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COMMISSION FOR BASIC SYSTEMS  
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

INTER-PROGRAMME EXPERT TEAM ON SATELLITE UTILIZATION AND  
PRODUCTS

ITEM: 1.2

FOURTH SESSION

Original: ENGLISH

GENEVA, SWITZERLAND, 26 FEBRUARY – 1 MARCH 2018

## EXPLANATORY MEMORANDUM

### 1. ORGANIZATION OF THE SESSION

#### 1.1 Opening of the session

The session opens at 9.00 on Monday 26 February 2018 in room 7 LAKE in WMO Headquarters, Geneva, Switzerland. Registration will take place as of 8.30. The meeting will be chaired by Stephen English (European Centre for Medium-Range Weather Forecasts - ECMWF).

The objective of this third session is to organize the Team's activities around the 2016-2019 IPET-SUP work programme defined by the WMO Commission for Basic Systems (CBS), in particular: global and regional satellite data exchange issues; technical and programmatic aspects of satellite data distribution and access; consistent use of metadata for discovering and describing satellite data; Sustained Coordinated Processing of Environmental Satellite Data (SCOPE) mechanisms to foster consistent satellite product generation; preparing users to the new generation of satellites; training and education.

#### 1.2 Adoption of the agenda

A provisional agenda was developed by the IPET-SUP Chair and the Secretariat. The agenda, as contained in IPET-SUP-4/Doc. 1.2(1), will be submitted to the session for adoption. The order and timing of agenda items may be modified and additional agenda items may be introduced if agreed by the participants.

#### 1.3 Working arrangements for the session

The work of the session will be conducted in Plenary and in break-out groups as required (Rooms 6 LAKE and 8 JURA are available). The session and the related documentation will be in English only. Working documents will be available before the meeting, in electronic form only, through the IPET-SUP-4 web page: <http://www.wmo.int/pages/prog/sat/meetings/IPET-SUP-4.php>.

The session will decide on other arrangements for the session such as its working hours, as indicated in the agenda.

### 2. CHAIRMAN'S REPORT AND HANDOVER OF DUTIES

The IPET-SUP Chairman will provide his views and strategic priorities in advancing the Team's work programme, and specific guidance for the session.

### **3. GUIDANCE FROM THE CHAIRPERSON OF OPAG IOS**

The Chairperson of the CBS Open Programme Area Group on Integrated Observing Systems (OPAG IOS), Anthony Rea, in coordination with the Chair, informs the Expert Team on his expectations from IPET-SUP in the context of OPAG IOS. He also provides an overview of the WMO governance in which the Team operates. IPET-SUP should develop ideas for its work programme in the period 2020-2023.

### **4. ACTION REVIEW AND RELEVANT MEETINGS**

The Chair and Secretariat provide a review of IPET-SUP Actions and a short briefing on results of relevant meetings held over the past year, such as the 3<sup>rd</sup> session of CBS Inter-Programme Expert Team on Observing System Design and Evolution (IPET-OSDE) and the 10<sup>th</sup> session of the CBS Implementation-Coordination Team (ICT-IOS) (N.B.: IPET-SUP will need to review and baseline IPET-SUP-related Actions in the EGOS-IP 2025), the 45<sup>th</sup> session of the Coordination Group for Meteorological Satellites (CGMS), the first session of the SCOPE-Nowcasting Executive Panel, and the 7<sup>th</sup> session of the Inter-Commission Coordination Group on WIGOS (ICG-WIGOS-7).

### **5. PREPARING USERS TO NEW GENERATION SATELLITES**

This item introduced an overarching theme for the session, with focus on user readiness and updates with regard to the new-generation geostationary (GOES-16, FY-4A) and low-Earth orbiting (NOAA-20, FY-3D) satellite systems. The session looks specifically at the air quality community and efforts to improve its preparedness to the novel data types.

### **6. DATA EXCHANGE, DISSEMINATION, AND MONITORING**

This agenda item addresses both strategic and technical aspects of satellite data exchange and dissemination, at global and regional levels. Progress and plans of the WMO Region-based satellite data user groups will be reviewed, in particular with regard to the readiness of users for next-generation satellite data. The session will look at status and impediments to the use of the WIS for distribution and exchange of satellite data. It will be informed on the implementation status of the Direct Broadcast network for near-real time relay of low-Earth orbit satellite data (DBNet). The session considers evolving needs of the global NWP community organized in the GODEX-NWP mechanism (Global Data Exchange for NWP).

