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| World Meteorological OrganizationCOMMISSION FOR BASIC SYSTEMSEXPERT TEAM ON WMO INFORMATION SYSTEMET-WISC-2019Beijing 12-15th March 2019 | **Final Report 11th April 2019** |
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# FINAL REPORT THE JOINT MEETING OF CBS EXPERT TEAM ON WIS CENTRES (ET-WISC) AND TASK TEAM ON WIS DATA CENTRES (TT-DC) , 05-07 March 2019



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**Regulation 43**

Recommendations of working groups shall have no status within the Organization until they have been approved by the responsible constituent body. In the case of joint working groups the recommendations must be concurred with by the presidents of the constituent bodies concerned before being submitted to the designated constituent body.

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# FINAL REPORT OF THE Joint Meeting of CBS Expert Team on WIS Centres (ET-WISC) and Task Team on WIS Data Centres (TT-DC) 12th-15th March 2019 Beijing , China

## Annexes

[Annex 1: Agenda](#_Annex_1:_Agenda)

[Annex 2: Workplan](#_ANNEX2:_WORKPLAN)

[Annex 3: Participants](#_Annex_3:_Participants)

(Agenda items referenced in bold )

# Organization of the meeting

## Opening

A joint meeting of the CBS Expert Team on WIS Centres (ET-WISC) and its Task Teams on GISCs (TT-GISC) and Task Team on Data Centres (TT-DC) was held in Beijing China over the 12th -15th March -2019. See meeting page at [https://wiswiki.wmo.int/ET-WISC-2019](http://wiswiki.wmo.int/tiki-download_file.php). The meeting was hosted by the Chinese Meteorological Administration (CMA) and formally opened by Ms Li Xiang. The meeting was chaired by Ms Li Xiang (Chair of ET-WISC) supported by Co-chairs by Mr Mark Francis (Team Lead TT-DC) and Mr Kenji Tsunoda (Team Lead TT-GISC).

Ms Li Xiang noted as the meeting was inclusive of the TT-DC and TT-GISC the work plan was structured to provide adequate time for formal and workshop sessions for all teams. The workplan can be found at [Annexe 2](#_ANNEX2:_Workplan_1) inclusive of agenda document mapping.

Mr Mark Francis and Mr Kenji also welcomed participants on behalf of their Task Teams.

Mr Bryan Hodge expressed his appreciation on behalf of the WMO to CMA for hosting the meeting and welcomed participants. A list of participants can be found at [Annexe 3](#_Annex_3:_Participants). He highlighted the significant changes proposed in the WMO Commissions structures and noted the timely nature of this meeting coming into Congress 18 in May 2019.

Following the opening formalities, Ms Li Xiang led a tour de table to allow participants to introduce themselves.

## Adoption of the agenda

Participants agreed the agenda in [Annexe](#_Annex_1:_Agenda) 1**.**

## Working arrangements

Participants agreed the working arrangements for the meeting in as per [Agenda 2](#_ANNEX2:_Workplan_1).

1. **OUTCOMES OF EC70 AND STATUS OF CBS CONSULTATION 2018**

## Background from EC 70 (by WMO Secretariat)

Mr Bryan Hodge presented an overview of the decisions relevant to ET-WISC from the previous EC70 process [(Doc 8)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5455), (2 Resolutions and 3 decisions).

* Resolution 22 - Amendment to the Manual on the WMO Information System
* Resolution 23 - WMO Information System 2.0.
* Decision 17 - Review plan for the Manual on the WMO Information and
the Guide to the WMO Information System.
* Decision 18 - WMO Information System 2.0 implementation approach.
* Decision 19 - Mechanisms for provision of shared services.

The decisions and resolutions were reviewed in detail with reference to the full text in the abridged EC70 report. The group noted that in particular items in Resolution 17 would be addressed in this meeting.

## Status of CBS consultation 2018 (by WMO secretariat)

Mr Bryan Hodge presented an overview of the CBS consolation process [(Doc 3 )](http://wiswiki.wmo.int/tiki-download_file.php?page=CBS-consult-2018) and noted that over the course of the meeting, 3 relevant consultation items would be considered and discussed in detail. Several members of the meeting had been involved with the drafting of section of the proposed amendments and gave further details as required.

*CBS CONSULTATION 2018 D02(1) ICT-Management Draft 1* [*(Doc 5 )*](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5235)

The insertion of Appendix F (ICT Service Management), was of particular interest to the group as varying levels of ICT Service Management (ITSM) had been implemented in different centers . An overview of the roles processes and responsibilities as per the intended amendments were considered and discussed. Several members expressed concerns about the cost of the tools that made these concepts manageable. Mr Leonardo Santos reported that an open source implementation (free) has been sponsored by the Brazilian government and were in Operational use in the Instituto Nacional de Meteorologa. The download details can be viewed at [(Doc 50)](https://softwarepublico.gov.br/social/citsmart).

The meeting noted amendments to Technical Regulation associated with generic audit processes and compliance (numerous members had contributed to this text ).

The amendments in relation to IT Security incidents that encourage WIS centers to fully participate in the IT security response processes , the insertion of Appendix E defines in detail the response processes and decision flowcharts, and the roles and terms or reference for the IT security focal points.

The final amendment examined related to the coordination of GISC activities and monitoring obligations that would be examined in further detail in other dedicated meeting agenda items. The group commented that many items in this amendment were already in place and just formalized the processes in technical regulations . It was noted that the rostering arrangements were already met or exceeded for GISC watch , and that workshopping sessions to improve monitoring capability were planned in later session.

*CBS CONSULTATION 2018 D02(2) WMDR Information Management Draft 1 (Doc 6 )*

The meeting noted the proposed amendments to the WIGOS metadata representation schemas as outlined in Annex 1 of the draft and also the revised wording around storage , disposal and assurance of information outlined in Annex 2 of the draft.

CBS CONSULTATION 2018 D02(3) WIS 2.0 Draft 1 [(Doc 3 )](http://wiswiki.wmo.int/tiki-download_file.php?page=CBS-consult-2018)

The WMO Information system 2.0 implementation approach document was presented to the meeting with each principle addressed in detail and how this might change or modify GISC operations into the future . Principle 6,7 8 and 9 were of particular interest to the meeting , the PUB/SUB concept and the eventual change that will bring in how messages are routed and identified. It was also noted that the strategy is evolutionary and will most likely not be implemented as a large rapid change program, and an implementation of WIS 2 compliant components or solution.

## Update on constituent body reform (by WMO secretariat)

Mr Bryan Hodge presented on the drivers , historical context and next steps on the constituent body reform that the WMO was undertaking [(Doc 4 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5235). The presentation specifically listed the EC decisions and timelines of the proposed reforms articulating when the linked changes would take place and how they were tied into the upcoming EC and the process of migration to the new structures. The group noted that it was unlikely that significant change would occur to the ET-WISC group if at all before April next year , but the nature of that change was uncertain until the new and (fewer commissions) management structure was determined. It was a logical fit that the function of the ET-WISC would fall under the proposed Infrastructure commission but it remains to be seen if it will follow its current form. The group resolved to continue its work regardless of the outcomes , and remain informed of the direction post Congress 18.

