WMO GUIDING PRINCIPLES FOR SERVICE DELIVERY

1. Purpose

The purpose of this document is to propose Guiding Principles for Service Delivery that will assist National Meteorological and Hydrological Services (NMHSs) in the provision of weather-, climate- and water-related services that incorporate user needs and performance metrics. While there is no prescriptive way to provide services, the Guiding Principles aim to improve service delivery by sharing best practises between NMHSs and to increase focus of WMO Programmes on service delivery in accordance with the WMO Strategic Plan.

2. Introduction

Effective service delivery is a fundamental requirement for NMHSs if they are to meet national needs. However, there are many different interpretations of the concept of service delivery as it relates to the provision of weather-, climate- and water-related services. Several of these are defined and discussed in this paper with the intent of forging an international WMO Guiding Principles for Service Delivery.

3. Principles guiding effective Service Delivery

(a) User engagement and feedback is essential in designing and delivering effective services;

(b) Sharing best practises leads to effective and efficient service design and implementation;

(c) Service concept applied to all WMO activities and culture change is essential to ensure the success of service delivery;

(d) Partnership with other international and regional organizations that are also engaged in delivering services is essential in maximizing the use of weather, climate and water information for decision making.

4. Attributes of effective services

Effective services should be:

(a) Available: at time and space scales that the user needs;

(b) Dependable: delivered regularly and on time;

(c) Usable: presented in user specific formats so that the client can fully understand;

(d) Useful: to respond appropriately to user needs;

(e) Credible: for the user to confidently apply to decision-making;

(f) Authentic: entitled to be accepted by stakeholders in the given decision contexts;

(g) Responsive and flexible: to the evolving user needs;

(h) Sustainable: affordable and consistent over time; and

(i) Expandable: to be applicable to different kinds of services.

5. The role of WMO in the Guiding Principles for Service Delivery

5.1 WMO provides international coordination and sets standards for weather-, climate- and water-related products and supporting services. This includes observations, data quality, and telecommunications. The data underpinning meteorological and related products require international coordination and validation to guarantee that they meet the needs of the product generating centres. The communication systems that move data and products globally are coordinated through WMO. The assessment, and objective verification of products that are generated by one country and used by others may also be coordinated by WMO and the results shared and used in the process of improving the quality of products for all.

5.2 WMO also provides guidance for service delivery which is used to good effect by all Members. However, Guiding Principles for Service Delivery are required to provide a more uniform and structured approach for WMO and its NMHSs on service development and delivery applicable to all weather, climate and water information.

5.3 NMHSs deliver a wide range of weather-, climate- and water-related services to meet a broad range of needs. In the majority of these cases needs are defined nationally, the major exceptions being services for international aviation and shipping, which conform to international standards and defined user requirements. Providing an international strategy through WMO will enable NMHSs to improve national service delivery by sharing better practises and supporting mutually agreed guidelines, and by increasing the user targeting of the services.

5.4 The Guiding Principles on Service Delivery will also help enable capacity building within NMHSs in order to make best possible use of resources. This is achieved by focusing the assignment of resources to countries with the greatest need for assistance in service improvements, or to relevant Secretariat activities required to underpin and coordinate this capacity building.

6. What drives the priority of Service Delivery in NMHSs?

6.1 The public and political assessments of the effectiveness of NMHSs occur continuously. These depend largely on how effectively the NMHSs meet the service delivery standards of the nations they serve. Confidence in NMHSs derives from demonstrated capability to deliver services in a way that meets national and public needs. It is not enough that staff within the NMS or NHS consider the services they provide to be world-class, highly accurate or even perfectly usable and relevant to their community's needs, what is required is that the community receives services that meet their needs. This requires concerted effort for direct communication and engagement with the users.

6.2 The ability of an NMS or NHS to meet national service delivery needs is put to its most critical test when an extreme hydrometeorological event occurs and then even the best forecast, issued on time, is no defence in the event of a national disaster if no one used that forecast. Providing effective warning, forecast and assessment products and services depends on a system that engages users, the problems, the risks and the values throughout the process. Most of the utility of weather, climate and water information, added or lost in the value-chain of decisions and actions between the physical phenomena and their subsequent impact, occurs in communicating the information to users and in the behaviour of users in response to that information, and ultimately in the effect of their decisions in societal and economic outcomes. If the user cannot make changes or there is no effect on the outcome, the information is of little direct value. Value can be increased by improving the forecast, by improving communication, and by improving the decision-making process. If the currently available information is underutilized, value will likely accrue if the communication or decision-making process is improved. Service delivery is about providing the service that the users actually use because it meets their needs.

