WORLD METEOROLOGICAL ORGANIZATION

COMMISSION FOR BASIC SYSTEMS

INTER-PROGRAMME EXPERT TEAM ON METADATA IMPLEMENTATION

THIRD MEETING

DRAFT FINAL REPORT
VERSION 6a

Geneva, 30 June – 2 July 2008

DISCLAIMER

Regulation 42

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.

Regulation 43

In the case of a recommendation made by a working group between sessions of the responsible constituent body, either in a session of a working group or by correspondence, the president of the body may, as an exceptional measure, approve the recommendation on behalf of the constituent body when the matter is, in his opinion, urgent, and does not appear to imply new obligations for Members. He may then submit this recommendation for adoption by the Executive Council or to the President of the Organization for action in accordance with Regulation 9(5).

Chairperson, Publications Board
World Meteorological Organization (WMO)
7 bis, avenue de la Paix
P.O. Box No. 2300
CH-1211 Geneva 2, Switzerland

Tel.: +41 (0)22 730 84 03
Fax: +41 (0)22 730 80 40
E-mail: Publications@wmo.int

CONTENTS

Agenda

Executive summary

General summary of the work of the session

Annexes

AGENDA

1. ORGANIZATION OF THE MEETING

1.1 Opening of the meeting
1.2 Adoption of the agenda
1.3 Working arrangements

2. DEVELOPMENT OF THE WMO METADATA STANDARD

3. OPERATIONAL INFORMATION CATALOGUES

4. IMPLEMENTATION OF THE WMO METADATA STANDARD

5. USE OF RELATED ISO METADATA STANDARDS, ESPECIALLY THE ISO 19100 SERIES, FOR THE DEVELOPMENT OF THE WIS

6. INTERACTION WITH THE ISO TC 211

7. FUTURE WORK PROGRAMME

8. CLOSURE OF THE MEETING

Executive Summary

The third meeting of the CBS Inter-Programme Expert Team on Metadata Implementation (IPET-MI) was held at the WMO Headquarters in Geneva, Switzerland, from 30 June to 2 July 2008 under the chairmanship of Dr S. Foreman (UK).

The meeting recommended ways to avoid the need for changes to ISO 19115 included in version 1.0 of the WMO metadata standard. It agreed to review the UML representation and the XML/GML representation of version 1.0 with a view to presenting a version 1.1 of the WMO metadata standard in these two formats to the meeting of the ICT-ISS in October 2008.

The meeting recommended to carry out a pilot project related to the maintenance of the operational catalogues. It agreed to work on the definition of mechanisms/procedures for the synchronisation of operational catalogues between the centres responsible for their maintenance and the other WIS centres.

As regards the implementation of the WMO metadata standard, the meeting raised issues related to the concepts of “static” and “dynamic” metadata. It made recommendations concerning the validation of metadata, the automated harvesting of routine metadata and training. The meeting agreed to allocate the highest priority for training documentation on “how to create metadata” as part of a “best practice” guide to be posted on the WMO server.

Noting the proposal of the ET-ADRS to develop a WMO core profile of the ISO 191xx for data and metadata, the meeting raised issues concerning the development of relevant feature catalogue(s) for both data and metadata. It agreed to work on metadata schemas needed to describe services as defined in ISO 19119.

The meeting agreed on an interaction with the ISO Technical Committee 211 to submit amendments of ISO 19115 for the extension of the ISO 19111 code lists, in particular to describe the frequency that data collections are updated.

The meeting agreed on its future work programme.

1. ORGANIZATION OF THE MEETING

1.1 Opening of the meeting

1.1.1 The third meeting of the CBS Inter-Programme Expert Team on Metadata Implementation (IPET-MI) was held at the WMO Headquarters in Geneva, Switzerland, from 30 June to 2 July 2008 under the chairmanship of Dr S. Foreman (UK).

1.1.2 On behalf of Mr M. Jarraud, Secretary-General of WMO, Dr D. Hinsman, Acting Director of the OBS Department, welcomed the participants. He recalled that Congress was pleased that CBS had developed and agreed upon, in coordination with other technical commissions, version 1.0 of the WMO core metadata profile of the International Organization for Standardization (ISO) metadata standard, with a view to providing unambiguous description of data exchanged by all WMO Programmes. CBS agreed that this version 1.0 of the WMO core metadata standard should be made available on the WMO server. The meeting was therefore invited to finalise the presentation of the WMO core metadata standard so that the Secretariat can post it on the WMO server.

