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CMA Report on WIS Implementation

Summary of the Working Paper.

This paper reports CMA's work regarding implementation of WIS. It informs the CGMS that the GISC Beijing was endorsed by ET-GDDP in August, 2010; it has started operation since 15 August 2011. CMA has applied for 4 DCPCs, of which the NMIC has been approved. Next, CMA is to improve its GISC services and setup the backup mechanism with other GISCs.

CMA Report on WIS Implementation

1. Overview

With the aim to becoming the Global Information System Centre (GISC) of WIS, the National Meteorological Information Centre (NMIC) of CMA has designed and established a GISC Software to satisfy the WIS/GISC functionalities since 2009. It leverages the "Service Oriented Architecture (SOA)" concept to enhance interoperability among diverse data management systems. Able to support different user groups and access policies, the GISC software, which provides an integrated web portal, extends the WMO services through DAR (Discovery, Access and Retrieval) facilities, and provides for routine collection and automated dissemination of observed data and products; timely delivers data and products in response to ad-hoc requests and interoperability among diverse data management systems and datasets.

2. Progress

2.1 CMA started the development of WIS services in 2009, and put its GISC into trial operation in June, 2010.

2.2 Demonstration in WMO EC-LXII (Geneva, Switzerland, 8 to 18 June, 2010).

Invited by EC-LXII, CMA, JMA and DWD together demonstrated the new functions of WIS using their preoperational systems on the Council and the WMO information system side-meeting. In the demonstration, CMA mainly demonstrated the data discovery, metadata edit, metadata synchronization and data access functions.

2.3. GISC Beijing was endorsed by ET-GDDP in August, 2010.

In August 2010, the ET-GDDP experts came to evaluate the capability of GISC candidate Beijing. All WIS functional and technical requirements were successfully demonstrated during the audit. And the strong points are: metadata management, audit and monitoring tools; extensive SRU support, including SRU request editor; directory browsing as well as searching; FTP harvesting.

2.4. Demonstration in CBS-Ext(10) (Windhoek, Namibia, 17 to 24 November, 2010)

Invited by CBS-Ext(10), CMA, JMA, DWD and Met.No demonstrated the new functionality of WIS including metadata upload from DCPC, metadata synchronization of multiple GISCs, data discovery from GISCs and data retrieve from DCPC.

In CBS-Ext(10), the NMIC of CMA was endorsed for the role of GISC.

2.5 Demonstration in WMO Cg-XVI (Geneva, Switzerland, 18 to 21 May, 2011)

WIS was demonstrated live at a side meeting of Cg XVI on Saturday 21 of May. This was a joint effort by ACMAD, CMA, DWD, EUMETSAT, INMET, IRIMO, JMA, Met.No, MF, and the Met Office, and showed the new functions of WIS across various WIS centres using a hypothetical

food security analysis as an overarching theme. The side meeting was well attended and received very positive feedback from the audience.

In Cg-XVI, NMIC of CMA was designated as GISC.

2.6 GISC Beijing started operation from 15 August 2011.

Following the trial operation over the past one year, the GISC Beijing started its operation as from 15 August 2011. Currently, GISC Beijing provides these services:

- **Metadata synchronization:** Support OAI-PMH and FTP, have the interfaces for configuring and monitoring provider and harvester
- **Metadata search:** Directory navigation, Simple Search, Complex Search, SRU service
- **Data cache:** Cache the global exchanged Information for at least 24 hours
- **Data request/reply:** Support both local data request and remote data request
- **Data subscription:** Subscribe data and disseminate data via GTS, Internet FTP/SMTP or CMACast
- **Web data ingest:** Collecting GTS messages, support online code conversion (TAC to BUFR)

3. Future plan

As specified in the manual on WIS, each GISC shall maintain arrangement for its essential services to be taken up by another GISC in case of an incapacitating system failure. CMA and JMA plan to back-up for each other for the essential services, like data ingest, data discovery, data retrieval through pull, data dissemination through push and so on. So, a series of operation procedures need to be established. Research, development and test are also should be carried out.