

**Table 3. Centres designated as WIS Centres by Resolution 51 (Cg-XVI) that have not been endorsed by the Commission for Basic Systems**

<i>Member</i>	<i>Centre</i>	<i>Member</i>	<i>Centre</i>
Finland	FMI-ARC	USA	GOSIC
Germany	GRDC	USA	NCEP
India	RSMC-TC	USA	NCAR
Italy	RSMC Rome	USA	NGDC
Netherlands	RCC De Bilt	USA	NODC
Netherlands	Satellite Centre De Bilt	USA	NESDIS
Sweden	Baltrad	USA	ARL

### Resolution 32 (Cg-17)

#### REPORT OF THE EXTRAORDINARY SESSION (2014) OF THE COMMISSION FOR BASIC SYSTEMS RELEVANT TO TECHNICAL REGULATIONS CONCERNING THE GLOBAL TELECOMMUNICATION SYSTEM, DATA MANAGEMENT AND THE WMO INFORMATION SYSTEM

THE WORLD METEOROLOGICAL CONGRESS,

**Having considered** the *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2014 of the Commission for Basic Systems* (WMO-No. 1140),

**Noting:**

- (1) Resolution 45 (Cg-XVI) – Technical Regulations of the World Meteorological Organization,
- (2) Resolution 1 (Cg-XVI) – World Weather Watch Programme for 2012–2015,
- (3) The *Technical Regulations* (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices, Part I section 2.3 and section 3,
- (4) That the 2013 edition of the *Technical Regulations* (WMO-No. 49), Volume II – Meteorological Service for International Air Navigation, introduced a requirement to exchange specific types of information in extensible markup language (XML),
- (5) The desirability of maintaining consistency of presentation across Technical Regulations,

**Considering:**

- (1) Recommendation 4 (CBS-Ext.(2014)) – Amendments to the *Manual on the Global Telecommunication System* (WMO-No. 386),
- (2) Recommendation 6 (CBS-Ext.(2014)) – Amendments to the *Manual on Codes* (WMO-No. 306), Volume I.2 – Amendments to Regulations for reporting traditional observation data in Table Driven Code Forms: BUFR or CREX,
- (3) Recommendation 7 (CBS-Ext.(2014)) – Amendments to the *Manual on Codes* (WMO-No. 306), Volume I.2 – Representation of missing character strings,
- (4) Recommendation 8 (CBS-Ext.(2014)) – Migration to Table Driven Code Forms,

- (5) Recommendation 10 (CBS-Ext.(2014)) – Representation of aviation information in extensible markup language,
- (6) Recommendation 20 (CBS-Ext.(2014)) – Updates to the *Manual on the WMO Information System* (WMO-No. 1060),
- (7) Recommendation 21 (CBS-Ext.(2014)) – Updates to the *Guide to the WMO Information System* (WMO-No. 1061),

**Recalling** that the Sixteenth World Meteorological Congress had supported the request made by the Executive Council at its sixty-second session that all technical commissions develop competence standards in their areas of expertise,

**Decides** to take action on each of the recommendations as follows:

**Recommendation 4 (CBS-Ext.(2014)) – Amendments to the *Manual on the Global Telecommunication System* (WMO-No. 386)**

- (a) Approves this recommendation with effect from 1 January 2016;
- (b) Requests the Secretary-General to make the amendments, as given in the annex to this recommendation, to the *Manual on the Global Telecommunication System*;
- (c) Authorizes the Secretary-General to make any consequent editorial amendments;

**Recommendation 6 (CBS-Ext.(2014)) – Amendments to the *Manual on Codes* (WMO-No. 306), Volume I.2 – Amendments to Regulations for reporting traditional observation data in Table Driven Code Forms: BUFR or CREX**

**Recommendation 7 (CBS-Ext.(2014)) – Amendments to the *Manual on Codes* (WMO-No. 306), Volume I.2 – Representation of missing character strings**

