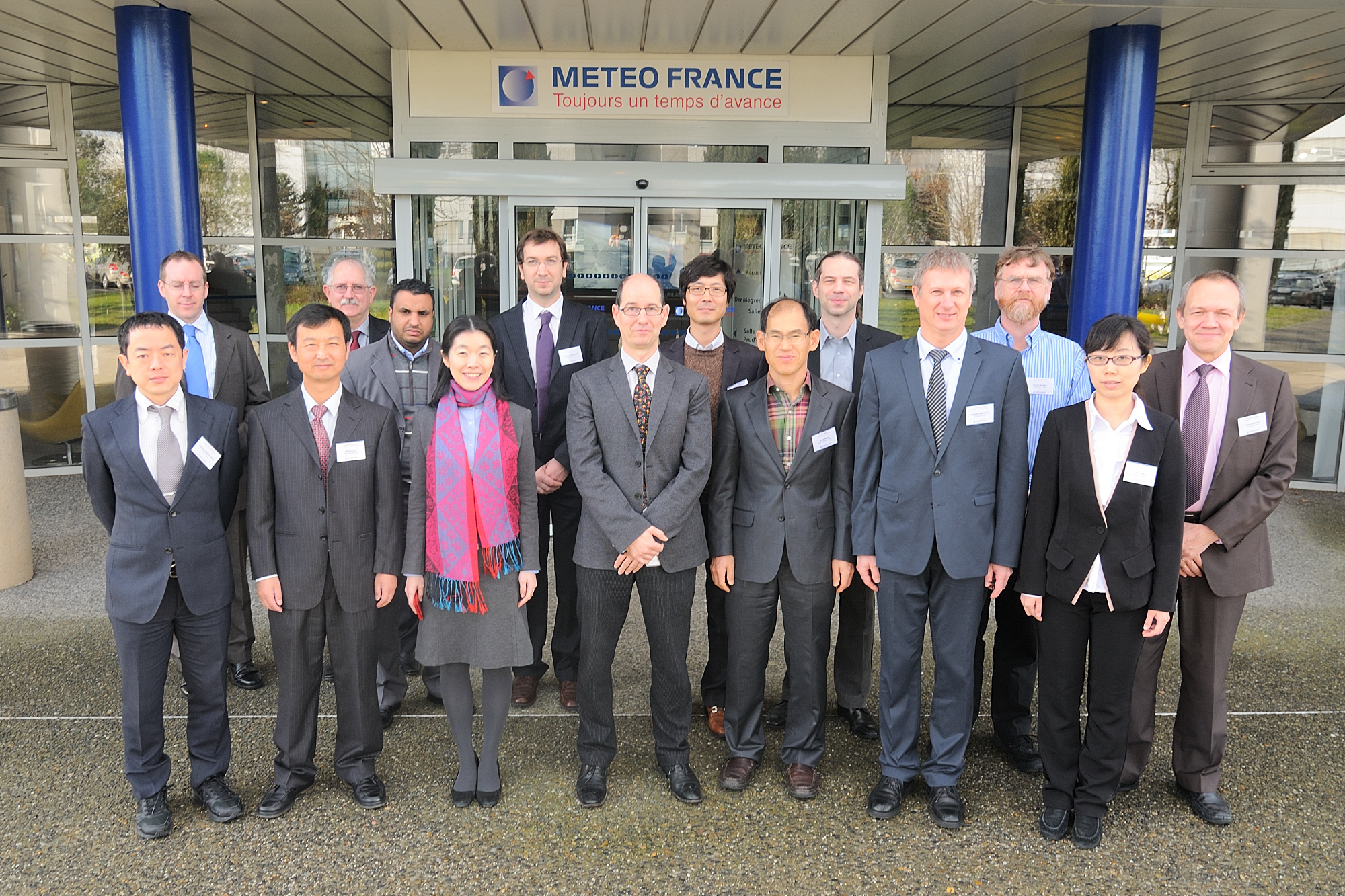
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MEETING OF THE ET-WISC TASK TEAM ON GISCs (TT-GISC)  
Toulouse, France. 12-14 February 2014



DISCLAIMER

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Final Report of ET-WISC/TT-GISC,   
Toulouse. February 2014

## 1. Opening and working arrangements

1. Mr Matteo Dell’Aqua, opened the meeting by welcoming the Participants ([Appendix A](#_Appendix_A:_LIST)) He noted that it is a great pleasure for Meteo France to host this first meeting of the TT on GISC.
2. Mr Dell’Aqua added that as chair of ICT-ISS he had been looking toward this meeting as it will allow to progress on WIS implementation, and reminded participants that GISCs have a key role there as have major responsibilities in the discovery and exchange of data which are essential for Met Services to fulfil their mission. He noted that lot of progress has been made the past year with the implementation of WIS. The majority of the GISC s are operational or pre-operational and the remaining two will come soon on line. There is a new WIS core network that will soon give us new possibilities for the exchange of data. However, there are still a large number of technical issues to deal with and adjustment to be made to ensure that WIS become as efficient as it should be. It is therefore really important that GISCs meet on a regular basis to exchange on their experience and address issues related to the implementation and operation of WIS.
3. Mr Dell’Aqua asked the meeting to remain user focused and consider in the discussion the benefit that WIS will offer to end users but also data providers. He wished participants a successful outcome to this important topic meeting.
4. Mr David Thomas thanked Mr Dell’Aqua on behalf of WMO for the hosting of the meeting by Météo France. He thanked participants for their contributions, not only for the valuable content, but also for their use of the template and inclusion of recommended text for the report. He noted that with so many documents covering so many complex issues, as demonstrated in ET-WISC Beijing, this approach made it easier to work through the issues and focus on the decisions in the available time.
5. Mr Jacques Anquetil (chair) thanked Mr Dell’Aqua and Thomas for their comments and provided some background to the meeting. He introduced the working arrangements, agenda and document list.
6. The Participants of the workshop adopted the draft agenda ([Doc 2](http://wis.wmo.int/doc=2811)), document allocation plan ([Inf03](http://wis.wmo.int/page=TT-GISC-2014-DocPln)) and working arrangements ([Inf04](http://wis.wmo.int/doc=2851))as the basis for the workshop discussions as summarised in [Appendix B](#_Appendix_B:_DRAFT). All workshop presentation material and workshop documents are available on the WIS WIKI website: <http://wis.wmo.int/page=TT-GISC-2014>.

## 2. Background from ET-WISC and ToRs of TT-GISC.

#### 2.1 Outcome of WIS Curriculum workshop

1. The meeting noted the output from the WIS "Competencies and Curriculum" Development Workshop ([Doc 09](http://wis.wmo.int/doc=2841)) held in Geneva on 1 to 4 October 2013. It agreed that the core WIS competencies identified as defined in figure 1 and endorsed the associated output documents on competencies [<http://wis.wmo.int/file=687>] and learning guide [<http://wis.wmo.int/file=689>].   
     
