

Prepared by WMO
Agenda Item: C.2
Discussed in Plenary
Agenda Item: 3.2
Discussed in WG III

WMO OSCAR/SPACE DATABASE MAINTENANCE SCHEME

In response to CGMS action: A44.03, A45.03, A45.04, A45.06

The WMO plan for the OSCAR/Space database maintenance scheme was submitted to CGMS-45, and CGMS Members and Observers were asked to support the WMO effort to maintain and update OSCAR/Space database.

For facilitating the provision of information on programmes, satellites and instruments templates have been created and made available to satellite operators by WMO to streamline the provision of input to the WMO Space Programme. This will help the OSCAR/Space project team to properly inject new and updated information into the OSCAR architecture. The task of keeping OSCAR/Space up to date can only be achieved with the network of experts from space agencies.

To achieve a sufficient maintenance and support for OSCAR/Space with keeping the database updated with information of sufficiently high quality, WMO proposed a new scheme for strengthening the cooperation with CGMS members and observers from other space agencies through newly established support groups, the OSCAR/Space Support Team (O/SST) and the OSCAR/Space Science and Technical Advisory team (O/SSAT), to ensure the sustainability of OSCAR/Space in the years to come. It was discussed in CGMS-45 and the list of members for O/SST and O/SSAT were provided by CGMS Secretariat. This scheme will lay the foundation of cooperation with CGMS for sustaining the OSCAR/Space updating process through provision of information on their satellite programmes by making use of the provided templates.

OSCAR/Space Users' Workshop was held in October 2017 in EUMETSAT Users' Conference for (1) further promote the use of OSCAR/Space; (2) inviting users to present their experiences in using OSCAR/Space; and (3) seeking contributions from users to the maintenance of OSCAR/Space.

Action/Recommendations proposed:

CGMS Members and observers to nominate experts for membership in the OSCAR/Space Support Team (O/SST). (Existing open CGMS action 44.03)

The OSCAR/Space Support Team (O/SST) to continue providing information on their satellite programmes to be recorded in OSCAR/Space, according to the recommended procedure with templates provided by WMO Space Programme.

CGMS Members recommended to utilize OSCAR/Space database as a reference common tool for gap analysis and risk assessment.

CGMS secretariat to investigate the provision of dedicated resource to support CGMS Risk Assessment and coordinate the provision of OSCAR/Space content.

Annex 1: [link to Excel file]: templates to input information on programmes, satellites and instruments for OSCAR/Space Database

http://www.wmo.int/pages/prog/sat/meetings/GSICS-EP-19/documents/CGMS-46-WMO-WP-02_Annex1_Templates.xlsx

Annex 2: Letter of inquiry from WMO to CGMA Members and Observers, and its template

1 INTRODUCTION

In September 2016 version 2 of the WMO space based Observing System Capability Analysis and Review tool (OSCAR/Space v2) was released. It offers now (i) factual information on satellites and instruments, and (ii) instrument assessments and “gap analyses”. In addition, the frequency plans of meteorological and some associated satellites and space-based space weather observation instruments are included as well. It was reviewed in CGMS-45 in June 2017, and CGMS Members and Observers are asked to support the WMO effort to maintain and update OSCAR/Space v2.

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2 PROGRESS IN OSCAR/SPACE DATABASE MAINTENANCE

2.1. Status of satellites and instruments

A44.03: CGMS operators nominate focal points for maintaining these elements (dates, landing pages), and other elements included in OSCAR/Space (e.g., instrument characteristics).

It is obviously critically important to ensure that information on satellite launches and instrument descriptions in OSCAR/Space is accurate and up-to-date. Also very

important, but also more challenging is to collect and update information on satellite and instrument status.

This subject is currently not completely addressed by the responsible CGMS agencies, and this significantly biases the Gap Analysis, where satellites and instruments that are no longer operational, some since long ago, still continue to be reported as active.

Inquiry letters have been prepared for 14 CGMS members and observers, and delivered starting from 27 November 2017. The inquiry provides templates indicating the satellites and the instruments for which the information on status should be updated.

