WMO OMM

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

Secrétariat
7 bis, avenue de la Paix – Case postale 2300
CH 1211 Genève 2 – Suisse
Tél.: +41 (0) 22 730 81 11
Fax: +41 (0) 22 730 81 81
wmo@wmo.int – public.wmo.int

Our ref.: SG/ASG/SPO/PRAs SP2020-2023 GENEVA, 27 September 2016

Annex: 1 (available in English only)

Subject: Inputs for WMO Strategic Plan 2020-2023

Action required: Your submissions should reach the Secretariat not later than **21 October 2016**

Dear Mr President,

You will recall that the sixty-eighth session of the WMO Executive Council (EC-68) held in Geneva from 15 to 24 June 2016 endorsed the recommendations of the EC Working Group on WMO Strategic and Operational Planning (WG/SOP), and agreed to proceed with the development of the next Strategic Plan based on the outlines of the SP, and the proposed process and timelines as presented in Annexes 1, 2 and 3 to Decision 16.2(2)/1 (EC-68).

In this connection, you are requested to review the various elements of the WMO Strategic Plan 2016-2019 and to submit your proposals for Organization-wide and regional priorities for the next financial period. It would be appreciated if your proposals include improvements on Expected Results to make them measureable; clarity of priority to avoid the situation where a priority is also an Expected Result; and clarity of the targeted audience to improve the focus of the message in the strategic plan. Proposals for Organization-wide priorities should take into consideration the priorities for 2016-2019 and the evolution of societal needs. You may wish to review your regional priorities for 2016-2019 to decide on those that need to be sustained for the period 2020-2023 and propose any new priorities. It is anticipated that the management group of your Association assist you to make submission without waiting for the session of the regional association.

The attached background and template for providing inputs for the WMO Strategic Plan (SP) for 2020-2023 is provided to facilitate your submission, which should be received preferably not later than **21 October 2016**. Documents providing information for consideration in preparing the WMO SP 2020-2023 are provided at http://www.wmo.int/pages/about/WMOSP20202023_en.html (under related items). We will keep you involved in further processes to prepare the Strategic Plan.

I count on your continued cooperation in this undertaking.

Yours faithfully,

(P. Taalas)
Secretary-General

To: Presidents of regional associations (P.RA-1772)

cc: Mr David Grimes, President of WMO and Chairperson of the EC Working Group on WMO Strategic and Operational Planning (WG/SOP) (for information)

BACKGROUND AND TEMPLATE FOR PROVIDING INPUTS FOR WMO STRATEGIC PLAN 2020-2023 (21 September 2016)

BACKGROUND

Congress and Executive Council Decisions

1. The inputs and proposals for priorities for the WMO Strategic Plan for the period 2020-2023 should take into consideration the following decisions of Congress and the Executive Council:

(a) Seventeenth World Meteorological Congress (Cg-17, May/June 2015), particularly paragraphs 10.3.1-10.3.5 and Resolution 71 (Cg-17)[1] - Preparation of the Strategic and Operating Plans 2020–2023. Cg-17 requested the WMO Executive Council (EC) to: (1) organize a planning process taking into account lessons learned from the previous planning process; (2) continue to improve the structure, focus and performance metrics on the basis of evolving societal and economic needs, as well as on the results of evaluation of the performance in the implementation of the Strategic Plans for the periods 2008-2011, 2012-2015 and 2016-2019; (3) effectively engage regional associations and technical commissions in the planning process and to consider stronger linkages and complementary roles of technical commissions and regional associations in the planning process; (4) develop a better means of integrating and supporting the development of regional and technical components of the WMO-wide Operating Plan; (5) identify areas that need further improvements and address them in the order of priority with specific emphasis on establishing baselines, formulating specific, measurable, achievable, realistic and time-bound Key Performance Indicators, setting achievable targets, and synchronization with decision-making by technical commissions and regional associations; and (6) take into account the outcomes of the work on continuous improvement of WMO working processes and practices.

(b) EC-68 (June 2016) decided that:

(i) The preparation of the Strategic Plan should take into consideration the evolution of societal and economic needs of Members, relevant international initiatives and the challenges of climate variability and change, and evolving budget structure;

(ii) The clarity of priority should be improved to avoid the situation where a priority is also an expected result, as is the case for capacity development, and the number of priorities should be managed;

(iii) The formulation of Expected Results should be improved to make them measurable;

(iv) There should be clarity of the targeted audience to improve the focus of the message in the Strategic Plan; and

(v) The Strategic Plan should be as concise as possible.

[1] http://library.wmo.int/pmb_ged/wmo_1157_en.pdf

2. **Global Context**

The Sendai Framework for Disaster Risk Reduction 2015-2030
http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf

(c) The Sendai Framework for Disaster Risk Reduction 2015-2030 adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015 is aimed to achieve, in 15 years, substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. It targets, among other achievements, to substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

(d) It also recognizes the need to support, as appropriate, the efforts of relevant United Nations entities to strengthen and implement global mechanisms on hydrometeorological issues in order to raise awareness and improve understanding of water-related disaster risks and their impact on society, and advance strategies for disaster risk reduction upon the request of States; and to promote the further development of and investment in effective, nationally compatible, regional multi-hazard early warning mechanisms, where relevant, in line with the Global Framework for Climate Services, and facilitate the sharing and exchange of information across all countries, among other issues.

(e) The Disaster Risk Reduction Roadmap for WMO presents WMO activities in support of DRR and the implementation arrangements.

