

Systematic Observations Financing Facility

Collaborative thinking workshop
**Workshop outcomes
and the way ahead**

February 25-26 2020, Offenbach, Germany

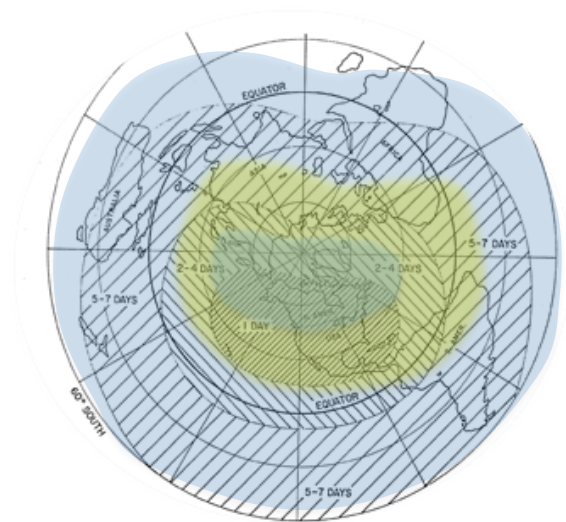


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1. Summary of workshop outcomes

- **There is a broken piece of the “weather machine” that needs to be fixed urgently: missing basic observation from developing countries.** Surface-based observations are essential to better respond to extreme weather and climate change. Yet, most developing countries have major difficulties in ensuring sustained observations, severely limiting efforts towards early action and effective resilience to climate change across the globe. Despite massive development and climate finance investments, the situation is getting worse.
- **The Global Basic Observing Network (GBON)¹ offers a unique opportunity to substantially improve the observational basis for foundational weather and climate services for all nations.** The GBON concept, approved by the World Meteorological Congress in June 2019, for the first time defines the minimum density and temporal frequency of globally required surface-based observations. At COP25, the Subsidiary Body for Scientific and Technological Advice (SBSTA) welcomed the development of the GBON and re-emphasized the need for sustained funding to meet the essential needs for global climate observation.
- **There is no way to achieve GBON compliance in developing countries without a game-changing financing model** that ensures equitable, predictable and sustainable finance in a prioritized manner. The current financing model assumes that country observations are purely a national obligation; failing to recognize the global public good of such observations, and the limited fiscal space of developing countries to cover the annual operational costs which cannot be covered by international development and climate finance.
- **The Systematic Observations Financing Facility (SOFF) will address the fundamental mismatch between today’s country-based financing of basic observations and the global public good value of these observations.** It will provide long-term support to developing countries - beyond today’s nationally focused, fragmented and time-bound projects - for achieving and maintaining GBON compliance and data-sharing while monetizing its global value through performance-based financing.
- **Creating the SOFF requires a concerted effort of major development and climate finance partners as well as the private sector.** Development and climate finance partners and representatives from insurance sector initiatives committed to supporting the design and establishment of the SOFF and corresponding resource mobilization efforts.
- **Participants agreed to establish multi-partner working groups to further flesh out critical elements of the SOFF concept.** The groups will deliver their work ideally ahead of the WMO Executive Council, expected to take place in September 2020.
- **Given the foundational importance of fixing the broken piece of the “weather machine”, participants recognized the need to speedily establish the SOFF,** with the requirement to announce its development at COP26 and launch it at the latest at COP27.

¹ <https://www.wmo.int/pages/prog/www/wigos/documents/GBON/GBON-exsummary.pdf>

2. Workshop setting

- **The SOFF journey so far.** The workshop built on the outcomes of a series of milestones in developing the SOFF (see *Annex 14 – the SOFF journey*), including a first workshop held in Geneva in July 2019 where participants mapped out elements of an initial concept for an innovative financing facility.²
- **Workshop objectives.** The objectives of the workshop were to (i) further advance the concept and design of the SOFF, and to (ii) establish a multi-partner team with the mandate to further engage with stakeholders including on financing options for the SOFF (see *Annex 2 and 3 - workshop concept note and agenda*).
- **Workshop host and participants.** The workshop was hosted by the WMO President, Prof. Dr. Gerhard Adrian, and brought together 45 participants from 15 development and climate institutions including the members of the Alliance for Hydromet Development,³ six insurance umbrella organizations, and senior representatives from the WMO community including three Presidents of WMO Regional Associations and the WMO Assistant Secretary-General (see *Annex 4 – workshop participants*).

