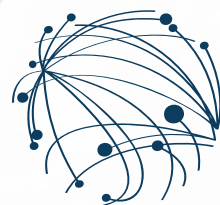


Establishing the Systematic Observations Financing Facility

A new way of financing basic observations

SYSTEMATIC OBSERVATIONS FINANCING FACILITY

Weather and climate information for the global public good



SOFF

Systematic Observations
Financing Facility

THE CHALLENGE



African drought by EU/ECHO/Anouk Delafortrie

Missing foundational data for climate adaptation and resilience

Climate change and extreme weather events are threatening lives and hampering global efforts to reduce poverty. Improving our ability to forecast weather events around the world is an important step in being able to manage risks effectively and make smart decisions about how and where to invest to build resilience.

Global Numerical Weather Prediction and climate analysis are the backbones of all weather and climate information products and services. They require continued access to a wealth of real-time observations from the entire globe. Surface-based observations play a foundational role. They are also critical to maximize the benefits of increasingly available satellite data, including for validating global climate records from satellite observations.

The inhomogeneity across the globe in both network density and volume of surface-based observations internationally exchanged is striking. Whilst some parts of the globe provide a reliable feed of observational data, in many areas the availability of such data is limited and, in several instances, getting worse. The large data voids significantly impact the quality of weather and climate information.

The European Centre for Medium-Range Weather Forecasts observed a dramatic decrease in the number of radiosonde observations of almost 50% in Africa from 2015 to 2020, the most important type of surface-based observations. This does not include the further decline in observations since January 2020 due to the impact of COVID-19.

Recognizing the importance of surface-based observations, considerable resources from climate and development finance partners have been invested to strengthen observing systems. However, there appears to be a significant mismatch between the investments in observing systems and the progress in global observational data sharing.

The existing data voids and the persistent sustainability challenges of investments in observing systems require a new way of financing surface-based observations.



Find out more - SOFF information brief: The gaps in the Global Basic Observing Network

There is a significant mismatch between the investments in observing systems and the progress in global observational data sharing.

- 50%

Decrease of radiosonde observations in Africa from 2015-2020. These are the most important type of surface-based observations.

THE OPPORTUNITY

The Global Basic Observing Network

In 2019, the World Meteorological Congress and its 193 member countries and territories agreed to establish the Global Basic Observing Network (GBON).

GBON sets out a clear obligation for all WMO Members to acquire and internationally exchange the most essential surface-based observational data at a minimum level of spatial resolution and time interval.

GBON is a landmark agreement and offers a new approach in which the basic surface-based observing network is designed, defined and monitored at the global level.

Achieving sustained compliance with the GBON requirements needs substantial investments and strengthened capacity in many countries. The Systematic Observations Financing Facility (SOFF) is being established to provide technical and financial assistance in new – more effective - ways.

I:26

According to the World Bank, for every dollar invested in surface-based observations, at least twenty-six dollars in socio-economic return could be realized.



Find out more - SOFF information brief: The value of Surface-Based Meteorological Observation Data: Costs and benefits of the Global Basic Observing Network

THE SOLUTION



A new way of financing surface-based observations

The Systematic Observations Financing Facility (SOFF) will support countries to generate and exchange basic surface-based observational data critical for improved weather forecasts and climate services.

SOFF will contribute to strengthening climate adaptation and resilience across the globe, particularly benefitting the most vulnerable.

SOFF will have three novel design features to provide long-term financing and technical assistance in an effective way

Applying internationally agreed metrics to guide investments

SOFF support is based on the global optimal and internationally agreed design to guide investments – the GBON. SOFF will be in a position to allocate scarce resources most effectively as they seek to close the GBON gap.

Using data exchange as a measure of success

SOFF will shift from a focus on short-term capital investments to long-term observational data exchange as a way of measuring success. SOFF is expected to cover investments to close the GBON gap, as well as contributing to the costs for operating and maintaining the system in the long-term. SOFF will provide results-based finance, triggered by GBON data exchange compliance.

Creating local benefits while providing a global public good

SOFF will create local and regional benefits while providing a global public good. The global nature of Global Numerical Weather Prediction means that the benefits of GBON compliance will be realized both in the countries where the improvements are made and globally. Local forecasting and climate analysis in any given location benefits from improved observations from all over the globe.



Find out more - SOFF information brief:
A new way of financing basic observations
- How will SOFF work?

THE IMPLEMENTATION

A sequenced approach

It is envisioned that SOFF will start operating with an initial five-year implementation period, during which it will prioritise support to Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

An independent external evaluation is envisaged to take place towards the end of the initial implementation period. Based on the results of the evaluation and lessons learned, SOFF operational design can be further adjusted. This could include considering a potential expansion to other OECD Official Development Assistance eligible countries, as well as to other domains of basic and internationally mandated earth observations as the GBON concept evolves.



Find out more - SOFF information brief:
A new way of financing basic observations - How will SOFF work?

SOFF is expected to provide its support in three phases

READINESS

SOFF will enable countries to assess their national hydromet status, define the GBON gap and develop a plan to close the gap.

While SOFF will offer tailored and differentiated support to countries, all beneficiary countries will undergo the Readiness phase.

INVESTMENT

SOFF support will be used to close the GBON gap and enable countries to achieve GBON compliance.