Transforming our world: the 2030 Agenda for Sustainable Development – Sustainable Development Goals
https://sustainabledevelopment.un.org/post2015/transformingourworld

(f) The world leaders resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet; and expressed their determination to take the bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path. The vision of the world leaders include a world free of poverty, hunger, disease and want, where all life can thrive; a world free of fear and violence; a world with universal literacy; a world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social well-being are assured; a world where we reaffirm our commitments regarding the human right to safe drinking water and sanitation and where there is improved hygiene and where food is sufficient, safe, affordable and nutritious; and a world where human habitats are safe, resilient and sustainable and where there is universal access to affordable, reliable and sustainable energy. The following are the UN Sustainable Development Goals:

Goal 1. End poverty in all its forms everywhere
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3. Ensure healthy lives and promote well-being for all at all ages
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5. Achieve gender equality and empower all women and girls
Goal 6. Ensure availability and sustainable management of water and sanitation for all
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12. Ensure sustainable consumption and production patterns
Goal 13. Take urgent action to combat climate change and its impacts
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

EC-68 decided, as the basic actions that WMO needs to carry out to implement its Strategic Plan are fully aligned with what WMO needs to do to support the SDGs, that WMO will anchor WMO expertise within the UN system; support national integrated action plans; develop new partnerships; strengthen the regional approach; raise high-level political visibility; and engage high-level independent advisors (Decision 70 (EC-68)).

(g) **Istanbul Pogramme of Action (IPoA)** http://unohrlls.org/about-ldcs/istanbul-programme-of-action/

The Istanbul Programme of Action (IPoA) charts out the international community's vision and strategy for the sustainable development of LDCs for the Decade 2011-2020 with a strong focus on developing their productive capacities. The IPoA recognizes that LDCs represent an enormous human and natural resource potential for world economic growth, welfare and prosperity and that addressing their special development needs will contribute to the cause of peace, prosperity and sustainable development for all. The overarching goal of the IPoA is to overcome the structural challenges faced by the LDCs in order to eradicate poverty. It focuses on reducing vulnerabilities of LDCs and addresses new challenges to development including the effects of the interlinked food, fuel and economic crises and climate change, with a strong focus on structural transformation through increasing productive capacity.

Conference of the Parties, Twenty-first session, Paris, 30 November to 11 December 2015 http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

(h) The Parties to the UNFCCC at COP 21 in Paris recognized that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions; agreed to uphold and promote regional and international cooperation in order to mobilize stronger and more ambitious climate action by all Parties and non-Party stakeholders, including civil society, the private sector, financial institutions, cities and other sub-national authorities, local communities and indigenous peoples and welcomed the nationally determined contributions to address climate change.

(i) The Paris Agreement brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. (http://bigpicture.unfccc.int/#content-the-paris-agreement) EC-68 decided on key contributions of WMO to the Paris Agreement (Resolution 1 (EC-68)).

Small Island Developing States (SIDS) Accelerated Modalities Of Action [S.A.M.O.A.] Pathway http://www.sids2014.org/index.php?menu=1537

(j) The Heads of State and Government and high-level representatives, at the third International Conference on Small Island Developing States held in in Apia from 1 to 4 September 2014, reaffirmed their commitment to the sustainable development of small island developing States.

(k) Cg-17 established the Programme for WMO Small Island Developing States and Member Island Territories, with the long-term objectives of: (a) implementing concrete, focused, forward-looking initiatives that contribute to the implementation of the SAMOA Pathway priority areas and sustainable development in the WMO SIDS and Member Island Territories; and (b) ensuring that the National Meteorological and Hydrological Services of WMO SIDS and Member Island Territories can contribute effectively to sustainable development programmes within their countries including through genuine and durable partnerships (Resolution 54 (Cg-17)).

Building new partnerships

(l) Cg-17 (paragraph 9.5.1-9.5.6) reviewed the present WMO partnership arrangements with a wide variety of partners including UN bodies, non-UN intergovernmental organizations, NMHSs, bilateral donor agencies, research institutes, academia, foundations and the media. Congress considered the possibilities offered to WMO should the Organization become more active in, and leverage the synergies created by, various new forms of partnership. Congress noted that many UN organizations are engaged in public-private partnerships, and that international best practices and standards are being developed to govern public-private partnerships in support of UN development objectives, in particular, as follow-up to the International Private-Public Partnerships Summit (15–16 September 2006, Ankara, Turkey) held under the auspices of the UN Global Compact. Congress, cognizant of the premature nature of that issue, given the relevance of the matter of "new partnerships", entrusted the Executive Council to explore the issue in greater depth, in particular the associated benefits, obligations and risks. Congress also entrusted the Executive Council to guide the Secretary-General in engaging WMO as a participant or member in alliances, coalitions, initiatives and public-private partnerships.

Future role of the private sector in meteorology

(m) EC-68 held a special dialogue on the complementary and cooperative contributions of public and private sector institutions to meteorology and hydrology with the participation of private sector representatives. It considered key issues to address in developing policy and guiding principles for public-private engagement in the weather enterprise as outlined and decided to develop a Strategy for Public-Private Partnership for the next 15 years. It requested the President of WMO and presidents of regional associations to lead the development of the Strategy, in consultation with the broader WMO community, for the consideration by EC-69.

Advances in Technology

(n) Some of the issues identified by Cg-17 related to advances in technology include:

(i) Having the required scientific, technological and human resources capabilities to monitor, forecast and issue warnings of severe weather and extreme climate events and to fulfil WMO priorities;

(ii) Understanding and integrating the needs of various user communities, including emergency management authorities, into forecasts and warning programmes;

(iii) Ability to provide quick, timely, accurate, broadly disseminated and understandable information as well as high quality services to inform governments and the public;

(iv) Participation and access to research that leads to improved monitoring, predictions and understanding of the changes in weather, climate, water and the related environmental conditions at all spatial and temporal scales;

(v) Building new partnerships with academia, government departments, international and non-governmental organizations, and where appropriate and possible, the private sector and civil society;

(vi) Gathering, storing and exchanging 'Big Data', the collection and sharing of crowd-sourced data, working with information through social media channels;

(vii) ICAO Global Air Navigation Plan (GANP) and related Aviation System Block Upgrades (ASBU); and

(viii) Implementation of WIS and WIGOS.