     
   TT-GISC noted the implementation strategy [To be provided at <http://wis.wmo.int/file=691>] and encouraged all GISCs to start to utilize the competency and learning guide in their capacity development and training activities. All GISCs should aim at ensuring centres in their area of responsibility have staff equipped with appropriate competencies and thus maximize their ability to support and benefit from WIS.

Figure 1 – WIS Competencies

#### Competencies

#### Infrastructure

1. Manage the physical infrastructure
2. Manage the operational applications

#### Data

1. Manage the data flow
2. Manage the data discovery

#### External interactions

1. Manage WIS centre-centre interactions
2. Manage user interactions

#### Operational service

1. Manage the operational service

#### 2.2 Outcome of WIS Monitoring workshop

1. The meeting reviewed [Doc 10](http://wis.wmo.int/doc=2853) and the report from the WIS monitoring workshop [<http://wis.wmo.int/file=695>]. TT-GISC identified some improvements for the metrics and tables in the report and updated based on discussion under the relevant components agenda items. The meeting tasked Jacques Anquetil to coordinate the collection of the comments from all the GISCs on the elements proposed for monitoring and to submit a report to ET-WISC by the 27 March as indicated in the implementation Gantt chart in the report. It requested that the secretariat facilitate provision of the report to ET-WISC.

## 3. Review of TT-GISC action plan

1. The chair introduced the action plan ([Doc 01](http://wis.wmo.int/doc=2797)) linking the various items to this meeting’s agenda. The meeting further reviewed and updated the action plan (Doc 01r1) at the end of the meeting, noting additional tasks, including the need to provide feedback on WIS monitoring report to ET-WISC and the establishment of a task to address the issues relating to GISC agreement making processes necessary to manage multilateral GISC issues such as adding or removing data or product streams from the 24 hour cache.

## 4. GISC status round

#### Offenbach: [Doc 19](http://wis.wmo.int/doc=2889).

1. Mr. Heene presented the status of GISC Offenbach and that since the last ET-WISC meeting in Beijing 07/2013 GISC Offenbach hosted 2 WIS Workshops - one workshop with Slovenian Environment Agency in August 2013 and the other workshop with Italian Air Force Meteorological Service (CNMCA) in November 2013. Furthermore he reported that 2 internal WIS Workshops took place.
2. TT-GISC noted that GISC Offenbach closed an additional GISC Backup agreement with GISC Tokyo in January 2014 and that already some centres are uploading their data intended for global exchange in an operational manner to their Backup GISC. Furthermore Mr. Heene reported that all data intended for global exchange of GISC Offenbach’s AMDCN are uploaded to the GISC Backup Centre GISC Moscow. Furthermore the operation teams of the centres hold a monthly co-ordination telephone conference.
3. TT-GISC noted that GISC Offenbach published all their metadata (for GTS material) in WMO Core Profile 1.3 and that GISC Offenbach is in close contact with the centres of their AMDCN to describe all data and products with metadata and to convert existing metadata to WMO Core Profile 1.3. GISC Offenbach offers the automatic generation of metadata for Volume C1 and AN files as service for centres outside of the AMDCN upon formal request. Furthermore Mr. Heene reported that the operational interface for all WMO metadata – realized through the WIS Catalogue (OAI set which is a union of all sets) – between GEOSS and GISC Offenbach works without any problems since July 2012.
4. Mr. Heene informed all GISC representatives that GISC Offenbach offers an FTP dissemination server for the fulfillment of EC 65 request to make all data of GISC Offenbach’s AMDCN available to the other GISCs. Upon request the GISC receives an account and can download 2-minutes archives with all data of GISC Offenbach’s AMDCN. Furthermore, the possibility exists that GISC Offenbach pushes the requested data to the other GISCs.

#### Casablanca: [Doc 20](http://wis.wmo.int/doc=2893)

1. Mr Rabia Merrouchi reported on the status of GISC Casablanca. He advised that: the NMS of Morocco launched an official tender and to acquire WIS compliant solution to implement the GISC of Casablanca: GISC Casablanca achieved the migration to RMDCN-NG in Jan 2014 and had increased the rate to reach 2Mbps; GISC of Casablanca have sufficient high speed internet connections that could be used internationally, and that; GISC of Casablanca replaced successfully , in January 2014, the traditional telegraphic connection (9600 bauds) with RTH Algiers by an Internet VPN connection.
2. The meeting noted that GISC Casablanca held the RA I Sub-Regional Workshop for WIGOS and WIS for North African and west African countries (November 2013). It also ran a training session concerning TDCF migration for Libyan Meteorological Service is planned for 2014.

#### Washington: [Doc 21r1](http://wis.wmo.int/doc=2905)

1. Mr Robert Bunge presented the report GISC Washington. He reported on the progress in the standup of backup portal systems at a backup location in West Virginia. GISC Washington will also be migrating their current OpenWIS implementation of the portal from standalone machines to virtual machine systems that will boot off an NFS server. Current efforts also include improving internal monitoring of the portal systems by the RTH monitoring staff and development of on call support staff lists, recovery procedures and other details needed to bring the US portal to an internal operational status.
2. The US continues to update the GTS metadata for the first time in many years. A number of outreach efforts are underway with US partners and customers regarding WIS and the use of the portal. A number of internal customers have expressed hope that the portal and GISC metadata sharing will allow rapid discovery of data, especially during emergencies. The US has also officially reached out to US DCPCs regarding their efforts and opening channels of communication.

1. GISC Washington continues to exchange metadata with several GISCs and more recently Canada and two US DCPCs on an experimental basis. The next generation RMDCN circuit has been installed at the New York City “hotel” location, but are currently awaiting installation of patch panels needed to activate and use the circuit. This is expected to occur within the next month.

#### Exeter: [Doc 22](http://wis.wmo.int/doc=2897)

1. Mr. Mathison presented the current status of GISC Exeter and highlighted to the other delegates that he will be taking over from Mr. Little in several WMO responsibilities as Mr. Little has partially retired and is passing over some of his duties to Mr. Mathison and several other staff in the UK.
2. Mr. Mathison described the recent developments for Exeter’s RTH switch and RTH items of interest with particular reference to network upgrades which included migration to RMDCN-NG in January 2014, the establishing of new backup GTS link with Lusaka and the intention to establish an internet connection with Brasilia.
3. Mr. Mathison highlighted the benefits of the MoU that has been signed and outlined the position between the OpenWIS partners and ‘welcomed USA to the party’. There was mention of the intention to have OpenWIS, including documentation and test cases, etc, held in a public GitHub repository where it would available and under Open Source governance.
4. The presentation concluded with information on the GISC implementation in Exeter and that it is offering backup of user subscriptions with GISC Toulouse. GISC Exeter’s catalogue contains 155,000 metadata records, with daily synchronisation with Météo France, DWD, JMA, BoM, KMA and ECMWF.