3. The importance of fixing the broken piece of the “weather machine”

- **GBON value for the “weather machine”.** Surface-based observations are fundamental to realize the full value and benefits of the other pieces of the “weather machine” such as satellites and supercomputers (see *Annex 7: The foundational role of observations. Why do we need data from everywhere?*).
- **GBON value across all time ranges – from short term weather forecasts to seasonal forecasts to climate projections.** Achieving GBON compliance across the globe will improve forecasts and climate projections, along with a whole host of associated benefits for both the public and private sectors, and importantly enhancing resilience in regions most vulnerable to weather and climate extremes. (see *Annex 9 - The role of the World Meteorological Centres: from data to products and Annex 10 - The global value of GBON*).
- **GBON value across geography – from local protection and resilience to global impact.** Local observations are essential for protecting local communities and benefiting local populations but are even more critical for regional and global forecasting and climate analysis. Hence, it is in the self-

² 30 colleagues from the World Meteorological Organization, World Bank, Green Climate Fund, Climate Risk and Early Warning Systems Initiative Secretariat, Global Climate Observing System Secretariat, European Center for Medium-Range Weather Forecasts, and UK Met Office came together for this first joint thinking SOFF workshop.

³ Launched at COP 25 in Madrid, the Alliance for Hydromet Development is a united effort to scale up and unite our efforts to achieve the common goal of closing the hydromet capacity gap on weather, climate, hydrological, and related environmental services by 2030. The Alliance founding partners are Adaptation Fund, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Global Environment Facility, Green Climate Fund, Islamic Development Bank, United Nations Development Programme, United Nations Environment Programme, World Bank, World Food Programme and the World Meteorological Organization. More information at: <https://public.wmo.int/en/our-mandate/how-we-do-it/partnerships/wmo-office-of-development-partnerships>

interest of all nations to united efforts to improve GBON. (see Annex 8 - *The Global Basic Observing Network (GBON) and the need for a SOFF*).

- **GBON economic value for different constituencies.** Investing in surface-based observations in developing countries and treating them as a critical public good makes massive economic sense. Improvements in coverage and exchange of surface-based observations deliver benefits of at least **\$ 6 billion p.a.** and provide the foundation to realize up to **\$ 51 billion p.a.** benefits from overall improved forecasting and early warnings efforts. These figures very likely underestimate the multiplier effects that implementing GBON will have across communities, governments, and sectors (see Annex 11 - *The economic value of meteorological observation data*).
- **GBON gap analysis and implementation options and the value of GBON need to be further fleshed out.** Two multi-partner working groups on this topic are being established. (see Annex 1 – *working group 1, the value of GBON and working group 2, GBON gap analysis and implementation options*).

4. The evolving SOFF concept

- **What is the SOFF?** An innovative dedicated facility that is expected to provide equitable, predictable, sustainable, and performance-based finance to achieve and maintain GBON compliance in developing countries in a prioritized manner. In addition to providing funding for the capital costs of GBON, SOFF will provide funding for annual operational costs that cannot be provided under traditional climate and development finance programmes.
- **SOFF design features.** The facility combines four innovative features:
 - **Valuing a foundational global public good** that countries are mandated to deliver
 - **Providing performance-based financing** triggered by independent verification
 - **Providing programmatic finance and technical assistance**, beyond project-by-project
 - **Seeking funding beyond public resources**
- **SOFF support windows.** In order to achieve sustained GBON compliance, the facility will provide financial and technical support through two windows:
 - **Capacity development window – whatever it takes to achieve GBON requirements.** The facility will provide financial resources and technical assistance to support a country in achieving GBON compliance.
 - **Performance-based window – maintaining GBON compliance.** The facility will provide performance-based financing to support countries in covering operating and maintenance costs of their basic observations. Upon WMO independent verification of compliance with GBON data-sharing requirements, the facility will provide financial support to countries on an annual basis.
- **SOFF governance.** The facility will be based on and leverage existing mechanisms and institutional arrangements (see Annexes 14, 15, and 16).

