



World Meteorological Organization

Weather • Climate • Water

PRA-PTC-2016

5. WMO Quality Management Framework

D. Ivanov – C/AEM

Cg-17 decisions related to furthering WMO QMF

❖ Resolution 7 (Cg-17)

...

Decides to further the development of the WMO QMF with focus on:

- 1) Coordinating the activities of the technical commissions and their relevant expert bodies to ensure that the quality management issues are complementary and consistent with the overarching WMO QMF;
- 2) Developing further the WMO regulatory and guidance material on quality management contained in different documents and domains, including updated guidance on the transition to the new International Organization for Standardization (ISO) 9001:2015 quality management standard;
- 3) Review and actualization of the WMO Quality Policy as an organization-wide policy complementing the WMO Strategic and Operating Plans;
- 4) Continuing support to Members in implementing the QMS, in particular for achieving compliance with relevant international requirements;



Cg-17 decisions related to furthering WMO QMF

❖ EC-67:

- ❑ Report on the current status of the WMO QMF should be presented to the joint meeting of presidents of technical commissions and presidents of regional associations in early 2016 (PTC/PRA 2016) in order to facilitate the development of a proposal for a suitable Organization-wide coordination mechanism [on QMF].
- ❑ Outcome of the PTC/PRA 2016 meeting on the future enhancement of the WMO QMF should be submitted for consideration by the EC Working Group on Strategic and Operational Plan (EC/WG-SOP) as the basis for preparing a comprehensive proposal to EC-68 on the future WMO QMF approach, including the needed supporting expertise and resources.



QM vs. QMF vs. QMS

- ❖ **QM** is a generic term - a process that focuses not only on the quality of the product but also on the means to achieve it
- ❖ **WMO QMF** encompasses all quality-related policies and activities at all levels of the Organization
- ❖ **QMS** is a part of the QMF, specific on implementation of a set of QM principles defined in the ISO 9000 series of standards; QMS encompasses the organizational structure, procedures, processes and resources needed to ensure the delivery of an organization's quality products and services.



WMO QMF – the first 12 years

- **WMO Quality Management Framework (QMF)** was initiated by Cg-14 in 2003. Objectives:
 - Promoting the implementation of quality management as a good practice for the NMHSs
 - Response to the then new ICAO requirements for quality assurance of the meteorological information supplied to the aviation users

(Appendix 2 to PRA-PTC-2016/Doc.5 provides a chronological history of the WMO QMF developments)

- **QMF groups:**
 - ICTT-QMF: 2004 – 2008
 - TT-QMS (under CAeM): 2011 – 2015
 - Expert teams under different TCs



WMO QMF – the first 12 years

- ❖ Elements of the WMO QMF
 - WMO Strategic Plan – QMS is recognized as a **key enabler**

“ The efficiency and effectiveness of NMHSs is enhanced through improved data interoperability and **quality management systems**, enabling them to better fulfil their mandates, demonstrate their relevance and raise their visibility within national governments and with other stakeholder organizations.”



WMO QMF – the first 12 years

- ❖ Elements of the WMO QMF
 - WMO Strategy for Service Delivery

“Effective service delivery and compliance with QMS standards are complementary, and an organization with high service delivery standards will be well-positioned to meet the broader QMS standards. **High-quality service delivery and compliance with QMS standards are both essential if NMHSs wish to improve their outcomes.**”



WMO QMF – the first 12 years

- ❖ Elements of the WMO QMF
 - WMO Quality Policy Statement - Cg-15 (2007)

“WMO is dedicated to ensuring optimum affordable quality for all meteorological, climatological, hydrological, marine and related environmental data, products and services, especially those supporting the protection of life and property, safety on land, at sea and in the air, sustainable economic development and protection of the environment.”

