cg-XVI) at the World Meteorological Congress in 2011, which requested WMO to “to develop an architecture ... for climate monitoring...”
- In response to Resolution 19 (Cg-XVI) a draft resolution on the “Implementation of the Architecture for Climate Monitoring from Space” will be submitted to the 18th World Meteorological Congress in June 2019 (Cg-18)



Background

- Discussions on the development of an “Architecture for Climate Monitoring from Space” were initiated by Jim Purdom and Tillmann Mohr around 2005-2009
- Aimed to engage “R&D space agencies” in the same way that operational space agencies were engaged in weather monitoring
- Led to Resolution 19 (Cg-XVI) of World Meteorological Congress in 2011

Resolution 19 (Cg-XVI)

ABRIDGED FINAL REPORT OF SIXTEENTH CONGRESS

Resolution 19 (Cg-XVI) - DEVELOPMENT OF AN ARCHITECTURE FOR CLIMATE MONITORING FROM SPACE

THE CONGRESS,

Noting:

- (1) Article 2 of the Convention of the World Meteorological Organization,
- (2) Resolution 5 (Cg XIV) - WMO Space Programme,
- (3) Resolution 30 (Cg-XV) - Towards enhanced integration between WMO observing systems,
- (4) Paragraph 9.2.5 of the *Abridged Final Report with Resolutions of the Fifteenth World Meteorological Congress* (WMO-No. 1026) reaffirming the Executive Council decisions to provide full support for the GEO process and resulting GEOSS and to support its implementation to the maximum extent possible within the WMO mandate,
- (5) Resolution 3 (Cg-XVI) - Global Observing System,
- (6) Resolution 48 (Cg-XVI) - Global Framework for Climate Services,

Considering:

- (1) The benefits that have been achieved through the coordinated, collaborative and cost-effective approach to the planning and operation of an end-to-end system for weather observations, modelling, analysis and forecasting,
- (2) The increasingly important role that space-based observations are playing in the long-term monitoring of the Earth's environment,
- (3) The substantial investment that Members have made in Earth-observation satellites to monitor and study weather, water, climate and related natural disasters,
- (4) The importance of long-term, sustained and coordinated observations of the Earth's climate, climate change and variability for the world's population, and particularly those at most risk,
- (5) The benefits in efficiency, sustainability and cost-effectiveness that could be achieved through increased coordination of efforts among all parties involved in the planning and implementation of space-based observational capabilities and related operational processing activities for climate monitoring,
- (6) The underpinning role that observations will play in the Global Framework of Climate Services (GFCS),
- (7) The importance of integration of ground-based and space-based observations in the successful implementation of the WMO Integrated Global Observing System (WIGOS),

WMO Resolution 19 (Cg-XVI) of 2011, requested WMO to

- “to develop an architecture ... for climate monitoring as a component of the future WIGOS and GFCS, for consideration by Congress”,
- as a “major initiative of the WMO Space Programme”, and
- “in coordination with satellite operators, CEOS, CGMS, GCOS, GEO and WCRP”.



Resolution for Cg-18

- WMO EXTRANET -



WORLD METEOROLOGICAL ORGANIZATION
WEATHER CLIMATE WATER

Please visit our public website:
<http://public.wmo.int>

Home

Architecture for Climate Monitoring from Space

PROGRAMMES > Space > Architecture for Climate Monitoring from Space

Commission for Basic Systems / OPAG on Integrated Observing Systems

Workshop on the WMO Role in the Architecture for Climate Monitoring from Space

Date: 6 February 2019, 9:00 - 17:00
Venue: WMO HQ, Geneva, Room "8 Jura " (8th floor)

ALL DOCUMENTS AND PRESENTATIONS

Agenda Item	Related Working Documents for Discussion
1	Welcome and Organization of the Session [Provisional Agenda , Invitation Letter]
2	WMO Role in the Architecture for Climate Monitoring from Space (WMO)
3	WGClimate and Architecture for Climate Monitoring from Space (Chair WGClimate)
4	SCOPE-CM and Architecture for Climate Monitoring from Space (Chair SCOPE-CM)
5	Discussion of Draft Consensus Paper on the Architecture for Climate Monitoring from Space (Paper , Presentation) (All)
6	Preparation of Climate Event at the 18th World Meteorological Congress (Cg-18)
7	Closing

Information Documents

I.1 [Cg Resolutions and EC Decisions related to the Architecture for Climate Monitoring from Space](#)

