

## **WMO GUIDELINE FOR ENSURING USER READINESS FOR NEW GENERATION SATELLITES**

*Submitted by WMO Secretariat and A. Rea, Chair of WMO ET-SUP*

A side event held at the 65<sup>th</sup> session of WMO Executive Council in May 2013 on this topic highlighted the critical importance of launching user preparedness projects on the part of CGMS operators and user organizations in all WMO Regions approximately 5 years prior to launch. JMA, CMA, EUMETSAT and NOAA participated in this side event, along with a representative from a user organization (Australian Bureau of Meteorology). The outcomes of this event are particularly relevant to upcoming geostationary systems (INSAT-3D, Himawari-8, FY-4A, GOES-R, MTG-I1, GEO-KOMPSAT-2A) in the period 2014-2020.

Reference is made to CGMS-40 WMO-WP-13 (*Outcome of CBS regarding the use of satellite data*), the WMO CBS *Guideline for Ensuring User Readiness for New Generation Satellites* and CGMS R40.03 *Satellite operators and trainers to take note of the new "CBS Guideline for ensuring user readiness for new generation satellites" and plan appropriate projects to ensure user readiness.*

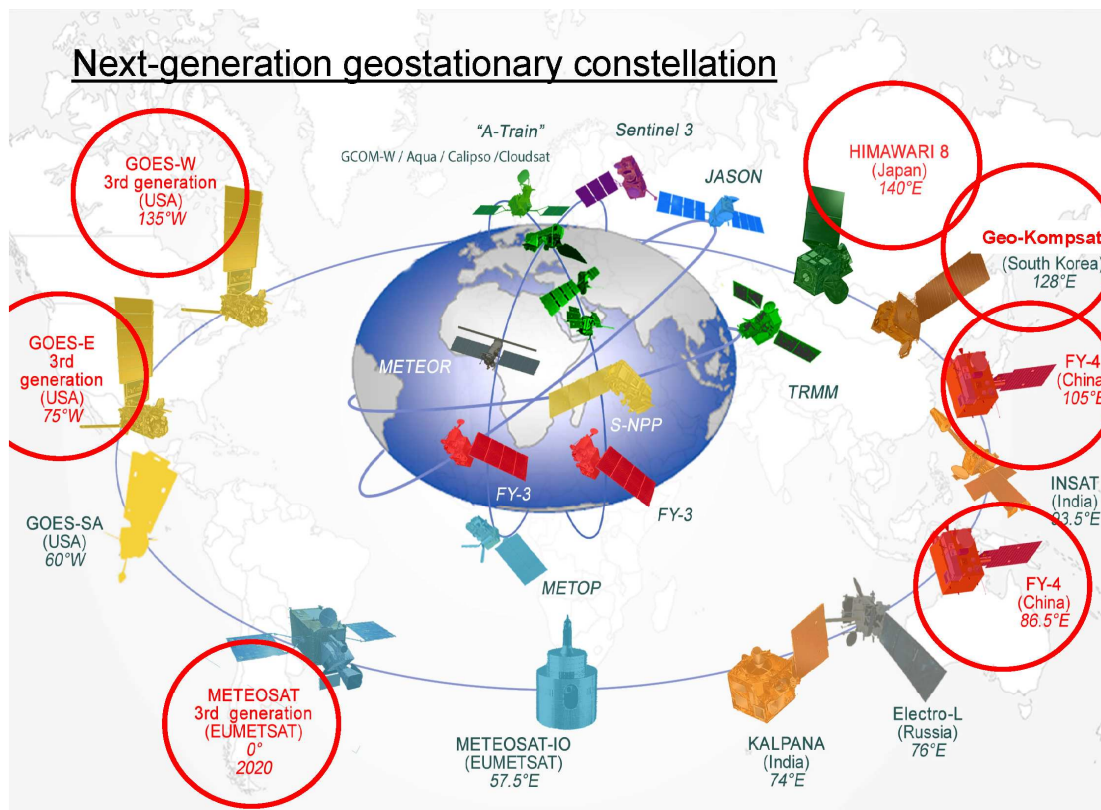
### Action/Recommendation proposed:

Action: CGMS members to provide detailed reports on their plans and projects to ensure user readiness, in line with the CBS Guideline for Ensuring User Readiness for New Generation Satellites. (Deadline: CGMS-42).