1.1.3 CBS invited the OPAG-ISS, in consultation with the OPAG-IOS, to further develop with a high priority methods of representing comprehensive information related to observing stations. The meeting was therefore invited to consider the development of proposals for the establishment and the maintenance of operational information catalogues required for the WIS.

1.1.4 The fifteenth WMO Congress stressed the need to assist NMHSs in implementing metadata generation and exchange, and requested CBS to develop recommended practices, procedures and guidelines for operation, including training. The eighth session of the Management Group stressed the importance for WMO Members to start creating and maintaining the metadata associated to the data and products that they prepare as contributions to the implementation and operation of WMO Programmes, in particular those that they insert into the GTS, and to make the metadata available to the WIS GISCs and DCPCs, following relevant recommendations of the IPET-MI. The meeting was in particular invited to consider the conversion of the GTS operational information into metadata required for the operation of the WIS, and to take the lead on identifying tools to allow users to create metadata documents, to prepare a “best practice” guide and to consider training aspects.

1.1.5 Noting the importance of ensuring the interoperability of information systems between the WMO Programmes and outside the WMO community, the fifteenth WMO Congress requested all WMO Programme to join their efforts with CBS in the further development of WMO metadata taking benefit of international standards, in particular the ISO 19100 series of geographic information standards, for defining, describing, exchanging and managing information within WIS. The meeting was therefore invited to consider the further development of the WMO core metadata standard and its possible extensions with a view to satisfying the requirements put of the WIS by all WMO Programmes.

1.1.6 CBS included the activities to communicate the relevant ISO 19100 series of geographic information standards to other teams of the OPAG-ISS in the work plan of the IPET-MI. A recent meeting of the Expert Team on Assessment of Data Representation Systems agreed on a proposal to apply a standard approach for data representation, possibly leading to the development of a WMO conceptual model of data representation and to the development of a WMO core profile of the ISO 19100 series for data and metadata, encompassing the WMO core metadata standard. The meeting was therefore invited to take into account this proposal when considering the further use of the ISO 19100 series, in particular the development of feature catalogues.

1.1.7 CBS agreed that the IPET-MI should contribute to the work of the ISO Technical Committee 211 responsible for the ISO 19100 series, in particular by submitting WMO contributions to the

development of the standards with a view to satisfying WIS requirements and by publicising the WMO activities in the development and implementation of the WMO core metadata standard and its extensions. The meeting was invited to review possible interaction with the ISO TC 211.

1.1.8 The outcomes of the work of the expert team will be submitted to a meeting of the CBS Implementation Co-ordination Team on the Information Systems and Services, which is scheduled in Geneva in October 2008, tentatively from 21 to 24 October 2008.

1.2 **Adoption of the agenda**

1.2.1 The meeting agreed on the agenda reproduced at the beginning of the report. The list of participants is given in Annex to this paragraph.

.

1.3 **Working arrangements**

1.3.1 Under this agenda item, the meeting agreed on the working arrangements for the meeting.

2. DEVELOPMENT OF THE WMO METADATA STANDARD

2.1. The version 1.0 of the WMO Metadata standard includes deviations from the ISO 19115; these deviations comprise extensions to the code lists and additional elements such as WMO_SimulationDataItentification/analysisTime, WMO_DelimitedString and WMO_UsagePeriodConstraint/validTime. These deviations from the standard lead to difficulties, for example using existing software applications to create or interpret the metadata. The meeting recommended to eliminate the deviations as follows:

- To delete the additional elements from the WMO metadata standard and to insert the relevant information in existing elements of the ISO 19115 (see Annex to this paragraph);
- To review the extensions to the code and submit proposals to TC 211 to add these extensions to the ISO 19115.

The impacts on users of existing metadata that includes these will be that applications will continue to work but may not have access to the information in those elements. Best practice documents will need to explain how to include the essential parts of those elements in other fields such as the abstract.