(see full text in Appendix 3 to Doc.5)



WMO QMF – the first 12 years

❖ Elements of the WMO QMF

□ WMO Technical Regulations

Volume II, Meteorological Service for International Air Navigation

- 2.2.2 **Each Member shall ensure** that the designated meteorological authority referred to in 2.1.4 above establishes and implements a **properly organized quality system** comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users listed in 2.1.2 above.
- 2.2.3 *[Recommendation] The quality system established in accordance with 2.2.2 above should be **in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards** and should be certified by an approved organization.*

Volume IV, Quality Management – explanation of basic ISO 9000 principles (will be replaced by a Chapter in Vol I)



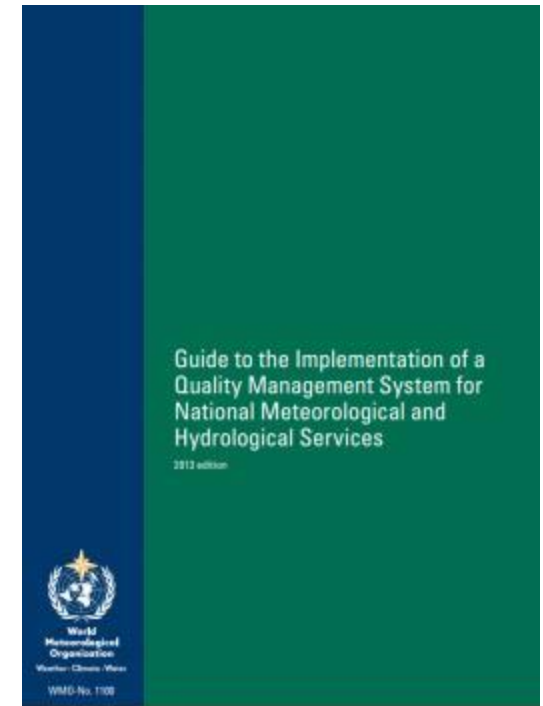
WMO QMF – the first 12 years

- ❖ Elements of the WMO QMF
 - ❑ WMO Technical Regulations and Guides

Guide to the Implementation of QMS for NMHSs, WMO-No. 1100 (available on-line in all languages)

The Guide is focused on ISO 9001 standard

Members encouraged to consider the ISO 9001 certification as a best practice that adds to the credibility, visibility and competitiveness of their NMHSs



WMO QMF – the first 12 years

❖ Elements of the WMO QMF

□ WMO Technical Regulations and Guides

Manual on WIGOS – strong focus on QM

- 2.6.4.2.1 Members should clearly demonstrate and document their management commitment to the integration of WIGOS quality management practices within their QMS.

CIMO Guide - PART III. Quality Assurance and Management of Observing Systems



WMO QMF – the first 12 years

❖ Elements of the WMO QMF

□ WMO Programmes – examples:

■ GAW - Quality Assurance

<https://www.wmo.int/pages/prog/arep/gaw/qassurance.html>

■ Hydrology - Quality Management Framework

<http://www.wmo.int/pages/prog/hwrp/qmf-h/index.php>

■ Climatology – Quality Management

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace5/ET-QM-5-2.php>

- Various programmes (AeMP, MMOP, PWS, WIS, ...) developing **Competency requirements** as elements of Quality Assurance



