CGMS

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WIS DATA COLLECTION OR PRODUCTION CENTRE (DCPC) OR NATIONAL CENTRE (NC) DESIGNATION PROCEDURE

In response to CGMS action/recommendation A 38.51, A 38.52

WMO-WP-27 recalls that the WMO Information System (WIS) provides a means for Meteorological Satellite operators to improve the awareness of the WMO community of products and services available to WMO Members and their users from meteorological satellites. This is done by registering satellite data centres in WIS as National Centres (NCs) or Data Collection or Production Centres (DCPCs) so that metadata describing data, products and services can be discovered in WIS, and when required, data and products can be delivered to users though WIS. This document provides some background to WIS and the processes a centre should follow to participate in WIS.

Action/Recommendation proposed:

Noting the reference material on WIS provided in CGMS-39 WMO-WP-27, CGMS Members are encouraged to register their satellite data centres in WIS.

WIS DATA COLLECTION OR PRODUCTION CENTRE (DCPC) OR NATIONAL CENTRE (NC) DESIGNATION PROCEDURE

1 INTRODUCTION

The WMO Information System (WIS) is described in the new Manual on WIS (WMO No.1060)[1] and in the Guide to the WMO Information System (WMO No.1061)[2]. The Manual on WIS was approved by WMO Congress XVI in June 2011 and forms a part of the WMO Technical Regulations 49 Volume I. Designation procedures are described in the Section 3 of the manual. The following document is based on this manual and summarizes some of the key points that may be relevant to a Meteorological Satellite Service wishing to register their centre as a Data Collection or Production Centre or a National Centre within WIS. An important aspect is the understanding of the Service Oriented Architecture of WIS which defines the agreed interoperability standards for centres choosing to participate in WIS.

2 BECOMING A DATA COLLECTION OR PRODUCTION CENTRE (DCPC) OR A NATIONAL CENTRE (NC) IN WIS

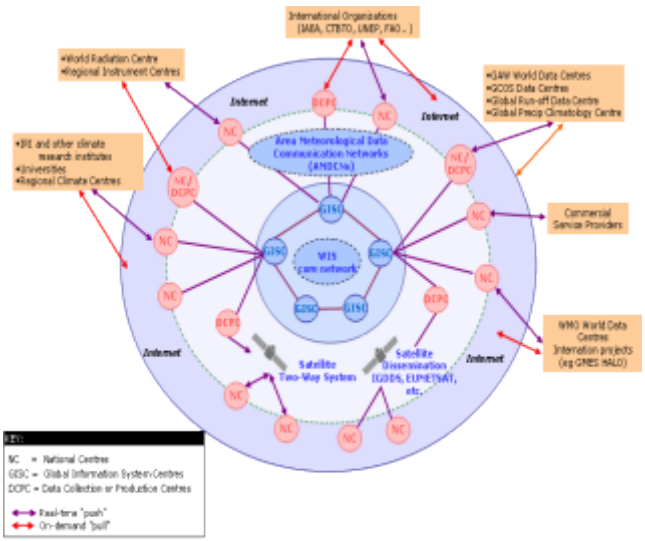
2.1 Background

WIS consists of four main components as shown in Figure 1. These include National Centres (NCs), Data Collection or Production Centres (DCPCs), Global Information and System Centres (GISCs) and the communications networks that connect all WIS centres.

NCs collect and/or produce national information.

DCPCs Collect and/or produce regional or international information or are communications hub.

GISCs host the WMO metadata catalogues and act as communication hubs between different parts of the World. They also provide the basic discovery, access and retrieval service of WIS to users of WMO data and products.



The communications network of WIS connecting all GISCs is known as the *WIS Core Network* and is based on the Main Telecommunications Network of the WMO World Weather Watch Global Telecommunication System (GTS): the network connecting GISCs to other centres in their agreed area are known as *Area Meteorological Data Communications Networks (AMDCNs)*. The GTS and the Virtual Private Networks over

[1] Manual on WIS (http://www.wmo.int/pages/prog/www/WIS/documents/Manual-on-WIS-en.pdf)
[2] Guide to WIS (http://www.wmo.int/pages/prog/www/WIS/documents/Guide-to-WIS-en.pdf)

the Internet are both used in the in the AMDCNs, while general access to WIS is via the Internet.