Agency	Country	Inquiry	Replay	Name of Contact
CMA	China	27 Nov 2017		yes**
CNES	France	18 Apr 2018		
CNSA	China	27 Nov 2017		
CSA	Canada	22 Feb 2018		
ESA	International	11 Dec 2017		
EUMETSAT	International	27 Nov 2017		yes*
IMD	India	NA	NA	yes*
ISRO	India	27 Nov 2017	13 Feb 2018	yes*
JAXA	Japan	27 Nov 2017		yes**
JMA	Japan	27 Nov 2017	20 Feb 2018	yes**
KMA	Korea	27 Nov 2017	26 Dec 2017	yes**
NASA	USA	27 Nov 2017		yes*
NOAA	USA	27 Nov 2017	12 Jan 2018	yes*
Roscosmos	Russia	04 Dec 2017	19 Apr 2018	yes***
RosHydroMet	Russia	04 Dec 2017	19 Apr 2018	yes***

* through CGMS Secretariat

** through ET-SAT

*** through Inquiry Letter

CGMS members are urgently requested to respond to action 44.03 through providing points of contact as well as responses to the submitted inquiry letters. An example of the letter of inquiry from WMO to satellite operators, and its template are attached in Annex 1.

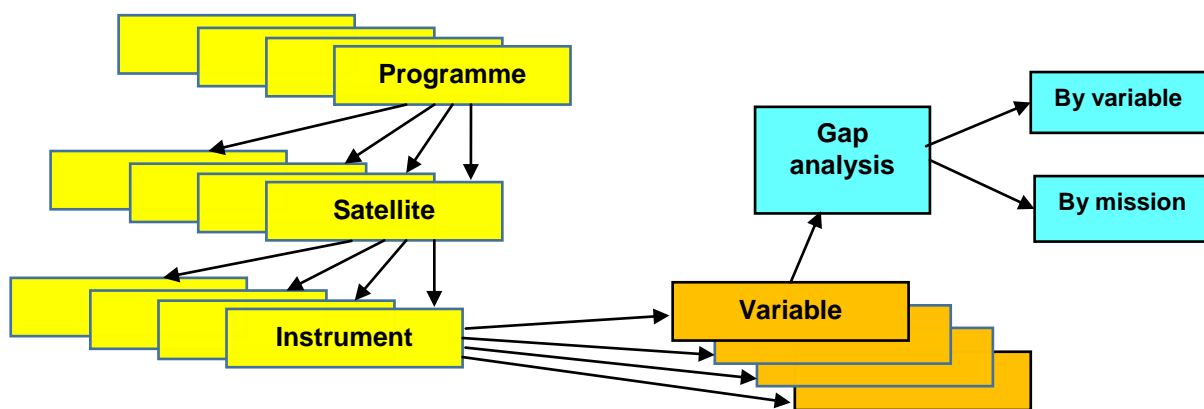
2.2. Possible synergy with CEOS MIM Database

CGMS-45 placed the following action

A45.03: WMO to, in collaboration with CEOS, to investigate the possibility of aligning the reporting templates for OSCAR/Space with those used to update the CEOS MIM database, at least for common parameters, thus facilitating the reporting task at the agency level.

A proposal “A possible Collaboration in the Collection of Information from Space Agencies for OSCAR/Space and MIM”, was delivered to ESA, responsible of MIM, dated 4 November 2017.

Through the discussion, it was become obvious that the templates used in WMO have a level of detail (and complication) by far exceeding what is needed for MIM. The WMO templates cannot be simplified because the information is due to feed the OSCAR/Space architecture (shown below), designed to evaluate and rate the Variables potentially retrievable from an instrument, and support the Gap analyses by Variable and by Mission. The possibility that MIM develops a “windowing” functionality to reduce the WMO template to what is sufficient to CEOS was suggested, but does not seem attractive. It is therefore proposed that action 45.03 is not pursued further.



2.3. OSCAR/Space Science and Technical Advisory Team (O/SSAT)

A45.04: CGMS to invite the ISWGs to nominate experts for participation in the OSCAR/Space Science and Technical Advisory Team.

