

**WORLD METEOROLOGICAL  
ORGANIZATION**

---

**COORDINATION GROUP FOR  
METEOROLOGICAL SATELLITES**

---

**TASK FORCE ON SATELLITE DATA CODES  
SECOND MEETING**

**(Teleconference by phone)**

**14 September 2009**

**FINAL REPORT**



## SUMMARY REPORT

### 1. Introduction

The second meeting of the Task Force on Satellite Data Codes (TFSDC) was convened on 14 September at 11:00 UTC as a “virtual meeting” (through phone conference) following the announcement made by the WMO Secretariat on 17 July and confirmed on 11 September.

The Chairman introduced himself and welcomed the participants (See Annex 1). He noted that unfortunately some Task Force Members either did not confirm their participation or could not be reached as planned, and hoped that they will be able to join the Task Force in future.

### 2. Review and adoption of the agenda

The agenda was adopted as per Annex 2.

### 3. Status of Terms of Reference and Membership ([TFSDC-2/ Doc.3](#))

The meeting noted that the amendments proposed at the first meeting had been endorsed by CGMS-36. It also noted that the linkages to CBS expert teams had been updated in accordance with the new configuration of these teams as established by CBS-XIV. The Task Force Members confirmed their agreement to the Terms of Reference as attached in Annex 3.

Given the limited participation, it was agreed to postpone the designation of a Rapporteur. For the short-term, the Chairman will report to the IPET-DRC and either the Chairman or the WMO Secretariat will report to CGMS-37.

The meeting expressed the wish of a more complete representation of satellite operators at future meetings. In accordance with the Terms of Reference, the meeting stressed the importance of involving additional experts from appropriate user communities (e.g. NWP), in order to ensure that the work of the Task Force properly responds to user needs. Invitation to this meeting had been sent to ECMWF but participation turned out to be impractical this time.

**Action TFSDC-2.1:** Task Force members to inform the WMO Space Programme Office ([JLafeuille@wmo.int](mailto:JLafeuille@wmo.int)) of the name and contact details of suggested experts who could contribute to reflect the needs of important user communities for future Task Force work.  
Due date: November 2009

### 4. Outcome of the first meeting ([TFSDC-2/ Doc. 4](#))

The status of actions from the first meeting was discussed, as well as follow-up actions taken by CGMS-36, ET-DRC, IGDDS-IG and CBS XIV.

- Action TFSDC-1.1 has been completed. Its outcome was accepted by ET-DRC and led to a substantial addition to Common Code Table C-13 that was forwarded to CBS-XIV. New satellite data categories are now open for validation. It will be further discussed under item 5.
- Action TFSDC-1.2 is outstanding. It is replaced by a new action below.
- Action TFSDC-1.3 has been completed. RARS station operators were informed of the procedure for identifying new stations. This procedure has been followed and substantial additions to Common Code Tables C-11 and C-12 for RARS station identifiers have been made, reflecting the expansion of the RARS network on all continents.

- Recommendation to use the extension “.nc” for netCDF files exchanged over the GTS has led to an amendment to the Manual on the GTS that was approved by CBS-XIV and EC-LXI (ON the same occasion, the extension “.hdf” was approved for HDF files).
- Recommendation to amend the Terms of Reference has been accepted by CGMS-36.

In conclusion on this agenda item, the Chairman was pleased to note that the outcome of the first meeting had been followed up very effectively and had played an important role in advising WMO bodies including CBS and the EC. All actions from the first meeting were closed.

**Action TFSDC-2.2:** The Chairman to inform all CGMS satellite operators (with assistance of WMO Space Programme Office if necessary) of a request to draw an inventory of the products they generate and to allocate these products to the proposed data categories and sub-categories, as a “beta-testing” for these categories and sub-categories. This information should prepare for a more detailed discussion at CGMS-37.  
Due date: October 2009.

## 5. Typology of satellite data and products ([TFSDC-2/ Doc.5](#))

With reference to the typology of satellite data and products proposed after TFSDC-1, the Chairman recalled that the proposal had been considered by ET-DRC and incorporated in Common Code Table C-13 with “under validation” status. It was recalled that the categories were largely based on the typology of space-based missions used in the Dossier on the Space-based GOS, which is also used as key reference material for collaboration among WMO and the Committee on Earth Observation Satellites (CEOS).