Programme Overview

⇒ Space-based GOS

⇒ Data Access & Use

⇒ Awareness & Training

⇒ Space Weather

Regional Activities

Information Resources

Partners

CGMS

GOS

WIGOS

WIS

OSCAR Database

- Discussions at CGMS-46 in 2018 (CGMS-46-WMO-WP-06)
- Workshop organized at WMO on 6 February 2019
- Participation by the major stakeholders
- Agreed on purpose, title, scope and elements of a Draft Resolution for Cg-18, responding to Resolution 19 (Cg-XVI)



Draft Resolution 6.1(5)/1



World Meteorological Organization
WORLD METEOROLOGICAL CONGRESS
Eighteenth Session
Geneva, 3 to 14 June 2019

Cg-18/Doc. 6.1(5)
Submitted by:
Secretary-General
26.IV.2019
DRAFT 1

AGENDA ITEM 6: EARTH SYSTEM OBSERVATIONS AND PREDICTIONS

AGENDA ITEM 6.1: WMO Integrated Global Observing System

SPACE-BASED OBSERVATIONS

DRAFT RESOLUTIONS

Draft Resolution 6.1(5)/1 (Cg-18)

IMPLEMENTATION OF THE ARCHITECTURE FOR CLIMATE MONITORING FROM SPACE

THE WORLD METEOROLOGICAL CONGRESS,

Recalling Resolution 5 (Cg-XIV) – WMO Space Programme, which initiated a new major WMO Space Programme as a cross-cutting programme to increase the effectiveness and contributions from satellite systems to WMO Programmes,

Recalling Resolution 19 (Cg-XVI) – Development of an Architecture for Climate Monitoring from Space, which requested WMO to develop the architecture for climate monitoring from space as:

- (1) A component of the future WMO Integrated Global Observing System (WIGOS) and the Global Framework for Climate Services (GFCS), for consideration by Congress,
- (2) A major initiative of the WMO Space Programme and as an important component of WIGOS and in coordination with satellite operators, the Committee on Earth Observation Satellites (CEOS), the Coordination Group for Meteorological Satellites (CGMS), the Global Climate Observing System (GCOS), the Group on Earth Observations (GEO) and the World Climate Research Programme (WCRP),

Recalling further

- (1) The Abridged Final Report with Resolutions of the Seventeenth World Meteorological Congress (WMO-No. 1157), paragraph 4.2.4.16, in which Congress underscored the need for the satellite operators and the Secretariat to pursue the development of the Architecture for Climate Monitoring from Space with a view to ensure seamless continuity of climate monitoring satellite programmes, comparability of measurements, provisions for continuity and contingency, and traceability to reference standards,
- (2) Resolution 1 (EC-68) – WMO support to the Paris Agreement, in which Executive Council decided to further address the provision of reliable, long-term, high-quality observations of global atmospheric composition changes through the revised GCOS Implementation Plan addressing Systematic Observations in support of the United Nations Framework Convention on Climate Change (UNFCCC), the Global Atmosphere Watch (GAW) and

- Recalls background and history.
- Confirms importance of the architecture
- Describes the architecture and its status
- Recognizes contributions of all stakeholders
- Reflects, acknowledges and expresses appreciation for achievements
- Endorses its continued implementation
- Requests continued support of space agencies



Resolution Roadmap

- Drafted by WMO Secretariat, based on input provided by all stakeholders (February)
- Reviewed by WGClimate-10 (19-22 March)
- Acknowledged by CEOS-SIT-34 (2-4 April)
- **Seeking acknowledgement by CGMS-47 (23 May)**
- **Seeking endorsement by Cg-18 (7 June)**

Proposed Cg-18 Climate Demonstration

- Decision 35 (EC-70):
“(3) To request the Secretary-General to invite the CEOS-CGMS Joint Working Group on climate to give a demonstration of the architecture for climate monitoring from space at the Congress-18.”
- Demonstration shall also support endorsement of Resolution 6.1(5)/1 at Cg-18
- WMO and WGClimate planning towards organizing such a demonstration at Cg-18
- Preferred dates: 6 or 7 June 2019

To be considered by CGMS:

- CGMS to acknowledge the draft resolution contained in the annex to working paper CGMS-47-WMO-WP-04.
- CGMS agencies to maintain their efforts towards full implementation of the space-based climate observing system component in accordance with the Vision for WIGOS in 2040.