## WMO GUIDELINE FOR ENSURING USER READINESS FOR NEW GENERATION SATELLITES

### 1 INTRODUCTION

A side event held at the 65<sup>th</sup> session of WMO Executive Council in May 2013 on this topic highlighted the critical importance of launching user preparedness projects on the part of CGMS operators and user organizations in all WMO Regions approximately 5 years prior to launch. JMA, CMA, EUMETSAT and NOAA participated in this side event, along with a representative from a user organization (Australian Bureau of Meteorology). Agenda and presentations made during the event are available<sup>1</sup>. The outcomes of this event are particularly relevant to upcoming geostationary systems (INSAT-3D, Himawari-8, FY-4A, GOES-R, MTG-I1, GEO-KOMPSAT-2A) in the period 2014-2020 (see Fig. 1).



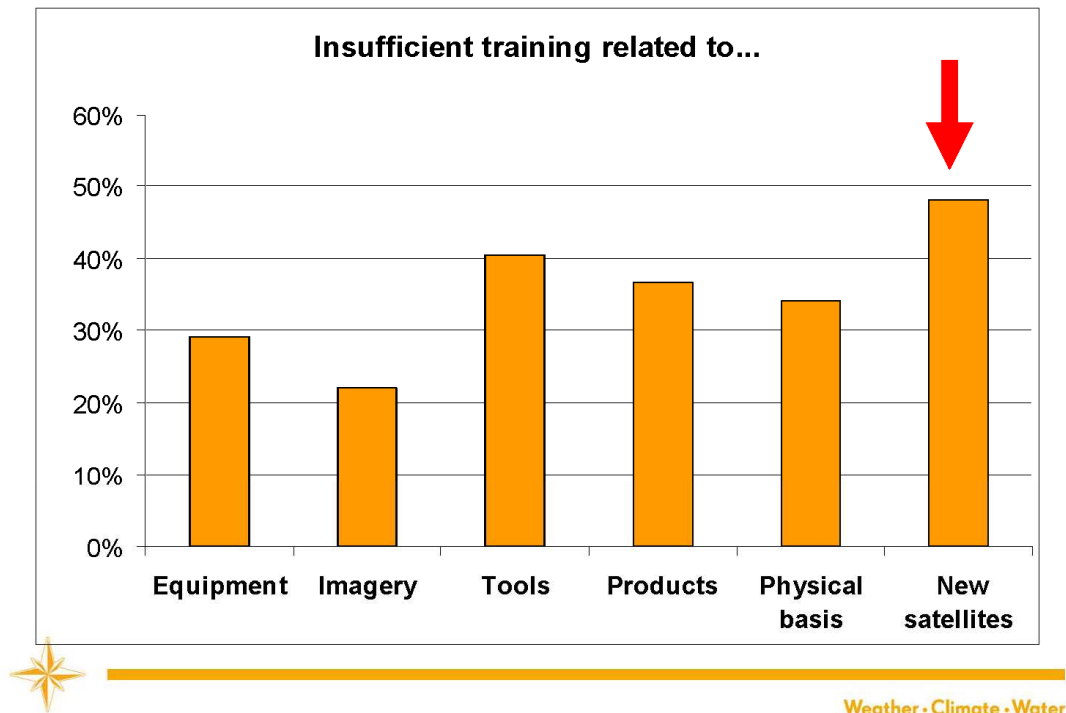
**Figure 1: Next generation geostationary constellation of meteorological satellites.**

Reference is made to CGMS-40 WMO-WP-13 (*Outcome of CBS regarding the use of satellite data*), the WMO CBS *Guideline for Ensuring User Readiness for New Generation Satellites* (see Annex I), and CGMS R40.03 “*Satellite operators and trainers to take note of the new “CBS Guideline for ensuring user readiness for new generation satellites” and plan appropriate projects to ensure user readiness.*”

<sup>1</sup> <http://www.wmo.int/pages/prog/sat/meetings/EC65-SideEvent-UserPrep.php>

According to the WMO 2012 Survey on the Use of Satellite Data<sup>2</sup>, which received 227 responses from 95 countries, a significant number of satellite data users worldwide reported that they feel insufficiently prepared to the new generation of satellites (see also WMO-WP-12). Fig. 2 shows the percentage of responses by NMHS/operational users to the question of insufficient training.

