JMA Workshop on WIS Implementation

17-19 January 2022, Online

Abstract

Agenda 4

Title Keynote Speech - Past and Present International Meteorological Communications and the evolution to WIS 2.0 -

Speaker Mr. KANNO Yoshiaki (JMA)

Abstract WIS (including GTS) is the global telecommunication infrastructure to support the weather services of WMO members. It has been met the requirements for routine collection and automated dissemination of observation data and products. WIS is very reliable and robust with its well-coordinated systems. However, the technology it uses is based on a traditional way and obsolete nowadays. In an environment of increasing volumes and variety of information, it is becoming challenging for WIS to meet the user requirements. WMO Members decided to evolve WIS to WIS2.0 with modern IT technology. This presentation introduces the concept of WIS 2.0 and the decisions at this stage, based on WIS 2.0 Strategy (2017), WIS 2.0 Implementation Approach (2019), and WIS 2.0 Implementation Plan (2021).

Agenda 5

Title WMO's New Organization and GISC Tokyo's Involvement

Speaker Mr. TSUNODA kenji (JMA)

Abstract WMO Congress (Cg-18 3-14 June 2019) adopted the restructuring of the technical commissions into two, namely, the Commission for Observation, Infrastructure and Information Systems (Infrastructure Commission or INFCOM) and the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission or SERCOM). Observing System (WIGOS), Information system (WIS) and Data processing & Forecasting System (GDPFS) have been placed under the Infrastructure Commission from the CBS.
In addition to WIS2.0 Demonstration Projects to evaluate WIS2.0 functions, WMO Expert Teams have been developing technical details to be reflected to WMO regulatory materials, to be approved by the next WMO Congress (planned in 2023). GISC Tokyo has been participating development of key WIS 2.0 components such as new pub/sub messaging and WIS monitoring.

Agenda 6

Title WIS Monitoring

Speaker Mr. EGAWA Takumu (JMA)

Abstract GISC Tokyo receives meteorological data via the internet. NCs can check its status on the portal site of GISC Tokyo.
In the GISC Watch Activity, the on-duty GISC monitors the status of each GISC service. You can check the status on a website called WMO Common Dashboard. You can also check the reception status from AoRs at GISC Tokyo.
The details of the new WIS monitoring, which is being prepared for WIS 2.0, have not yet been decided. TT-WISMon is working to define the requirements in the activities of WMO.

Agenda 7
Title Operation of GISC Tokyo

Speaker Mr. EGAWA Takumu (JMA)

Abstract WIS consists of two parallel parts: GTS and DAR. GISC Tokyo provides GTS and DAR services. The DAR service uses the internet line, and GISC Tokyo started sending to and receiving from NCs by SFTP from 2020. SFTP is a secure communication protocol.

Agenda 8-1
Title WIS 2.0 demonstration projects workshop (September 2021) Overview
Speaker Mr. KANNO Yoshiaki (JMA)

Abstract The WIS 2.0 demonstration projects workshop was held online on 13-14 and 20-21 September 2021. Eleven demonstration projects which will be used to illustrate, evolve, validate and/or refine the concepts, solutions and implementation approach of WIS 2.0, shared the status of the projects. This presentation provides quick overview of the workshop.

Agenda 8-2
Title GISC Tokyo cloud project (overview)
Speaker Mr. KANNO Yoshiaki (JMA)

Abstract GISC Tokyo conducts "GISC Tokyo cloud project" as one of the WIS2.0 demonstration projects. The project aims to enable smooth migration from GTS to cloud based "shared platform" data exchange system. This presentation provides the overview of the project and invite workshop participants to join the experimental data exchange.

Agenda 8-2.1
Title GISC Tokyo cloud project (MQPs)

Speaker Mr. OZEKI Ren (JMA)

Abstract In the GISC Tokyo cloud project, we are investigating technologies that will be important in WIS2.0. One of these technologies is MQPs (Message Queuing Protocols).
In this presentation, the following two topics will be explained, and a hands-on demonstration will be given at the end.
- Features and architectural advantages of MQPs
- Overview of the GISC Tokyo cloud project(MQPs)

Agenda 8-2.2
Title GISC Tokyo cloud project / Cloud best practices

Speaker Mr. NOYORI Tatsuya (JMA)

Abstract WIS2 is exploring the effective use of cloud computing. Also, in recent years, there has been open data movement to open and share data and use it to solve various problems. GISC Tokyo cloud project has been exploring the cost-effective use of cloud, serverless computing, cloud storage, tile datasets, view application, notification, security and open data. This presentation introduces about the cloud best practices from the exploration.

Agenda 8-3
Title GISC Offenbach WIS2 Pilot

Speaker Mr. Kai-Thorsten WIRT and Ms. Antje Kerstin SCHREMMER (DWD)

Abstract In order to evaluate suggested protocols and technologies for WIS2, WMO initiated a number of pilot projects. DWD is currently working on two areas. In the GISC Offenbach WIS2 Demonstration project DWD is acting as a gateway for centers to WIS2. As an example, DWD is querying the ERDDAP System of NOAA for data from NOAA's saildrones. When new data is available, this is announced using Pub/Sub Messaging in WIS2. Users can find and subscribe to the data using GISC Offenbachs test system. In a second prototype, DWD is providing a Web Service which allows users to extract a subset of DWD's ICON model. This subset can be an arbitrary area, a parameter subset or certain forecast steps. As an entry point to this Web Service DWD provides an OpenLayers graphical interface and an OpenAPI description.

Agenda 9-1
Title Current Status and Future Plan of AMDCN

Speaker Mr. TSUBOI Kentaro (JMA)

Abstract Area Meteorological Data Communication Network (AMDCN) is important to exchange meteorological data between GISC and DCPC, RTH and NC in the regional implementation of WIS.
This presentation provides the current status and future plan of AMDCN of GISC Tokyo.

Agenda 9-2
Title New Data Format in WMO

Speaker Mr. TSUBOI Kentaro (JMA)

Abstract Meteorological data exchanged in the WMO community is defined as WMO data standards in the Manual on Codes. WMO Expert Team and Task Team has discussed a new data format (NetCDF, XML) for the WMO community.
This presentation introduces the outline of NetCDF, latest contents (XML) of Manual on Codes and issues of BUFR relating to the migration to Table-Driven Code Forms and WIGOS Station Identifier.

Agenda 9-3
Title GISC Tokyo's Technical Support

Speaker Mr. TSUBOI Kentaro (JMA)

Abstract JMA WIS workshops have been held since 2010 to support DCPC, RTH and NC for the implementation of WIS. GISC Tokyo's staff have visited RTH and NCs to provide technical support on-site.
This presentation reviews the history of WIS workshops and technical support on-site and proposes the future plan.