# Structure and Terms of Reference of ET-WISC and TTs

## Structure and terms of reference of ET-WISC and TTS (by ET-WISC chair)

See below.

## ET-WISC work plan (by ET-WISC Chair)

Ms Li Xiang presented a combined presentation on items 3.1 and 3.2 [(Doc 9)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5343) outlining current core (8) and associate members (22) with two supporting task teams TT-GISC and TT-DC. The current terms of reference were reviewed with the ET-WISC action plan that was formulated in 2013 with 5 key elements , two having being completed (Rolling review of WIS centres and procedures for changing a principal GISC. ). In 2017 an additional 2 items were added to the work plan (GISC Checklist and Development of Technical Regulations for ICT operations ). Numerous actions relating to these work items can be found in [Annexe 4](#_Annex_4:_Status).

# Review of WIS implementation

## Status report on WIS centres (by participants), presented with a common format

**Brazilia** : Mr Leonardo Santos presented the status update from GISC Brasilia [(Doc 12 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5353) articulating GISC metadata sets harvested and connectivity to 13 other centers. The awareness of WIS in GISC Brasilia area of responsibility is good, although they are facing problems with data reception Venezuela, the other countries are sending their data as expected. Members in their regions would like to know more about WIS 2.0 and how this might affect their systems.

**UK** : Mark Francis presented on GISC Exeter [(Doc 11 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5349) that has Area of Responsibility (AoR) of 5 countries as primary GISC and 3 counties as backup GISC. All NCs and DCPCs sending their data for global exchange to GISC Exeter and to the Backup GISC Toulouse. The awareness of WIS in GISC Exeter Area of Responsibility is good. Members want more of an understanding of WIS 2.0 and what that means to them.

**China** : Ms Li Xiang presented GISC Beijing’s area of responsibility of 7 NC,s and 6 DCPC,s (Doc 14 ) . CMA reported that during 2018, GISC Beijing provided onsite training in neighbouring NMHS, including guidance for WIS implementation. GISC Beijing planned to continue capacity building activities for their AoR in 2019. It reported that GISC Beijing published upper air sounding data for YOPP, also on both GTS and WIS in 2018**.**

**Australia** : Mr Weiqing Qi [(Doc 16 )](https://wiswiki.wmo.int/tiki-index.php?fileId=5351) . Presented the connectivity status and a general update on status and activities. WIS/GTS operation of GISC Melbourne and centres in its AoR has been functioning as expected.

**Russian Federatio**n : Mr Vladimir Tsukanov and Ms Olga Petrova presented an overview [(Doc 7 )](https://wiswiki.wmo.int/eWIS-FutureTech?fileId=5295), GISC Moscow operates as a principal GISC for 11 NMHSs - Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine. GISC Moscow made a GISC status report in accordance with the structure and content approved by ET-WISC/TT-GISC 2016, aiming to continue WIS implementation at the centre and in its area of responsibility.

**Korea :** Mr Kwangjae LEE presented an update for GISC Seoul [(Doc 17 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5323)which has 1 NC and 3 DCPCs are in the area of responsibility of GISC Seoul. GISC Seoul is directly exchanging cache with 6 GISCs. Remote backup GISC was implemented as a role of disaster recovery. GISC Seoul is still going on GISC backup procedure and discussing with GISC New Delhi. For WIS capacity building, GISC Seoul has performed annual WIS training course jointed with ICT training course for WMO members in RTC-Korea. As result of WIS and GCI interoperability activities, GISC Seoul provides GEOSS metadata sets and GEOSS SRU server for other GISCs to harvest WIS compliant discovery metadata from GEO-DAB. GEOSS SRU server pointer is as following; (http://gisc.kma.go.kr/openwis-user-portal/srv/en/main.home/portal.sru?).

**Germany** : Mr Kai Wirt presented and overview of GISC Offenbach [(Doc 18 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5255) GISC Offenbach covers an Area of Responsibility (AoR) of 29 countries. All NCs and DCPCs send the data for global exchange to GISC Offenbach and to both Backup GISC Moscow and Tokyo. Two countries currently only backup at GISC Moscow (work in progress). The awareness of WIS in GISC Offenbach’s Area of Responsibility is good. Workshops to improve the usage of GISC Subscriptions over GTS message switching are planned. GISC Offenbach established direct connections with GISC Washington and GISC Casablanca. Current Work in Progress is adding support for OpenSearch, Integration with Commercial Search Engines and integration with Pub/Sub Messaging and WebServices in WIS 2.0 Pilot Projects.

**Japan** : Mr Kenji Tsunoda presented on GISC Tokyo [(Doc19 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5307) that has a scope of coverage for 18 areas . GISC Tokyo has found it impossible to connect to OAI harvester operated by GISC Jeddah. The GISC Watch project issued tickets on this and assigned to Jeddah. The meeting noted that other GISCs are similar in condition. GISC Tokyo reported its 5th WIS Workshop at JMA HQs in this week. Key agenda is Preparation for WIS2.0 and Tokyo’s pilot project. Participants tried publishing and subscribing messages using AMQP on Tokyo’s test system.

Tokyo modified its Job Scheduler to harvest metadata twice a day, according to the decision of TT-GISC-2018 meeting in Casablanca.

**Hong Kong** : Mr. Chi-kin Pan reported the status of WIS implementation [(Doc 21 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5319) in Hong Kong, China. The meeting noted that the DCPC for WWIS has been opened up for access by the public, and NC has been established and put into full operation to provide meteorological data and metadata to GISC.

**Morocco** : Mr Hassan Haddouch presented on GISC Casablanca [(Doc 10 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5317) that has 37 countries are under GISC Casablanca Area of Responsibility . GISC Casablanca is now managing all metadata from its Area of Responsibility, the other GISCs were able to reach and harvest metadata from our OAIPMH providers without any problems. GISC Casablanca is planning to work on updating metadata in collaboration with its AoR’s centers.

* 1. **Interim metadata management service (WIMMS), (By JMA)**

Mr Kenji Tsunoda presented on the Interim Metadata Management Service (WIMMS) [(Doc 20 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5309). At the beginning of the WIS operation in 2012, not all WIS centres will had access to their principal GISC, since not all GISCs were operational at the startup of WIS. To ensure all centres can manage their discovery metadata immediately, some (Tokyo) GISCs are offering an interim metadata management service. A centre can chose which GISC's interim metadata management service it prefers. Once the centre’s principal GISC becomes operational, the centre will manage its metadata through the principal GISC. Unassociated services from Moscow and Casablanca were reviewed. USA advised that progress was occurring but had been hampered by recent US government shutdown issues. The meeting asked Tokyo to continue providing the service until all the reaming interim metadata are migrated to the right place. The meeting urged three GISCs to start their metadata management service officially and to complete migration from WIMMS/UNASSOCIATED set to your GISC.

## Other issues

No other issues noted.