Global Economic Trends

(o) The world economy is volatile. The World Bank indicated in its report in January 2016 that the global growth slowed down to 2.4 percent in 2015, and was expected to recover at a slower pace than previously envisioned. It projected the growth to reach 2.9 percent in 2016, as a modest recovery in advanced economies continued and activity stabilized among major commodity exporters. Forecasts are subject to substantial downside risks. A more protracted slowdown across large emerging markets could have substantial spill-overs to other developing economies, and eventually hold back the recovery in advanced economies. (The Global Economy, http://www.worldbank.org/en/publication/global-economic-prospects).

(p) The NMHSs continue to experience increasing budget pressure, which will influence their levels of investments to sustain infrastructure, competence of personnel and improve services.

UN-Water Vision 2050-- Water in a sustainable world

(q) By 2050, humanity has to achieve a water secure world, where every person has access to adequate quantities of water of an acceptable quality and from sustainable sources, to meet their basic needs and sustain their well-being and development. (http://unesdoc.unesco.org/images/0023/002318/231823E.pdf)

International Air Transport Association (IATA) 20 year Passenger Forecast

(r) The International Air Transport Association (IATA) 20 year Passenger Forecast released in 2014 forecasted the trend by 2034. It projected that passenger numbers were expected to reach 7.3 billion by 2034. China was projected to overtake the US as the largest passenger market by 2030; and by 2034 the five fastest-increasing markets in terms of additional passengers per year would be China and Indonesia, and the eight of the ten fastest-growing markets in percentage terms would be in Africa with the Central African Republic, Madagascar, Tanzania, Burundi and Kuwait making up the five fastest-growing markets. (http://www.iata.org/publications/Pages/20-passenger-forecast.aspx)

(s) Some of the regions that are projected to have a significant increase in passengers have limited observation networks, which have a significant effect on aviation services generated from the global general circulation models.

Challenges in the provision of aviation meteorological services

(t) The world of aeronautical meteorological service delivery is changing and many of the developing and smaller nations are finding it increasingly difficult to keep up with the pace of technology and change.

(u) EC-68 recognized specific challenges related to: (a) implementation by Members of the WMO requirements for the qualification of the aeronautical meteorological forecasters (AMF) which will become a standard practice as of 1 December 2016; (b) the urgent need to raise greater awareness of the evolving aeronautical meteorological services in accordance with the ICAO Global Air Navigation Plan (GANP) and its Aviation System Block Upgrades (ASBU) methodology accompanied with impact analysis on Members' aeronautical meteorology programmes; (c) the development, in cooperation with ICAO, of new provisions for aeronautical meteorological services and the new two-year cycle adopted by ICAO for the amendments of ICAO Annex 3, Meteorological Service for International Air Navigation and subsequent amendments to the WMO Technical Regulations, Volume II; (d) the need for improvement of the WMO guidance material supporting the implementation of the international regulatory framework for the provision of meteorological service to international air navigation; the need for developing national, sub-regional and regional plans based on the new requirements for aeronautical meteorological services stemming from the GANP and ASBU; (e) the need to address the long-standing issues related to the development of effective cost-recovery mechanisms, in particular for the LDCs and SIDS; and (f) the on-going review of the Working Arrangements with the ICAO.

Marine transport and trade trends

(v) The International Union on Maritime Insurance (IUMI) reports that in 2016, total world shipping trade amounted to $25 trillion USD. Marine insurance premium exposure for the marine industry stood at $32 Billion USD. The Lloyds List analysed trends in Total Shipping Losses for vessels over 500 gross tonnes from 2000 to 2014, and identified an increasing trend in the proportion of losses that are weather related, rising from 30% (2001-2005) to 45% during the period 2010-15. The IUMI are monitoring marine industry issues related to polar risks, new technology, navigation, climate change, and increasing risk exposure. There have been significant changes to dissemination channels for marine services, such as in satellite and radio dissemination within the GMDSS. (http://www.iumi.com/committees/facts-a-figures-committee/statistics)

The WCRP approves new Grand Challenges
http://public.wmo.int/en/media/news/world-climate-research-programme-approves-new-grand-challenges-near-term-climate

(w) The thirty-seventh session of the World Climate Research Programme (WCRP) Joint Scientific Committee (JSC) (25-27 April 2016, Geneva, Switzerland), approved two new 'Grand Challenges' focusing on climate-carbon interactions and on climate prediction on time scales from years to decades. In addition to these new foci, WCRP has Grand Challenge projects underway on clouds, sea level change, extreme weather events, water availability and melting ice.

World Population Prospects, The 2015 Revision, United Nations, New York, 2015
https://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf

(x) According to the results of the 2015 Revision, the world population reached 7.3 billion as of mid-2015, implying that the world has added approximately one billion people in the span of the last twelve years. Sixty per cent of the global population lives in Asia (4.4 billion), 16 per cent in Africa (1.2 billion), 10 per cent in Europe (738 million), 9 per cent in Latin America and the Caribbean (634 million), and the remaining

5 per cent in Northern America (358 million) and Oceania (39 million). China (1.4 billion) and India (1.3 billion) remain the two largest countries of the world, both with more than 1 billion people, representing 19 and 18 per cent of the world's population, respectively. The world population is projected to increase by more than one billion people within the next 15 years, reaching 8.5 billion in 2030, and to increase further to 9.7 billion in 2050 and 11.2 billion by 2100.