#### Tokyo: [Doc 23](http://wis.wmo.int/doc=2907)

1. Mr Shigeharu Nishikawa reported on activities of GISC Tokyo. He introduced a new monitoring for identifying GTS bulletins that lack associated metadata records. The monitoring is mainly for the centres in the area of responsibility of Tokyo, but a list for all location identifiers (CCCCs) is updated every day. TT-GISC noted that this monitoring supports all the WIS centres to identify GTS headings that need metadata records.
2. He also introduced a new monitor of the numbers of bulletins stored in GISC cache of GISC Tokyo. The meeting noted that this gives an idea of how GISC cache is monitored.
3. Mr Nishikawa reported the status of GISC backup of Tokyo, between GISCs Beijing, Offenbach and Melbourne. The meeting noted the progress of the arrangements that include periodical exchange of routing catalogues with Beijing and GISC Tokyo’s web ingest tool for backup collection of files via internet.

#### Melbourne, Doc 24

1. Mr Weiqing Qu reported that GISC Melbourne has been operational since 16 April 2013 (Service Level: Category I – 24/7). It is performing routine Metedata Synchronization with all Operational GISCs. All GTS products received by GISC Melbourne are in the Cache and kept for 5 days. Average Cache size 2.672GB. Average size of RA-V data 60.248 MB.
2. Activities aimed to improving monitoring capacity for GISC operation include the clean-up of the Metadata Catalogue, the publishing of outstanding metadata, ensuring the compliance of CPv1.3 for existing metadata, and coordinating and facilitate metadata update in RA-V. The meeting noted that establishing the GISC backup with Tokyo and Beijing is in progress.
3. Mr Qu also briefed the meeting on the migration to TDCF activity in RA V being led by Australia.

#### Beijing [Doc 25](http://wis.wmo.int/doc=2911) (external link)

1. Ms Zhu Ting reported that GISC Beijing has five internal operational Data Collection or Product Centres and six external National Centres or DCPC in its area of responsibility. GISC Beijing has been operating traditional GTS and services of WIS Part-B.
2. Ms Zhu reported the current statues of routine dissemination for GISC Beijing’s subscription users. Dissemination via CMACast takes the major work for subscription service. Also, GISC Beijing achieved the migration to RMDCN-NG in Jan 2014.
3. GISC Beijing provided on-site training to NC Mongolia and NC Nepal in Dec 2013. GISC Beijing plans to establish and implement any-to-any MPLS VPN Circuit between AMDCN members and develop WIS/GISC software to enhance our service quality and performance monitoring ability.

#### Seoul [Doc 26](http://wis.wmo.int/doc=2915) (external link)

1. Mr Sungsoo Do reported on the status of WIS Centre in GISC Seoul, Capacity Building, Improving Usability in GISC Seoul and on its Interactions with other organizations.
2. Domestic Training included a second GISC Seoul Workshop in September 2013; status of each data centre, data policy and was a contribution to GFCS as CSIS. In addition they held a Joint Meeting with K-GEO (January 2014), introducing a benefit of WIS to other areas of data user (governmental decision maker). International activity included the training of invited experts from Uzhydromet (November 2013) covering WIS concept, Creating and managing MD etc
3. GISC usability was enhanced through introduction of GIS service to facilitate users search and retrieval activity. Inter-agency collaboration was exemplified by GISC Seoul volunteering to be interface between WIS and GEOSS in September 2013 and has taken initiatives in terms of MD exchanging including the harvesting of GEOSS MD to GISC Seoul. This facilitates the ongoing cooperation with WIS as a contributing system to GEOS

#### Pretoria [Doc 27](http://wis.wmo.int/doc=2917)

1. Mr Karel Dewaal submitted his report. He noted that IBL was rewarded a tender to install and assist SAWS with implementing GISC Pretoria. This was done in 2013. GISC Pretoria is currently in a pre-operational state preparing for GISC audit. <http://gisc.weathersa.co.za>. The GISC audit is scheduled for 24 and 25th February 2014.
2. On networking, he reported that SAWS RMDCN-NG (2Mb) cut over was done in January 2014. Internet bandwidth at Internet solutions 6Mb and SANREN 5Mb for international use.
3. A regional GISC training workshop is scheduled for the week 25 – 29th March 2014, which will also include the RA1 WIS implementation planning workshop. He indicated that SAWS will engage with other GISC’s over the coming weeks.
4. The report indicated that Mr Sihle Sibiya will be overseeing GISC activities going forward and Christa Ferreira (GTS focal point) will attend to operational GISC issues. Their contact details are Sihle Sibiya: [Sihle.Sibiya@weathersa.co.za](mailto:Sihle.Sibiya@weathersa.co.za), and Christa Ferreira: [christa.ferreira@weathersa.co.za](mailto:christa.ferreira@weathersa.co.za).

#### Toulouse [Doc 29r1](http://wis.wmo.int/doc=2957)

1. Mr Benjamin Saclier reported the current status of GISC Toulouse. A workshop on vGISC for region VI has been organized in June 2013 jointly with UK-MET office (20 participants from NCs and DCPCs).
2. TT-GISC noted that an agreement on cooperation for backup with GISC Moscow has been signed.
3. Mr Saclier informed that DCPC Odyssey radar is under implementation, and that vGISC proposes through internet a web portal for metadata management. This service is offered for NC’s and DCPC of vGISC area of responsibility.

**Brasilia** [**Doc 30**](http://wis.wmo.int/doc=2923)

1. Mr José Mauro de Rezende reported via webex. He noted that the WIS Portal, based on a commercial solution, is configured as a cluster. Data exchange is from RTH Message Switching System but they are not yet connected to the RMDCN. There is a bilateral agreement with MeteoFrance and DWD to exchange data over the Internet and they have started conversation with RTH Exeter to establish an Internet connection too.
2. Internal Training included GISC Operator training and software training in 2012. The natural Candidate for GISC back up is GISC Washington, but he noted that two other GISCs have expressed interest in being backup too.
3. Major hurdles for implementing the GISC have been a lack of human resources (difficulties finding qualified staff or hire new people) and the implementing of the RMDCN connection.

#### Moscow [Doc 31](http://wis.wmo.int/doc=2931)

1. Mr Sergey Belov presented the report via webex. He highlighted that GISC Moscow (WIMMS) metadata set was re-generated in the end of 2013 using the metadata generator kindly offered by GISC Offenbach. Other GISCs are requested to remove existing GISC Moscow metadata sets and harvest them from the <http://meta.gisc-msk.wis.mecom.ru/openwis-portal/srv/en/oaipmh> GISC Moscow OAI-PMH service. GISC Moscow is now operational. See <http://gisc.mecom.ru>.
2. The meeting was informed about the current status of GISC Moscow telecommunication, the improvement of the GISC Moscow infrastructure and plans for establishment of DCPCs and NCs. The meeting noted the current status of GISC backup process with GISC Offenbach and GISC Toulouse and welcomed the progress done within the GISC Moscow – GISC Offenbach backup. It was also was informed about the current state of GISC Moscow 24h data cache capacity and access.
3. TT-GISC requested the GISC Moscow to inform the WMO upon the GISC Moscow reaching operational status.