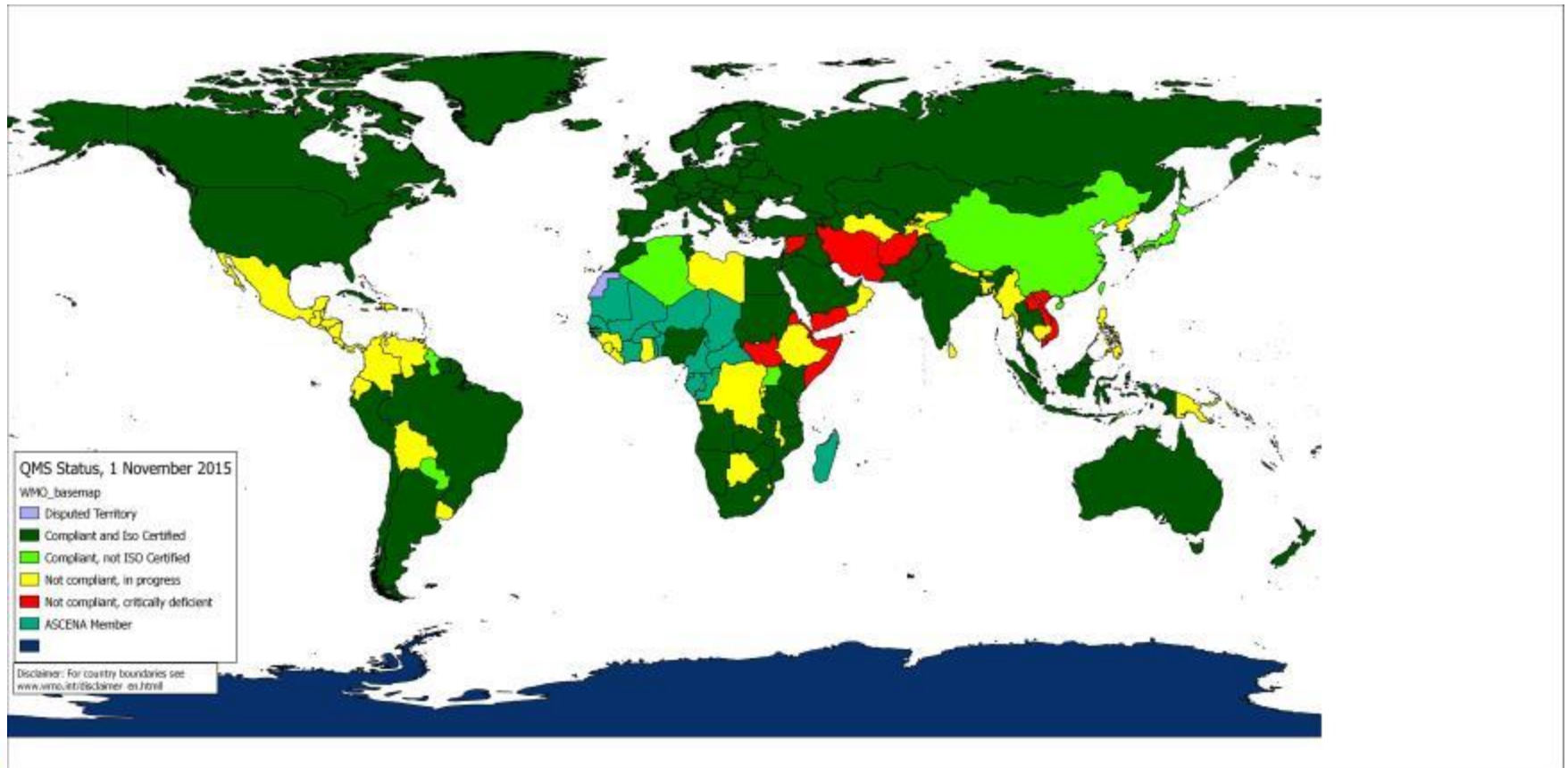
WMO QMF – the first 12 years

- ❖ **Elements of the WMO QMF**
 - ❑ **WMO Capacity Development – assistance to Members through projects, training, consultancy – actions in all Regions supported by different WMO Members and NMHSs (BoM, FMI, Tanzania Meteorological Agency, Environment Canada, ...)**



WMO QMF – the first 12 years

- ❖ Elements of the WMO QMF
 - Monitoring of implementation of QMS for aviation



WMO QMF – the first 12 years

❖ Summary

- ❑ On-going development of quality management aspects of many programme areas, like WIGOS and WIS, HWRP, WCP/WCSP, GFCS, DRR, GAW, etc.
- ❑ Different expert bodies have been established by the technical commissions concerned to address quality management aspects of the respective programmes.
- ❑ The **quality management focus may vary from programme to programme**, e.g., in some areas the main focus is on quality of observational data and related information derivatives, while in other areas the concern is on the availability of a recognized/certified QMS that warrants quality in accordance with respective service level agreement.
- ❑ Therefore, Congress agreed that the WMO QMF should be further developed to streamline the quality management activities of different programmes, technical commissions and expert bodies to ensure their consistency as part of the overarching organization-wide QM policy.