- **Host function.** The facility would be hosted by an international financial organization or become a window of one of the environment and climate funds. Examples of facilities valuing a global public good are the Global Concessional Financing Facility housed in the World Bank or the Green Climate Fund REDD+ window.
- **Implementation function.** All developing countries would be able to draw on resources from the facility through implementation partners. Accredited Entities to the Green Climate Fund, Adaptation Fund, Climate Investment Funds, and the Global Environment Facility would be implementing partners of the facility. This will ensure that resources from the facility are used as co-financing to cover the observations component of larger and fully integrated hydromet development projects and programs (*see Annex 17 - SOFF scope*).
- **Advisory function.** The Country Support Initiative (CSI),⁴ WMO advisory services mechanism - currently being established-, will provide standardized technical assistance to support countries and their implementing partners to achieve and maintain GBON compliance. In a one-stop-shop manner, the CSI harvests the technical expertise of advanced national hydrological and meteorological offices (members of WMO) and the WMO Secretariat.
- **Independent technical authority function.** WMO would independently verify GBON compliance, hence triggering payments under the performance window.
- **The SOFF design and structure is still evolving.** It needs to be further firmed up, drawing on experiences of other innovative financial mechanisms that are valuing global public goods and engaging potential SOFF champions. Two multi-partner working groups are being established on this topic. (*see Annex 1 - working group 3 - SOFF financing mechanisms and opportunities, and working group 5 - SOFF advocacy and communications*).

5. The potential role of the insurance sector

- **GBON will create benefits for the insurance sector.** The participants noted that there are other data requirements (e.g. historical loss and damage costs) which are also needed, but the removal of one of the barriers to greater private sector insurance act as a stimulus to the sector and enable it to penetrate, and increase market share in developing countries.
- **Insurance sector and other private-sector use-cases.** In order to further flesh out the potential role of the insurance sector and other private sectors in contributing to the SOFF, a few use cases will be developed. A corresponding working group is being established. (*See Annex 1 - working group 4 - Insurance use-cases*).
- **Advocacy of insurance sector related initiatives and mechanisms.** There are several important initiatives that recognize the importance of insurance as a risk management tool for vulnerable people, communities, and countries. A fully operational and functional GBON will assist these existing initiatives in delivering against their objectives and enable the greater application of, for example, parametric insurance, in developing countries.

⁴ [WMO Country Support Initiative](#)

6. Who will fund the SOFF?

- **How much money is needed?** An initial estimation indicates that about \$ 350 million are required to achieve GBON compliance in developing countries and that annually about \$ 150 million is needed to cover operational and maintenance costs of GBON in these countries. Taking into consideration past and current investments financed by development and climate finance institutions (current global hydromet project portfolio estimated with \$5 billion of which significant part is used for observations), it is assumed that financing GBON will not require more financial resources, but it requires a fundamentally different way of investing these resources through the SOFF.
- **Resource mobilization.** A working group is being established on SOFF financing mechanisms and opportunities (see Annex 1 - working group 3) and another one on SOFF advocacy and communications (see Annex 1 - working group 5). These two working groups will jointly support SOFF resource mobilization. Potential SOFF funding sources are bilateral partners, Multilateral Development Banks, the members of the International Development Finance Club, the environment and climate funds (GCF, CIFs, AF, GEF), philanthropy, and private sector including the insurance sector.

7. The way ahead

- **Multi-partner working groups.** Workshop participants agreed to establish multi-partner, parallel and coordinated working groups to speedily flesh out critical elements of the SOFF concept. The groups are time-bound and expected to deliver their work ideally ahead of the WMO Executive Council 72th session, expected to take place in September 2020. The groups will in close coordination with each other and with the support of the WMO Secretariat. The following working groups are being established. **Please see Annex 1 for more details on the expected deliverables for each group.**
 1. **The value of GBON**
 2. **GBON gap analysis and implementation options**
 3. **SOFF financing mechanism and opportunities**
 4. **Insurance sector use-cases**
 5. **SOFF advocacy and communications**
- **Major milestones in further developing the SOFF**
 - **Early September 2020 – Working groups deliver their outputs**
 - **September 2020 – WMO Executive Council.** Endorsement of detailed requirements and obligation of GBON
 - **COP26.** Envisioned communication on SOFF development as part of senior-level Alliance for Hydromet Development event at which also the Alliance Hydromet Gap report will be launched
 - **June 2021 – World Meteorological Congress.** Approval GBON detailed requirements and obligations and envisioned update of WMO data policy
 - **COP27.** SOFF launch