## 5. Metadata Management

#### 5.1 Metadata harvesting

1. The meeting reviewed [Doc 13r1](http://wis.wmo.int/doc=2935). It noted that around 6700 GTS bulletins received by GISC Melbourne do not have metadata. The meeting noted that sending of bulletins from a WIS certified compliant centre is in breach of their compliance and requested all GISCs to generate and publish metadata for those bulletins that they are producing and already circulating on GTS as soon as possible. The meeting further noted WMO Interim Metadata Management Service (WIMMS) is provided by CMA, KMA and JMA and any centre whose principal GISC has not operational yet is welcome to apply for using one of the WIMMS centres to update and add metadata.
2. To maintain the availability and consistency of remaining WMO baseline metadata, GISC Tokyo agreed to provide its "WIS-UNASSOCIATED" set as the authoritative source and invited all GISCs to synchronize the set.
3. The meeting reviewed [Doc 04](http://wis.wmo.int/doc=2831) and agreed – like ET WISC 2012 and ET-WISC 2013 before - the basic structures of OAI-Sets provided by each GISC. Furthermore it notes the guideline for moving metadata records between GISCs (presented at ET-WISC 2013 by JMA). This closes TT-GISC Action 1.

#### 5.2 Metadata catalogue consistency

1. The meeting noted the report from Australia on metadata synchronization issues ([Doc 15](http://wis.wmo.int/doc=2875)) revealing the background to current inconsistencies between GISCs inherited from early synchronization events.
2. The meeting reviewed [Doc 11r1](http://wis.wmo.int/doc=2927) on metadata catalogue consistency, especially on specific issues that have caused problems in catalogue synchronization among GISCs. The meeting reconfirmed that all GISCs need to avoid typical operational errors of insertion of records with old date stamps and deletion without deleted messages to ensure catalogue synchronization.
3. TT-GISC revisited some of the items discussed in the ET-WISC meeting held in July 2013 in Beijing and requested: 1) all GISCs to implement the set membership in the headers of items returned in response to the GetRecord requests; and 2) each GISC to make sure that all the sets include all the records, especially records that have not belonged to any operational GISC.
4. It discussed case sensitivity of metadata record identifiers and confirmed that WMO Core Metadata Profile ver. 1.3 says that gmd:MD\_Metadata/gmd:fileIdentifier elements are treated as CASE-INSENSITIVE when assessing metadata records for duplication . TT-GISC encouraged all GISCs ensure their software behaves accordingly. On the other hand, having the fact that there are two types of implementation in treating case sensitivity of identifiers, it agreed to minimize the synchronization failure by following two practical rules: 1) avoid using identifiers with only case difference as the primary rule, 2) if there is no way other than using identifiers with only case difference, delete old records explicitly (by issuing OAI deleted message), before adding new records.
5. The meeting also discussed the default namespace declaration in some records, which clearly cause some harvesters a problem in harvesting them. The meeting noted item 6.2.1 of WMO Core Metadata Profile ver. 1.3 and part of the statement of 6. A short primer to XML conventions of WCMP ver. 1.2, and agreed that all harvesters need to be able to harvest records even with default namespace declarations. The meeting also agreed to encourage metadata creators to avoid using default namespace declaration to make the synchronization easier.
6. The meeting reviewed the test request results and noted the OAI provider implementation issues on duplicated identifiers of response to verb=ListIdentifiers, inaccurate datestamps in OAI headers and selective harvesting arguments: “until” and “from”, and urged the GISCs to fix these issues by the next ET-WISC meeting.
7. The meeting noted the speed performance of OAI providers and suggested performance can be increased by increasing the size of the results. The meeting agreed to use the ET-WISC internal forum (<http://www.wmo.int/pages/prog/www/WIS/wiswiki/tiki-view_forum.php?forumId=12>) to discuss such issues. The secretariat highlighted that members need to log into the wiki to use the discussion forum.

## 6. Cache management

1. The meeting reviewed a document prepared by Mr Remy Giraud ([Inf05](http://wis.wmo.int/doc=2845)) scheduled to be presented to ET-CTS meeting in Brasilia, 18-21 March 2014 on the use of "cloud computing" concepts to facilitate the rapid and effective exchange of information across the WIS core network. It agreed that the ideas in the document were worth further study by the ET-CTS and looked forward to the report of the meeting. The meeting thanked the chair of ET-CTS for making the document available early for consideration of the TT-GISC It further requested ET-CTS to address: legal issues of countries using storage outside of nation; - political barriers to one country using a service managed by another; and data access policy. The chair suggested that once ET-CTS has considered this document from a CTS perspective, it is recommended that at least a couple of GISCs experiment further with this concept from a GISC applications perspective to assist ET-CTS in evaluation of the concept.

#### 6.1 24h cache completeness

1. The meeting noted [Doc 05](http://wis.wmo.int/doc=2855). It agreed that much of the cache should be definable using GTS information, but that information is limited and does not include data and products expected to be made available in WIS by a number of DCPCs. The meeting agreed that the monitoring should include: a) The number of core Cache updates in the last 24 hours and b) 24 hour input volume and c) number of items in the complete cache.
2. The meeting noted that further discussion may be necessary if GISCs wish to have more detailed diagnostics available on GISC cache completeness. In particular, the issues of monitoring completeness based on catalogues could be simplified if the metadata clearly defines what information is to be cached either within the Principal GISCs area or responsibility, or by Region.
3. It is recommended then, that detailed monitoring would be at the GISC level, while only the common holding needs to be monitored globally. Thus all GISCs should meet the basic requirement set by monitoring a, b and c above, plus the status of the common holding (core) component. Each GISC is encouraged to establish more detailed monitoring for its own quality assurance process.
4. The meeting addressed the issue of how GISCs should meet the need identified in the Manual on WIS “3.5.3.2 GISCs should employ the MTN and associated collaborative mechanisms to exchange the information efficiently and without detriment to the performance of any GISC.” Noting that the GTS works by bilateral decisions every day about what goes on the GTS core network. Furthermore, noting that now GISCs have to operate as one, it is essential to create an equivalent decision process. In order to achieve this, TT-GISC decides that:

- TT-GISC will establish a sub team to define TOR and working practices to report back to TT-GISC so it can be reported to ET-WISC and ICT-ISS (June 2014). Membership is to include. Japan (lead), USA, Germany, France, UK and the Russian Federation.

1. The TT-GISC recommends that:

1) The TT-GISC should be the group to advise[decide] on if a data stream should go in or out of the 24 hour cache that all GISCs have to cache that affect operations.

2) Decision to add a new or to remove an existing data stream will be by consensus of GISCs representatives.

3) If unable to get consensus, the answer should default to no and the problem escalated to CBS.

4) The President of CBS can override any decisions made by the group.

5) Decisions should have a fixed timeline and have to be quick (eg less than 2 weeks)

6) It recommended that issues be escalated by a GISC either in response to events either occurred or planned where it is anticipated it might impact on the functioning of WIS.