The meeting discussed the feedback received from Germany (DWD), from GSICS, and from the Task Force members, regarding the additions under validation. The following points were made:

- A long definition of the sub-categories would not be practical if the definition of the sub-category is supposed to also serve as a basis for the “data designator” in the file name. This difficulty could be alleviated if all long definitions systematically included an abbreviation as is the case for many surface-based categories (e.g. PILOT, TEMP, AMDAR...).
- Four proposed categories don’t appear in the amendment to Table C-13 because no sub-category had been defined yet: 027 (Gravity measurements (satellite)), 028 (Precision orbit (satellite)), 029 (Space Environment (satellite)) and 030 (Calibration dataset (satellite)). As concerns the latter one, the Global Space-based Inter-calibration System ([GSICS](#)) has requirements for coding data sub-categories.
- Category 024 only includes one Sub category 000 that clearly identifies sea surface wind products derived from scatterometers. However there are other techniques than scatterometry to derive sea surface winds (passive microwave imagery with full polarization). Furthermore there are other parameters derived from scatterometry and passive microwave imagery (e.g. soil moisture over land). One possibility would be to redefine category 024 to “Sea surface wind from satellite” and have 2 subcategories, one for active measurements (wind scatterometry) and one for passive (full polarisation imagery) wind measurements respectively. Another option would be to keep Category 024 for Scatterometry and have two sub-categories for Wind and for Soil Moisture respectively, the passive microwave measurements being addressed under Category 012 (Surface data). This requires further discussion.
- Sub-category 007 (SMOS data) of Category 101 (Image data (satellite)) is specifically referring to one particular experimental satellite mission of one operator. It is recommended to reword this sub-category in a generic way as “Soil moisture and ocean salinity by satellite” with no limitation to one mission.

- Some editorial refinements may be done as well.

The following actions were agreed:

**Action TFSDC-2.3:** The Chairman to communicate to ET-OI the concern that long definitions would complicate the use of data subcategories to build data designators in GTS-WIS file names. Due date: December 2009

**Action TFSDC-2.4:** The WMO Secretariat (A. Shimazaki) to introduce a sub-category in Categories 027, 028, 029 and 030 as place holder for sub-categories to be defined at a later stage when input will be available from the relevant communities. Due date: October 2009.

**Action TFSDC-2.5:** The Chairman to liaise with the Chairman of the GSICS Working Group on Data Management (V. Gaertner) to collect GSICS requirements for calibration data sub-categories. Due date: December 2009.

**Action TFSDC-2.6:** The WMO Secretariat (A. Shimazaki) to prepare an editorial update of Category 101 Sub-Category 007 to allow this sub-category to address “soil moisture and ocean salinity” with a generic understanding. December 2009

## 6. Updating of Code Tables

### 6.1 Satellite-related updates to GRIB ([IPET-DRC-1/ Doc 2.3\(3\)](#))

The meeting supported the proposed addition to GRIB codes for Meteosat, subject to a minor revision in order to avoid any overlap between code values for divergence and for Aeosol Optical Thickness.

### 6.2 Satellite-related updates to BUFR ([IPET-DRC-1/ Doc 3.3 \(15\)](#))

The meeting supported the addition to BUFR tables proposed by EUMETSAT.

### 6.3 Specification of identifiers for multi-satellite products ([IPET-DRC-1/ Doc. 3.2 \(4\)](#))

The meeting agreed that consideration should be given to the coding of multi-satellite products, and more generally to the coding of composite products generated from several sources (satellite or non-satellite). As concerns multi-satellite products, the meeting suggested to investigate the definition of a “virtual satellite identifier” for each combination of satellites used for composite products. It was however noted that this approach may not fully address the case of composite products using surface-based observation.

### 6.4 Perspectives for new satellite instruments and corresponding identifiers in Common Code Tables C-5 and C-8 ([TFSDC-2/ Doc.6.4](#))

The meeting discussed an outlook on future satellites potentially contributing to the Global Observing system, and a sketch of the possible accommodation of these satellites in Common Code Table C-5.

The meeting noted that:

- Common Code Table C-5 overall contains sufficient unassigned numbers to accommodate satellite identifiers for the foreseeable future;
- There is hardly any margin for future LEO satellites in the block of values reserved for the USA ;
- Allocations should be reserved for new or future contributors to the GOS e.g. Brazil, Republic of Korea.
- Identifiers should be proposed for a few satellites that have been recently launched or are planned for launch in the near future (e.g. FY-2E, FY-3A, COMS-1, ADM-Aeolus...)
- Attention should be paid to the name of the satellites in their operational stage, which is often different from their provisional name during design, manufacturing and commissioning stages. For example, GOES-N,O have become GOES-13,14; in the case of Metop-2, the final name is Metop-A, whilst Metop-1 is planned to become Metop-B.