# TT-DC related matters

## Review TT-DC work plan and action items

Mr Mark Francis revised the work plan the TOR and action items with reference to [(Doc 23 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5355).

TT-DC understands it‘s role in WIS but would benefit from a consistent approach to training, monitoring and metadata creation.

TT-DC would benefit from a briefing document on WIS 2.0 (Refer Agenda [Item 13](#_WIS_2.0_Implementation)) , outlining what potential changes NC‘s need to consider. This would help NC‘s consider any technical and financial decisions in the future.

## NC/DCPC monitoring: TT-DC TOR(C)

1. Survey, National Centre‘s looking at capacity and capability ability.

# Review Technical Regulations (WMO-No. 49)

## WIS manual and guide (WMO no 1060 and 1061): Et-Wis Tor(C)

Dr Weiqing Qu presented a paper on Updating the Guide to WIS (No. 1061) – PART VIII Monitoring of WIS [(Doc 26)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5301).

### WIS monitoring, including Interim guide on WIS Monitoring (<https://wiswiki.wmo.int/tiki-index.php?page=wis-monitor>)

This item further conducted as a breakout session comprising of three groups tasked to work on GISC monitoring , DCPC Monitoring and system monitoring. The nominated co-ords reported back to the Chair and the meeting resolved a further work on this topic was required as a broader consultation would be nessasary.

*GISC Monitoring breakout*

Reported as comfortable with items listed in the interim guide but want to change value uptime value of 99.9 percent and best effort rather than have the annual reporting value service performance value at 99.5%

* Group reported on incident report and was comfortable with guide .They suggest it should exclude security incident reports as security has been dealt with in another areas.
* Discused should we do quarterly reporting or going to annual ?
* Weiqing Qu  responds that quarterly reports should be annual as its covered by other reports , but are we empowered to make the change ?
* Group can recommend but decision should thought to be taken in different forums (Congress ?)

Group members: Weiqing Qu, ( co-ord), Hassan Haddouch, Kai-Thorsten Wirt , Shyam Singh.

*DCPC Monitoring breakout*

* Request to collect email comments/requirements from other (non-attending ) members but agreed for review that 99.9% is too high.
* Asked questions on what are people reporting now ? What are centres doing now, only what’s in the guide ?
* Agreed broadly with the interim guide text , but wished to consider the resource cost to the centre of more monitoring and it needs to be understood vs value of reported metrics.
* Questioned if or to what extent the DCPC`s has  monitoring and should we add this to a dashboard.
* Reviewed the dashboard to look at what we have now.

Group members: Mark Francis, ( co-ord), Dijana Klaric, Angel Marčev, Mikko Visa.

*System Monitoring future programs breakout*

* Reported its little unclear what the scope is.
* Questioned should we monitor data delivery status , requirement for reporting of data to end.
* Suggested target our is our biggest.
* Stated End to end requirements are needed , using tsunami as sample case.
* Noted issue in monitoring is definition of data , data has GTS headers , we need identifiers.

Questioned e should specify data identifiers for monitoring.

* Noted t the moment we dont have requirements , seek more from other programs.
* Noted CBTO is example , gets used less than once a year how do we do (monitoring ) this for messages that are low frequency.
* Suggested Infrastructure is out of scope .
* Noted again requirement need to be set as per doc a.b.c.d ect ,latency , time in and out , data sets.
* Noted the “what” is one question the “how” is another as the current architecture will make end to end monitoring very difficult and may not be cost effective to implement.

Group members : Kenji Tsunoda, ( co-ord ), C.K Pan, Leonardo Santos and all other meeting members.

*Combined summary*

The group resolved to discuss further via email , then report to TT GISC meeting , Kari Sheets requested clarification on is the monitoring solution all GISC,s  or a single GISC.

The meeting resolved the intention was for monitoring system for all GISCs.

1. Updates to WIS monitoring.
2. Review Interim guide on WIS Monitoring.

### Metadata sync procedure

TT-GISC created a working group to undertake a Work Package to find solutions/options and investigate a feasible way to make metadata catalogues consistent between GISCs.

Mr Weiqing Qu presented a paper on behalf of Benjamin Scalier that proposes and investigated different solutions in order to improve the WIS Catalogue synchronization.

The meeting noted that the consistency of the local copy of the WIS Catalogue is a responsibility of each GISC. Each GISC is encouraged to monitor the synchronization status on a regular basis, at least weekly. Local causes should be solved as soon as appropriate, remote causes should be discussed among GISCs.

The meeting recommended updating the WIS Guide WMO 1061 by adding in section “2. Operational guidelines” . Details of the changes can be referenced in [(Doc 25)](https://wiswiki.wmo.int/ET-WISC-2019?fileId=5375). The meeting requested that further review of the document would be required , with relevant updates to be clearly assigned to the WIS Operations page.

1. Metadata sync procedure update (WIS Guide WMO 1061).

### ICT Operations

This items was covered in discussion under Agenda item 2.2 CBS CONSULTATION 2018 D02(1) ICT-Management Draft 1 [(Doc 5 )](https://wis.wmo.int/file%3D4772?fileId=5235).

### Other items

No other items.

# REVIEW OF YOPP GUIDE ON HOW TO PUBLISH IN WIS

Mr Bryan Hodge gave a presentation on the YOPP guide [(Doc 28)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5237) on how to publish in WIS with a report from the ET-CTS 2019 review. The ET-CTS 2019 has no significant or additional recommendations with the guide but noted that one metadata publication method was more applicable to WIS . The ET-WISC did a final review of the document and no further additions or changes were recommended . This document was endorsed by ET-WISC.

# Reports from TT-GISC, ET-CAC, TT-eWIS

## Reports from TT-GISC

Mr Kenji Tsunoda presented the final report Final Report of the Meeting of the Expert Team on WIS Centres Task Team on GISCs (TT-GISC) 18-20 September 2018 Casablanca, Morocco (Doc 52) and a summarised update [(Doc 31)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5325) The actions summary arising from this meeting can be found at [Annexe](#_Annex_5:_Status) 4.

## Reports from ET-CAC

Mr Kevin Alder presented the Final Report Of The Meeting Of The Expert Team on Centre Audits and Certification (ET-CAC) 01 to 04 October 2018. [(Doc 29 )](http://wis.wmo.int/file%3D4899) and also presented a paper to the meeting on Generic Audit Processes [(Doc 37)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5385). The meeting thanked the Chair ET-CAC for his report, and noted the proposed audit timetable and the need for ET-WISC to define audit criteria.

## Reports from TT-EWIS (by WMO Secretariat )

Mr Bryan Hodge presented on behalf of Mr Jeremy Tandy (Chair of TT-eWIS) the Final Report of the of the Task Team on Evolution Of The WIS 14-16 November 2018 Beijing [(Doc 51 )](http://wiswiki.wmo.int/tiki-download_file.php). This presentation was also supported by comments from Mr Kevin Alder and Ms Kari Sheets who attended this meeting. A key outcome from this meeting was the work on documentation in support of Decision 18 (EC-70) WMO Information System 2.0 implementation approach and the upcoming WIS 2.0 Future Technology Workshop in March 19-20 2019 Geneva. The meeting noted the proposed Pilot project program and also areas of technical change under considerations.