1. The meeting noted that IPET-MDI decided that cache flag indicating that all GISCs have to cache is the keyword GlobalExchange,

#### 6.2 Harmonization of File format of 24h cache

1. Mr. Shigeharu NISHIKAWA reported on his additional investigation ([doc 14](http://wis.wmo.int/doc=2861)) for file format of 24h cache to complement DWD and JMA’s report of ET-WISC meeting, 2013. He emphasized decision of previous ET-WISC meeting[[1]](#footnote-1) about file format of 24h cache, ‘the meeting encouraged all GISCs to use the full “Meteorological bulletin” as default representation of GTS-bulletin data instances. He also mentioned interoperability with the GTS, about filename and inconvenience for users.

## 7 WIS security

#### 7.1 Data policies management

1. Mr Benjamin Saclier provided a report on data policies management ([Doc 17](http://wis.wmo.int/doc=2877)). He highlighted that The license definition is under the responsibility of the owner of the intellectual property rights in the data. He noted that Aviation OPMET data policies are not covered by WMO Resolution 25 and WMO Resolution 40 and suggested that this could be addressed more clearly perhaps in discussion with CAeM or ICAO. As such there is a need for a guide of data policies and license recommendation and the meeting noted that IPET-MDRD was about to provide such a guide. This guide will recommended license template and terminology in order to harmonize dataset policy.
2. He noted that the current description of data policy is not clear to an unfamiliar user as it is effectively in WMO jargon. Information about condition applying to access and use is missing. At least a short description of access and use shall be provided in the metadata including a link to a license. He suggested that IPET-MDRD could study further some of the solutions in the INSPIRE project regarding the “constraints related to access and use”.
3. Finally, the meeting recommended that TT-GISC establish a method by which access to a GISC cache is reviewed/audited. Germany, France, UK (lead), and Japan to follow up.

#### 7.2 Propose a standard for WIS users authentication and authorization and potential solutions to implement it GISCs in operation

1. Mr Shigeharu Nishikawa presented Doc 06 on the concepts and solutions of user authentication, authorization and federation. Authentication is a process to verify who the user is, and the password authentication is a realistic option, with Apache http server and LDAP authentication as applications. Authorization, which are categorized into policy definition and policy enforcement phases, can be implemented with applications such as Open AM and Apache http server.
2. Noting that according to the Manual on WIS, only authorized users may access WIS and that it is the PR that has the responsibility for authorizing national users of WIS although this may be delegated (ie National WIS Focal Point), the meeting agreed that there is a requirement for users to register with one GISC and be able to access other WIS facilities. A federated identity is a way to link a user's identity and attributes, which means he/she does not have to validate their role again between centres.
3. TT-GISC recommended the following steps to achieving the above.
4. GISCs should agree on a single standard to facility a solution
5. Establish a group to investigate this, including establishing basic use cases
   1. USA, Germany, France (Lead), Japan, China,, Australia, UK.
   2. Seek participation of DCPC/NC experts
6. Confirm elements needed to be shared, eg those the paper Doc 7r1
7. Report back 2015 (prior Cg 17)
8. The meeting noted that even once such a system is implemented, participation of GISCs and other WIS centres in this federated users will most likely be voluntary.
9. The meeting noted the practices established in GISC Melbourne ([Doc 16](http://wis.wmo.int/doc=2873)) and Offenbach for user s of WIS. It noted that by including the WIS national focal point in the authorization processes was consistent with the Manual on WIS statement (1.1.2) that “each Permanent Representative with WMO shall be responsible for authorizing users of WIS” or their delegate and consistent with item (d) of the TOR of the National WIS focal points (<http://www.wmo.int/pages/prog/www/CBS/Lists_WorkGroups/CBS/cross-cutting/fp%20wis-gts/tors>).

## 8 Users

#### 8.1 User interface (Base functions…)

1. No documents were submitted on this issue.

#### 8.2 User registration parameters

1. Mr. Shigeharu NISHIKAWA reported user registration parameters and procedures used by each operational GISC as described in [Doc 07r1](http://wis.wmo.int/doc=2869) and key elements summarised in [Appendix C](#_Appendix_C_–). The meeting expressed its appreciation the work done by JMA and noted that the report summarized the current practices across the GISCs and would be a useful information for the work being undertaken by the TT-GISC working group on federation. The details are also useful in the interim for GISC to GISC backup exchange of user details. The meeting also noted that the Guide to IT Security (<http://wis.wmo.int/doc=1253>) should be used as a reference by GISCs in establishing their own procedures and by the “user federation” working group.

## 9 GISCs in operation

#### 9.1 GISC backup Procedures

1. The meeting reviewed [Doc 08](http://wis.wmo.int/doc=2837) and agreed on the proposed GISC backup procedures attached as [Appendix D, Annex to 9.1](#_Annex_to_9.1:). The team agreed not to include metadata management in GISC backup and agreed that GISCs, even agreed backup GISCs, do not exchange or transfer metadata management privilege for backup purposes, because there are several technical difficulties in backup GISC’s taking over the other’s OAI set and it is not worth spending resources for implementing this mechanism, considering the fact that metadata catalogue is supposed to be always backed up among all the GISCs and there is no reason not to be able to suspend updating the catalogue during the principal GISC’s outage. The meeting noted that when the team revisits this topic it needs to address technical difficulties discussed in this document, including transfer of editing privileges of local OAI sets, other GISCs’ change of OAI provider target and rollout and rollback procedures of backup OAI sets.
2. If there is a need to exchange user information for the purpose, proper security measures should be taken based on the agreement on the two GISCs.
3. The meeting noted that the current backup requirements of the Manual on WIS effectively focus on back up ensuring the collection distribution of data to the NCs and DCPCs. It further noted that there is a great expectation of registered users of the GISC that their data reception will continue during the backup stage. It noted that these users are outside of the NC and DCPCs and thus not really covered by the mandatory backup requirement stated in the Manual on the WIS.
4. The meeting noted that GISC Moscow and Toulouse had met and agreed that they will aim to include these registered GISC users in their backup procedure, thereby offering a service slightly above the mandatory. The meeting noted that although such arrangements are not possible or affordable in many other GISCs’ own environments, they expected that GISCs Toulouse and Moscow registered users would be highly appreciative of this service. It recommended that the terms for GISC Registered User be included in the manual on WIS and that the paragraph 3.9.2 be updated to include “In addition, GISCs are encouraged to, where feasible, provide backup for registered GISC users that are not included within the mandatory backup procedures for NCs and DCPCs within the GISCs AMDCN.”
5. The meeting noted that there is also a need to consider more extensive backup such that another GISC can take on the role of a GISC that has ceased to operate permanently or long term. It noted that long-term should be equivalent to that needed for a GISC to hand over its operations for a GISC becoming operational. It further noted that the notification period of new products is two months.

#### 9.2 Standard support provided by GISC to their NCs and DCPCs

1. The meeting review [Doc 34](http://wis.wmo.int/doc=2937) on support activities provided by GISC to their NCs and DCPCs, including operation coordination, technical support, and capacity-building support. The meeting noted this document and proposed that [Appendix D, Annex to 9.2](#_Annex_to_9.1) should be included in a GISC operating guide.
2. TT-GISC highlighted that there is a need for an easily maintained document, possibly on the WIS Wiki, that can be referred to by GISCs and other WIS centres.