The support of O/SSAT primarily addresses the mapping of mission capabilities to WMO observational requirements.

O/SSAT is well organized/functioning with dedicated contributions from the CGMS ISWGs' experts (ITWG, IWWG, IPWG, ICWG, IROWG) and GSICS. The following topics are under review;

- (1) Definition of the relevant spectral intervals and identification of the relevant instruments;
- (2) Identification and flagging of the reference instruments
- (3) OSCAR/Space Database System “Bugs and Requirements”

It should be noted that this activity requires dedicated coordination effort, addressed below under 2.5.

2.4. Landing Page

A45.06: CGMS Agencies to implement Landing Pages on calibration events accessed via WMO-OSCAR.

The landing pages has been provided through GSICS/GRWG. Reports are available from 5 agencies (as of February 2018): CMA, EUMETSAT, JMA, KMA, NOAA, and expected to be provided from other GSICS members: ESA, IMD, NASA, ROSHYDROMET.

2.5. CGMS WG-III Workshop on Contingency Planning, new CGMS Baseline and Gap Analysis

The CGMS WG-III Workshop on Contingency Planning, new CGMS Baseline and Gap Analysis was held 30 April - 2 May 2018, Geneva. The workshop recommended to CGMS-46 to implement an annual CGMS Risk Assessment to support the global Contingency Planning and noted that OSCAR/Space would be a key tool for this Risk Assessment. It was however also noted that it will require significant expert effort to ensure that the OSCAR/Space information regarding upcoming and future missions is accurate, up-to-date and consistent. WMO Space Programme cannot make this effort available on a continued basis and the following new CGMS action is therefore proposed:

CGMSSEC investigate the provision of dedicated resource to support the annual CGMS risk assessment

The workshop also recommended:

CGMS Members to utilize OSCAR/Space database as a reference common tool for gap analysis and risk assessment.

3 SUMMARY

It would be appreciated if CGMS Member and Observers to cooperate with WMO for sustaining the OSCAR/Space Database by providing the input information on new Programmes, Satellites and Instruments following the recommended templates. It would be much appreciated if CGMS Members and Observers convey information on programmes of collaborating national entities as much as possible.

There is another problem for OSCAR/Space database maintenance: to update the information on the operational status of the satellites and instruments currently being flown [or supposed to be still flown]. This difficult task is being pursued by WMO by specific inquiry letters addressed to the responsible agencies, highlighting the items that require updating. The procedure has been launched, and is in progress.

Annex 2

Id.: 42072017-11 OBS-WMO5SAT



WMO
OMM

WMO OMM

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

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Our ref.: **OBS/SAT/OSCAR/Space** to CGMS Members and Observers

27 November 2017

Subject: Updating information on satellites and instruments status in the WMO Observing Systems Capability Analysis and Review Tool, Space-based Capabilities (OSCAR/Space)

Dear xxxxx,

The forty-fifth Plenary Session of the Coordination Group for Meteorological Satellites (CGMS) on 15-16 June 2017 in Korea, the World Meteorological Organization (WMO) relies on the cooperation of CGMS members to maintain the Observing Systems Capability Analysis and Review Tool, Space-based Capabilities (OSCAR/Space) database. In particular, it is urgent to update the information on the status of satellites and instruments currently being flown. I am seeking your help for updating the status of YYYYY satellites and instruments currently being flown. Also, it would be appreciated if you could report about the status of certain satellites and instruments that YYYYY manages in collaboration with other relevant entities.

To facilitate reporting, templates are provided, below, indicating the main features to be considered. The templates record the (scarce) information currently available in OSCAR, visible with somehow more details at the OSCAR/Space web site <https://www.wmo-sat.info/oscar/spacecapabilities>). The inquiry refers to satellites currently being flown, and their short-term follow-on.

For satellites currently being flown, the provided templates quote the last known position (for geostationary satellites) or the last known Local Time at the Ascending Node (LTAN) (for sunsynchronous satellites). Please provide information on the actual position or LTAN.