2.2. The meeting recommended that the element Keywords be mandatory and should contain at least one entry from the “WMO Category” list (see Annex to this paragraph) (in future consideration will be given to asking Programmes to expand this to be hierarchical), and it is desirable that there are keyword entries taken from the classification of the Global Climate Master Directory (GCMD). Other keywords may be entered, from the WMO keyword list derived from the WMO Vocabulary, or chosen by the user. Best Practice documentation should warn users that if they enter their own keywords, others may find it difficult to discover their data. Governance of the metadata Core must describe how users can request keywords to be added to the “WMO Category” hierarchy or to the WMO Keyword list.

2.3. The meeting agreed to review the syntax to be used in free text fields to replace the removed elements or to standardize entries, such as references to the permitted use of data under WMO resolution 40. This must be specified in the best practice guide.

2.4. The meeting agreed to review the UML representation and the XML/GML representation of version 1.0 with a view to presenting a version 1.1 of the WMO metadata standard in these two formats to the meeting of the ICT-ISS in October 2008. The text document that has been used to describe the WMO Core Profile in the past will be revised to form part of the Best Practice documentation, providing users with guidance on how to complete those elements that are mandatory in the WMO Core Profile, and on those that are referred to within the WMO Core Profile as optional. Other elements of the ISO standards are valid for use within WMO metadata, but the Best Practice guide will need to remind users that no guidance is offered on

how these should be used, and that users outside their own specialty may have difficulty in the interpretation of these elements.

3. OPERATIONAL INFORMATION CATALOGUES

3.1 The operational catalogues are ISO “data sets”. Examples of such catalogues are the discovery metadata catalogues (sets of discovery metadata instances), the Volumes A and C1 of WMO Publication No. 9. Other catalogues such as the potential catalogues of instruments would have the same challenges. The ISO 19100 series provide standard methods for the development of the schemas of data sets but provide standard schemas only for metadata data sets. The ISO 19100 series recommend the development of feature data dictionaries and feature catalogues with a view to harmonising the definition of features between catalogues.

3.2 The meeting felt that it will take time to develop these feature data dictionaries and feature catalogues and that their contents must be defined within the WMO Programmes responsible for the data to be described. It recommended that the development of catalogues such as the catalogue of variables measured by a standard observing station or the catalogue of instruments used for variables measured by standard observing station should not wait for the development of these feature data dictionaries and feature catalogues.

3.3 The requirements for the maintenance of the operational catalogues are basically common to the WMO operational catalogues. The mechanisms and procedures for this maintenance defined for any of these catalogues could be applied to the others. A possible mechanism is to share the responsibilities for the maintenance between GISCs and DCPCs, each centre being responsible to collect from the WMO Members countries located in their zones of responsibility. The Catalogue Report Forming System (CATREP) is an example of a system that can be used for the implementation and maintenance of Volume A of WMO Publication No. 9. CATREP applies the functions and operations of the Web Feature Service defined in ISO 19143. The meeting recommended that the implementation of CATREP be considered as a pilot project for the maintenance of WMO operational catalogues. Although this is an exploratory pilot project and not a reference implementation, this does provide an indication of how features and catalogues will be of benefit to WMO.

3.4 For the operation of the WIS centres, the WMO operational catalogues should be made available at those centres and, in particular, all GISCs. There is a need to define synchronisation mechanisms to ensure that these catalogues are adequately available at WIS centres. As an example, the maintenance of the Volume C1 is shared by the RTHs and the Secretariat, and the synchronisation of the Volume C1 between GTS centres is at present done through advanced notification of changes (addition, deletion, deletion for modification and addition for modification) (see http://www.wmo.int/pages/prog/www/ois/Operational_Information/VolumeC1/ReportsFromMeetings/CBS-Ext98AnnexIII.pdf); the GTS centres can also download the complete Volume C1.

4. IMPLEMENTATION OF THE WMO METADATA STANDARD

Dynamic and static metadata

4.1. There is a need for clarity over how the WMO Core Metadata standard is intended to be used. Figure 1 tries to illustrate the possibilities. IPET-MI is tasked with starting at the left of this diagram, initially concentrating on Discovery, developing its recommendations to be compatible with the work of other teams developing data representations, under the overall vision provided by the Data Model recommended by ET-ADRS.