#### 9.3 Propose procedures for NC sand DCPCs wishing to change their principal GISC

1. The meeting reviewed the report on procedures for changing of a principal GISC ([Doc28r1](http://wis.wmo.int/doc=2941)). It noted the need for the development of a management procedure to deal with the future requests for possible changes of the associations between National Centres and their Principal GISCs.
2. TT-GISC proposed the procedure in [Appendix D, Annex to 9.3](#_Annex_to_9.3) for NCs and DCPCs changing their principal GISC for inclusion in the Guide to the WIS (WMO No 1061).

#### 9.4 Operational GISCs communication

1. The meeting noted [Doc 10](http://wis.wmo.int/doc=2879) on inter GISC communications. It agreed that there was a need for a standard format and method along the lines proposed by GISC Pretoria and described in [Appendix D, Annex to 9.4](#_Annex_to_9.4). It requested France and Germany to explore this issue further to prepare a report to TT-GISC by June 2014 with an aim to including the details in the GISC Practices Guide.

## 10 Registering WMO publications and services in WIS

1. The meeting reviewed [Doc 12](http://wis.wmo.int/doc=2871) on WMO’s potential role as a DCPC in WIS. TT-GISC agreed that in order for WMO to register its publications and web page based services in WIS, it is necessary to register WMO as a DCPC. It noted GISC Toulouse’s offer to take on the role of Principal GISC for WMO, including offering providing the metadata management interfaces. It also considered options of the GISC hosting the publications, but noted that WMO had sufficient infrastructure in place to provide these services. The TT-GISC recommends that WMO be registered as a DCPC with a principal GISC of Toulouse.

## 11 Other business

1. There was no specific “other business” items submitted.

## 12 Conclusion and actions

1. The chair, Jacques Anquetil, thanked all for their contributions. He noted that participants should review the draft report and action plan as soon as they are available. He requested the secretariat to provide a list of actions and recommendations from the meeting (Appendix E). He, on behalf of Météo France closed the meeting and wished all well for their homeward journies.

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# Appendix A - LIST OF PARTICIPANTS

### *Participants*

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **Country** | **GISC** | **Representative** | **Status** |
| Australia | Melbourne | Weiqing QU | Attended |
| Brazil | Brasilia | José Mauro REZENDE | Webex |
| China | Beijing | Ms Zhu TING | Attended |
| France | Toulouse | Jacques ANQUETIL, Remy GIRAUD, Matteo DELL'AQUA, Benjamin SACLIER | Attended |
| Germany | Offenbach | Markus HEENE | Attended |
| India | New Delhi | L.R. MEENA | Webex |
| Iran, IR | Tehran | Abas Niazalizadeh MOGHADAM | ~~Webex~~ |
| Japan | Tokyo | Shigeharu NISHIKAWA, Ms Jitsuko HASEGAWA | Attended |
| Morocco | Casablanca | Rabia MERROUCHI | Attended |
| Republic of Korea | Seoul | Mr. KWON Oung,Mr. DO Sungsoo | Attended |
| Russian Federation | Moscow | Sergey BELOV | Webex |
| Saudi Arabia | Jeddah | Saad ALMAJNOONI | ~~Invited~~ |
| South Africa | Pretoria | Karel DE WAAL, Christa Ferreira, Sihle.Sibiya | Webex |
| UK | Exeter | Colin MATHISON | Attended |
| USA | Washington | Robert BUNGE | Attended |
| WMO | Secretariat | David THOMAS | Attended |

# Appendix B - DRAFT AGENDA

### *Agenda and Document Allocation Plan*

|  |  |  |
| --- | --- | --- |
| Agenda Item | Topic | Docs |
| 1. | Opening and working arrangements | [Info01](http://www.meteo.fr/cic/meetings/venue.html) (external link), [Info02](http://www.wmo.int/pages/prog/www/WIS/wiswiki/tiki-index.php?page=TT-GISC-14-Participants), [Doc 02](http://wis.wmo.int/doc=2811) (external link),[Info03](http://www.wmo.int/pages/prog/www/WIS/wiswiki/tiki-index.php?page=TT-GISC-2014-DocPln), [Info04](http://wis.wmo.int/doc=2851) (external link) |
| 2. | Background from ET-WISC and ToRs of TT-GISC. | [Info 06](http://wis.wmo.int/doc=2799) (external link) |
| 2.1. | Outcome of WIS Curriculum workshop | [Doc 09](http://wis.wmo.int/doc=2841) (external link) |
| 2.2. | Outcome of WIS Monitoring workshop | [Doc 10](http://wis.wmo.int/doc=2853) (external link) |
| 3. | Review of TT-GISC action plan | [Doc 01](http://wis.wmo.int/doc=2797) (external link) |
| 4. | GISC status round | [Doc 19](http://wis.wmo.int/doc=2889) (external link), [Doc 20r1](http://wis.wmo.int/doc=2929) (external link), [Doc 21r1](http://wis.wmo.int/doc=2905) (external link), [Doc 22](http://wis.wmo.int/doc=2897) (external link), [Doc 23](http://wis.wmo.int/doc=2907) (external link),[Doc 24](http://wis.wmo.int/doc=2909) (external link), [Doc 25](http://wis.wmo.int/doc=2911) (external link), [Doc 26](http://wis.wmo.int/doc=2915) (external link), [Doc 27](http://wis.wmo.int/doc=2917) (external link), [Doc 29r1](http://wis.wmo.int/doc=2957) (external link), [Doc 30](http://wis.wmo.int/doc=2923) (external link), [Doc 31](http://wis.wmo.int/doc=2923) (external link) |
| 5. | Metadata Management | [Doc 13r1](http://wis.wmo.int/doc=2935) (external link),[Doc33](http://wis.wmo.int/doc=2933) (external link) |
| 5.1. | Metadata harvesting | [Doc 04](http://wis.wmo.int/doc=2831) (external link) |
| 5.2. | Metadata catalogue consistency | [Doc 11r1](http://wis.wmo.int/doc=2927) (external link),[Doc 15](http://wis.wmo.int/doc=2875) (external link) |
| 6. | Cache management | [Info 05](http://wis.wmo.int/doc=2845) (external link), [Doc 13r1](http://wis.wmo.int/doc=2935) (external link) |
| 6.1. | 24h cache completeness | [Doc 05](http://wis.wmo.int/doc=2855) (external link) |
| 6.2. | Harmonization of File format of 24h cache | [Doc 14](http://wis.wmo.int/doc=2861) (external link) |
| 7. | WIS security |  |
| 7.1. | Data policies management | [Doc 17](http://wis.wmo.int/doc=2877) (external link) |
| 7.2. | Propose a standard for WIS users authentication and authorization and potential solutions to implement it GISCs in operation | [Doc 06r1](http://wis.wmo.int/doc=2867) (external link), [Doc 16](http://wis.wmo.int/doc=2873) (external link) |
| 8. | Users |  |
| 8.1. | User interface (Base functions…) |  |
| 8.2. | User registration parameters | [Doc 07r1](http://wis.wmo.int/doc=2869) (external link) |
| 9. | GISCs in operation |  |
| 9.1. | GISC backup Procedures | [Doc 03r1](http://wis.wmo.int/doc=2883) (external link), [Doc 08](http://wis.wmo.int/doc=2837) (external link) |
| 9.2. | Standard support provided by GISC to their NCs and DCPCs | [Doc 34](http://wis.wmo.int/doc=2937) (external link) |
| 9.3. | Propose procedures for NC sand DCPCs wishing to change their principal GISC | [Doc 28r1](http://wis.wmo.int/doc=2941) (external link) |
| 9.4. | Operational GISCs communication | [Doc 18](http://wis.wmo.int/doc=2879) (external link) |
| 10. | Registering WMO publications and services in WIS | [Doc 12](http://wis.wmo.int/doc=2871) (external link), |
| 11. | Other business |  |
| 12. | Conclusion and actions |  |