World Urbanization Prospects, The 2014 Revision, United Nations, New York, 2014
https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Highlights.pdf

(y) Globally, more people live in urban areas than in rural areas, with 54 per cent of the world's population residing in urban areas in 2014. In 1950, 30 per cent of the world's population was urban, and by 2050, 66 per cent of the world's population is projected to be urban.

(z) The most urbanized regions include Northern America (82 per cent living in urban areas in 2014), Latin America and the Caribbean (80 percent), and Europe (73 per cent). In contrast, Africa and Asia remain mostly rural, with 40 and 48 per cent of their respective populations living in urban areas. All regions are expected to urbanize further over the coming decades. Africa and Asia are urbanizing faster than the other regions and are projected to become 56 and 64 per cent urban, respectively, by 2050.

(aa) A summary of political, economic, socio-cultural, technological, legal, and environmental (PESTLE) factors to consider in the preparation of WMO Strategic Plan 2020-2023 is provided in the table below.

PESTLE ANALYSIS	
Political Factors	**Economic Factors**
• International, regional and national decisions on development paths and areas for action (e.g. Congress decisions on WMO priorities, UN SDGs, COP 21, Sendai Framework for Action on DRR, S.A.M.O.A pathway, Istanbul Programme of Action, regional strategies and national development policies) • Government decisions on funding levels • Bureaucracy and tax policy (rates and incentives) • Import restrictions (quality and quantity) • Government involvement in trade unions and agreements • Consumer protection and e-commerce	• The risk of losing vital revenues from the aviation sector with potential negative impacts on the sustainability of national infrastructures and availability of core meteorological data as a result of operating in a future highly competitive service delivery environment • Implementing cost recovery policies • Volatile global economy • Budget cuts implemented by governments • Changes in the cost of implementing and operating meteorological and hydrological infrastructure • Economic growth, and inflation, interest, and exchange rates • Projected increase in aviation passenger numbers • Unemployment trends • Credit availability • Level of consumers' disposable income and, monetary and fiscal policies • Price fluctuations

Socio-cultural Factors	Technological Factors
• Population safety and security, water and food security, and sustainable development, increasing prosperity, enhancing resilience to disasters and climate change, and improving public health • Climate change adaptation and mitigation • Growing urbanization and the expansion of human habitation into previously unoccupied high risk places • Growing demand for high quality services • Rapidly changing needs of users • Population growth and demographic changes • Attitudes toward meteorological and hydrological services	• Having the required scientific, technological and human resources capabilities to monitor, forecast and issue warnings of severe weather and extreme climate events and to fulfil WMO priorities • Understanding and integrating the needs of various user communities, including emergency management authorities, into forecasts and warning programmes • Ability to provide quick, timely, accurate, broadly disseminated and understandable information as well as high quality services to inform governments and the public • Participation and access to research that leads to improved monitoring, predictions and understanding of the changes in weather, climate, water and the related environmental conditions at all spatial and temporal scales • Building new partnerships with academia, government departments, international and non-governmental organizations, and where appropriate and possible, the private sector and civil society • Gathering, storing and exchanging 'Big Data', the collection and sharing of crowd-sourced data, working with information through social media channels • ICAO Global Air Navigation Plan (GANP) and related Aviation System Block Upgrades (ASBU) • An increase in aviation passenger numbers to 7.3 billion by 2034, with significant increase in developing and least developed countries • Ability of WMO and NMHSs to adapt to a service delivery model influenced by the advances in information technology • Implementation of WIS and WIGOS
Legal Factors	**Environmental (ecological) Factors**
• The legal status of an NMHS and its mandate • Meeting standards for meteorological and hydrological services • Data sharing and management policies • Environmental, employment, education, anti-trust, discrimination, and copyright, patents / Intellectual property law • Competition laws • Consumer protection and e-commerce • Health and safety laws	• Climate change • Desertification, land degradation, heatwaves, floods, drought, sea-level rise and regional impacts • Increased occurrence of severe weather and extreme climate events and associated impacts • Laws regulating and protecting the environment

(bb) The results of WMO Stakeholder Survey conducted in April/May 2016):