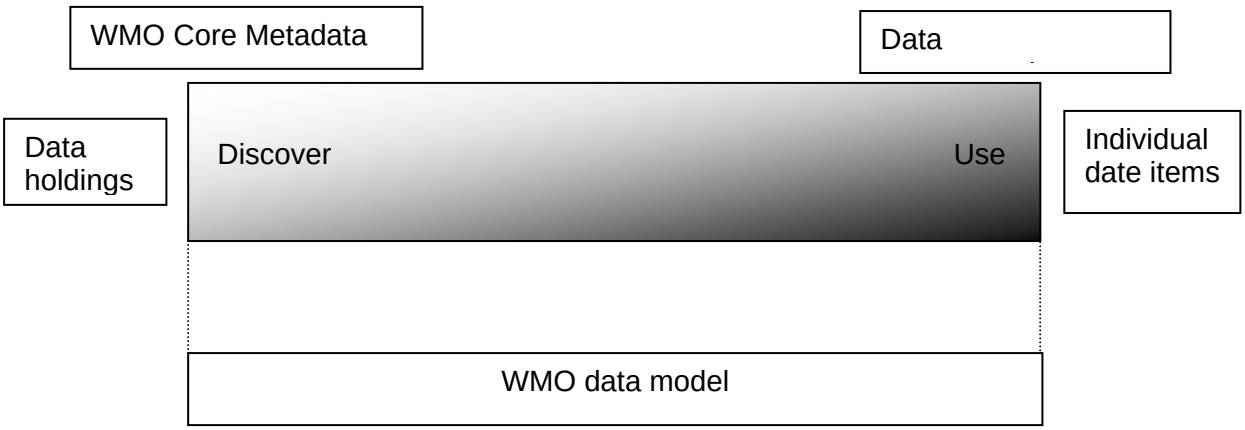

Figure 1 Range of applications from metadata for discovery to data representation for data use.

4.2. In this context, there will be little need for metadata to be updated as data are exchanged between centres, because the metadata are intended to describe collections of data. In this vision, the maximum amount of metadata that would need to travel with a data item would be the unique identifier of the metadata describing the dataset to which the data item contributes.

4.3. Considering this from the perspective of those developing means of representing data, there is a clear need to minimise the amount of data that has to be exchanged in order for the data to be meaningful. It is this need that led to the development of the concept of "static" metadata (those items that are common to all data of the type being represented) and "dynamic" metadata (those items that allow a data item to be recognised as unique). This concept of static and dynamic metadata is thus clearly tied to the concept that a single data item will be considered within WMO as a dataset.

4.4. From the above two paragraphs, it is clear that those developing data representations:

1) Identify what is required to allow different data items to be distinguished (in a way that is meaningful and useful to users)
2) Identify what is required to describe a collection of the data being exchanged, and develop the metadata to describe the data collection as a whole
3) Ensure that the data representation includes reference to the metadata record describing the data collection (this corresponds to the "static" metadata")
4) Ensure that the data representation also includes those items identified in (1) above that allow different data items to be distinguished (often date, time and position) (these correspond to "dynamic" metadata).

4.5. Stating the problem in this way makes it clear that a decision has to be made by those defining data representations, or the systems they support – each data item being exchanged has to be assigned to a data collection. Defining these collections for data intended for routine global exchange should be the responsibility of ICWG-WIS. Under the current OPAG-ISS structure, it is not clear whether this should be delegated to IPET-MI, ET-DRC, ET-ARDS, or ET-CTS. Neither is it clear where responsibility for developing the WMO data model should lie. These issues must be resolved by OPAG-ISS when developing the Terms of Reference for its teams that it will recommend to CBS.

Validation of metadata

4.6. The meeting recommended that the following procedures be implemented by the WIS centres for the creation and validation of metadata:

- Roles (creator, reviewer, administrator) should be defined;
- Help desks (for example at GISCs) should be Installed;
- Filters should be defined in order to remove undesirable content;

- XML schema validation must be done during creation and a local copy of the XML schemas could be used for the validation process.

A copy of the XML schemas should be available at wis.wmo.int

Automated "harvesting" of routine data

4.7. Météo-France was developing an application for the conversion of the GTS operational information into metadata required for the operation of the WIS GISCs. This application uses operational information such as Volume C1 of WMO Publication No. 9 and the Manual on Codes. The meeting recommended:

- To review the presentation/syntax of the information in Volume C1 in order to facilitate the automatic metadata generation; Metéo-France should submit a relevant proposal to the Expert Team on GTS-WIS Operation and Implementation;
- That the Secretariat contact ICAO to arrange for the on-line access to the ICAO list of stations by WIS centres.