The meeting concluded that this simulation would provide useful guidance for future allocations of satellite identifiers, and agreed the following actions:

**Action TFSDC-2.7:** WMO Secretariat (A. Shimazaki) to prepare an editorial update of Table C-5 whereby entry 04 “Metop-2” would be replaced by “Metop-2 (Metop-A)”.  
Due date: December 2009

**Action TFSDC-2.8:** WMO Secretariat (J. Lafeuille/A. Shimazaki) to raise the attention of satellite operators to the need to request identifiers related to new satellites in order to support international data exchange. Due date: November 2009

**Action TFSDC-2.9:** The Chairman to report to IPET-DRC the findings of the Task Force regarding the need to allocate values in Common Code Table C-5 for satellite missions of new satellite operators, and to ensure sufficient margin for future missions of the USA. Due date: December 2009

The meeting also encouraged the Space Programme office to perform (if resources allow) a similar simulation with planned instruments and Table C-8.

#### 6.5 Proposal for other updates (as needed)

The meeting took note of the proposed addition of code values for JAXA’s GOSAT satellite in Table C-5 (140 for GOSAT) and for the corresponding instruments in Table C-8 (516 for TANSO-FTS and 517 for TANSO-CAI).

### 7. Other actions resulting from CBS-XIV

Besides the update of the Manual on the GOS and Manual on the GTS, CBS-XIV has reorganized its Expert Teams, which has been taken into account in the Task Force Terms of Reference.

### 8. Any other business

#### 8.1 New BUFR Master Table

The meeting confirmed its earlier view that there was currently no need to develop a specific BUFR Master Table for satellite data codes, as the current WMO Master Table (Identifier “0”) could face the needs. It was however agreed to keep this question under review.

## 8.2 Metadata

The importance of developing proper metadata was reaffirmed in the context of WIS implementation. It was recalled that each satellite operator is in principle expected to serve as a Data Collection or Production Centre (DCPC) in the WIS architecture, and that the delivery of metadata with the data is a key requirement for DCPC and GISCs.

**Recommendations:** All satellite operators should be encouraged to develop metadata in order to fulfil their role as DCPC. Cooperation and exchange of experience should be encouraged among satellite operators on this topic.

## 9. Way forward

The list of actions was agreed. A draft report will be circulated to members immediately after the meeting. The Chairman will report to the IPET-DRC to be held on 15-18 September 2009.

The third meeting of the Task Force shall be convened around May 2010, in advance of the IPET-DRC meeting to be held during Summer 2010. If possible, it should be a face-to-face meeting in order to facilitate interaction among the members. Participation of all members is strongly recommended, as well as external experts if relevant to represent key user communities. Location will be defined in due time.

## 10. Closure of the meeting

The Chairman thanked all participants and closed the meeting at 14:25 UTC.

---

Task Force on Satellite Data Codes (TFSDC)  
Second meeting  
Teleconference, 14 September 2009, 11:00-14:00 UTC

**LIST OF PARTICIPANTS**

**EUMETSAT**

Simon ELLIOTT (Chairman)

**JMA**

Motoo HAYASHI

Akihiro SHIMIZU

**WMO Secretariat**

Jerome LAFEUILLE (Secretary)

Pierre KERHERVE

Atsushi SHIMAZAKI

**Note**

*The following experts who are also designated members of the Task Force could not participate in this meeting:*

*Roshydromet*

*George PARKHOMENKO*

*NOAA*

*Thomas SMITH*

*CMA*

*Anlai SUN*

Task Force on Satellite Data Codes (TFSDC)  
Second meeting  
Teleconference, 14 September 2009, 11:00-14:00 UTC

**AGENDA**

- 11. Introduction**
- 12. Review and adoption of the agenda**
- 13. Status of Terms of Reference and Membership**  
[\(TFSDC-2/ Doc.3\)](#)
  - Designation of a Rapporteur
- 14. Outcome of the first meeting**
  - Status of actions from the first meeting and follow-up actions taken by CGMS-36, ET-DRC, IGDDS-IG and CBS XIV [\(TFSDC-2/ Doc. 4\)](#)
- 15. Typology of satellite data and products**
  - Feedback from the validation period (DWD, GSICS, TFSDC Members)
  - Recommendation  
[\(TFSDC-2/ Doc.5\)](#)
- 16. Updating of Code Tables**
  - 6.6 Satellite-related updates to GRIB [\(IPET-DRC-1/ Doc 2.3\(3\)\)](#)
  - 6.7 Satellite-related updates to BUFR [\(IPET-DRC-1/ Doc 3.3 \(15\)\)](#)
  - 6.8 Specification of identifiers for multi-satellite products [\(IPET-DRC-1/ Doc. 3.2 \(4\)\)](#)
  - 6.9 Perspectives for new satellite instruments and corresponding identifiers in Common Code Tables C-5 and C-8 [\(TFSDC-2/ Doc.6.4\)](#)
  - 6.10 Proposal for other updates (as needed)
- 17. Other actions resulting from CBS-XIV**
- 18. Any other business**
  - New BUFR Master Table
- 19. Way forward**
  - Next meetings
  - Inter-sessional work
  - Reports to IPET-DRC, CGMS
- 20. Closure of the meeting**

