Annex to draft Recommendation 4.2/4 (CBS-15)

PROCEDURE FOR DOCUMENTING REGIONAL REQUIREMENTS FOR SATELLITE DATA ACCESS AND EXCHANGE

Preamble

The development of a set of requirements for satellite data access and exchange in each of the WMO Regions requires interactions between data providers, product producers, the data users in interaction with the stakeholders and end users. This can best be accomplished if the process is coordinated within the WMO framework and clear guidelines are defined, based on experiences and lessons learnt from pilot initiatives.

The present procedure is proposed to be followed to develop a set of satellite data requirements that reflects the needs of a Region in the areas of interest of WMO Programmes and co-sponsored Programmes[4].

The needs depend on the climatological context and the regional socio-economic priorities. The feasibility of the requirements also depends on the available data and information sources, the telecommunication infrastructure and the capabilities of the NMHS itself, which include subject matter expertise, tools, and software. Therefore the requirements should best be formulated at the regional level. The requirements should also be regularly reviewed to adapt to evolving needs and capabilities.

Scope

1. The primary scope of this procedure is to identify and document the needs of a Region in the areas of interest of WMO Programmes and co-sponsored Programmes for access and exchange of satellite observation data and derived products. The needs of a Region represent the collective needs of WMO Members in order to fulfill their national or international role in support of protection of life and property and other socio-economic benefits.

2. Depending on the other mechanisms existing in each specific region, a later update of the data requirements could encompass the expression of non-satellite data requirements – e.g. surface-based observations or model outputs. The additional complexities of non-satellite data requirements and applications, providers and dissemination pathways are not considered in this first version of the Procedure. However, in the long run, such a comprehensive approach should be encouraged.

3. This process should consider both operational and non-operational satellite data, taking advantage of research and demonstration satellite missions.

Establishment of a Regional Task Team for Satellite Data Access and Exchange Requirements

4. A Regional Task Team for Satellite Data Access and Exchange Requirements is initiated by the relevant Regional Association President and established within the relevant regional WIGOS working structure under the technical guidance of CBS and supported by the WMO Secretariat.

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[4] For example, the Global Climate Observing System, the World Climate Research Programme, the Global Ocean Observing System, the Intergovernmental Panel on Climate Change

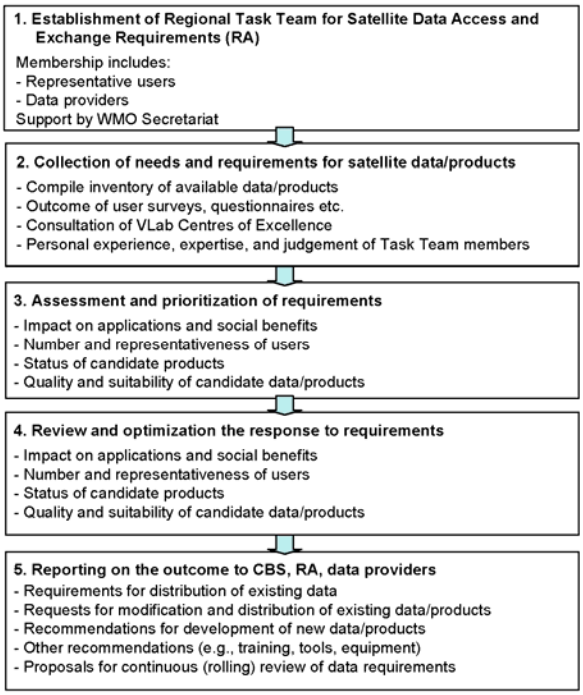
5. Members of the Task Team are drawn from those experts nominated as being available for the role by Permanent Representatives. The Task Team lead shall be a space based applications specialist in the region (e.g., member of ET-SUP[5], VLab CoE[6] representative). As far as practical, the Task Team membership should reflect the sub-regional diversity and the different fields of expertise involved in WMO Programmes and co-sponsored Programmes. The Task Team members should – collectively – strive to represent the interest of the whole Region including WMO Members who have no direct representative in the Task Team.

6. Representatives of the main satellite data providers for the Region shall be invited to participate in Task Team activities.

7. The Task Team shall be supported by the WMO Secretariat (through the Space Programme, the Regional Programme, and other Programmes as appropriate).

8. Terms of Reference of the Task Team are decided by the Regional Association, based on a common template maintained by the WMO Secretariat. The common template sets the scope, purpose, duration, methodology and reporting scheme of the Task Team.

