

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

INTER-PROGRAMME EXPERT TEAM ON SATELLITE UTILIZATION AND  
PRODUCTS

ITEM: 1.2

SECOND SESSION

Original: ENGLISH

GENEVA, SWITZERLAND, 23-26 FEBRUARY 2016

## EXPLANATORY MEMORANDUM

### 1. ORGANIZATION OF THE SESSION

#### 1.1 Opening of the session

At 9.00 on Tuesday 23 February 2016 in Room 7 LAKE in WMO Headquarters, Geneva, Switzerland. Registration will take place as of 8.30. The meeting will be chaired by Anthony Rea (Australian Bureau of Meteorology).

The objective of this second session is to advance the IPET-SUP work programme defined by CBS, in particular: global and regional data exchange issues; technical and programmatic aspects of satellite data distribution and access; consistent use of metadata for discovering and describing satellite data; SCOPE mechanisms for consistent satellite product generation; impact of satellite data for selected applications including the GFCS priority areas; 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-2/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 7 Jura and 6 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-2 web page: <http://www.wmo.int/pages/prog/sat/meetings/IPET-SUP-2.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, WORK PLAN

The IPET-SUP Chairman will provide his views and priorities in advancing the Team's work programme, and specific guidance for the session. This report will also include a status report on the Actions committed to by the Team, and its current work plan.

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

The Chairperson of the CBS Open Programme Area Group on Integrated Observing Systems (OPAG IOS), Jochen Dibbern, in coordination with the Chair (who is also vice-chair of the OPAG IOS), will inform the Expert Team on his expectations from IPET-SUP in the context of OPAG IOS.

### **4. ACTION REVIEW AND RELEVANT MEETING OUTCOME**

The Chair and Secretariat provide a review of current IPET-SUP Actions and a short briefing on results of meetings held in the inter-sessional period relevant to the Team, such as 17<sup>th</sup> World Meteorological Congress 2015, the 43<sup>rd</sup> session of CGMS, the WMO Integrated Global Observing System (WIGOS) Space 2040 workshop, the 4<sup>th</sup> session of the Inter-Commission Coordination Group on WIGOS (ICG-WIGOS-4), and the 13<sup>th</sup> session of the Consultative Meetings on High-level Policy on Satellite Matters.

### **5. DATA EXCHANGE AND DISSEMINATION**

This agenda item will address both strategic and technical aspects of satellite data dissemination, at global and regional levels. Performance indicators for assessing progress with elements of the Satellite Data Dissemination Strategy will be discussed, building on the WIS and contributing to the IGDDS. The possibility of generating monitoring results on satellite data availability at global NWP centres should be discussed. Progress and plans of Region-based satellite data user mechanisms will be reviewed. The session will consider evolving needs of the global NWP community organized in the GODEX-NWP mechanism (Global Data Exchange for NWP; formerly known as North America-Europe Data Exchange (NAEDEX) and Asia-Pacific Satellite Data Exchange and Utilisation (APSDEU)).

Further, the session should provide comments on the draft Guide to the Direct Broadcast network for near-real time relay of low-Earth orbit satellite data (DBNet). Progress in developing a position paper on what satellite data should be considered essential (in the sense of WMO Resolution 40) is foreseen.

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.

### **6. PREPARING USERS TO NEW SATELLITES**

This item focuses on user experiences from the first new-generation geostationary satellite Himawari-8, including the JMA perspective on addressing user needs. In addition, discussions will be held on upgrading the online Satellite User Readiness Navigator portal (SATURN) with information on planned low-Earth orbit satellites, and a user feedback mechanism. The session is invited to finalize the draft Reference User Readiness Project, guidance to Members and satellite operators in structuring the preparation for new satellite system, for endorsement by CGMS-44 in June.

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

Updates on progress in the four SCOPE-Nowcasting pilot activities are provided: improving the provision of basic imagery and RGB composites in support of users in RA II and RA V; intercomparison of volcanic ash cloud retrieval algorithms and use of the results in operational aviation services; global estimates of precipitation using a web-mapping service; sand and dust monitoring in RA II. The discussion will focus on how to enhance progress and Members' engagement in these activities. In this regard, the Team should review the work plan and consider potential new pilot activities (see [http://www.wmo.int/pages/prog/sat/scope-nowcasting\\_en.php](http://www.wmo.int/pages/prog/sat/scope-nowcasting_en.php) for details).

As for SCOPE-CM, the Team will review progress in the ten projects currently contributing, discuss the overarching status of SCOPE-CM, and consider its implementation plan and general way forward in the context of the Architecture for Climate Monitoring from Space, and the GFCS.

## **8. VISION FOR THE WIGOS COMPONENT SYSTEMS IN 2040**

The extraordinary CBS session in 2014 decided to develop a new Vision for the WIGOS space-based component systems in 2040, as high-level guidance for the future development and coordination of global observing systems in support of WMO applications. The presentation outlines initial elements, process and timeline of the Vision.

## **9. SATELLITE APPLICATIONS**

As an Inter-Programme Team, the session reaches out to collect views by application-related WMO technical commissions regarding satellite data utilization, currently through the Commission for Climatology and the WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM). The Commission for Climatology established a task team on satellites, and a report on its work plan is provided. An update on the development of JCOMM requirements for satellite data and products will be presented, as well as results from a survey among hydrological services regarding their satellite-specific needs and priorities. IMD will provide an example on the use of INSAT-3D data for precipitation monitoring and its validation.