Tools for the creation of metadata documents

4.8. The participants shared experiences in the use of tools for the creation of metadata. Geonetwork originally developed by FAO is an example of open source software application that the meeting found useful for a basic schema. The meeting agreed that Geonetwork should be used as an example in the best practice guide and for training. To allow this, the best practice guide will have to tell users how to include the WMO metadata schemas. There should also be general accesses to web servers with Geonetwork installed so that the users would not have to install the software themselves.

Training

4.9. The meeting agreed to allocate the highest priority for training documentation on "how to create metadata" as part of the "best practice" guide to be posted on the WMO server; simple examples of metadata should be posted on the WMO server. The meeting agreed to share the responsibilities for the development of the training documentation as given in Annex to paragraph 7.

4.10. The meeting further recommended:

- To include matters related to metadata in the WIS presentation during the 2009 CBS Technical Conference;
- That the participants in training events should be familiar with the data described by the metadata used in the examples;
- That the Secretariat investigates the availability of training in the ISO standards, in particular on how to apply UML/GML (and would only be for technical staff responsible for implementing automated systems);
- That implementers and users should be able to access help desks for assistance, and users should be able to provide feedback to metadata originators.

5. USE OF RELATED ISO METADATA STANDARDS, ESPECIALLY THE ISO 19100 SERIES, FOR THE DEVELOPMENT OF THE WIS

5.1. The meeting noted the outcomes of the first meeting of the Expert Team on the Assessment of Data Representation Systems (ET-ADRS) (Washington, 23 - 25 April 2008), concerning the use of ISO standards, in particular the ISO 191xx series of geographic information standards. The ET-ADRS agreed that the application of the ISO 191xx series of geographic information standards to the development of a WMO conceptual model of data representation should be considered as a fundamental element of a CBS policy on data representation systems. The objective recommended a standard approach for data representation, leading to the development of a WMO core profile of the ISO 191xx series for data and metadata,

encompassing the WMO core profile of the ISO metadata standard, in line with other initiatives such as INSPIRE); the application schemata and associated tables used to represent data in BUFR, CREX, XML, NetCDF or HDF, such as the BUFR/CREX/GRIB tables, may be used to develop this WMO core profile for data and metadata, in particular to develop the relevant ISO 191xx feature catalogues, application schema(ta) and data product specification(s).

5.2. Actions were included in the work plan of the IPET-MI to prepare references to features in version 2.0. The meeting noted that the WMO feature catalogues should include feature types required to represent data and metadata.

5.3. There is a requirement to develop metadata schemas to describe services as defined in ISO 19119. The meeting agreed to include preparing guidance on this in its action plan.

5.4. Each WMO Programme should consider its own requirements for describing its own data holdings, and to develop the feature definitions it needs. IPET-MI (or other body decided by OPAG-ISS) should provide guidance on how this can be achieved in a consistent way between Programmes, with reference to the relevant ISO standards (ISO 19110 – Methodology for feature cataloguing, 19126 – Feature concept dictionaries and registers, 19136 – GML).

5.5. The meeting therefore recommended that, in its review of the structure of the OPAG-ISS, the ICT-ISS considers assigning to an expert team the task to coordinate the development of the WMO core profile of the ISO 191xx series for data and metadata, encompassing the WMO core profile of the ISO metadata standard and including feature catalogues, and to develop the mechanisms for the governance of the WMO core profile. The OPAGs of the Technical Commissions should consider their own requirements in the development of this profile and submit relevant contributions to the expert team.

6. INTERACTION WITH THE ISO TC 211

6.1 Through Resolution 13/2007, the ISO Council recognized WMO as an international standardization body (see http://www.wmo.int/pages/prog/www/WDM/IPET-MI-III/211n2404_WMO.pdf). The sixtieth session of the Executive Council (Geneva, June 2008) approved the Working Arrangements between ISO and WMO as given in appendix to IPET-MI-III/doc 6(1) (see http://www.wmo.int/pages/prog/www/WDM/IPET-MI-III/doc-6(1).doc). This will facilitate the interaction of the IPET-MI with the ISO Technical Committee 211, in particular when submitting WMO contributions to the development of the ISO standards with a view to satisfying WIS requirements and by publicising the WMO activities in the development and implementation of the WMO core metadata standard and its extensions

6.2 Both IPET-MI and JCOMM had identified a weakness in the ability of the ISO standard to describe the frequency that data collections are updated. Rather than implement an extension to the ISO standard that would cause problems to many users, IPET-MI decided to provide best practice text to include in metadata abstracts to allow users to discover the information. In parallel, a proposal will be made to TC211 for an amendment to the standard.