## Training needs



**Figure 2: Percentage of responses by NMHS/operational users to the question on insufficient training (WMO 2012 Survey on the Use of Satellite Data).**

## 2 REPORTING BY CGMS MEMBERS

The WMO side event revealed that more efforts are needed to ensure smooth transition to the new generation of satellite systems, and to adequately inform and prepare users, in the areas of:

- Information/training of prospective users
  - User conferences and workshops on new capabilities
  - Portals providing instrument specifications, data formats
  - Proxy data sets, tools and demonstration products
  - Guidance on receiving hardware/software (“do receiving systems need replacing/upgrading?”)
  - Training material and training events
- System operation
  - Some overlap period of old/new satellites

<sup>2</sup> [http://www.wmo.int/pages/prog/sat/documents/SAT-PUB\\_SP-9-Survey-Report-2012.pdf](http://www.wmo.int/pages/prog/sat/documents/SAT-PUB_SP-9-Survey-Report-2012.pdf)

- Some overlap of old/new dissemination systems
- Satellite-independent dissemination system (e.g. *GEONETCast*)
- User organizations
  - Set up a user readiness project (e.g.~5 years) prior to launch
  - Networking through online collaboration

### **3 CONCLUSION: SUGGESTED ACTIONS/RECOMMENDATIONS**

Action: CGMS members to provide detailed reports on their plans and projects to ensure user readiness, in line with the CBS Guideline for Ensuring User Readiness for New Generation Satellites. (Deadline: CGMS-42).

**COMMISSION FOR BASIC SYSTEMS GUIDELINES FOR ENSURING  
USER READINESS FOR NEW GENERATION SATELLITES**

**Annex to [paragraph 4.2.36](#) of the general summary  
WMO Commission for Basic Systems  
Fifteenth session  
Jakarta, Indonesia  
10–15 September 2012**

**Abridged final report with resolutions and recommendations**

**[ftp://ftp.wmo.int/Documents/PublicWeb/mainweb/meetings/cbodies/governance/tc\\_reports/english/pdf/1101\\_en.pdf](ftp://ftp.wmo.int/Documents/PublicWeb/mainweb/meetings/cbodies/governance/tc_reports/english/pdf/1101_en.pdf)**

In developing the guidelines for ensuring user readiness for new generation satellites, the Commission for Basic Systems noted the following:

- (a) The essential importance of data from geostationary and low-earth orbiting satellites for operational activities of WMO Members;
- (b) The planned introduction of several new generation satellite series by operators in the 2014–2018 timeframe, affecting all WMO Regions;
- (c) The experience of extensive user preparedness projects undertaken by different satellite operators, e.g. the NOAA Proving Ground programme for GOES-R and JPSS missions, or the Prepare the Use of MSG in Africa (PUMA) project of EUMETSAT in RA I for Meteosat Second Generation;
- (d) The Manual on GOS stipulating that, *“for smooth transition to new satellite capabilities, provisions should be made for appropriate preparation of the users through training, guidance to upgrade receiving equipment and processing software, and information and tools to facilitate the development and testing of applications”*<sup>1</sup>;
- (e) That the provisions of the Manual on the GOS are applicable to all satellite operators contributing to the Global Observing System;
- (f) That optimal utilization of new operational satellite systems should be assured and the risk of disruption for operational users be mitigated.

All WMO Members and satellite operators should assist users in preparing them for using the new generation of operational satellites, **through the following activities:**

- (a) Establishing and maintaining a dialogue between providers of the new generation satellites and prospective users, and raising awareness on new capabilities through user conferences, workshops and test beds;
- (b) Maintaining portals for updated information on development status of the new systems, instrument and data format specifications, and technical documentation;
- (c) User training, including the development of training material and training events, through the satellite provider–training centre partnerships established in the WMOCGMS

Virtual Laboratory, and other established mechanisms such as COMET, MetEd, and EUMETrain;

(d) Development of learning and decision-support tools, demonstrating the added value of new products;

(e) Provision of proxy datasets, tools, and products;

(f) Indication of the maturity status of products (operational, development, experimental);

(g) Guidance on the transition of receiving hardware;

(h) Planning a parallel dissemination in old and new dissemination formats or protocols;

(i) Planning an appropriate overlap period between the operation of current and new satellites to allow intercomparison and validation of products, smooth migration of operational applications and downstream service delivery;

(j) Considering using multi-mission dissemination systems such as GEONETCast Systems, to allow for flexibility in accommodating new data streams, without the technical, financial, and schedule constraints related to setting up a receiving facility specific to the new satellite system;

(k) Establishment by each concerned NMHS or other operational user organization, of a user readiness project focused on the introduction of new satellite data streams into operations (to be initiated ~5 years prior to launch);

(l) Supporting user community-building through collaborative mechanisms, such as regular online briefings and social media.