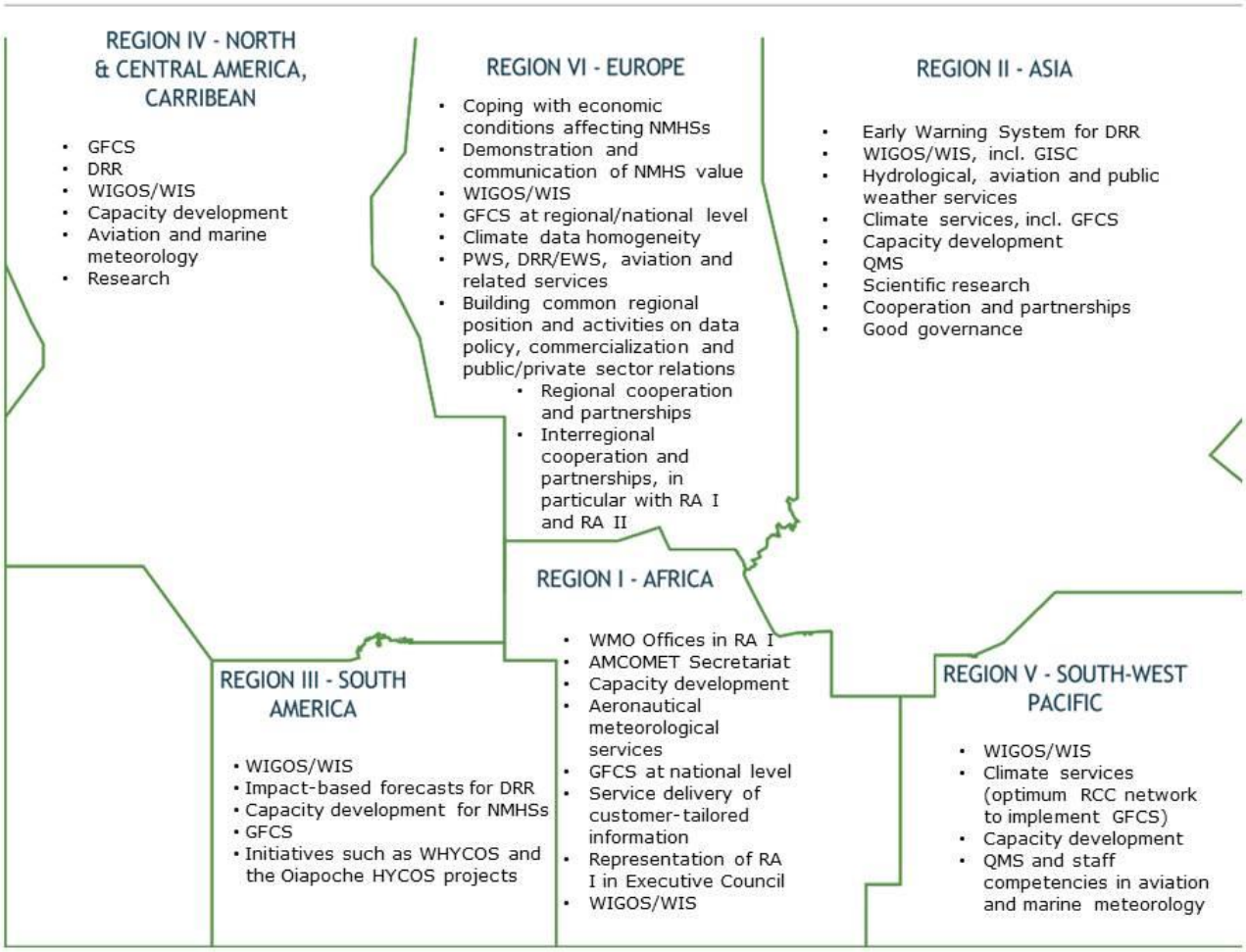
(i) The Member States (or more accurately, their Permanent Representatives with WMO) considered that the activities of WMO are of real value to its members;
(ii) There was no call for a major change of direction or for activities to be discontinued; the requests were for more activities in the areas already being tackled and some new activities;
(iii) The general feeling appears to be that more could be achieved through more efficient governance structures and better processes;
(iv) A high opinion was evident of the WMO staff, although some frustration with delayed responses to queries was expressed;
(v) The gap in capability between the developed Member States and the least developed ones came through as a well-recognized problem for the Organization and there is a strong desire on the part of the entire membership to reduce the gap;
(vi) The resource constraints of WMO (both financial and human) were recognized widely as a main factor in inhibiting achievement of the Organization's objectives, while on the other hand, lack of resources and capacity at national level was seen as the major handicap in attaining full benefit from WMO's activities;
(vii) The level of frustration at the lack of ability to engage effectively with WMO Programmes and meetings and to realize benefit at national level was particularly evident among the LDCs and SIDS. Among the suggestions made to help in this regard was more use of pairing arrangements between more developed countries and LDC/SIDS;
(viii) Complexity in the structure (and substructure) of the Constituent Bodies, and in the style of documentation, was seen as a barrier to greater effectiveness and to more successful engagement of the Member State personnel in the sessions and programmes. It would seem that there is an appetite for change in this area with an expectation of greater efficiency and effectiveness; and
(ix) The insufficient level of recognition of the huge contribution that WMO provides to global strategic programmes is acknowledged, as is the poor level of awareness of WMO at national level (outside of the NMHSs and relevant experts). Enhancement of recognition of WMO could benefit the NMHSs.

A summary of strengths, weaknesses, opportunities and threats identified by the Stakeholders are presented in the table below.