Background documents:

[Task Force on Satellite Data Codes, Final report of the first session](#)  
[Provisional list of participants](#)



## **TERMS OF REFERENCE OF THE TASK FORCE ON SATELLITE DATA CODES**

*(Amended following TFSDC-1, CGMS-36 and CBS-XIV)*

### **Background**

The CGMS Task Force on Satellite Data Codes (TFSDC) is established in response to CGMS Actions 34-27 and 34-28 agreed by the Coordination Group for Meteorological Satellites (CGMS) at its thirty-fourth session.

### **Purpose**

The TFSDC is established in order to advise CGMS and WMO on issues related to satellite data representation, identification and handling within the WMO Information System.

### **Membership and organization**

The TFSDC is comprised of experts nominated by CGMS satellite operators, assisted by WMO Secretariat and, as appropriate, by external experts representing user communities.

It will nominate among its Members a Rapporteur and a Chairman.

The Task Force will meet at least once a year, and more if necessary. It will pursue its work by correspondence between its meetings.

The Task Force will interact as appropriate with the CBS Inter-Programme Expert Team on Data Representation and Codes (IPET-DRC), the CBS Inter-Programme Expert Team on Metadata and Data Interoperability (IPET-MDI) and the CBS Expert Team on GTS-WIS Operations and Implementation (ET-OI), with cross-representation at relevant meetings.

The TFSDC will report annually to the CGMS plenary which will decide on whether to continue the activity in the same way or hand it over to a different structure.

---

## SUMMARY OF ACTIONS AND RECOMMENDATIONS

**Action TFSDC-2.1:** Task Force members to inform the WMO Space Programme Office ([JLafeuille@wmo.int](mailto:JLafeuille@wmo.int)) of the name and contact details of suggested experts who could contribute to reflect the needs of important user communities for future Task Force work. Due date: November 2009

**Action TFSDC-2.2:** The Chairman to inform all CGMS satellite operators (with assistance of WMO Space Programme Office if necessary) of a request to draw an inventory of the products they generate and to allocate these products to the proposed data categories and sub-categories, as a "beta-testing" for these categories and sub-categories. This information should prepare for a more detailed discussion at CGMS-37. Due date: October 2009.

**Action TFSDC-2.3:** The Chairman to communicate to ET-OI the concern that long definitions would complicate the use of data subcategories to build data designators in GTS-WIS file names. Due date: December 2009.

**Action TFSDC-2.4:** The WMO Secretariat (A. Shimazaki) to introduce a sub-category in Categories 027, 028, 029 and 030 as place holder for sub-categories to be defined at a later stage when input will be available from the relevant communities. Due date: October 2009.

**Action TFSDC-2.5:** The Chairman to liaise with the Chairman of the GSICS Working Group on Data Management (V. Gaertner) to collect GSICS requirements for calibration data sub-categories. Due date: December 2009.

**Action TFSDC-2.6:** The WMO Secretariat (A. Shimazaki) to prepare an editorial update of Category 101 Sub-Category 007 to allow this sub-category to address "soil moisture and ocean salinity" with a generic understanding. Due date: December 2009.

**Action TFSDC-2.7:** WMO Secretariat (A. Shimazaki) to prepare an editorial update of Table C-5 whereby entry 04 "Metop-2" would be replaced by "Metop-2 (Metop-A)". Due date: December 2009.

**Action TFSDC-2.8:** WMO Secretariat (J. Lafeuille/A. Shimazaki) to raise the attention of satellite operators to the need to request identifiers related to new satellites in order to support international data exchange. Due date: November 2009.

**Action TFSDC-2.9:** The Chairman to report to IPET-DRC the findings of the Task Force regarding the need to allocate values in Common Code Table C-5 for satellite missions of new satellite operators, and to ensure sufficient margin for future missions of the USA. Due date: December 2009.

**Recommendations:** All satellite operators should be encouraged to develop metadata in order to fulfil their role as DCPC. Cooperation and exchange of experience should be encouraged among satellite operators on this topic.