- (a) Approves these recommendations with effect from 4 November 2015;
- (b) Requests the Secretary-General to make the amendments, as given in the annexes to these recommendations, to the *Manual on Codes*;
- (c) Authorizes the Secretary-General to make any consequent editorial amendments;

**Recommendation 8 (CBS-Ext.(2014)) – Migration to Table Driven Code Forms**

- (a) Approves this recommendation with effect from 1 July 2015;

**Recommendation 10 (CBS-Ext.(2014)) – Representation of aviation information in extensible markup language**

- (a) Approves this recommendation with effect from 1 January 2016;
- (b) Requests the Secretary-General to make the amendments, as given in the annexes to this recommendation, to the *Manual on Codes*;
- (c) Authorizes the Secretary-General to make any consequent editorial amendments;

**Recommendation 20 (CBS-Ext.(2014)) – Updates to the *Manual on the WMO Information System* (WMO-No. 1060), Recommends (1) and (5)**

- (a) Approves Recommends (1) and (5) of this recommendation with effect from 1 July 2015;
- (b) Requests the Secretary-General to make the amendments, as given in Annexes 1 and 3 to this recommendation, to the *Manual on the WMO Information System*;
- (c) Authorizes the Secretary-General to make any consequent editorial amendments;

**Recommendation 21 (CBS-Ext.(2014)) – Updates to the *Guide to the WMO Information System* (WMO-No. 1061)**

- (a) Approves the modifications to the *Guide to the WMO Information System* described in Annexes 1 to 4 of this recommendation;
- (b) Approves changes to the text of the *Technical Regulations* as described in Annex 1 to the present resolution;
- (c) Approves changes to the text of the *Manual on the WMO Information System* as described in Annex 2 to the present resolution;
- (d) Approves changes to the text of the *Guide to the WMO Information System* as described in Annex 3 to the present resolution;
- (e) Approves the text in Annex 5 of this recommendation for inclusion as a new Appendix E of the *Manual on the WMO Information System*;
- (f) Approves the text in Annex 6 of this recommendation for inclusion as a new Appendix D of the *Guide to the WMO Information System*;
- (g) Decides that these changes will apply from 1 July 2015;
- (h) Requests the Secretary-General to make these amendments to the *Technical Regulations*, the *Manual on the WMO Information System* and the *Guide to the WMO Information System*;
- (i) Authorizes the Secretary-General to make any consequent editorial amendments.

**Annex 1 to Resolution 32 (Cg-17)**

**INTRODUCING WMO INFORMATION SYSTEM COMPETENCIES TO THE  
*TECHNICAL REGULATIONS* (WMO-No. 49), VOLUME I**

Introduce the following paragraphs into WMO-No 49 *Technical Regulations* Volume I, Part II, Section 5 “Competences of Meteorological, Hydrological and Climatological Personnel”.

**5.4**        *WMO Information System*

5.4.1        Members operating one or more WMO Information System (WIS) centres should ensure that the centres have access to people who between them are able to contribute the required standard Information Technology and management competences together with competences that are specific to the WMO Information System.

5.4.2        Members should consider the following areas of competence:

5.4.2.1      Manage the physical infrastructure;

5.4.2.2      Manage the operational applications;

5.4.2.3      Manage the data flow;

5.4.2.4      Manage the data discovery;

5.4.2.5      Manage WIS centre to centre interactions;

5.4.2.6      Manage external user interactions;

5.4.2.7      Manage the operational service.

5.4.3 When assessing the level of competence needed and the number of people who need to be available who possess that level of competence, Members should consider, among other factors:

5.4.3.1 The organizational context, priorities and stakeholder requirements;

5.4.3.2 The way in which internal and external personnel are used to provide WIS services;

5.4.3.3 The available resources and capabilities (financial, human, technological and facilities);

5.4.3.4 National and institutional legislation, rules and procedures.

Note: More details on competences related to the WMO Information System may be found in WMO-No. 1060 *Manual on WMO Information System*, and guidance on developing these competences is available in WMO-No. 1061 *Guide to the WMO Information System*.