## Other issues

# WIS Monitoring

## Status of GISC watch including Json quality

Dr Weiqing Qu presented a document on the status of GISC watch [(Doc 35)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5299) that was co-authored by Weiqing and Robert Stevens. Highlighted were the main issues of unresolved tickets associated with BUFR issues and responsiveness of some GISC centers . it was suggested that more care be taken when opening tickets and the notation on resolution of issues. The meeting agreed developing a guideline for GISC tickets management.

The issues related to access to Json files were associated with port connectivity issue with WIS common dashboards. GISCs are recommended to use standard ports, i.e. port 80 (HTTP) and port 443 (HTTPS).

1. Guidelines for WIS tickets management.

## Management of BUFR issues, (annex1,d19, final report of joint meeting of ET-WISC2017/ET-CTS2017/TT-GISC2017)

A group discussion on the management of buffer issues with reference to the buffer issue portal [(Doc 32)](http://www.inmet.gov.br/giscticket) outlined the current status of the BURF issue . Mr Ken Tsunoda presented a paper [(Doc 33)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5311) proposing participants share the experience/opinions on sharing the ticketing system with BUFR issue management and consider solutions. Proposition to create a new project for managing BUF issues (e.g. BUFR ISSUE TICKETS). Uses: NWP centres, GISCs, WMO secretariat, Data providers. Requests GISC Brasilia to check the system if it possible to create a new project and to register new IDs, in addition to “GISC ISSUE TICKET”.

1. New service monitoring items (including NC/DCPC Monitoring).

(GISC Brasilia to check the system if it possible to create a new project for BUFR issues ).

## New service monitoring

See action A19/6.

## Other issues

No other issues.

# Audit criteria :ET-WISC ToR(a)

The session on developing audit criteria was lead by Mark Francis and comprised of a series of presentations followed by breakout groups and workshops . Background information proceeding the breakout groups was presented by Mr Kevin Alder Audit Principles [(Doc 37)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5385) and Mark Francis with reference to the Audit Checklist [(Doc 30)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5377). Four breakout groups were formed.

* Audit Operational Factors (Kai Wirt Co-ord ) Outcome statement [(Doc 40)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5381).
* Audit Organizational Factors (Li Xiang Co-ord ) Outcome statement [(Doc 41)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5389).
* Audit Technical Factors (Kari Sheets Co-ord ) Outcome statement [(Doc 42)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5371).
* Audit Critera Backup (Kenji Tsunoda Co-ord ) Outcome statement [(Doc 39)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5379).

Based on the combined inputs of all these documents additional inputs are to be added to the GISC checklist with subsequent action 19/7.

1. Review audit criteria and update the GISC Check List.

# Training and capacity development: ET-WISC ToR(d)

## Progress on the development of common training materials training and capacity development , (D4, Final Report Of TT-GISC2018) , (by KMA)

Mr. Kwangjae LEE introduced the report of the WP-7 capacity development presented in TT-GISC2018. [(Doc 43)](https://wiswiki.wmo.int/tiki-index.php?fileId=5335), [(Doc 44)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5337).

 He mentioned two approaches for training materials, one is sharing training materials, the other is establishing common training materials.

The meeting reviewed the progress of sharing training materials. WP-7 team of TT-GISC will define the categories for sharing materials under consideration with team members and request Secretariat to create new menu in wis-wiki, TrainingAids [https://wiswiki.wmo.int/tiki-index.php?page=TrainingAids]. It is also requested that all GISCs provide their training materials to be available on wis-wiki page.

For establishing common training materials, the meeting reviewed the progress of work plan and discussed follow on action items.

1. Secretariat to create new menu in wis-wiki, TrainingAids (TT-GISC WP7).
2. Development of common training materials (TT-GISC WP7).
3. Review WIS competencies related to WIS centre operations and associated training and learning guides.

## Other issues

No other issues.

# Operational information exchange: ET-WISC ToR(f)

Mr Kai Wirt presented a paper on Operational Information Exchange [(Doc 45)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5241). ET-WISC ToR (f) states that ET-WISC is to review, develop and coordinate recommended practices and guidance on access to, and management of, operational information related to exchange of information through the WIS. Currently there are different communication strategies in actual use but so far no binding regulation has been put in place.

ET-WISC discussed the need for regulations regarding Operational Information Exchange. The meeting noted, that there is the requirement to develop guidelines on what information to share and what exchange channels to use. To develop these rules ET-WISC is installing a sub group on developing Guidelines and Regulations for the Exchange of Operational Information. These Guidelines and Regulations shall be included in the Manual on WIS.

Using the Pub/Sub Protocols planned for WIS 2.0 for Operational Information Exchange should be addressed and discussed in the responsible expert teams TT-eWIS and ET-CTS.

The meeting resolved and action to further develop the recommended practices referencing this paper.

1. Developing Guidelines and Regulations for the Exchange of Operational Information.

# WIS 2.0 Implementation plan and role of ET-WISC

## Wis 2.0 implementation plan and role of ET-WISC

Covered under [Agenda item 2](#_Status_of_CBS).

## Input for Future Technologies Workshop (19-20 march 2019)

Mr Bryan Hodge gave a presentation on the work that had been done organizing the WMO Future Technology Workshop in 19th-20th March 2019 in Geneva at WMO [(Doc 46)](https://wiswiki.wmo.int/eWIS-FutureTech). The meeting noted the rationale to better inform the WIS 2 planning and thinking about technology direction looking out 5-10 years , and how the information will inform the upcoming EC through the proposed Workshop report . The ET-WISC members requested that the remote access be made available if they wished to join selected sessions.

1. Input for Future technologies workshop (19-20 March 2019) Secretariat to circulate remote access information for workshop to group.

## Other issues

No other issues.

# Review Action Items (Annex6, table B, final report of ET-WISC-2016)

The meeting reviewed the action plan based on the final report of ET-WISC2016 and the final report of the joint meeting of ET-WISC2017/ET-CTS2017/TT-GISC2017, and the action items from this joint meeting of ET-WISC and TT-DC. At the conclusion of the meeting the status of 13 action items were closed , and 10 remain open. 8 were added during the ET-WISC 2019 meeting . The summary at ET-WISC and TT-DC is at [Annexe 4](#_Annex_4:_Status) is drawn from [(Doc 49)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5451).

The action items for TT-GISC are managed as a separate list and can be viewed at [Annexe 5](#_Annex_5:_Status). At the conclusion of the meeting the status remained unchanged but will be revived in full again at the TT–GISC meeting in August 2019.

# AoB

No other business recorded.

# Next meeting

Due to the WMO Constituent body reform process being undertaken at CG-18 the meeting resolved that when the Organisational structure becomes clearer the location and format of the next meeting will be reviewed by the Chairs and Secretariat in December 2019.