## **10. METADATA, DATA FORMATS AND TOOLS**

Development of metadata standards to enable consistent description and discovery of satellite data (on the WIS) is currently underway, in the WIGOS and WIS context. The Team has been providing input to both efforts, and progress is being reviewed. Both standards should be developed to a mature stage by May 2016, to facilitate discussions by CBS in November. ECMWF will report on the latest release of the ecCodes data conversion tool, and on building an international user community of the tool.

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

An upgrade of the WMO Observing Systems Analysis and Review Tool / Space (OSCAR/Space version 2.0) is planned in 2016, including a transparent methodology for classifying the relevance of instruments for measuring variables, and other new features. IPET-SUP should discuss the planned upgrade and affirm its role in the future maintenance of OSCAR/Space content. CBS-Ext. (2014) assigned responsibility to IPET-SUP for the user assessment of space-based observing system capabilities in OSCAR (excluding space weather-related ones), reporting to the Inter-Programme Expert Team on WIGOS Framework Implementation (IPET-WIFI).

## **12. USER SURVEYS**

Global and regional user surveys are an important tool to guide action of IPET-SUP and related groups. The Team should discuss results from a regional survey undertaken in Region III/IV and suggested follow-up. The questionnaire of the WMO 2016 Survey on the Use of Satellite data is provided in document IPET-SUP-2/INF.5.

## **13. TRAINING AND EDUCATION**

The session will review the overall progress made in training and education on satellite applications within the Virtual Laboratory for Education and Training in Satellite Meteorology (VLab), including the new VLab strategy 2015-2019. The Team is invited to provide strategic and tactical comments on the VLab and its activities. Possibilities to augment visibility and

effectiveness of the VLab should be discussed, including re-emphasizing the expectations from satellite operators and training centres of excellence, structured pre- and post-event reporting on planned learning outcomes, audience etc.

In addition, NOAA will present their approach to training NWS staff in view of the upcoming GOES-R satellite. The Committee on Space Research (COSPAR) plans for training workshops are provided in document IPET-SUP-2/INF.6. Training on space weather is covered in item 15.

#### **14. COMMUNICATION PLAN**

This item will build on brainstorming results at IPET-SUP-2 on elements of an IPET-SUP communication plan and outreach strategy. The Team is invited to provide its views.

#### **15. SPACE WEATHER**

Upon request by IPET-SUP, the Chair of the Inter-Programme Coordination Team on Space Weather (ICTSW) will inform the Team on the status of WMO coordination in the area of space weather (currently defined as “the physical and phenomenological state of the natural space environment, including the sun, the solar wind, the magnetosphere, the ionosphere and the thermosphere, and its interaction with the Earth”). This includes ionospheric, geomagnetic, solar and inter-planetary phenomena, and energetic particle flux.

The COSPAR representative will provide information on capacity building events planned in the area of space weather. The Team is invited to provide guidance on the degree of WMO involvement in these events.

#### **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 7 Lake, 7 Jura, and 6 Lake.

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

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

#### **17. MEMBERSHIP**

The Secretariat provides information on the state of IPET-SUP membership and its expected evolution, given the upcoming regular session of CBS in November 2016 where all expert teams are subject to review.

#### **18. ANY OTHER BUSINESS**

#### **19. 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 13.00 on Friday, 26 February 2016.

## **DOCUMENTS FOR INFORMATION**

### **I.1 SATELLITE APPLICATIONS**

To provide an update on the development led by the Global Atmosphere Watch Programme of observation requirements for the three new WMO application areas related to atmospheric composition: monitoring atmospheric composition, forecasting atmospheric composition, and urban applications related to atmospheric composition.

### **I.2 INTERNATIONAL SCIENTIFIC WORKING GROUPS**

To present results arising from the 20<sup>th</sup> ITOVS Study Conference held in October 2015.

### **I.3 ARCHITECTURE FOR CLIMATE MONITORING FROM SPACE**

To present the final report "Satellites for Climate Services: Case Studies for Establishing an Architecture for Climate Monitoring from Space" (WMO-No. 1162), developed under IPET-SUP auspices and demonstrating the link of satellites to the GFCS.

### **I.4 WMO SPACE PROGRAMME ONLINE RESOURCES (Secretariat)**

To update on the online resources made available on the WMO website to facilitate access to satellite information and data, with focus on user statistics (OSCAR/Space (see item 11); Product Access Guide; Data Access page; Tools page).

### **I.5 USER SURVEYS**

To present the online questionnaire used for the 2016 WMO Survey on the Use of Satellite Data.

### **I.6 TRAINING AND EDUCATION**

To summarize the COSPAR plans for capacity building events in 2016-2018, for consideration of possible WMO involvement.

### **I.7 UPDATE ON EVENTS**

To report on results from the 6<sup>th</sup> Asia-Oceania Meteorological Satellite Users Conference (AOMSUC) and plans for the 7<sup>th</sup> and 8<sup>th</sup> session in 2016 and 2017, respectively (INF.7.1); to inform on the EUMETSAT Conference 2015 (INF.7.2) and other community events.

### **I.7 IPET-SUP WORK PLAN**

To include the current work plan of IPET-SUP.

MEETING URL: <http://www.wmo.int/pages/prog/sat/meetings/IPET-SUP-2.php>

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