WMO QMF – future development

❖ Follow up on the directives given by Cg-17 – Proposed actions:

1) Review and update the WMO Quality Policy Statement – Using some of the new concept introduced by the ISO 9001:2015 would be useful, such as:

- ❑ The concept of “Context of the Organization” (valid both for WMO and for the Members’ NMHSs);
- ❑ The concept of “Risk-based thinking”;
- ❑ The concept of “Organizational knowledge”;
- ❑ The change from “Continuous improvement” to “Improvement”;
- ❑ The change from “Products” to “Outputs” (that includes “products and services”);
- ❑ The general change to less prescriptive and more flexible QMS standard.



WMO QMF – future development

❖ Follow up on the directives given by Cg-17 – Proposed actions:

2) Align and streamline the quality management activities of different programmes, technical commissions and expert bodies to ensure their consistency as part of the overarching organization-wide QM policy

To facilitate this process, it is proposed to develop and publish a new high-level document “**WMO Quality Management Framework**”.



WMO QMF – future development

- ❖ **Follow up on the directives given by Cg-17 – Proposed actions:**
- 3) Review and enhance relevant regulatory and guidance material;**
in particular, prepare updates of the existing WMO QMS guidance material to reflect the changes in the new ISO 9001:2015 standard, in particular, “Guide to the QMS for the Provision of Meteorological Service for International Air Navigation” (WMO-No. 1001), and “Guide to the Implementation of a QMS for NMHSs” (WMO-No. 1100);
- 4) Continue monitoring** of implementation of the QMS requirements for aviation and related **assistance to Members;**
- 5) Promote further** the general recommendations for **implementation of QMS by NMHSs** stipulated in the WMO Strategy for Service Delivery and highlight the benefits for NMHSs. This implies continuation of the mechanisms of twinning and mentoring arrangements between Members.



WMO QMF – Organization-wide approach

- ❖ **Members** – to be encouraged and enabled through capacity development to implement QMS as part of their development plans linked to the WMO Strategic Plan and other relevant strategies, such as the WMO Strategy on Service delivery;
Note: RA VI survey (2013) showed that 50% of the NMHSs in RA VI are ISO 9001:2008 certified
- ❖ **Regional Associations** – to coordinate their Members’ implementing actions on QMS and support relevant mechanisms (e.g., twinning and mentoring; assign QMS tasks to regional facilities supporting elements of QMS, such as RICs, RTCs, etc) to accelerate the process; monitor the implementation and identify deficiencies;
- ❖ **Technical Commissions** – further coordinate and develop QM elements in their respective areas, including regulatory provisions and guidance, as necessary;
- ❖ **Secretariat** – promote in its work broader implementation of QMS elements and principles, such as “Process approach”, “improvement”, “evidence-based decision making” etc.



WMO QMF – working mechanism

- ❖ Consider the need for an expert group and appropriate “parent body”
- ❖ Utilize the accumulated experience and expertise in the former TT-QMS (which was operating under the CAeM) as well as inputs and contributions from all relevant bodies and service areas
- ❖ Consider the draft ToRs proposed by the last meeting of TT-QMS (App 5, Doc 5)
- ❖ Coordination of QM activities at Secretariat level and resources



PTC/PRA recommendation to EC WG-SOP

- ❖ Endorse and express commitment to the relevance of the proposed actions 1 to 5 in this ppt
- ❖ Propose potential working mechanisms and address the need for resources





Thank you for your attention