2.2 Designation procedures overview

The designation procedures vary a little depending on if a centre is an NC or DCPC. The main difference is that Members' Permanent Representatives (PRs) are fully responsible for the participation of NCs. PRs decide what NCs are in WIS, and take responsibility for their level of compliance with WIS interoperability interfaces. DCPCs have a more formal procedure in that they need to be approved by Congress (or by Executive Council in between Congress sessions), who consider:

Input from the relevant WMO technical commission on whether the centre can deliver the needed services (e.g. Commission for Climatology for endorsing Regional Climate Centres; Commission for Basic Systems (CBS) for operational satellite services),

Input from the President of the relevant Regional Association on whether the centre is meeting regional expectations, and

Importantly, endorsement of the WMO CBS that the centre has demonstrated its ability to participate in WIS. That is, CBS is tasked with ensuring a centre complies with WIS standards.

Note that in performing the WIS technical assessment, CBS endorsement does not assess the ability of a centre with regard to its meeting its terms of reference (i.e. whether its services meet the expectations of the associated WMO Programme) and expected thematic functionality; that is the responsibility of the relevant Technical Commission (which could be the CBS for the World Weather Watch or the WMO Space Programme). For this WIS technical assessment, the CBS review only considers the ability of a centre to comply with the relevant technical specifications as described in Section 5 of the Manual on WIS. CBS will also take into consideration the suitability of the Information and Communication Technology (ICT) infrastructure to meet the service level expectations of the centre and the physical and ICT security.

Satellite data centres can either be National Centres (NCs), if they wish to emphasize their role of collecting and serving national data to national users, or DCPCs if they wish to emphasize their international role, either to the global community or regionally. Although many satellite centres are set up principally to serve their national needs, it is expected that most also have a strong regional and international role so that most will choose to be registered as DCPCs.

2.3 Designation and Demonstration Process for a Satellite Centre

A formal nomination of a satellite centre as an NC or DCPC is made by the Permanent Representative of the Satellite Centre's home country advising Congress in writing through the Secretary General of WMO of its commitment to participate in WIS and to comply with the interoperability standards of WIS. For a multinational or regional satellite centre, the centre's Director General may nominate directly, although it would be considered polite to copy the PR of their host country where the nominated centre is located.

The next step is for the centre to demonstrate it can comply with the interoperability standards of WIS relevant to those services a centre will be providing through WIS. For DCPCs, it is necessary to demonstrate this capability to CBS. Procedures for this are described in detail at http://www-db.wmo.int/WIS/centres/guidance.doc (Reference 1) and are based around the completion of an online form/questionnaire http://www-db.wmo.int/WIS/centres/candidates.asp (Reference 2). This involves interacting with the CBS Expert Team on WIS GISC and DCPC Demonstration Process (ET-GDDP). NCs may also use this ET-GDDP guidance document and the WMO secretariat to ensure they too are able to demonstrate their own installations. The demonstration process could be considered as WIS user acceptance testing.

For DCPCs the demonstration process is divided into three phases.

Phase 1, is to fill out the online questionnaire and to provide evidence of their compliance tests.

Phase 2, involves the ET-GDDP reviewing the online questionnaire and running its own tests on those interfaces the centre needs to have to provide those services it wants to make available to WIS. Broadly, this includes testing the uploading of ISO19115 metadata as per the WMO profile described at wis.wmo.int//2010/metadata/version_1-2, the centres user interfaces, including user authority and access control. Phase 1 and 2 can be an iterative process to assist the centre refine its service interfaces to ensure compliance with WIS standards.

Phase 3, is the final recommendation of the ET-GDDP to CBS, either confirming the centres ability to participate in WIS or not. In some cases, the ET-GDDP and centre may agree on a qualified endorsement where a centre has demonstrated its ability on development systems rather than at the "pre" operational level on operational systems.

2.4 Registration and completion of the online questionnaire

To complete the online questionnaire (Reference 2), a centre must register an official editor. This is done by the selecting "Request registration or reset your password" from the online form start page. This opens an editor request form where the editor's name and email address are entered and the Member or International Organization is selected. The WMO secretariat will then validate the nomination and the editor will receive a confirmation request from dthomas@wmo.int along with a validation key URL that must be followed. This will allow the editor to set a password. (Note that the same process may be used to reset a password.)