1. Determine timing and hosts for next ET-WISC meeting.

# Closing

The meeting was closed at Midday 15th March 2019.

# Annex 1: Agenda

1. **Organization of the meeting**
	1. Opening
	2. Adoption of the agenda
	3. working arrangements
2. **Outcomes of EC70 and status of CBS Consultation 2018**
	1. Background from EC 70 (by WMO secretariat)
	2. Status of CBS Consultation 2018 (by WMO secretariat)
	3. Update on Constituent Body Reform (by WMO secretariat)
3. **Structure and Terms of Reference of ET-WISC and TTs**
	1. Structure and Terms of Reference of ET-WISC and TTs (by ET-WISC chair)
	2. ET-WISC Work plan (by ET-WISC chair)
4. **Review of WIS implementation**
	1. Status report on WIS centres (by participants)
	2. Interim Metadata Management Service (WIMMS), (by JMA)
	3. Other issues
5. **TT-DC related matters**
	1. Review TT-DC Work plan and Action Items
	2. NC/DCPC Monitoring: *TT-DC ToR(c)*
	3. Item ?
	4. Item ?
6. **Review Technical Regulations**
	1. Technical Regulations (WMO-No. 49)
	2. WIS Manual and Guide (WMO No 1060 and 1061): *ET-WIS ToR(c)*
		1. WIS monitoring, including Interim guide on WIS Monitoring (https://wiswiki.wmo.int/tiki-index.php?page=wis-monitor)
		2. Metadata sync procedure
		3. ICT Operations
		4. Other items
7. **Review of YOPP guide on how to publish in WIS**
8. **Reports from TT-GISC, ET-CAC, TT-eWIS**
	1. Reports from TT-GISC (by Kenji Tsunoda )
	2. Reports from ET-CAC (by ALDER, Kevin )
	3. Reports from TT-eWIS (by WMO secretariat )
	4. Other issues
9. **WIS Monitoring**
	1. Status of GISC Watch including JSON quality (by Dr. Weiqing QU(BoM))
	2. Management of BUFR issues, (*Annex1,D19, final report of Joint meeting of ET-WISC2017/ET-CTS2017/TT-GISC2017*) (by WMO secretariat ?)
	3. New service monitoring
	4. Other issues
10. **Audit criteria :***ET-WISC ToR(a)*
11. **Training and capacity development:** *ET-WISC ToR(d)*
	1. Progress on the development of common training materials Training and capacity development , (*D4, final report of TT-GISC2018*) , (by KMA)
	2. Other issues
12. **Operational information exchange:** *ET-WISC ToR(f)*
13. **WIS 2.0 Implementation plan and role of ET-WISC**
	1. WIS 2.0 Implementation plan and role of ET-WISC
	2. Input for Future technologies workshop (19-20 March 2019)
	3. Other issues
14. **Review Action Items**
15. **AoB**
16. **Next meeting**
17. **Closing**