Workflow: Tasks to be performed to develop and document an initial set of regional requirements for satellite data access and exchange



Task Team Activities

9. The Task Team identifies the data already available through the existing services (GTS, Internet, bilateral FTP transmission, Direct Readout, multi-mission broadcast services such as

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[5] Expert Team on Satellite Utilization and Products, governed by the WMO Commission for Basic Systems Implementation/Coordination Team on the Integrated Observing System

[6] Centre of Excellence for Education and Training in the WMO-CGMS Virtual Laboratory for Education and Training in Satellite Meteorology (VLab)

GEONETCast, etc.). Data and products shall be classified by categories of variables and derived products.

10. The Task Team, with help of WMO Secretariat and data providers, gathers information on existing products and related inventories, as for example the WMO Product Access Guide and space agencies' product catalogues.

11. The Task team reviews the potential sources of regional needs for satellite data access including: the regional WMO Integrated Global Observing System (WIGOS) Implementation Plan; the outcome of WMO surveys on availability and use of satellite data; input from regional Centres of Excellence; personal experience, expertise and judgment of the Task Team Members and other available documents such as the Earth Observation priorities identified by the Group on Earth Observation (GEO) for the various Societal Benefit Areas (SBA) and community-based requirements documented in GCOS and IGOS theme reports.

12. The Task Team undertakes further information gathering, such as surveys, as required to ensure that views of WMO Members in the Region are adequately represented.

13. The Task Team analyzes the requirements for each relevant category of product, and identifies which requirements are not adequately met by existing services. The unmet requirements are prioritized, taking into account:

- The applications supported and their impact;
- The number and representativeness of the users;
- The status of the required data or products;
- The quality and suitability of the required data or products.

14. The WMO Secretariat convenes a workshop, in the Region, with the Task Team and, as required, other data providers, and specialists in the use of satellite data. In this workshop with users and providers, the prioritized list of unmet requirements is reviewed in order to define the optimal response, taking into account the technical options and capabilities available for data distribution, and the capacity of users.

15. In conclusion the Task Team formulates recommendations pertaining to:

- Existing data/products (with detailed references) to be included in existing distribution services (e.g., new product on DVB-S service) or moving a product from one service to another (e.g., Internet product to be put in LRIT) or assigning lower priority to an existing product (or removing it if obsolete);
- Amendments of existing products or development of new products;
- Evolution (upgrade, or consolidating) of data dissemination means, or other (e.g. training, tools, user equipment);
- Short-term action plan to implement these recommendations.

16. Based on this agreed set of requirements, data providers will strive to accommodate these in their operational dissemination procedure. This phase requires active collaboration between the users and data providers in order to test the operational procedures to deliver and use the data/products.

17. The short-term implementation actions are undertaken by the Task Team, calling on additional experts if necessary. The requirements list is updated accordingly.

18. In addition to these tasks, the Task Team is invited to provide feedback to WMO on the global observational requirements registered in the WMO Rolling Review of Requirements database.

19. The Task Team prepares a final report including the latest status of requirements, the status of implementation actions, and a proposal for the regular review of the requirements in the longer term. The final report is provided to the relevant Regional Association bodies and to WMO CBS.

20. The Task Team is then disbanded by the Regional Association.

Practical guidelines

21. WMO Secretariat provides one template for two purposes: identifying existing satellite data and products available from satellite operators, and identifying user requirements for such data and products. The template can include for instance: Product Name, Provider, Data characteristics (e.g., spatial resolution, accuracy, spectral range, length of record), Format, Geographical area, Frequency, Format expected in the Future, Final Size (compressed), Basic Application, Priority, Timeliness (min), Required data rate (kb/s).

22. The Task Team leader supports the communication within the team and organizes its work. The Task Team shall use appropriate tools to support collaborative work (web page, Google doc, teleconferences or web meetings) and maintain version control of the data requirements document to facilitate consultation and feedback from the regional user community.

23. In terms of its schedule, the Task Team aims to:

- Within 6 months after its establishment, complete a first draft version of the regional satellite data requirements;
- Within 2 months thereafter, hold the review workshop;
- Within 3 months thereafter, finalize the first version of the Regional Satellite Data Requirements based on consensus among all the Task Team members (both users and providers);
- Complete its Task within 12 months in total.

Maintain the Regional Requirements for Satellite Data Access and Exchange

24. Once the Regional Requirements for Satellite Data Access and Exchange have been established, they need to be maintained on a routine, regular, long-term basis by an appropriate Regional mechanism. This could for example be a standing Regional Requirements Coordination Group linked to the relevant regional WIGOS working structure. It is up to the WMO Regional Association to decide upon such a mechanism.

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