6.3 Countries make choices about which services their NMHSs will deliver. Generally, NMHSs must meet the key public needs in such a way as to have the greatest beneficial impact on their

community. In one sense, this makes prioritization straightforward for NMHSs because it is clear that the activities that contribute most to the safety of life and property have the highest priority. However, the risks are not always obvious to national governments and are rarely objectively or continuously assessed.

7. Elements of service delivery for WMO

7.1 The WMO Strategic Plan emphasizes enhancing the capabilities of Members to provide and use weather, climate, water and environmental applications.

7.2 WMO Programmes, as part of the Guiding Principles on Service Delivery, should adopt improving service delivery as part of their responsibility to assist NMHSs, including by encouraging them to:

(a) Evaluate user needs and decisions, including drivers to:

- Increase understanding and acting upon societal and economic requirements for impact-related weather, climate, water and air quality services;
- Increase training and provision of guidance material to enhance NMHSs and partner organizations' ability to deliver useful services;
- Expand the use of weather, climate and hydrological services;
- Improve the decision making capability of Members by providing appropriate inputs to Members, including through integrated early warning of sector specific impacts, and information related to climate risk management and adaptation to climate change.

(b) Develop and improve Service Delivery mechanisms to:

- Improve relevant, timely, cost-effective and useful products and services that can be used beneficially by WMO Members;
- Increase collaboration and cooperation between NMHSs, sectors and government agencies whose day-to-day activities are affected by weather and climate and which can benefit from improved weather, climate and water services.

(c) Define service outcome effectiveness to:

- Effectively use performance management approaches, tools and methods;
- Ensure more people take effective action in response to information received;
- Increase participation of NMHSs in Members' meteorological and hydrological risk management activities.

(d) Establish governance practices by:

- Ensuring that information is received and acted upon;
- Learning from successful outcomes;
- Sharing responsibility with all the partners engaged in Service Delivery.

8. Evolving User Needs

8.1 Service delivery must focus on collaborative problem solving which requires full engagement between providers and users. Service delivery is a complex issue and there are gaps in how services are delivered. These gaps need to be addressed and reduced. A service for a particular sector involves a broad partnership of producer and user organizations, meteorologists and related scientists, and practitioners from user sector and supporting organizations. It provides an opportunity to interlink global, regional and national information systems; to provide comprehensive modelling and analytical capability to address problems at regional and local scales, and to provide for a distributed decision-relevant research and development capability. It is the latter, which sets this service apart from the traditional, exclusively science-based forecasting service. Each service must be adapted to the sector it serves.

8.2 With evolving needs of users, in order to stay relevant, NMHSs need to adapt themselves to user requirements. Implicitly, although service delivery is part of the role of NMHSs and collaborating organizations on technical matters, it should ideally be a partnership between environmental and social organizations. As such, one approach is to create a mechanism, which may be in the form of a real or virtual co-location of providers and users of weather, climate and water information who work together, iteratively, to deliver timely, effective and user specific services. It brings together the operational capacity of providers and users of weather, climate and water information and services. The mechanism, which may be called a “platform”, an “approach” or a “framework”, integrates environmental and user-specific data to determine impacts on the public and social and economic sectors such as energy grid management, construction sites, flood control and urban inundation agencies, emergency responders including the police and fire services, hospitals, transportation, accident management and control, airports, harbours, etc. The benefit to users would be an operational network that evolves to meet specific user needs, forecasts systems targeted to user decisions and an integrated system that aligns weather, climate and water information with social, economic and other user-specific information. A public service “platform”, “approach” or “framework” would provide the opportunity to focus on strengthening ground-based observation systems, strengthening surveillance, creating integrated early warning and assessment systems for weather, climate and hydrological forecasting systems, and providing fast, efficient and unified service delivery. The “platform”, “approach” or “framework” (representing all the operational providers and users) is instrumental in setting requirements for research and development.

8.3 The net effect should include strengthening partnerships with key user sectors and government ministries. The aim would be to realize tangible and quantifiable benefits to communities by exploiting new operating partnerships between user and provider to share responsibility for effective delivery of services. This would include the development of new tools and methods to strengthen dialogue and collaboration between provider and user, especially the implementation of more interactive early warning and forecasting systems for weather, climate and water, which are integrated into every level of governance from the community level to the national infrastructure.

8.4 By distinguishing between service delivery and production, emphasis is placed on information sharing, joint information dissemination, joint research and training, and joint product development between the service provider and the user. In addition to the information generated by the NMS, the platform would also seek to integrate data from outside partners, both national and international, so that users have access to all relevant information through a single source with which they can work directly.

9. Responsibilities of WMO Members

WMO Members will:

9.1 Rely on technological advancement to optimize forward looking service delivery, and this will be particularly important in building capacity in service delivery in developing countries.