Once registered, an editor is able to go into their country or international organization section and edit an existing DCPC or create a new DCPC. Guidance is available in the online form, along with suggested answers which will vary depending on how other sections were completed. There is also considerable guidance available in the ET-GDDP guidance document (reference 1).

When considering the online form, the editor will only need to address those sections that are relevant to the services being offered by the DCPC. For example, if a centre is not uploading data into the GTS, it is not necessary to address those requirements or specifications that relate to uploading data to the GTS. Similarly, if a centre does not plan to have user access control to its online products, then it will not be necessary to demonstrate compliance with user control on product access. It will however, be

important that a centre does not compromise the security of WIS by opening backdoors or security holes to other centres, so it must still satisfy certain security levels.

Once an editor has completed the online form and wishes to move into phase 2 of the demonstration process he can change the status of the online form from "not reviewed" to "ET-GDDP comments requested", or even "Ready for final review". This will alert the secretariat that a submission is ready to be considered by ET-GDDP. David Thomas (dthomas@wmo.int) can be contacted at any time if the editor has any questions or needs assistance. There is also a WIS Jump Start offer where a centre can request support from the secretariat or other WIS experts as described in the WIS Jump Start flyer online at http://www.wmo.int/pages/prog/www/WIS/documents/JumpStartFlyer.doc (reference 3).

2.5 Completion of the designation and demonstration process

Once CBS (or its management group) advise that a satellite centre's compliance has been successfully demonstrated, the secretariat will notify the next WMO Executive Council and Congress session who will then review the nomination by the PR (or centre's Director) in light of the recommendations of CBS and if approved, the Satellite Centre will be added to the list of DCPCs in the Manual on WIS.

2.6 Status of applications of Satellite Centres for DCPC

Out of 119 applications submitted for DCPC, which are listed on: http://www.wmo.int/pages/prog/www/WIS/centres/index_en.php, there are currently five satellite centres from CGMS Satellite Operators (two of them being already endorsed by CBS and Congress) and two satellite data processing or archiving facilities, as indicated in the table below. The table also includes hyperlinks to a summary of each DCPC application.

Member / Organization	Centre type	Function	GISC / backup GISC	TC/RA/ Const. Body	Endorsement		
					ICG/WIS	CBS	Congress /EC
China	DCPC	NSMC	Beijing	CBS	Yes	Not submitted to ET-GDDP	subject to CBS
EUMETSAT	DCPC	Satellite Centre	WE-VGISC	CBS	Yes	**Endorsed**	**Endorsed**
Germany	DCPC	WDC-RSAT	WE-VGISC	CAS	Yes	**Endorsed**	**Endorsed**
Japan	DCPC	Satellite Centre	Tokyo	CBS	Yes	**Endorsed**	**Endorsed**
Korea, Republic of	DCPC	NMSC	Seoul	CBS	Yes	Under review by ET-GDDP	subject to CBS
Netherlands (the)	DCPC	Satellite Centre	WE-VGISC	CBS	Yes	Not submitted to ET-GDDP	subject to CBS
United States of America	DCPC	RMSC-Geographical / NESDIS	Washington	CBS	Yes	Not submitted to ET-GDDP	subject to CBS

3 CONCLUSIONS

The WMO Information System provides a means for Meteorological Satellite operators to improve the awareness of the WMO community of products and services available to WMO Members and other users of meteorological satellite data and products. This is facilitated by registering satellite data centres in WIS as National Centres (NCs) or Data Collection or Production Centres (DCPCs) so that metadata describing data, products and services can be discovered in WIS, and when required, data and products can be delivered to users though WIS.

The key elements to registering a satellite data centre in WIS is to have the PR of the Member Country (or General Director of the international organization) that operates the centre advise WMO in writing of a commitment to participate in WIS and to comply with the technical regulations as described in the Manual on WIS (WMO No 1061). If the centre is to be designated as a DCPC, then it must demonstrate its compliance with those interoperability standards of WIS that are relevant to the services the centre wishes to provide through WIS. This is done by completing the online form (Reference 1) and liaising with the CBS ET-GDDP.

For understanding the process, it has proved helpful for some other centres to see this process as a type of “user acceptance testing” a centre would normally undertake if going to commission a new ICT component in their own system.

Help is available to all centres either through the liaison process with the ET-GDDP or by calling on the WMO secretariat for advice and assistance at any stage of the process.