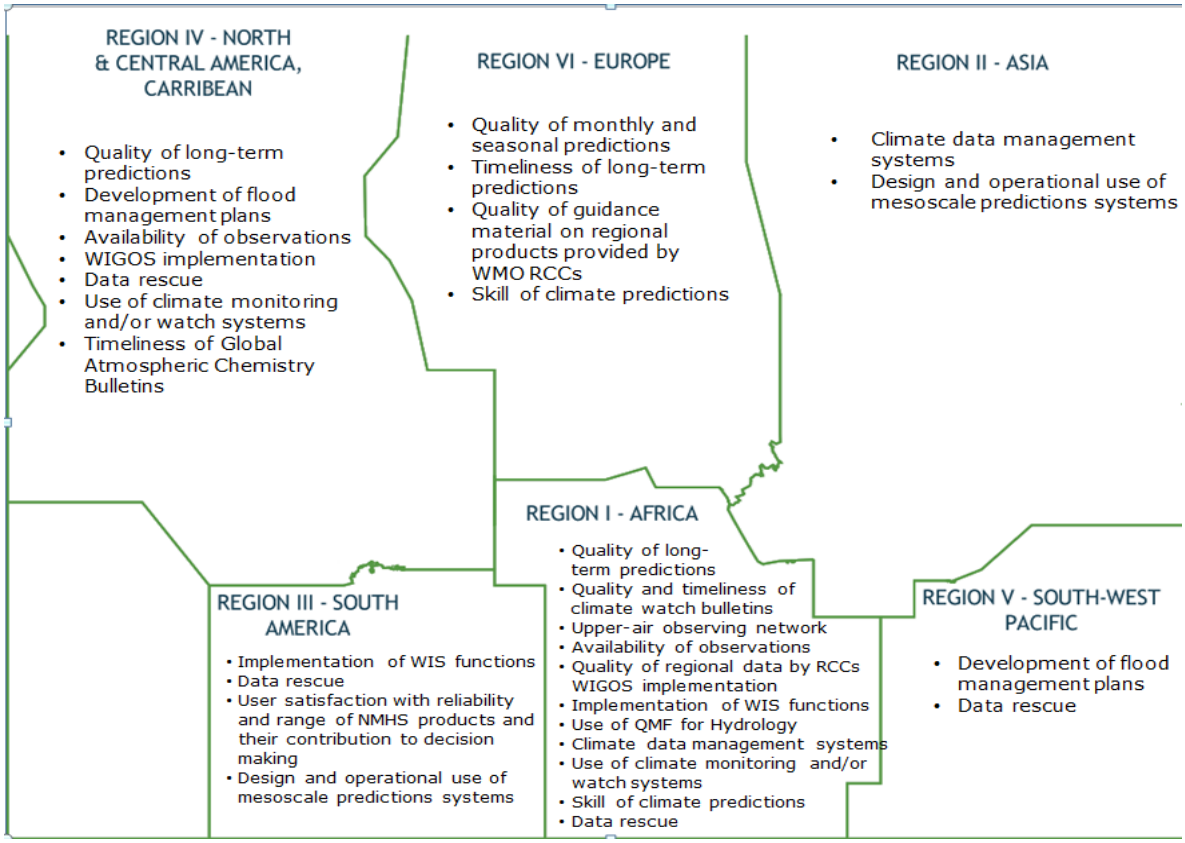
STRENGTHS	**WEAKNESSES**
1. WMO is an Organization with a global reach and a very large membership. 2. It has staff with considerable expertise and experience. 3. Throughout the membership of the Organization there is an excellent spirit of cooperation. 4. It enjoys huge success in arranging the exchange of large quantities of data across the globe, much of it in real-time. 5. It coordinates a very large number of valuable activities that yield enormous benefits. 6. It devises and promulgates standards that ensure high quality and consistent practices in its Member States and Territories. 7. Through its capacity development activities it supports and enhances	1. WMO organizational structures are complex and unwieldy. 2. Financial and human resources are very stretched in view of the large amount of activities. 3. The Organization is too bureaucratic, resulting in inefficiency. 4. The recognition accorded to WMO in major global initiatives is low, as is the awareness of the Organization at national level outside of the NMHSs. 5. There is slow implementation of key activities (e.g. GFCS, WIGOS). 6. The Organization's ability to adapt to new challenges is inadequate. 7. There is an unequal state of development within the membership and inadequate mechanisms to reduce gaps. 8. The value of WMO activities to

STRENGTHS	**WEAKNESSES**
weather, climate and hydrological services all over the world.	operational hydrology is less than desirable in the eyes of the hydrological community. 9. LDCs and SIDS are not supported to the level that they require.
OPPORTUNITY	**THREATS**
1. The challenge of climate change presents opportunities for the science based expertise of WMO and its Members. 2. Advances in science and technology can improve services and societal benefits. 3. New demands for services in weather, climate and hydrology can help demonstrate the value of WMO and the NMHSs. 4. Further implementation of the GFCS can enhance the benefits it brings. 5. The global profile of disaster risk reduction and the development of the WMO role present opportunities. 6. Efficiencies can be created through organizational reform. 7. Strengthening and widening of partnerships of all kinds can benefit WMO.	1. There is a proliferation of private sector weather providers, some with low quality products, threatening the authority and visibility of NMHSs. 2. There is continued pressure on WMO and Member State budgets and human resources. 3. Political and economic instability in some Member States and Territories could be a major problem. 4. Competition from other global or regional organizations with overlapping mandates could pose a possible threat. 5. Pressure on NMHSs role in aviation could arise because of external developments. 6. WMO and the NMHSs could struggle to adapt to changing technology. 7. Trying to respond to too many initiatives could lead to a loss of focus on core WMO activities.

(cc) **Priorities of Regional Associations for the period 2016-2019** (Details are provided in the Appendix)



(dd) **Areas for improvement by Region based on the results of the surveys on impacts of achieved results conducted during the period 2012-2015**.



TEMPLATE FOR PROVIDING INPUTS FOR WMO STRATEGIC PLAN 2020-2023

ELEMENTS OF STRAGIC PLAN FOR REVIEW

Global Societal Needs (GSNs)

3. The Global Societal Needs (GSNs) represent the shared societal needs identified by Members of WMO to be addressed, within the mission of WMO, through a set of strategic directions represented by priorities. They form the basis for the strategic direction of WMO in a financial period. When providing inputs on GSNs, the RAs and TCs are requested to take into consideration the various issues presented in this document. Please note that the SDGs, Sendai Framework for DRR, and focus on climate change were integrated in the GSNs as currently defined in the WMO SP 2016-2019.

4. Cg-17 agreed that the Global Societal Needs (GSNs) identified by the Organization based on post-2015 sustainable development goals, and which form the solid basis for the Strategic Plan for the period 2016–2019 and the Expected Results (ERs), represent relevant issues and directions that could still influence the focus of the Organization beyond the period 2016–2019, and should form the basis for the WMO Strategic Plan for the period 2020–2023.

GSNs 2016-2019	Proposed GSNs 2020-2023	Remarks/comments
Improved protection of life and property		
End poverty, ensure sustainable resilient livelihoods, food security,		

GSNs 2016-2019	Proposed GSNs 2020-2023	Remarks/comments
sustainable access to water and energy, healthy lives, gender equality and economic growth, and combat climate change		
Sustainable use of natural resources and improved environmental quality		

Organization-wide priorities

5. The Organization-wide priorities should aim at addressing the GSNs to achieve expected results. The decisions of Congress and Executive Council presented in paragraph 1 together with the issues and information presented in paragraph 2 above should be taken into consideration when proposing the Organization-wide priorities for the period 2020-2023.