9.2 Agree on minimum guidelines and approaches for the development and provision of weather, climate or hydrological services. The approaches may be nationally determined, monitored and evaluated and results should be exchanged among WMO Members. The evaluation should include user assessment of the services intended for their use.

9.3 Transfer knowledge through advanced capacity-building approaches (e.g., by engaging in regional partnerships and documentation of best practices).

9.4 Engage in regional focus on user needs through information platforms (e.g., METEOALARM in Europe), regional workshops and forums for different user sectors.

9.5 Develop acceptable metrics to determine the effectiveness of NMHSs' service delivery and agreed programmes that monitor and assess service quality and effectiveness.

9.6 Exchange information between NMHSs on their effectiveness in engaging users and measuring outcomes as a means of capacity building.

9.7 Understand better the relevance of their services judged in the context of user needs. The information will be used to improve the efficiency and effectiveness of all WMO Programmes, and, as a consequence, of all Members. Quality management is an important element of these Guiding Principles.

9.8 Establish a time-frame for reviewing the Guiding Principles

10. Implementation of the Guiding Principles

Taking into consideration the strong coordination aspect of service delivery, the following activities, among others, need to be undertaken to apply these Guiding Principles:

(a) Establish an approach within the NMHS to respond to needs of selected user communities;

(b) Conduct a survey of NMHS service delivery priorities, and develop an inventory of existing good practices;

(c) Apply the new approach to at least one priority service;

(d) Evaluate the results of service quality taking into account the guidelines and approaches (see 9.2) and user satisfaction.

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11. Definitions related to provision of weather, climate and water

11.1 NMHSs (always used in the plural) – National Meteorological Services (NMSs) and National Hydrological Services (NHSs); NMS – A National Meteorological or Hydrometeorological Service; NHS – A National Hydrological Service.

11.2 Users – Users are individuals or organizations with responsibilities for decisions and policies in sectors that are sensitive to weather, climate and water and for whom products and services are provided by NMHSs or collaborating organizations. If the user has paid directly for the service, he/she is generally called a customer.

11.3 Providers – Individuals or entities that produce or acquire weather, climate or water information or products *that are then supplied in support of users' needs in this regard. NB: Providers may include NMHSs, Collaborating Organizations, other meteorologically-relevant agencies and the private sector, but this present strategy focuses only on WMO NMHSs*

11.4 Collaborating Organization – An organization or entity (e.g. a University, a specialized non-government centre, a relevant government agency) of a WMO Member that provides complementary/additional weather, climate or water information to NMHSs or directly to users, under terms and conditions that have been mutually agreed.

11.5 Product – A product is basic information such as observations, datasets, or information that is created by an analysis or forecast process. For example, products include a warning of a tropical cyclone, a forecast of heating degree days for the next five days, a seasonal forecast, a time series, a climatological normal, a hydrological risk map, a satellite image, etc.

11.6 Service - A service is a product delivered or activity that is carried out (advice, interpretation, etc) that meets the needs of a user or that can be applied by a user. A true service is therefore based on an understanding of the user's requirements, provides information, products and advice that is tailored for the user, e.g. in terms of timing, format, or content, and maintains a dialogue with the user. Providing a user access to a tropical cyclone warning in a convenient and timely manner is a non-user-specific service. Providing a customer access, for a commercial fee, to the five-day forecast of degree heat days, for example, is also a non-user-specific service. Both government and non-government entities supply weather-, climate- and water-related services (see also 3.3 and 3.4 above).

11.7 Service Development - A service should be co-developed by the user and the provider of the weather, climate and water products, a process which reflects the increasing importance of user-defined products and services, which integrate weather, climate and water information into user decision support systems.

11.8 Service Contract - Services may be provided as a public good; on a contractual basis to certain users or on a commercial basis to a fee paying customer. In all cases there is an implicit or explicit contract between the provider and user of the services to strive to meet the needs of the user.

11.9 Fit for Purpose – Within the implicit or explicit contract between the provider and user, and resulting from an extensive dialogue between the provider and user, 'Fit for Purpose' implies a clear understanding and agreement in terms of:

- What is the information need?

- How will the information be provided?
- How will the information be used?
- The risks inherent in the decisions to be made using the information;
- The strengths and weaknesses of the information being provided (including verification and inherent uncertainties).

11.10 Service Delivery Process - The service delivery process describes the end-to-end activity of:

- preparing and delivering the service;
- ensuring that the service is fit for purpose;
- establishing a feedback system that monitors the user/customer needs and their feedback on the quality of the service provided; and,
- managing the service performance continuously for service improvement over time, with respect to current and evolving user requirements.

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