# Appendix C – User registration parameters

Annex 1 and 2 to Section 8.2

(Guidance only as TT-GISC suggests GISCs should use IT Security Guide)

### Annex 1 - User registration parameters

User registration parameters can be categorized into next 6 items.

1. User properties (Mandatory)
2. User properties (Optional)
3. User privileges
4. Subscription
5. Metadata
6. Other parameters
7. **User properties (Mandatory)**

This is mandatory parameters as minimum set of user properties to login, to recognize user-roll and to communicate with users.

* User ID
* Password
* Organization
* User Name
* Email

1. **User properties (Optional)**

Following users parameters can be stored as necessary.

* Address
* Phone number
* Fax number
* Member of WMO
* Register Type
* Period
* Homepage
* Occupation

1. **User privileges**

* Group
* Class of service
* Backup
* User mode

1. **Subscription (GTS, DAR)**

* email address
* ftp settings (host, port, path, user, password, directory, active/passive, etc...)
* product/data name, interval, period (for DAR)

1. **Metadata**

* OAI –Set name

1. **Other parameters**

* As necessary

### Annex 2 - Standard procedures of user registration

Following items can be procedure of user registration to keep consistency between GISCs. These are mainly for GISC portal transmitted by http protocol. Regarding ftp protocol (for subscription via GTS, DAR), users can transmit password without encryption. In that case, It will be recommended that user ID’s password and ftp account password will be set different each other.

**User ID**

* User ID must be provided to person.
* Administrator must provide user ID to users without delay.
* Administrator must set user role to users adequately.
* Administrator must be able to create, update, remove user ID.

**User registration parameters**

* Administrator must be able to modify user parameters.
* Users must be able to modify own parameters.

**Handling for user authorization data**

* User authorization data must be transmitted with encryption.
* User authorization data must be stored with encryption.

# Appendix D - GISC in operations

## Annex to 9.1: GISC backup procedures

#### Scope of backup

* Data intended for global exchange from NCs and DCPCs are mandatory.
* Data intended for regional exchange from NCs and DCPCs are optional.
* For short term outages, Metadata management is out of scope and metadata editing privileges should not be transferred between backup GISCs.

#### Backup services

* Data collection from AMDCN of the other GISC
* Data provision to other GISCs
  + Make available on its GISC cache
  + Disseminate through GISC core network (GTS, RMDCN)
* Data provision to NCs and DCPCs in AMDCN of the other GISC
  + Make available on its GISC cache
* Metadata management is out of scope for short term outages

#### User Information

If there is a need to exchange user information for the purpose, proper security measures should be taken based on the agreement on the two GISCs.

#### Networks

* A backup GISC needs to ensure network connectivity with Centres in the AMDCN it is backing up.

## Annex to 9.2 GISC support to NCs and DCPCs

GISCs are suggested to provide the following support activities to the centres (NCs and DCPCs) in its area of responsibility.

#### Operation coordination

Each GISC should organize regular meetings with the WIS Focal Points of the centres belonging to its AMDCN to coordinate the implementation, operation and improvement of AMDCN to ensure it meet WIS requirements.

Each GISC should maintain business continuity plans and handover arrangements to ensure continued service to the NCs and DCPCs in its area of responsibility, especially for the collection and distribution of data and products.

#### Technical support

Each GISC should provide technical consultation on implementing and improving WIS functionality, such as search and management of metadata, to the centres in its area of responsibility.

Each GISC should support the centres in its area of responsibility in creating and maintenance of metadata, in adoption of recommended data formats as well as in monitoring activities in suitable manners.

#### Capacity-building support

Each GISC should develop and provide training courses by reference to the WIS Training and Learning Guide to meet the capacity-building requirements of the centres in its area of responsibility.

#### References

[1] ET-WISC/2013-Final Report

[2] Manual on the WIS (WMO No 1060)

[3] Guide to the WIS (WMO No 1061)

[4] WIS Training and Learning Guide

## Annex to 9.3 Procedures for changing of principal GISC

The procedure for NCs and DCPCs changing their principal GISC is suggested as follows.

1. The centre (NC/DCPC) wishing to change its principal GISC should consult with its present and proposed principal GISCs and receive the new principal GISC ‘s approval.
2. The centre should communicate with the chosen GISC to check the communication network connectivity to the chosen GISC and ensure that the bandwidth is sufficient to send and receive all data without undue delays.
3. The centre should inform regional association and WMO by letter from the PR about the choice of new principal GISC. This letter through WMO, with a copy to its existing GISC should include endorsement of the new principal GISC.
4. WMO shall inform CBS, copying the original and new principal GISC of the change to prepare an update to the Manual on WIS Annex B.
5. WMO should update the WIS centres Database (http://www.wmo.int/pages/prog/www/WIS/centres/index\_en.php) and the WMO Country Profile Database (http://www.wmo.int/cpdb).
6. The new principal GISC should coordinate with the associated GISC (s) for the center to arrange and setup the backup service.
7. The new Principal GISC should coordinate with the original principal GISC to take over responsibility for the metadata records describing the data and products of the centre, and notify all of the operational GISCs of the change of its responsibility area.
8. Once notified that the new Principal GISC is ready, the centre shall start using the WIS service of the new principal GISC, in particular the service of uploading and managing the metadata for its data and products.

