

# TOWARD A GLOBAL TARGET ON SYSTEMATIC OBSERVATION

support for research and operations as part of the Global Goal on Adaptation



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## Weather and climate services depend on a functioning meteorological value chain



Figure 1. Meteorological Value Chain. WMO Secretariat

Currently the initial links in the chain, i.e. acquisition and international exchange of observations, are weak in many areas, especially SIDS and LDC. The map below shows that the spatial density of observations is highly inconsistent across the globe. Areas with few observations (red tones) or no observations (dark red) are problematic. This lack of observations negatively impacts early warning systems, disaster preparedness and the various research efforts undertaken to support these areas.

## Insufficient observational data coverage remains a serious issue in many parts of the world

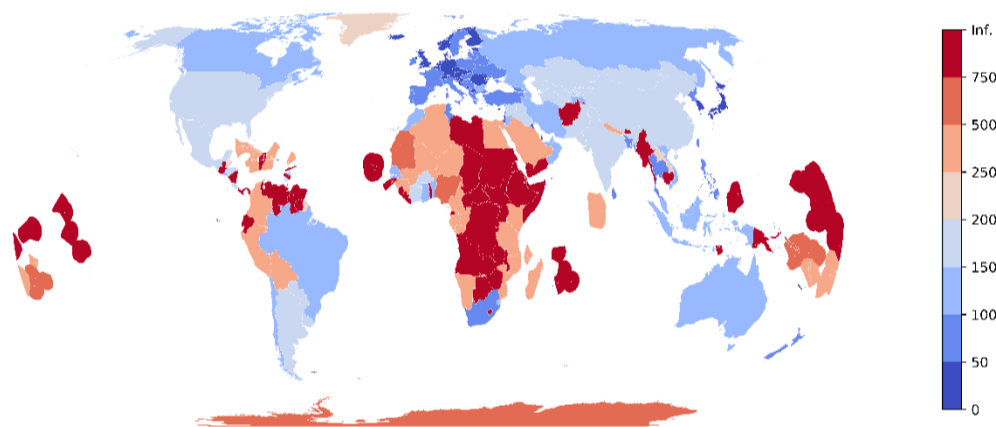
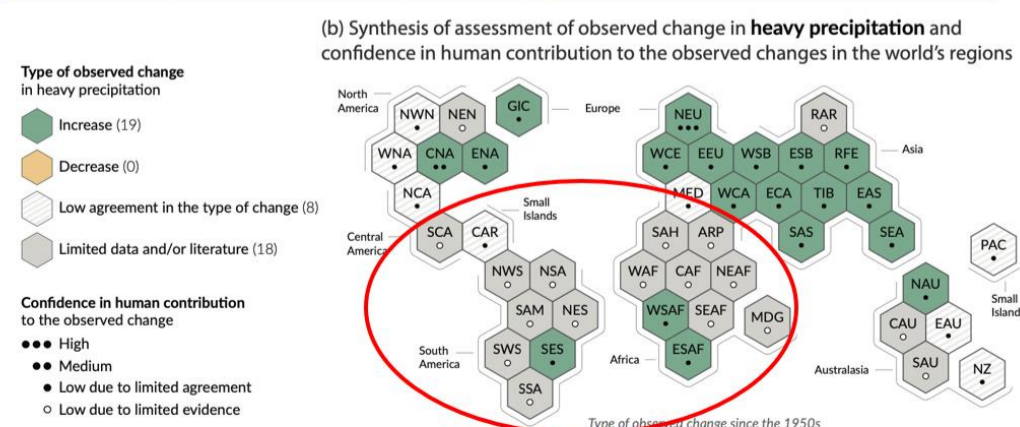


Figure 2. Areas in dark red are far from meeting the most important requirements of the Global Basic Observing Network (GBON). Areas in light red are close to meet the requirements and areas in blue shades meet or exceed the requirements. (Source: WMO Secretariat, 2020)

The two recent reports of IPCC Working Group I and II showcase the progress in monitoring and understanding the climate. However, in developing countries in particular, the lack of observational data - both in terms of the ongoing exchange of observations and access to long-term records - limits our ability to monitor the local climate, which in turn limit scientific progress toward understanding and modeling climate-related risks, and therefore also the ability to design meaningful adaptation measures.

According to IPCC (Working Group 1. Sixth Assessment Report, 2021), existing data are insufficient to project future patterns of heavy precipitation in large parts of the Global South



## Toward a global target on Systematic Observation in the context of the Global Goal on Adaptation

In order for the Global Goal on Adaptation to be effective, continued monitoring of progress in all areas under Article 7 of the Paris Agreement will be required, incl. **Article 7 (c) on strengthening scientific knowledge on climate, including research, systematic observation of the climate system...**

A global goal on systematic observation is essential to achieve, in particular, the objective b of the Glasgow-Sharm el-Sheikh work programme: **"Enhance understanding of the global goal on adaptation, including of the methodologies, indicators, data and metrics, ..."**

### Setting the target (what to measure?)

**A global target on systematic observation** should be quantitative and based on agreed requirements, e.g. as set by [WMO's Global Basic Observing Network \(GBON\)](#).

GBON is based on internationally agreed observational requirements for Global Numerical Weather Prediction. The GBON regulations specify in clear, quantitative terms the commitments of countries to acquire and exchange certain observations: which parameters to measure, how often, at what density, how to exchange the, and which measurement techniques to use.

### How to measure progress toward the target?

Availability of observational data for which international exchange is required can be tracked to provide objective and unequivocal measured of progress. Compliance with GBON observing and data exchange requirements is monitored continuously and in real-time by the [WIGOS Data Quality Monitoring System \(WDQMS\)](#). As countries make progress, the observational data density map shown in Fig. 2 will become increasingly dominated by blue colors.

## Sustainable finance to achieve a global target on systematic observation

Without sustainable financial and technical support, achieving a global target on observations will not be possible in many countries. Countries with few resources relative to the size of the area of their observing remit (low GDP per unit surface area) are expected to have difficulties implementing GBON. Achieving a global target on systematic observation requires a financing model that recognizes the value of systematic observation as a global public good.

The [Systematic Observations Financing Facility \(SOFF\)](#) is a dedicated mechanism providing long-term grants and technical assistance to support the implementation and sustained operation of GBON. It deploys a global approach with sustained international data exchange as a measure of success. SOFF can facilitate monitoring of the financing needs and progress related to supporting developing countries in achieving a global target on systematic observation.

SBSTA 52-55 encouraged Parties and relevant organizations to support the Systematic Observations Financing Facility in order to support and sustain implementation of GBON in developing countries, including the LDCs and SIDS.

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