8. Annex: Workshop concept note



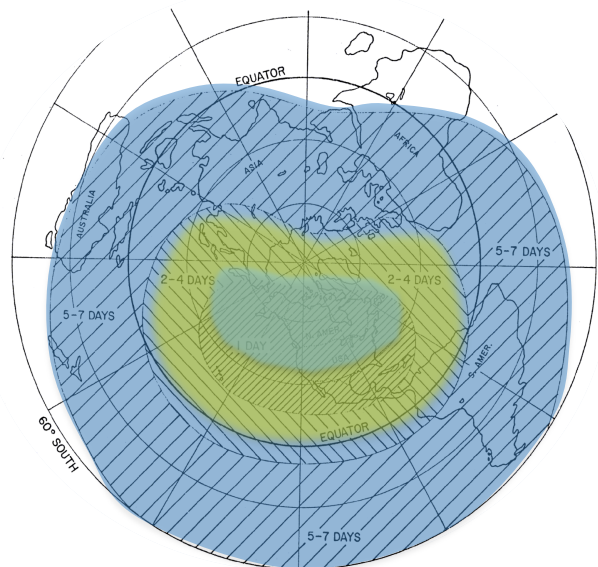
Systematic Observations Financing Facility (SOFF)

Equitable, predictable, and sustainable finance
for a foundational global public good

Further advancing SOFF concept and design
collaborative thinking workshop

Workshop concept note

25-26 February 2020
Offenbach, Germany



1. Context

Problem statement

- **There is a fundamental mismatch between today's country-based financing of basic observations and the value these observations create for the global community.** Today, the provision of systematic observations is considered a purely national obligation. Developing countries are thus in principle expected to fully fund their own observing systems. Countries may receive "aid" in terms of project funding from development and climate finance partners, but this funding is time-limited, typically aimed at capital investment rather than operating costs, and does not recognize the global value creation enabled by observational data from developing countries.
- **Essential surface-based observational data are missing in several parts of the world, particularly in developing countries.** Numerical Weather Prediction (NWP) is the basis on which all weather and climate services are built. NWP requires a constant supply of observations from around the world to ensure accurate forecasts and climate analysis. Today's lack of observational data significantly limits the quality of information used by governments and all stakeholders as the basis for vital decisions such as those related to the reduction of the impact of weather and increased resilience to climate change. Hence, the Paris Agreement recognizes the need to strengthen and enhance systematic observations.

Recognizing the need for innovating finance for basic observations

- **In June 2019, three major development and climate finance partners (World Bank, African Development Bank, Green Climate Fund) joined the 18th World Meteorological Congress** high-level events on development partnerships. A common understanding emerged that there is a need to fundamentally change the way developing country basic observations are being funded, taking advantage of the resolution adopted by Congress to establish the Global Basic Observing Network (GBON)⁵.
- **In July 2019, a first workshop was held in Geneva to map out elements of an initial concept for an innovative Systematic Observations Financing Facility.** About 30 colleagues from the World Meteorological Organization, World Bank, Green Climate Fund, Climate Risk and Early Warning Systems Initiative Secretariat, Global Climate Observing System Secretariat, European Center for Medium-Range Weather Forecasts, and UK Met Office came together for this first joint thinking workshop.
- **In October 2019, the outcomes of this workshop were translated into the initial SOFF concept note.**
- **December 2019 SBSTA conclusions at COP25:** The fifty-first session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) to the United Nations Framework Convention on Climate Change (UNFCCC) recognized the development of the Global Basic Observing

⁵ GBON aims to improve the global availability of the most essential surface-based data by defining the obligation for countries to implement a minimal set of surface-based observations for which international exchange of observational data will be mandatory.