7. FUTURE WORK PROGRAMME

The team agreed on its future work programme as given in Annex to this paragraph.

8. CLOSURE OF THE MEETING

The meeting closed at 02:15 p.m. on 2 July 2008.

Annex to paragraph 1.2.1

LIST OF PARTICIPANTS

CHAIRPERSON:

Dr Stephen FOREMAN

UK Met Office
Fitzroy Road
Devon
EX1 3PB
EXETER
UK
Tel.: +44 1392 886289
Fax: +44 1392 885681
E-mail: steve.foreman@metoffice.gov.uk

MEMBERS:

Mr Baudouin RAOULT

ECMWF
Shinfield Park
Reading
RG2 9AX
UNITED KINGDOM
Tel.: +44 1189 4994 04
Fax: +44 1189 8694 50
E-mail: baudouin.raoult@ecmwf.int

Mr Guofu WANG

National Meteorological Information Centre
46, Zhongguancun Nandajie
100081 Beijing
CHINA
Tel.: +86 10 68 40 72 74
Fax: +86 10 62 17 59 30
E-mail: wanggf@cma.gov.cn

Mr Jean-Pierre AUBAGANAC

Météo-France
42, Avenue Gustave Coriolis
31057 Toulouse
FRANCE
E-mail: jean-pierre.aubagnac@meteo.fr

Dr Jürgen SEIB

Deutscher Wetterdienst (DWD)
Frankfurter Str. 135
D-63067 Offenbach
GERMANY
Tel.: +49-69-8062 2609
Fax: +49 69 8062 4128
E-mail: juergen.seib@dwd.de

Mr Atsushi SHIMAZAKI
Japan Meteorological Agency (JMA)
1-3-4 Otemachi, Chiyoda-ku
Tokyo 100-8122
JAPAN
Tel.: +81-3-3218-3825
Fax: +81-3-3211-8404
E-mail: shimazaki@met.kishou.go.jp

Dr Alexander V. BESPROZVANNYKH
Research Institute of HydroMeteorological Information (RIHMI-WDC)
6 Koroleva Street
Kaluga Reg.
249035 Obninsk
RUSSIAN FEDERATION
Tel.: +7 48439 74 959
Fax: +7 495 255 2225
E-mail: alexander@meteo.ru

Mr Michael BUREK
National Center for Atmospheric Research
1850 Table Mesa Drive
P. O. Box 3000
80307-3000 Boulder, Colorado
USA
Tel.: +1-303-497 1202
Fax: +1-303-497 1239
E-mail: mburek@ucar.edu

TECHNICAL COMMISSIONS REPRESENTATIVES:

CIMO
Mr Igor ZAHUMENSKY
Slovak Hydrometeorological Institute
Jeséniova 17
P.O.Box 15
83315 Bratislava 37
SLOVAKIA
Tel.: +421 46 541 36 24 (Prievidza)
Fax: +421 46 541 36 24 (Prievidza)
Email: igor.zahumensky@shmu.sk

JCOMM
Mr Greg REED
IODE Co-chairperson
Australian Ocean Data Centre Joint Facility
Fleet Headquarters
Wylde Street, Building 89
Garden Island
Potts Point, NSW 2011
AUSTRALIA
Tel.: +61 2 9359 3141
Fax: +61 2 9359 3120
E-mail: greg@metoc.gov.au

WMO SECRETARIAT:

C/DRMM	Mr Pierre KERHERVÉ
WIS Project Manager	Mr David THOMAS
Consultant	Mr Eliot CHRISTIAN
SO/MAR	Mr Etienne CHARPENTIER

Annex to paragraph 2.1

1. Recommendations for removing elements in the version 1.0 that are deviations from the ISO 19115

- WMO_SimulationDataItentification/analysisTime
  - For model runs.
  - Suggestion use “supplementalInformation” and use a structured phrase such as “WMO Simulation Identification Analysis Time <xxxx>”
- WMO_DelimitedString
  For hierarchical keywords (e.g. GCMD) use the MD_ Keyword element and use the double hyphens (--).
- WMO_UsagePeriodConstraint/valideTime
  - For legal validity of TAFs
  - Use MD_Constraint/useLimitation with the phrase “This product is only valid from <date> until <date>” (There is a need for a layer to find the right text)

2. Review of the code lists

The code lists need to reviewed (e.g. B5.5 CI_RoleCode extension “author” is “originator”).