Organization-wide Priorities		
Priorities 2016-2019	**Proposed priorities 2020-2023**	**Comments**
Disaster risk reduction: Improve the accuracy and effectiveness of impact-based forecasts and multi-hazard early warnings of high-impact meteorological, hydrological and related environmental hazards from the tropics to the poles, thereby contributing to international efforts on disaster risk reduction, resilience and prevention, in particular in response to the risks associated with increasing population exposure		
Global Framework for Climate Services: Implement climate services under the GFCS particularly for countries that lack them by: (i) establishing regional climate centres; (ii) identifying user requirements for climate products; (iii) developing the Climate Services Information System; and (iv) advancing the subseasonal to seasonal prediction skill		
WMO Integrated Global Observing System: Strengthen the global observing systems through full implementation of WIGOS and WIS for robust, standardized, integrated, accurate and quality assured relevant observations of the Earth system to support all WMO priorities and Expected Results		

Organization-wide Priorities		
Priorities 2016-2019	**Proposed priorities 2020-2023**	**Comments**
Aviation meteorological services: Improve the ability of NMHSs to provide sustainable high-quality services in support of safety, efficiency and regularity of air traffic management worldwide, with due account to environmental factors by: (i) accelerating the implementation of ICAO/WMO competency and qualification standards and quality management systems; (ii) addressing emerging requirements and challenges related to the 2013–2028 Global Air Navigation Plan, in particular concerning ICAO Block 1 Upgrades; and (iii) strengthening the sustainability and competitiveness of aeronautical meteorological service provision through improved cost recovery mechanisms and suitable business models for service delivery frameworks		
Polar and high mountain regions: Improve operational meteorological and hydrological monitoring, prediction and services in polar and high-mountain regions and beyond by: (i) operationalizing the Global Cryosphere Watch; (ii) better understanding the implications of changes in these regions on the global weather and climate patterns; and (iii) advancing the polar prediction under the Global Integrated Polar Prediction System		
Capacity development: Enhance the capacity of NMHSs to deliver on their mission by developing and improving competent human resource, technical and institutional capacities and infrastructure, particularly in developing and least developed countries and Small Island Developing States		
WMO Governance: Improve efficiency and effectiveness of WMO by adopting continuous improvement measures and recommendations based on a strategic review of WMO structures, operating arrangements and budgeting practices		

Priorities for the Regions

6. The priorities for the Regions for the period 2020-2023 proposed by RAs should focus on their unique needs and those of the Organization. You may wish to refer to the PRAs reports on remaining challenges and priorities for the Regions presented at EC-68 in EC-68/INF. 2.3 available at: https://drive.google.com/file/d/0B8DhC1GSWSmxYTI2WVZ4cVB5Wkk/view, the issues identified through the surveys on impacts of achieved results, stakeholder surveys and results of SWOT and PESTLE analyses together with the 2016-2019 regional priorities as presented in the regional map and listed in the Appendix to this paragraph.

Proposed regional priorities for 2020-2023	
Priorities for the Region	**Comments /Clarifications**

Expected Results

7. The concern raised over the years has been that the Expected Results are not measureable. You may wish to propose any improvements**.**

The review of Expected Results should take into consideration the decisions of Cg-17 and EC-68.		
ERs 2016-2019	**Proposed ERs 2020-2023**	**Comments**
ER1. Improved service quality and service delivery. *Enhanced capabilities of Members to deliver and improve access to high-quality weather, climate, hydrological and related environmental predictions, information, warnings and services in response to users' needs and to enable their use in decision-making by relevant societal sectors.*		
ER2. Reduced disaster risk. *Enhanced capabilities of Members to reduce risks and potential impacts of hazards caused by weather, climate, water and related environmental elements.*		
ER3. Improved data-processing, modelling and forecasting. *Enhanced capabilities of Members to produce better weather, climate, water and related environmental information, predictions and warnings to support, in particular, reduced disaster risk and climate impact and adaptation strategies.*		
ER4. Improved observations and data exchange. *Enhanced capabilities of*		

The review of Expected Results should take into consideration the decisions of Cg-17 and EC-68.		
ERs 2016-2019	**Proposed ERs 2020-2023**	**Comments**
Members to access, develop, implement and use integrated and inter-operable Earth- and space-based observation systems for weather, climate and hydrological observations, as well as related environmental and space weather observations, based on world standards set by WMO.		
ER5. Advance targeted research. *Enhanced capabilities of Members to contribute to and draw benefits from the global research capacity for weather, climate, water and related environmental science and technology development.*		
ER6. Strengthened capacity development. *Enhanced capabilities of Members' NMHSs, in particular in developing and least developed countries and Small Island Ddeveloping States, to fulfil their mandates.*		
ER7. Strengthened partnerships. *New and strengthened partnerships and cooperation activities to improve NMHSs' performance in delivering services and to demonstrate the value of WMO contributions within the United Nations system, relevant regional organizations, international conventions and national strategies.*		
ER8. Improve efficiency and effectiveness. *Ensured effective functioning of policy making and constituent bodies and oversight of the Organization.*		

Appendix: 1

Appendix

REGIONAL PRIORITIES

RA I

- Strengthening capacity of the WMO Offices in the Region in order to serve Members more effectively;
- Strengthening the AMCOMET Secretariat;
- Capacity Development (Human Capital, Infrastructure Development, Institutional transformation of NMHSs into autonomous entities);
- Aeronautical Meteorological Services for the Aviation Industry;
- Global Framework for Climate Services (GFCS) at the national level;
- Service delivery of customer tailored information;
- Representation of RA I in the Executive Council: Increase the number of seats for RA I (Africa) from 9 to 10 based on the number of Members;
- WIGOS/WIS implementation.