The key information to be provided regards the status of the satellite system and each specified instrument, with reference to:

- whether it is functional at the date of responding to this inquiry (yes or no);
- if it is working in a degraded more, the date of the start of the degradation, and some detail;
- if it is no longer functional, the date of end of service.

The text of the information to be provided does not need to be size-constrained within the boxes of the table. Extended text is welcome, and will be recorded in OSCAR.

For planned satellites, the currently expected launch year is recorded (\geq yyyy). The updated information should be limited to the latest estimate of the expected launch year and planned GEO position or LTAN. If the satellite is part of a series, only the next one to be launched is considered.

Mr Toshiyuki Kurino, Chief, Space-based Observing System Division, Observing and Information Systems Department, (tkurino@wmo.int) would be the WMO focal point for this matter with copy to: Mr Bizzarro Bizzarri (bizzarrobizzarri@gmail.com). I would be grateful if you could kindly nominate a focal point with whom WMO could liaise for the maintenance of the OSCAR/Space Database.

I look forward to receiving your response, and our continued close collaborations.

Yours sincerely,

(F. Belda)
Director

Observing and Information Systems Department

Programme: Meteosat

Satellite	Launch date	Last known position	Current or planned GEO position	Component	Functional (Yes or No)	Degraded (since ...)	Inactive (since ...)	Details
Meteosat-8	28 Aug 2002	41.5°E	???	System				Serving Indian Ocean
				SEVIRI				
				GERB				
				DCS				
				GEOS&R	No		01 Feb 2017	Switched off
Meteosat-9	21 Dec 2005	9.5°E	???	System				
				SEVIRI				
				GERB	No		date ?	Switched off
				DCS	No		date ?	Switched off
				GEOS&R				
Meteosat-10	05 Jul 2012	0.0°	???	System				
				SEVIRI				
				GERB				
				DCS				
				GEOS&R				
Meteosat-11	15 Jul 2015	3.4°W	???	System				In storage
				SEVIRI				
				GERB				
				DCS				
				GEOS&R				
MTG-I1	≥2021		???	N/A	N/A	N/A	N/A	Planned

Programme: EPS

Satellite	Launch date	Last known LTAN	Current or planned LTAN	Component	Functional (Yes or No)	Degraded (since ...)	Inactive (since ...)	Details
Metop-A	19 Oct 2006	21:30	???	System				
				AVHRR/3				
				IASI				
				HIRS/4				
				AMSU-A		... Sep 2013		Ch.s 50.3 & 54.95 GHz noisy
				MHS		26 Mar 2014		????
				GRAS				
				ASCAT				
				GOME-2				
				A-DCS				
				SEM/MEPED				
				SEM/TED				
				S&RSAT				
Metop-B	17 Sep 2012	21:30	???	System				
				AVHRR/3				
				IASI				
				HIRS/4		... Aug 2013		Ch.s 14.0, 13.6 & 12.5 µm noisy
				AMSU-A				
				MHS				
				GRAS				
				ASCAT				
				GOME-2				
				A-DCS				
				SEM/MEPED				
				SEM/TED				
				S&RSAT				
Metop-C	≥2018		???	N/A	N/A	N/A	N/A	Planned

Other cooperative programmes

Satellite	Launch date	Last known LTAN	Current or planned LTAN	Component	Functional (Yes or No)	Degraded (since ...)	Inactive (since ...)	Details
JASON-2	20 Jun 2008	N/A (drift)	N/A (drift)	System				
				Poseidon-3				
				AMR				
				TRSR				
				CARMEN	No		date ?	
				LPT				
				DORIS				
				LRA				
JASON-3	17 Jan 2016	N/A (drift)	N/A (drift)	System				
				Poseidon-3B				
				AMR				
				TRSR				
				CARMEN				
				LPT		date ?		?????????
				DORIS				
				LRA				
JASON-CS-A	≥2020		N/A (drift)	N/A	N/A	N/A	N/A	Planned
Sentinel-3A	16 Feb 2016	22:00	???	System				
				SLSTR				
				OLCI				
				SRAL				
				MWR				
				DORIS				
				GPS				
				LRR				
Sentinel-3B	≥2018		???	N/A	N/A	N/A	N/A	Planned