Annex to paragraph 2.2

Additional entries in B.5.27 MD_TopicCategoryCode <<CodeList>> of version 1.0 of the WMO metadata standard		**Associated keywords**
Name	Domain code	
weatherObservations	020	weather observations
weatherForecasts	021	weather forecasts
meteorology	022	meteorology
hydrology	023	hydrology
climatology	024	climatology
landMeteorologyClimate	025	land meteorology climate
synopticMeteorology	026	synoptic meteorology
marineMeteorology	027	marine meteorology
agriculturalMeteorology	028	agricultural meteorology
aerology	029	aerology
marineAerology	030	marine aerology
oceanography	031	oceanography
landHydrology	032	land hydrology
rocketSounding	033	rocket sounding
pollution	034	pollution
waterPollution	035	water pollution
landWaterPollution	036	land water pollution
seaPollution	037	sea pollution
landPollution	038	land pollution
airPollution	039	Air pollution
glaciology	040	glaciology
actinometry	041	actinometry
satelliteObservation	042	satellite observation
airplaneObservation	043	airplane observation
observationPlatform	044	observation platform

Annex to paragraph 7

Future work programme

Para.	Task	Responsible	Deadline
2.1	To review the extensions to the code lists	Atsushi Shimazaki	31 August 2008
2.3	To review the syntax to be used in free text fields to replace the removed elements or to standardize entries, such as references to the permitted use of data under WMO resolution 40	Steve Foreman to allocate writing tasks	Completion of writing tasks by 30 September 2008
2.4	To review the UML and the XML/GML representation of version 1.0 with a view to presenting a version 1.1.0 of the WMO metadata standard in these two formats to the meeting of the ICT-ISS in October 2008	Atsushi Shimazaki	31 August 2008
3.4	To define mechanisms/procedures for the synchronisation of operational catalogues between the centres responsible for their maintenance and the other WIS centres	Alexander Besprozvannykh	30 April 2009
4.7	To submit the requirements for the review of the presentation/syntax of the information in Volume C1 in order to implement automatic metadata generation to the Expert Team on GTS-WIS Operation and Implementation, and to provide the Secretariat with a call for validation of certain elements of the metadata catalogue harvested from Volume C1 through the WWW operational Newsletters	Jean-Pierre Aubagnac	End August 2008
4.7	To contact ICAO to arrange for the on-line access to the ICAO list of stations by WIS centres	Pierre Kerhervé	End July 2008
5.3	Create a prototype best practice document to assist Programmes develop descriptions of services consistent with ISO 19119 as input to the manual on the WIS	Michael Burek	June 2009
6.2	Ask TC 211 to update the ISO standard to recognise sub-daily updating of datasets	Steve Foreman	End Sept 2008
	Create a prototype best practice document to allow Programmes to develop feature catalogues and feature descriptions consistent with ISO 191xx series, so that a consistent approach can be used, as input to the manual on the WIS.	Juergen Seib	June 2009
	WMO Secretariat to identify consultant to assist with preparation of best practice guides for features and services	Pierre Kerhervé	October 2008
	Define working practices that allow WMO to receive suggestions for changes to its metadata standards, review of those proposals, and approval of agreed changes	Pierre Kerhervé	October 2008

Development of the training documentation

Contents	Responsible	Deadline
Why metadata	Pierre Kerhervé	End November 2008
Why Standard	Pierre Kerhervé	End November 2008
ISO relations	Pierre Kerhervé	End November 2008
How to use		
How to create general metadata, based on tool documentation (e.g. Geonetwork doc.)		End February 2009
How to create the WMO specific metadata		End February 2009
Templates/examples of metadata	Steve Foreman	End November 2008
Impacts on systems	To be considered later	
Impacts on users	To be considered later	
Impacts on organisations	To be considered later	
Technical details	To be considered later	
Software infrastructure	WIS project office?	
Governance rules	Pierre Kerhervé	
Best Practice	Initially will point on how to create and use metadata	