Further, the Team reviews progress in developing a position paper on critical satellite for WMO applications in light of the changing landscape of public and private satellite data providers.

Finally, participants are encouraged to raise specific issues or problems of data exchange, especially concerning near-real time access to data from R&D satellites.

### **7. CGMS SATELLITE MISSION CONTINGENCY PLANNING**

The Team will be invited to take note of the current CGMS contingency planning practices, and to provide user perspectives on a draft 2007 contingency plan (e.g., are users satisfied with a ring of geostationary satellites spaced at 70° latitude, or is more or less spacing needed? Are three orbital planes (e-am, am, pm) of low-Earth orbiting MW sounders sufficient?). Such input is required for a WMO-CGMS workshop on contingency planning in the April-May 2018 timeframe, where the respective roles of WMO and CGMS in contingency planning and gap analysis of the space-based WIGOS will be reviewed.

## **8. DATA MONITORING**

The Team will be informed about the status of developing a WMO Data Quality Monitoring System (WDQMS) and will discuss a satellite data monitoring prototype that eventually should be part of that System.

## **9. COMMUNICATION PLAN**

Building on initial ideas developed at its third session, the Team further develops the communication plan and outreach strategy specific to IPET-SUP, in order to position itself in the wider WMO landscape, and to appropriately address key stakeholders.

## **10. SCOPE PROJECTS: NOWCASTING AND CLIMATE MONITORING**

A report on results from the first session of the Sustained Coordinated Processing of Environmental Satellite Data (SCOPE) Nowcasting executive panel will be provided, including progress against the four pilot activities, and the ideas for new pilots. The session will also review the concept of a generic nowcasting system for meteorological services (see [http://www.wmo.int/pages/prog/sat/scope-nowcasting\\_en.php](http://www.wmo.int/pages/prog/sat/scope-nowcasting_en.php)).

As for SCOPE-Climate Monitoring (CM), the Team reviews progress in assessing maturity of climate data records generated in the nine current projects, and takes note of the status of discussion on the planned update of its implementation plan in the context of the Architecture for Climate Monitoring from Space (see <http://www.scope-cm.org> for details).

## **11. SATELLITE APPLICATIONS**

As an Inter-Programme Team, the session reaches out to collect views by application-related WMO user communities, represented by Technical Commissions, regarding their satellite data utilization needs. This is currently through the Commission for Climatology (CCI), while representatives for the WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) and the Commission for Hydrology (CHy) are yet to be determined.

The CCI representative will provide an overview presentation on the international coordination mechanisms in the field of climate, with a focus on satellites. Progress in re-establishing the JCOMM Task Team on Satellites will be assessed, as well as the status of international community building in the area of remote sensing of the Earth's surface for NWP and soil moisture applications. A user perspective on the use of satellite data in hydrological forecasting is provided, with a view to improve linkages of the Team to that community. ITWG have discussed the idea of a common user notification procedure that should guide the operators of satellites in case of changes to level-1 data that are within specification but still have significant (adverse) impact on NWP systems. A status report on the Space-based Monitoring of Weather and Climate Extremes (SEMDP) Demonstration Project in RA II/V is provided as well, for comments by the Team.

## **12. TRAINING AND EDUCATION**

The session reviews output and outcomes of training and education on satellite applications within the Virtual Laboratory for Education and Training in Satellite Meteorology (VLab), in line with the VLab strategy 2015-2019. Focus should be on the question to what extent training activities were able to meet user requirements, and the impact of training events on the skills and knowledge of satellite data users. The Team is invited to provide strategic and tactical comments on the VLab and its activities.

The Team also discusses future collaboration of VLab with the Committee on Space Research (COSPAR) in the area of capacity building.

### **13. WMO ONLINE RESOURCES**

#### **13.1 OSCAR/Space V2.0**

Version 2.0 of the WMO Observing Systems Analysis and Review Tool / Space (OSCAR/Space) was released in September 2016. Setting up a maintenance and management structure to ensure sustained operations of the resource is a priority. Setting up a Support team and a Scientific and Technical Advisory Team for OSCAR/Space is underway. Engagement of satellite operators in CGMS as well as key user communities such as International Science Working Groups is critical in this regard. CBS-Ext. (2014) assigned responsibility to IPET-SUP for the user assessment of space-based observing system capabilities in OSCAR (excluding space weather). (<https://www.wmo-sat.info/oscar/spacecapabilities>)