### **Annex 2 to Resolution 32 (Cg-17)**

#### **INTRODUCING WMO INFORMATION SYSTEM COMPETENCIES TO THE MANUAL ON THE WMO INFORMATION SYSTEM (WMO-No. 1060)**

Introduce the following paragraph into WMO-No. 1060 *Manual on the WMO Information System* Part I – Organization and Responsibilities.

#### **1.8 Competences of Personnel**

As recommended by WMO-No. 49 *Technical Regulations* Volume I, Part II, Section 5 Competences of Meteorological, Hydrological and Climatological Personnel centres should ensure that they have access to an adequate number of people who between them have the required levels of the WIS competences that are defined in Annex D of that manual.

Note: Guidance on developing these competences is available in WMO-No. 1061 *Guide to the WMO Information System*.

### **Annex 3 to Resolution 32 (Cg-17)**

#### **INTRODUCING WMO INFORMATION SYSTEM COMPETENCIES TO THE GUIDE TO THE WMO INFORMATION SYSTEM (WMO-No. 1061)**

Introduce the following paragraphs into WMO-No 1061 *Guide to the WMO Information System* Part I – Organization and Responsibilities.

#### **1.8 Competences of Personnel**

1.8.1 WMO-No. 1060 *Manual on WIS*, Part 1 paragraph 1.8 recommends that Members operating WIS centres ensure that the centres have access to adequate staff with an appropriate level of competence in areas appropriate operating the WIS.

1.8.2 WIS centres need access to generic Information Technology and management competences. There are many sources of training and development resources for these competences available from government or commercial sources, from libraries and from the Internet.

1.8.3 WIS centres also need access to competences that are specific to the WIS. Guidance on how these competences may be assessed and developed is provided in Annex D to the present guide.

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### Resolution 33 (Cg-17)

#### REPORT OF THE EXTRAORDINARY SESSION (2014) OF THE COMMISSION FOR BASIC SYSTEMS RELEVANT TO STANDARDIZATION OF DATA MANAGEMENT PRACTICES

THE WORLD METEOROLOGICAL CONGRESS,

**Having considered** the *Abridged Final Report with Resolutions and Recommendations of the Extraordinary Session 2014 of the Commission for Basic Systems* (WMO-No. 1140),

**Noting:**

- (1) Resolution 45 (Cg-XVI) – Technical Regulations of the World Meteorological Organization,
- (2) Resolution 1 (Cg-XVI) – World Weather Watch Programme for 2012–2015,
- (3) The *Technical Regulations* (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices, Part I, sections 2 and 3,
- (4) That the *International Meteorological Vocabulary* (WMO-No. 182) has not been revised since 1992,
- (5) That the *Manual on the WMO Information System* (WMO-No. 1060) defines the WMO Information System but does not specify practices for many stages in the life cycle of information,
- (6) That the Global Framework for Climate Services, the WMO Integrated Global Observing System (WIGOS), the Global Data-processing and Forecasting System and many other WMO activities rely on data being organized, stored and processed as well as exchanged,
- (7) Recommendation 24 (CBS-Ext.(2014)) – Standardization of data management practices,

**Decides** that the scope of the WMO Information System (WIS) will be extended to include setting and auditing standards for centres that hold information in support of WMO Programmes, and to provide guidance on other aspects of data management, to be known as Part C of the WMO Information System;

**Requests** the Commission for Basic Systems:

- (1) To investigate the requirements for a standard methodology of identifying objects to which WMO Programmes need to refer;
  - (2) To lead a cross-cutting activity that involves all technical commissions to coordinate development of guidance for Members in relation to all stages of the effective management of information throughout its lifecycle, and to include this guidance, associated standards and procedures in Part C of the WMO Information System;
  - (3) To develop and implement a procedure to create and maintain a set of definitions for use in WIS and WIGOS and to allow these to be identified as authoritative within the WMO METEOTERM application.
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