## References

[1] Final report of Joint meeting of ET-WISC2017/ET-CTS2017/TT-GISC2017

[2] Final report of TT-GISC2018

[3] Final report of ET-WISC-2016

[4] Final report of ET-CAC-2018

[5] Final report of TT-eWIS-2018

# ANNEX2: Workplan

| **Time** | **Agenda Items** | **Submitted by** |
| --- | --- | --- |
| **Tuesday (March 12), morning session chaired by Li Xiang** |
| **09:00 – 10:20** | **1. Opening and working arrangements**  |
| 1.1 Welcome (ET-WISC chair, TT-DC chair, WMO Secretariat) |
| 1.2 Adoption of the agenda [(Doc 1 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5331) | Chair |
| 1.3 Working arrangements [(Doc 2 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5333) |
| **2. Outcomes of EC70 and status of CBS Consultation 2018** |
| 2.1 Background from EC 70 [(Doc 8)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5455), | WMO Secretariat |
| 2.3 Update on Constituent Body Reform [(Doc 4 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5235), [(Doc 7 ),](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5293) , [(Doc 3 )](http://wiswiki.wmo.int/tiki-download_file.php?page=CBS-consult-2018) |
| **3. Structure and Terms of Reference of ET-WISC and TTs** |
| 3.1 Structure and Terms of Reference of ET-WISC [(Doc 9)](http://wis.wmo.int/file%3D5061?fileId=5343) | Chair |
| 3.2 ET-WISC Workplan [(Doc 9)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5343) |
| ***10.20 – 10:50 Coffee break*** [***(group photo)***](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5447)  |
| **10:50 – 12:00** | **4. Review of WIS implementation** |
|  4.1 Status report on WIS Centres |
| 4.1.1 GISC Brasilia [(Doc 12 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5353) | Leonardo Santos |
| 4.1.2 GISC Exeter [(Doc 11 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5349) | Mark Francis |
| 4.1.3 GISC Beijing [(Doc 14 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5297) | Jia Songlin |
| 4.1.4 GISC Melbourne [(Doc 16 )](http://wis.wmo.int/file%3D4899?fileId=5351) | Weiqing Qu |
| 4.1.5 GISC Moscow [(Doc 7 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5295) | Vladimir Tsukanov Olga Petrova |
| 4.1.6 GISC Seoul [(Doc 17 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5323) | Kwangjae LEE |
| 4.1.7 GISC Offenbach [(Doc 18 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5255) | Kai Wirt |
| 4.1.8 GISC Tokyo [(Doc19 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5307), | Ken Tsunoda |
| 4.1.9 HKO [(Doc 21 )](https://wiswiki.wmo.int/tiki-index.php?fileId=5319) | CK Pan |
| 4.1.10 GISC Casablanca [(Doc 10 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5317) | Hassan HADDOUCH |
|  4.2 Interim Metadata Management Service (WIMMS) [(Doc 20 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5309) | Ken Tsunoda |
| 4.3 Other issues | - |
| **Tuesday (March 12), afternoon session chaired by Mark Francis** |
| **13:30 – 17:00** | **5. TT-DC related matters** |
| 5.1 Review TT-DC Workplan and Action Items [(Doc 23 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5355) | Mark Francis |
| 5.2 NC/DCPC Monitoring: TT-DC ToR(c) | Mark Francis |
| 5.3 S2S data collection, processing and service at CMA [(Doc 24 )](http://wis.wmo.int/pages%3DTT-GISC-ops?fileId=5359) | Hu Xing |
| **Wednesday (March 13), morning session chaired by Mark Francis***(Items related to WIS 2.0)* |
| **09:00 – 12:00** | **2. Outcomes of EC70 and status of CBS Consultation 2018** |
| 2.2 Status of CBS Consultation 2018 - WIS2.0-IMPLEMENTATION-APPROACH [(Doc 3 )](http://wiswiki.wmo.int/tiki-download_file.php?page=CBS-consult-2018) | WMO Secretariat |
| **8. Reports from TT-GISC, ET-CAC, TT-eWIS** |
| 8.3 Reports from TT-eWIS [(Doc 51 )](http://wiswiki.wmo.int/tiki-download_file.php) | WMO Secretariat |
| **13. WIS 2.0 Implementation plan and role of ET-WISC** |
| 13.1 WIS 2.0 Implementation plan and role of ET-WISC [(Doc 46 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5241) | WMO Secretariat |
| 13.2 Input for Future technologies workshop (19-20 March 2019) [(Doc47)](https://wiswiki.wmo.int/eWIS-FutureTech) | WMO Secretariat |
| 13.3 Other issues | - |
| **Wednesday (March 13), afternoon session chaired by Li Xiang** |
| **13:30 – 16:20** | **7. Review of YOPP guide on how to publish in WIS** [(Doc 28)](https://wiswiki.wmo.int/tiki-index.php?fileId=5237) | WMO Secretariat |
| **8. Reports from TT-GISC, ET-CAC, TT-eWIS** |
| 8.1 Reports from TT-GISC [(Doc 52)](http://wiswiki.wmo.int/tiki-download_file.php) [(Doc 31)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5325) | Kenji Tsunoda |
| 8.4 Other issues | - |
| **13:30 – 16:20 (cont.)** | **9. WIS Monitoring** |  |
| 9.1 Status of GISC Watch including JSON quality [(Doc 35)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5299) | Weiqing QU |
| 9.2 Management of BUFR issues [(Doc 32)](http://www.inmet.gov.br/giscticket) [(Doc 33)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5311) | WMO Secretariat |
| *9.3 New service monitoring* | - |
| 9.4 Other issues | - |
| **16:20-17:00** | *Visit CMA monitoring centre* |
| **Thursday (March 14), morning session chaired by Ken Tsunoda** |
| **09:00 – 12:00** | **11. Training and capacity development** |
| 11.1 Progress on the development of common training materials Training and capacity development , (*D4, final report of TT-GISC2018*) [(Doc 43)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5335), [(Doc 44)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5337) | Sungsoo Do |
| 11.2 Other issues | - |
| **12. Operational information exchange** [(Doc 45)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5241) | Kai Wirt |
| **2. Outcomes of EC70 and status of CBS Consultation 2018** |
| 2.2 Status of CBS Consultation 2018  | WMO Secretariat |
| - ICT-MANAGEMENT (cover item 6.2.3) [(Doc 5 )](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5235), [(Doc 50)](https://softwarepublico.gov.br/social/citsmart) |
| - WMDR-INFORMATION-MGMT [(Doc 6 ),](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5391) |
| **Thursday (March 14), afternoon session chaired by Mark Francis** |
| **13:30 – 17:00** | **8. Reports from TT-GISC, ET-CAC, TT-eWIS** |
| 8.2 Reports from ET-CAC [(Doc 29 )](http://wiswiki.wmo.int/tiki-download_file.php) [(Doc 37)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5385)  | ALDER, Kevin |
| **10. Audit criteria :ET-WISC ToR(a)** [(Doc 38)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5371) , [(Doc 36)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5383), [(Doc 30)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5377) | Mark Francis |
| **Break out session** |
| **Report from Break out session**Criteria Audit Group [(Doc 39)](https://wiswiki.wmo.int/eWIS-FutureTech?fileId=5379)Operational Audit Group [(Doc 40)](http://wis.wmo.int/file%3D5061?fileId=5381)Organizational Audit Group [(Doc 41)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5389)Technical Audit Group [(Doc 42)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5371) | Leaders of each subgroup |
| **Friday (March 15), morning session chaired by Ken Tsunoda** |
| **09:00 – 12:00** | **6. Review Technical Regulations** |
| 6.1. Technical Regulations (WMO-No. 49) | WMO Secretariat |
| 6.2. WIS Manual and Guide (WMO No 1060 and 1061): ET-WIS ToR(c) |
| 6.2.1. WIS monitoring [(Doc 26)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5301) | Weiqing QU |
| 6.2.2. Metadata sync procedure [(Doc 25)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5375)  | Weiqing QU |
| 6.2.4. Other items | - |
| **Break out session** |
| **Report from Break out session** | Leaders of each subgroup |
| **Friday (March 15), afternoon session chaired by Li Xiang** |
| **13:30 – 17:00** | **13. WIS 2.0 Implementation plan and role of ET-WISC** |  |
| 13.2 Input for Future technologies workshop (19-20 March 2019) [(Doc 46)](http://wiswiki.wmo.int/tiki-download_file.php) - outcomes of WIS2.0 session on Wednesday [(Doc 47)](http://wiswiki.wmo.int/tiki-download_file.php) | Mark Francis |
| **14. Review Action Items (ET-WISC, TT-DC)** [(Doc 48)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5405), [(Doc 49)](http://wiswiki.wmo.int/tiki-download_file.php?fileId=5451) | Chairs |
| **15. AoB** |  |
| **16. Next meeting** |  |
| **13. Closing** |  |

# Annex 3: Participants

|  |  |  |
| --- | --- | --- |
| Name | Role | Representing  |
| LI, Xiang  | Chair  | China  |
| TSUNODA, Kenji  | Co-Chair  | Japan  |
| FRANCIS, Mark  | Co-Chair  | UK  |
| QU, Weiqing  | Core Member  | Australia  |
| SACLIER, Benjamin  | Core Member  | France  |
| SANTOS, Leonardo Machado  | Core Member  | Brazil  |
| WIRT, Kai-Thorsten  | Core Member  | Germany  |
| PAN, C K  | Core Member  | Hong Kong  |
| SHEETS, Kari  | Core Member  | USA  |
| KLARIC, Dijana  | Associate Member  | Croatia  |
| AMR MAHMOUD, Amr Mohamed  | Associate Member  | Egypt  |
| VISA, Mikko  | Associate Member  | Finlad  |
| MARČEV, Angel  | Associate Member  | Montenegro  |
| HADDOUCH, Hassan  | Associate Member  | Morocco  |
| ALDER, Kevin  | Associate Member  | New Zealand  |
| LEE, Kwangjae | Associate Member  | Republic of Korea  |
| NOVELLINO, Antonio  | JCOMM Representive  | Italy  |
| PETROVA Olga  | Associate Member  | Russian Federation  |
| TSUKANOV Vladimir  | Associate Member  | Russian Federation |
| SINGH, Shyam Lal (S.L.)  | TT-DC Member  | India  |
| HODGE, Bryan  | Secretariat  | WMO  |
| HICKS, Michael (Attending Remotely) | Associate Member  | USA  |
| SPEARS, Tobias (Attending Remotely | Core Member  | Canada  |
| LEROUX, Alexandre (Attending Remotely) | Associate Member  | Canada  |