#### **13.2 SATURN**

The Satellite User Readiness Navigator (SATURN) portal has been maintained by WMO and CGMS operators since 2015 to support user readiness activities with structured information on upcoming next-generation meteorological satellites, initially focussing on geostationary satellites (Himawari-8/9, GOES-16, FY-4A, INSAT-3DR, Elektro-L N2, GEO-KOMPSAT-2A, MTG). More recently, information on polar-orbiting satellites has been added (JPSS, FY-3E), as well as a user feedback mechanism. (<https://www.wmo-sat.info/satellite-user-readiness/>)

#### **13.3 Product Access Guide**

The Product Access Guide (PAG) website has been set up to facilitate discovery of satellite-based products that are documented online and fulfil minimum documentation and access criteria. Currently close to 90 product collections, related training resources and international science groups are linked from the PAG, including in the space weather domain. (<https://www.wmo-sat.info/product-access-guide/>)

#### **13.4 Data Access, and Data Processing Tools Webpages**

The Data Access pages are entirely sourced from OSCAR/Space and are maintained to provide facilitated access to basic satellite data (typically level 1) from a range of satellites: [http://www.wmo.int/pages/prog/sat/data-access\\_en.php](http://www.wmo.int/pages/prog/sat/data-access_en.php)

The Data Processing Tools page is maintained to provide an overview of common tools to process, visualize and analyse satellite data, including both commercial and open source tools: [http://www.wmo.int/pages/prog/sat/processingtools\\_en.php](http://www.wmo.int/pages/prog/sat/processingtools_en.php)

### **MATTERS ARISING FROM INFORMATION DOCUMENTS**

The Team is invited to raise any issues or questions regarding the documents submitted for information only. The Team is invited to raise any points that may need further discussion in the break-out session.

### **BREAK-OUT GROUPS**

The Team will discuss in separate groups topics that require particular attention and group discussion, such as writing assignments. These topics will be identified in a discussion under this item. Rooms are 6 LAKE, 8 JURA and Space Programme offices.

#### **14. REVIEW AND ADOPTION OF THE DRAFT REPORT**

The Secretariat will provide a draft report of the session, for initial feedback by participants.

#### **15. ANY OTHER BUSINESS**

#### **16. DATE AND PLACE OF NEXT MEETING**

The meeting will decide on the date, venue and scope of its next session.

#### **ADJOURN**

The session is tentatively scheduled to close at 12.00 on Thursday, 1 March 2018.

#### **DOCUMENTS FOR INFORMATION**

##### **I.1 INTERNATIONAL SCIENTIFIC WORKING GROUPS**

To present results arising from recent workshops of the International Science Working Groups on Radio Occultation, and Sounding.

##### **I.2 HIMAWARI-REQUEST EVENT-DRIVEN TARGET OBSERVATION PROTOCOL**

To present the HimawariRequest protocol for event-driven target observations of Himawari-8 AHI for Asia-Oceania in support of disaster risk reduction in RA II and RA V.

##### **I.3 VISION FOR THE WIGOS COMPONENT SYSTEMS IN 2040**

A new Vision for the WIGOS space-based component systems in 2040 is being developed under CBS auspices, as high-level guidance for the future development and coordination of global observing systems in support of WMO applications. The current draft of the Vision (space and surface-specific parts combined) is provided.

##### **I.4 CGMS HIGH-LEVEL PRIORITY PLAN 2017-2021**

To inform the session about the Plan, and the priorities identified by satellite operators in CGMS in particular regarding satellite data access and utilization. One item of particular interest to IPET-SUP is priority 3.4 "Maintain, enhance and improve the methods to describe the error characteristics of satellite data and products".

##### **I.5 UPDATE ON EVENTS**

To report on results from the 8<sup>th</sup> Asia-Oceania Meteorological Satellite Users Conference (AOMSUC) and plans for the 9<sup>th</sup> session in in October 2018 in Jakarta, Indonesia; to inform about experiences from the NOAA Satellite Conference 2017; on the plans for the EUMETSAT Conference 2018.

##### **I.6 WMO GUIDELINES WITH IPET-SUP INVOLVEMENT**

To provide the reference to the WMO guidance documents accomplished by the Team in its 2013-2016 term:

- Best practices for Achieving User Readiness for New Meteorological Satellites – Reference User Readiness Project
- Satellite skills and knowledge for operational meteorologists
- Guide to the Direct Broadcast Network (DBNet)

#### **I.7 WMO 2016 SURVEY ON THE USE OF SATELLITE DATA**

To provide the final draft of the Survey report prior to its publication as a Space Programme document.

MEETING URL: <http://www.wmo.int/pages/prog/sat/meetings/IPET-SUP-4.php>

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