RA II

- **Improvement of Early Warning System (EWS) for Disaster Risk Reduction (DRR)** to meet the increasing demands for effective and more accurate location- and time-specific forecasts for stakeholders to issue early warning and render emergency services;
- **Implementation of WIGOS and WIS including GISC** to maintain and improve real-time observing systems including META data, the quality and quantity of observations (particularly in mountains, deserts and oceans), improve communication and information sharing, telecommunication and IT infrastructures and database management, regional and national implementation of WIGOS;
- **Enhancement of hydrological, aviation and public weather services** for the development of the capacity for adequate services in support of public weather services, aviation, and hydrology, including nowcast, short- and medium-range forecasts;
- **Strengthening of climate services including GFCS** for improved climate services including climate change, variability and prediction services; and the implementation of GFCS at national and regional levels;
- **Capacity development** in terms of budget and staffing resource deficiencies, education and training needs, twinning of experts and modeling such as NWP;
- **Improvement of Quality Management System (QMS)** in terms of training and education in support of implementation of personnel qualification, competency and QMS to leverage cost-recovery systems to improve aviation services;
- **Enhancement of scientific research** including joint research in meteorological observing systems, satellite meteorology, radar meteorology, data assimilation, atmospheric and oceanic processes, modelling and climate change;
- **Enhancing cooperation and partnerships** to improve the provision of meteorological services, outreach to the community, encouraging engagement with local/national/regional governments, raising the effectiveness and efficiency of meteorological activities, building consensus on issues like data policy, commercialization and public/private sector relationships, etc.; and
- **Strengthening good governance** including legal and technical regulations, developing and/or strengthening standard operating procedures SOP.

RA III

- WIGOS/WIS ;
- Impact-based forecasts for DRR;
- Capacity development for NMHSs;
- GFCS matters;
- Initiatives such as WHYCOS and the Oiapoche HYCOS projects.

RA IV

Many of the key priorities for 2016–2019 are continuing from the previous period and are based on the regional consensus:

- GFCS: There should be a focus on the technological transfer of climate research and know-how into services that benefit users as well as other partners and stakeholders that are critical to the delivery of effective climate services. Special attention should be accorded to the establishment of effective networks of Regional Climate Centres;
- DRR: Partnerships with national and regional stakeholders to identify evolving hydrometeorological and climate risks and develop appropriate, cost-effective, sustainable solutions and mechanisms to reduce these risks will be key to the DRR agenda;
- WIGOS: WIGOS implementation should remain as an ongoing priority activity, including its implications for WIS and the resulting evolution and ongoing maintenance requirements for the WIS platform;
- Capacity development: There should be a continued focus on capacity-building in Small Island Developing States (SIDS) and least developed countries (LDCs);
- Aviation and marine meteorology: Continuous and sustained attention will be required to meet the needs of these important sectors, particularly in terms of ongoing implementation and maintenance of quality management systems and human resource competencies and in light of the trend towards regionalization of services;
- Research: Special attention should be accorded to technological transfer of research into products and services that contribute to key outcomes. Critical areas in this regard are seamless prediction on all timescales and research related to polar and coastal zones.

RA V

Future priorities:

- Implementation of WIGOS and WIS;
- Capacity-building;
- Enhancement of Hydrological and Meteorological Services;
- Strengthening of Regional Climate Services (RCC and N-RCOF);
- Strengthening of SWFDP and CIFDP;
- Implementation and maintenance of QMS;
- Improvement of service delivery;
- Enhancement of partnership.

The Association, during its sixteenth session in Jakarta, Indonesia, 2-8 May 2014, discussed and agreed on the following four priorities for the Region for the period 2016-2019:

- Maintenance and improvement of observations and telecommunications networks at the regional and national level through completion of the implementation of WIS and WIGOS;
- Delivery of improved climate services through the establishment of the optimum network of RCCs to sustainably implement the GFCS;
- Implement effective education and training programmes that build the capability of NMHSs in resource management, advocacy and outreach, and NWP utilization;
- Achievement by all Members of the standards required for Quality Management and staff competencies, with a focus on aviation and marine meteorology.

RA VI

Many of the key priorities for 2016– 019 are continuing from the previous period and are based on the regional consensus, output of the sixteenth RA VI session:

- Coping with issues related to the economic conditions affecting the NMHSs;
- Demonstration and communication of the value of the NMHSs to decision-makers/ Government;
  High importance in the current economic conditions
- Implementation of WIGOS and WIS - paricularly focusing on the:
  - ✓ *maintenance* and *improvement* of the *observing systems;*
  - ✓ *quality* of *observations;*
- Enhancement of Climate Services - implementation of GFCS at regional and national level;
- Securing climate data homogeneity in the transition process from *conventional* to *automatic* meteorological station performance;
- Enhancement of services: PWS, DRR / EWS, aviation and related services;
- Building common regional position and activities on data policy, commercialization and public/private sector relationships;
- Enhancement of regional cooperation and partnership with:
  - ✓ EMI entities *(EUMETSAT, EUMETNET, ECMWF, ECOMET)* and European Commission*,* in particular related to the:
    - INSPIRE and PSI Directive;
    - Copernicus;
    - Horizon 2020;
  - ✓ EUROCONTROL;
  - ✓ ICH/CIS on the harmonization with EMI entities (MI of RA VI);
- Enhancement of interregional cooperation and partnership, in particular with RA I and RA II.

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