# Annex 4: Status of Current actions and planS for ET-WISC and TT-DC following ET-WISC-2019

| **Action Number** | **Decision/recommendation/ action**  | **Responsible** | **Objective/deadline**As of March 2019 | **Status** As of March 2019 |
| --- | --- | --- | --- | --- |
| ET-WISC2013 |
| 13/1-1 | **Determine** the **operational criteria for GISCs and DCPCs**, and develop the procedures for periodic assessments to assess quality of services offered by WIS Centres, especially GISCs. Submit the first draft to CBS 2014 | TT-CAC | Done, included in WIS manual Cg-17 | Close |
| 13/1-2 | **Determine** the **monitoring requirements for the WIS** and develop WIS monitoring scheme to monitor the WIS-GTS operational information flow and the conformance of WIS centres' interfaces to the agreed specifications and practices. (TT-OM)1. Submit the first draft to CBS 2014.
2. Pilot implementation of WIS monitoring in the operational WIS
 | TT-OM | Done.Monitoring workshop done. Pilot demonstrated to Cg-17 and CBS-16 | Close |
| 13/1-3 | **Propose amendments to the Manual on WIS.** Based on the outcome of TT-GISC, TT-DC, TT-OM, propose amendments to the Manual on WIS, the Guide on WIS and associated informal guidance for enhanced operational arrangements of WIS centres, especially GISCs, to CBS 2014. | TT-GISC, TT-DC, TT-OM | Done, changes include GISC services to NCs, Tech Specs, Use cases, … | Close |
| 13/1-4 | **Develop a management procedure** to deal with the future requests for possible **changes of the associations between** National **Centres and** their Principal **GISCs** and Associated GISCs | TT-GISC | Done,Cg-17 | Close |
| 13/1-5 | **Development of a WIS Competence Framework**. Review the outputs of the workshop for the development of WIS competencies and curriculum, which planned in October, 2013, and submit an analysis of Job Tasks, Competencies, Training needs and a draft Curriculum to CBS 2014 together with other OPAG-ISS groups | Mr Robert Bunge,Dr. Weiqing Qu and Dr. Sunghoi Huh | Done. Cg-17 | Close |
| **ET-WISC2016** |
| 16/1-1 | Review ET-WISC Structure/TOR/Action Plans for ICT-ISS 2016 meeting | Chair | 30 June 2016Done, CBS-16 | Close |
| 16/1-2 | DCs to work with GISCs to report on the status of WIS compliance (See TT-GISC 16/1-13) | DCs, GISCs |  | Open |
| 16/1-3 | Review WIS Focal Point Questionnaire content and extend to incorporate uptake of services by users | ET-WISC | Feedback to Secretariat August | Close |
| 16/1-4 | a) Alert ICT-IOS to problem with Vol A differentiation of surface and upper air stationsb) CMA advise if potential impact to IQWMA software | a) Secretariatb) CMA | a) ASAPb) Next meeting of ET-WISC(ET-WISC 2017) | Close |
| 16/1-5 | TT on improving user experience (See para 106-107 of this report). | Ján Osuský (Lead) | TT-GISC2017 | Close |
| 16/1-6 | Send liaison statement to CGMS in response to their input on GISC usability | WMO Secretariat | CGMS Secretariat | Close |
| 16/1-7 | Follow up on capacity development and education strategy for ET-WISC | Bob BungieET-WISC, TTs | Next meeting of ET-WISC | Open |
| 16/1-8 | Determine timing and hosts for next ET-WISC meeting | Chair (ET-WISC) | December 2016 | Close |
| **ET-WISC2017**  |
| 17/1-1 | **GISC Audit:**a) Review audit criteria and update the GISC Check Listb) support ET-CAC in seeking support from GISCs to resume GISC assessment with an on-site audit. (A7) | ET-WISCTT-GISC | ICT-ISS meeting | Close  |
| 17/1-2 | **Technical Regulations updating**a) ICT Operations (D36)b) annual meeting of GISC operatorsc) operational monitoring of WIS (GISC Watch) | ET-WISC | CBS TECO 2018 | Close |
| 17/1-3 | Actions and decisions related to WIS monitoring (GISC Watch, improve JSON files, GISC-GISC connectivity marix,), … | TT-GISC | TT-GISCaction plan | Open  |
| **ET-WISC2019** |
| 19/1 | Survey, National Centre‘s looking at capacity and capability ability | TT-DC | Next TT-GISC meeting | Open |
| 19/2 | Technical Regulations updating to WIS monitoring  | ET-WISC, | Next ICT-ISS meeting | Open |
| 19/3 | Review Interim guide on WIS Monitoring | 3 subgroups (GISC, DCPC/NC, Programmes) | TT-GISC 2019 | Open |
|  |  |  |  |  |
| 19/4 | Metadata sync procedure update (WIS Guide WMO 1061) | TT-GISC (WP) | Next ICT-ISS meeting | Open |
| 19/5 | GISC Ticketing System1. Develop Guideline for WIS tickets management
2. Create a new project for BUFR issues
 | Leonardo Machado Santos | TT-GISC 2019 | Open |
| 19/6 | New service monitoring (including NC/DCPC Monitoring) | ET-WISC, TT-GISC, TT-DC | Next meeting of ET-WISC | Open |
| 19/7 | Review audit criteria and update the GISC Check List | ET-WISC | Next meeting of ICT-ISS(April 2019) | Open |
| 19/8 | New menu in wis-wiki, TrainingAids (TT-GISC WP7) | Secretariat  | TT-GISC 2019 | Open |
| 19/9 | Development of common training materials (TT-GISC WP7) | TT-GISC | TT-GISC 2019 | Open |
| 19/10 | Review WIS competencies related to WIS centre operations and associated training and learning guides | ET-WISC | Next meeting of ET-WISC | Open |
| 19/11 | Develop Guidelines and Regulations for the Exchange of Operational Information | Kai Wirt(lead) | Next meeting of ET-WISC | Open |
| 19/12 | Input for Future technologies workshop (19-20 March 2019) Circulate remote access information for workshop to group  | Secretariat  | By Future Technology Workshop 19-20th March 2019 | Closed  |
| 19/13 | Determine timing and hosts for next ET-WISC meeting | Chair  | December 2019 | Open |

# Annex 5: Status of Current actions and planS for TT-GISC following ET-WISC-2019 (Review of progress on 2018 objectives )