This includes investments in GBON infrastructure and developing GBON human and institutional capacity to operate and maintain the observing network.

COMPLIANCE

Countries will receive support to sustain GBON compliance and to access improved weather forecast and climate analysis products.

This includes the provision of results-based finance for GBON-compliant countries to contribute to cover operational and maintenance costs.



Female technician by USAID/Oussama Benbila

THE TARGET

An ambitious undertaking

5

Year initial
implementation period

68

SIDS and LDCs supported
to become GBON
compliant and accessing
improved weather and
climate products

10X

More data shared from
upper air stations

20X

More data shared from
surface stations



Find out more - SOFF information brief: A new way of
financing basic observations - How will SOFF work?

THE PARTNERSHIP

A new, structured, and results-based partnership

A partnership between the beneficiary countries, bilateral and multilateral SOFF funding partners, envisioned private sector contributors, and the SOFF operational partners.

SOFF operational partners

WMO Technical Authority

WMO is responsible for verifying the GBON national contribution and GBON compliance. This function will be performed by the WMO Secretariat, guided by the WMO Infrastructure Commission and supported by the Global Producing Centres.

Implementing Entities

Major development partners, including Multilateral Development Banks and UN organizations, would become SOFF implementing entities.

Advisory Partners

The WMO Country Support Initiative will advise countries and implementing entities on achieving and maintaining GBON compliance. It provides hands-on peer-to-peer support through national meteorological services.

Knowledge partners

The participating WMO Global Producing Centres will offer free access to their improved weather and climate products for GBON compliant countries. They will provide on-demand support for the optimal use of these products.

A dedicated partnership and financing mechanism

SOFF is expected to become the one-stop-shop for GBON financing and technical assistance. SOFF financing will be embedded into larger hydromet projects and programs supported by the SOFF implementing entities. They would blend SOFF resources with their own funding. This will ensure an integrated approach that links GBON compliance with other efforts to strengthen countries' hydromet performance.

SOFF is a dedicated partnership. Investments in basic observations are operationally complex. Effectively supporting countries in complying with GBON requires tailored assistance based on standardized scientific and technical advice. The provision of this type of support requires a dedicated mechanism to facilitate streamlined collaboration among the SOFF operational partners.

SOFF would ideally be integrated into an existing climate or environment Financial Intermediary Fund. In the event that this is not possible, it is envisaged to create SOFF as a self-standing financing mechanism.

It is envisioned that the announcement of the creation of the SOFF will happen at the UNFCCC COP26 in November 2021.



Find out more - SOFF information brief: A new way of financing basic observations - How will SOFF work?



Find out more - SOFF information brief: The value of GBON - Exploring the insurance sector

Creating SOFF is a commitment of the Alliance for Hydromet Development

The Alliance was launched at the UNFCCC COP25 and unites efforts of major development and climate finance partners to close the capacity gap on high-quality weather forecasts, early warning systems and climate information.

The Alliance members committed to seeking innovative ways to finance developing country surface-based observations, aiming at the creation of a Systematic Observations Financing Facility.

The members of the Alliance for Hydromet Development include 12 founding members: Adaptation Fund, African Development Bank, Asian Development Bank, Climate Investment Funds, 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 World Meteorological Organization. The Climate Investment Funds joined the Alliance in October 2020.



SPECIAL THANKS TO:

This document has been produced by the World Meteorological Organization in collaboration with Zoï. It is based on the work of the SOFF Working Groups established in February 2020 with members from: Adaptation Fund, African Development Bank, African Risk Capacity, Asian Development Bank, Austrian Central Agency for Meteorology and Geodynamics, Climate Investment Funds, Climate Policy Initiative, Climate Risk and Early Warning Systems Initiative, Coalition for Climate Resilient Investment, Deutsche Gesellschaft für Internationale Zusammenarbeit, Deutscher Wetterdienst, Direction de la Météorologie nationale de la SODEXAM Côte d'Ivoire, European Bank for Reconstruction and Development, European Centre for Medium-Range Weather Forecasts, Global Environment Facility, Green Climate Fund, Inter-American Development Bank, Insurance Development Forum, InsuResilience Investment Fund, Islamic Development Bank, Lloyds of London, Munich Climate Insurance Initiative, Oasis Loss Modelling Framework, Switzerland Federal Office for the Environment, UK Met Office, United Nations Development Programme, United Nations Environment Programme, World Bank, Willis Towers Watson, World Food Programme, and World Meteorological Organization.

FURTHER RESOURCES

SOFF

[Follow link here.](#)

Alliance for Hydromet Development

[Follow link here.](#)

WMO

[Follow link here.](#)

CONTACT INFORMATION:

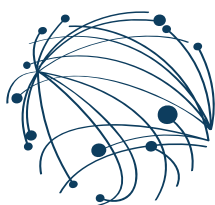
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Cover page: Cyclone Idai on 13 March 2019 west of Madagascar and heading for Mozambique. The storm went on to cause widespread destruction in Mozambique, Malawi, and Zimbabwe, with thousands of people losing their lives, and houses, roads and croplands submerged. Relatively few observations from East Africa are available to Global NWP Centres. Full implementation of GBON over this region will improve the accuracy of cyclone intensity and track forecasts.

Credits for the cover photo: European Space Agency. Captured by the Copernicus Sentinel-3 mission.

October 2020



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