Network by WMO and re-emphasized the need for sustained funding to meet the essential needs for global climate observation under the Convention.

- **December 2019 Alliance for Hydromet Development launch at COP25:** 12 international organizations⁶ launched as founding members the Alliance for Hydromet Development. The Alliance unites efforts of these organizations to close the capacity gap on high-quality weather forecasts, early warning systems, and climate information. The Alliance is founded on a declaration with several commitments, including the commitment aiming at the creation of the SOFF that recognizes the economic value of observations as a global public good.

WMO data policies

- **WMO recognizes that its data policies need to be reviewed** in the context of rapid technological change and the changing balance of public and private sector data provision.
- **A WMO data conference is planned for late 2020** with a focus on making more observational data available to the international community. Under the WMO Commission for Infrastructures, a study group on data issues and policies has been established composed of public and private sector experts.
- **GBON and the review of WMO data policies are fully complementary.** GBON establishes the minimum requirement for surface and upper air (radiosondes) observations. Countries will be mandated to provide this minimum data.

The Systematic Observations Financing Facility

- **The Facility is envisaged to ensure provision of basic systematic observations as a global public good.** The facility
 - is expected to provide equitable, predictable, sustainable, and performance-based finance for developing countries
 - will also provide technical assistance for the provision of foundational observational data based on internationally agreed standards that can be quantified and independently verified
 - supports achievement of GBON compliance by 2025 as the backbone of global weather forecasts and climate information products.
- **Second SOFF workshop to further advance the concept and design.** A second workshop, hosted by the WMO President, will take place 25-26 February 2020 in Offenbach, Germany. This note presents the workshop's objectives, guiding questions, moderators, invited participants, logistics, and background material.

⁶ Adaptation Fund, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Global Environment Facility, Green Climate Fund, Islamic Development Bank, United Nations Development Programme, United Nations Environment Programme, World Bank, World Food Programme, World Meteorological Organization

2. Objectives and guiding questions

Objectives

- **Further advance concept and design of the Systematic Observations Financing Facility,** making the business case for financing to be explored with public and private funding sources.
- **Establish a small multi-partner team who will have the mandate** to further engage with stakeholders including on financing options.

Guiding questions

- **Socioeconomic benefits: How do we quantify the socioeconomic benefits of GBON?**
Assuming a GBON-compliant world that fully leverages improvements in observational data availability and forecasting, what gains in public welfare and economic productivity (from basic weather forecasts and early warnings to production of sector-tailored products) could be attributed to the GBON?
- **GBON financing needs: What are the financial requirements to achieve GBON compliance?**
How much does it cost (CAPEX and OPEX) to develop and maintain a sustainable and fully operational GBON in developing countries?
- **Private sector / insurance sector business case: What are the benefits of GBON to private sector operations and investments, in particular insurance industry?** What could be the potential insurance industry contributions to SOFF?
- **Governance: How to further structure the facility?**
- **Next steps: What is needed so that we potentially can announce the SOFF at COP26 in December 2020,** backed by soft commitments of initial funders?

3. Host and moderators

Host

- **Gerhard Adrian** WMO President; President and Chairman of the Executive Board Deutscher Wetterdienst

Co-moderators

- **Markus Replik** WMO Director Development Partnerships
- **John Firth** CEO and co-founder Acclimatise Group Ltd

4. Participants

Principles

- **Maintain** organizations that participated in the first workshop and contributed to the development of the SOFF initial concept note
- **Expand and invite** additional organizations, in particular development and climate finance partners as well as insurance sector representatives
- **Limit** number of participants; max 30 workshop participants

Invited organizations / participants

- **Alliance for Hydromet Development members**
 - **Alliance founding members** are invited; World Bank and Green Climate Fund participated in the first workshop
 - **Insurance sector organizations**
 - **Additional organizations**
 - **WMO Presidents Regional Associations**
 - **WMO Secretariat**

5. Draft agenda

- See attached

6. Logistics

- See information note attached

7. Background material

- **GBON video**
- **SOFF initial concept note**
- **First SOFF workshop outcome document**
- **SOFF initial concept summary**
- **SOFF website**
- **Alliance for Hydromet Development website**
- **WMO Country Support Initiative website**