| **Action Number** | **Decision/recommendation/ action**  | **Responsible** | **Objective/ deadline** | **Status** As of September 2018 |
| --- | --- | --- | --- | --- |
| 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.~~c) TT-GISC members to participate in Cloud projectNoting that national development of cloud based services by individual GISCs is of interest to all GISCs, TT-GISC should clarify the relationship between cache in cloud and WIS 2.0 then it could facilitate the coordination and knowledge gained from these national activities for consideration of international processes.Noted the risk of single suppliesTT-GISC recognizes that we have to look at things now for the future and we have to take these in consideration.The funding mechanism for the cache in the cloud project was of a concern. Ideas of GISCs putting Ken to develop a paper describing what JMA want to achieve and provide to TT-GISC, possibly online discussion or telco next year and further refinement prior to TT-GISC Develop terms of reference for the project coordination and Its outcomes  | ~~a) ET-CTS chair,~~~~b) TT-GISC chair.~~c) Participating GISCs | Close this action and look at specific task on Ken for consideration for new WP in 2019 | a) & b) both Done – Cloud project in progressc) c) report back to next TT-GISC meetingInitial prototype was successful but a proposal by CBS to EC-70 to move into a pilot project was rejected, TT-GISC noted that some Members (Japan and Morocco) are working on cloud solutions for national users which would require other GISCs to send their AOR information to their cloud solution.It recommended that TT-GISC make this a pilot project to coordinate participation of the other GISCsThis action was linked to 18/1-3 by TT-GISC2018. |
| 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 casesc) Confirm elements needed to be shared. | Brazil under WP 3 | Report back to TT-GISC 2019 and to ET-WISC 2019 | New opportunity under eduGain project.  |
| 14/1-21 | **Recommendation:** TT-GISC recommends that WMO be registered as a DCPC with a principal GISC of Toulouse. | Secretariat and ET-WISC. | Leave on agenda | CBS approved, Meteo-France agreed to be Principal GISC, WMO still working out internal processes through Library –no change in 2018 |
| TT-GISC 2016: Melbourne, Australia 18-22 April 2016 |
| 16/1-1 | **Recommendation:** TT-GISC noting that aside from the twice yearly monitoring survey and annual corporate survey, there are many other surveys making their way to GISC staff. It asked the secretariat to try and coordinate these additional surveys to minimise work on staff. | Secretariat | Ongoing | CPDB is schedule for completion March 2019 and should see improvement |
| 16/1-4 | **Action:** All GISCs to:a) liaise with DWD to create their accounts and to make internal arrangements so that process works during backup mode.b) make accounts with Moscow and Tokyo who are running the same service. | GISCs | CBS-16 | Kai to check and will include in report |
| 16/1-5 | **Action:** GISCs to advise TT-GISC of: a) their back up arrangements based on the spread sheet so GISCs can follow up; b) add this to the TT-GISC wiki GISC Ops page ([http://wis.wmo.int/pages=TT-GISC-ops](http://wiswiki.wmo.int/tiki-download_file.php)); andc) need to ensure that they meet the performance metrics for warnings etc in back up mode. | GISCs | CBS-16 | Enrico to send email to GISCs missing details and will be included in final report  |
| 16/1-8 | **Action:** a) GISCs to provide a suitable style sheet to represent the returned SRU results as appearing to come from the centre using their SRU server;b) update SRU wiki pages to point to NZ SRU as an example of a centre using a GISC SRU | a) GISCsb) Secretariat | TT-GISC 2017 | Still to be done. Report to next TT-GISC (2019) |
| 16/1-9 | **Action:** Ask a) TT-CAC to test GISC interfaces to ensure access controls conform to the WIS specifications. b) TT-CAC to work with GISCs to address any deficiencies | Secretariat &TT-CAC | TT-GISC 2017 | Check with ET-CTS |
| 16/1-10 | **Action:** Centres to notify the secretariat if they are interested in pilot for EduGain as academic user identification (GEOSS GD11) | GISCs | June 2016 | Brazil took this onClose. |
| 16/1-11 | **Action:** Centres to notify the secretariat of planned training activities | GISCs | Ongoing | Still needs to be come common practice (WP 7) |
| 16/1-12 | **Action:** a) GISCs to check if their implementation can cope with the two possible encodings of the WMO data policy (ie 1. to use gmx:Anchor and 2. free text:CharacterString). b) ask IPET-MDRD to consider this example and to avoid in the next version of WMO Core Profile multiple encoding styles for crucial information to minimize the implementation work for the GISCs. | a) GISCsb) Secretariat | a&b ASAP | Secretariat to follow up, report to ET-WISC and TT-GISC2019 |
| 16/1-13 | **Recommendation:** GISCs should review the status of centres in their area of responsibility and assist the centres in notifying the secretariat. | GISCs | TT-GISC 2017 | Being done. Close but note GISC |
| TT-GISC 2018: Casablanca, Morocco 18-20 September 2018 |
| 18/1-1 | The development of WIS 2.0 is to be led by TT-eWIS but all the GISCs need to ensure that they participate in the process. | GISCs |  | Continue |
| 18/1/2 | TT-GISC decided to hold a special evening session on the impact of Decision 20 (EC-70) in order to work out how best to proceed. | TT-GISC | 18 Sep 2018 | Done |
| 18/1-3 | Japan (Tsunoda) will arrange for their project plan to be translated into English and make available to TT-GICS for discussion, to be led by the chair. | Chair | Report back to TT-GISC-2019 |  |
| 18/1/4 | Pass the issue on generating Vol C1 from GISC Catalogue to TT-DC and report back to TT-GISC and recommend to ET-WISC | TT-DC |  | Done |
| 18/1-5 | The meeting requested involved GISCs to migrate remaining metadata records from WIS-UNASSOCIATED to principal GISC’s dataset. | GISCs |  | On goingCasablanca: Done at Dec. 2018 |
| 18/1-6 | The meeting requested GISC Tokyo to text the metadata migration procedure including necessary actions at all GISCs, to be available on the GISC-Ops web page. | GISC Tokyo |  | DoneAvailable at: https://wiswiki.wmo.int/tiki-index.php?page=TT-GISC-ops |
| 18/1-7 | The meeting agreed to update the backup diagrams in the above report based on GISC status reports and for the chair to review Ernico’s summary to be included in the GISC operations page. | Chair, Sec. |  |  |
| 18/1-8 | The chair will compile the updated results and pass the GISC connectivity matrix to the Secretariat to put in the GISC Operations Pages. | Chair |  |  |
| 18/1-9 | Mr Osuský will provide further information to TT-GISC on how to implement suitable sitemaps on their Members’ public web‎‎ and GISC Portals. | Mr Osuskýunder WP2 |  |  |
| 18/1-10 | **Subset of 18/1-9:**GISCs are to implement these measures as soon as possible and report back to TT-GISC on implementation. | GISCs |  |  |
| 18/1-11 | The meeting agreed to review the WIS catalogue synchronization at the next TT-GISC (i.e. 2019) | GISCs, under WP5 | Report to TT-GISC | On going |
| 18/1-12 | TT-GISC encouraged all GISCs to share their training material with the WP 7 team for the creation of a shared repository for review by TT-GISC2019. | GISCs, under WP7 | TT-GISC2019Link to ET-WISC 19/1-4 |  |
| 18/1-13 | The meeting noted the concern of Tokyo relating to HTTPS access between GISCs asked each GISC to confirm the status of access to other centre. | GISCs |  |  |
| 18/1-14 | The changes in Annex 8 should be made to the GISC Operations Page and to the GISC Ticket System. | WP6, Sec |  | Done |
| 18/1-15 | Secretariat to add the updated GISC Backup Matrix to the GISC Operations Page. | Sec. | By next TT-GISC |  |
| 18/1-16 | Chair to review the text in Annex 10 and update as required with track changes turned on and return to the secretariat to update the operations page accordingly. | Chair |  | Done |
| 18/1-17 | The meeting established a new Work Package, WP-8 (Technical Regulation updating) to draft recommendations e.g. WIS monitoring (Tech-spec-15), Jason-Spec and so on. | WP8 | Link to ET-WISC 19/1-5 | On going |