## Annex to 9.4 – GISC communications

#### Technology

Email, phone, fax, wiki, WIS Core network

#### Message format

1. The message should be on a standard form for TQM purpose and posted on the WIS-WIKI. For Example:

|  |  |
| --- | --- |
| Source GISC: | |
| Destination GISCs: | |
| Message date & Time: | Validity period: |
| Subject: | |
| Message body | |

#### Communication Language

1. English should be the primary language and if the GISC server a second language it can be added in the message part.

# Appendix E – List of action items, decisions and recommendations of the meeting.

| **Action Number** | **Decision/recommendation/ action** | **Responsible** | **Objective/deadline** | **Status** |
| --- | --- | --- | --- | --- |
| 14/1-1 | **Decision:** Endorsed the core WIS competencies and the associated output documents on competencies and learning guide:  [<http://wis.wmo.int/file=687>] [<http://wis.wmo.int/file=689>]. | Include in report | 28Feb2014 | Done |
| 14/1-2 | **Action:**  a) Encouraged all GISCs to start to utilize the competency and learning guide in their capacity development and training activities.  b) All GISCs should aim at ensuring centres in their area of responsibility have staff equipped with appropriate competencies and thus maximize their ability to support and benefit from WIS | GISCs | ASAP | Ongoing |
| 14/1-3 | **Action:** Jacques Anquetil to coordinate the collection of the comments from all the GISCs on the elements proposed for monitoring and to submit a report to ET-WISC by the 27 March. It requested that the secretariat facilitate provision of the report to ET-WIS.  See also action 14/1-13 | GISC representatives, Chair, Secretariat | 27 March 2014 | To be done |
| 14/1-4 | **Action:** All GISCs to generate and publish metadata for those bulletins that they are producing and already circulating on GTS as soon as possible | GISCs | ASAP | Ongoing |
| 14/1-5 | **Decision:** Agreed that GISC Tokyo provide its "WIS-UNASSOCIATED" set as the authoritative source of baseline metadata and invited all GISCs to synchronize the set. | GISCs | ASAP | Ongoing |
| 14/1-6 | **Decision:** Agreed [Doc 04](http://wis.wmo.int/doc=2831) provides the basic structures of OAI-Sets to be provided by each GISC. | GISCs | ASAP | Completes Action Item 1 |
| 14/1-7 | **Action:** Requested:  a) all GISCs to implement the set membership in the headers of items returned in response to the GetRecord requests; and  b) each GISC to make sure that all the sets include all the records, especially records that have not belonged to any operational GISC. | GISCs | ASAP | Ongoing |
| 14/1-8 | **Decision:** Agreed to minimize the synchronization failure by following two practical rules:  a) avoid using identifiers with only case difference as the primary rule,  b) if there is no way other than using identifiers with only case difference, delete old records explicitly (by issuing OAI deleted message), before adding new records | GISCs | ASAP | Ongoing |
| 14/1-9 | **Action:** Agreed:  a) That all harvesters need to be able to harvest records even with default namespace declarations;  b) To encourage metadata creators to avoid using default namespace declaration. | GISCs | ASAP | Ongoing |
| 14/1-10 | **Action:** Urged the GISCs to fix inaccurate datestamps in OAI headers and selective harvesting arguments: “until” and “from”, by the next ET-WISC meeting | GISCs | By next ET-WISC meeting | To be done |
| 14/1-11 | **Action:** Agreed to use the ET-WISC internal forum (<http://www.wmo.int/pages/prog/www/WIS/wiswiki/tiki-view_forum.php?forumId=12>) to discuss issues. | TT-GISC | ASAP | Ongoing |
| 14/1-12 | **Action:**  a) Requested ET-CTS, while investigating cloud computing solutions, to address: legal issues of countries using storage outside of nation; - political barriers to one country using a service managed by another; and data access policy.  b) The chair suggested that once ET-CTS has considered this document from a CTS perspective, it is recommended that at least a couple of GISCs experiment further with this concept. | a) ET-CTS chair,  b) TT-GISC chair. | a) March 2014  b) When convenient | To be done |
| 14/1-13 | **Recommendation:** Agreed that detailed monitoring would be at the GISC level, while only the common holding needs to be monitored globally. Thus all GISCs should meet the basic requirement set by monitoring a) The number of core Cache updates in the last 24 hours and b) 24 hour input volume and c) number of items in the complete cache, plus the status of the common holding (core) component. Each GISC is encouraged to establish more detailed monitoring for its own quality assurance process. (See also action 14/1-3) | As per action 14/1-3 | As per action 14/1-3 | As per action 14/1-3 |
| 14/1-14 | **Action:** Agreed to:  a) the need for GISC agreement making processes necessary to manage multilateral GISC issues.  b) establish a sub team to define TOR and working practices to report back to TT-GISC on recommended procedures for approving inclusion of data in GISC core cache, and similar decisions, so it can be reported to ET-WISC and ICT-ISS. | Japan(lead), USA,Germany, France,UK and Russian Fed | June 2014 | To be done |
| 14/1-15 | **Action:** Meeting  a) confirmed file format of 24h cache to be full meteorological bulletin as in report of ET-WISC meeting, 2013.  b) encouraged all GISCs to use the full “Meteorological bulletin” as default representation of GTS-bulletin data instances | GISCs | ASAP | Ongoing |
| 14/1-16 | **Action:** Establish a method by which access to a GISC cache is reviewed/audited. | Germany, France,UK (lead),and Japan | Next TT-GISC meeting | Not started |
| 14/1-17 | **Action:** TT-GISC recommended:  a) GISCs should agree on a single standard to facilitate user federation;  b) Establish group to investigate, including establishing basic use cases  c) Confirm elements needed to be shared. | USA, Germany, France (Lead), Japan, China,, Australia, UK | Report back to TT-GISC by 2015 (prior Cg 17) | To be done |
| 14/1-18 | **Decision:** agreed  a) on the proposed GISC backup procedures in [Appendix D, Annex to 9.1](#_Annex_to_9.1:) to this report  b) not to include metadata management in GISC backup, and  c) not to exchange or transfer metadata management privilege for backup purposes  d) If there is a need to exchange user information, proper security measures should be taken based on the agreement on the two GISCs. | GISCs | ASAP | To be done |
| 14/1-19 | **Recommendation:** The meeting agreed that:  a) The terms for “*GISC Registered User*” should be included in the Manual on WIS, and that the paragraph 3.9.2 be updated to include “*In addition, GISCs are encouraged to, where feasible, provide backup for registered GISC users that are not included within the mandatory backup procedures for NCs and DCPCs within the GISCs AMDCN*.  b) The procedure in [Appendix D, Annex to 9.3](#_Annex_to_9.3) for NCs and DCPCs changing their principal GISC for inclusion in the Guide to the WIS (WMO No 1061) | Secretariat and ET-WISC. | April 2014 | To be done |
| 14/1-20 | **Recommendation:** TT-GISC  a) agreed that GISC working arrangements, including recommended practices from TT-GISC, should be recorded in an easily maintained Operations Guide to GISCs (possibly a wiki)  b) proposed that [Appendix D, Annex to 9.2](#_Annex_to_9.2) should be included in a GISC operating guide. | TT-GISC | Chair add to action plan prior to next meeting | To be done |
| 14/1-21 | **Recommendation:** TT-GISC recommends that WMO be registered as a DCPC with a principal GISC of Toulouse. | Secretariat and ET-WISC. | April 2014 | To be done |
| 14/1-22 | **Action:** TT-GISC:  a) Agreed that there was a need for a standard format and method along the lines proposed by GISC Pretoria and described in Appendix D, Annex to 9.4.  b) Requested France and Germany to explore this issue further to prepare a report to TT-GISC with an aim to including the details in the GISC Practices Guide | France and Germany | June 2014 | To be done |
|  |  |  |  |  |

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1. Report of the sixth session of ET-WISC (2013) (Annex 11) - <http://wis.wmo.int/doc=2799> [↑](#footnote-ref-1)