



# SOFF

Systematic Observations  
Financing Facility

---

## First Funders' Forum

24 March 2021

Virtual meeting



# Systematic Observations Financing Facility **First Funders' Forum**

## **Agenda item 2 - SOFF rationale**

Anthony Rea, Director Infrastructure Department  
Lars Peter Riishojgaard, Director Earth System Branch

# Hydromet – at the core of bold and effective action

## Paris Agreement

**Strengthen systematic observation** of the climate system and early warning systems

## Sustainable Development Goals

**Strengthen environmental monitoring** for climate change mitigation, adaptation and early warning

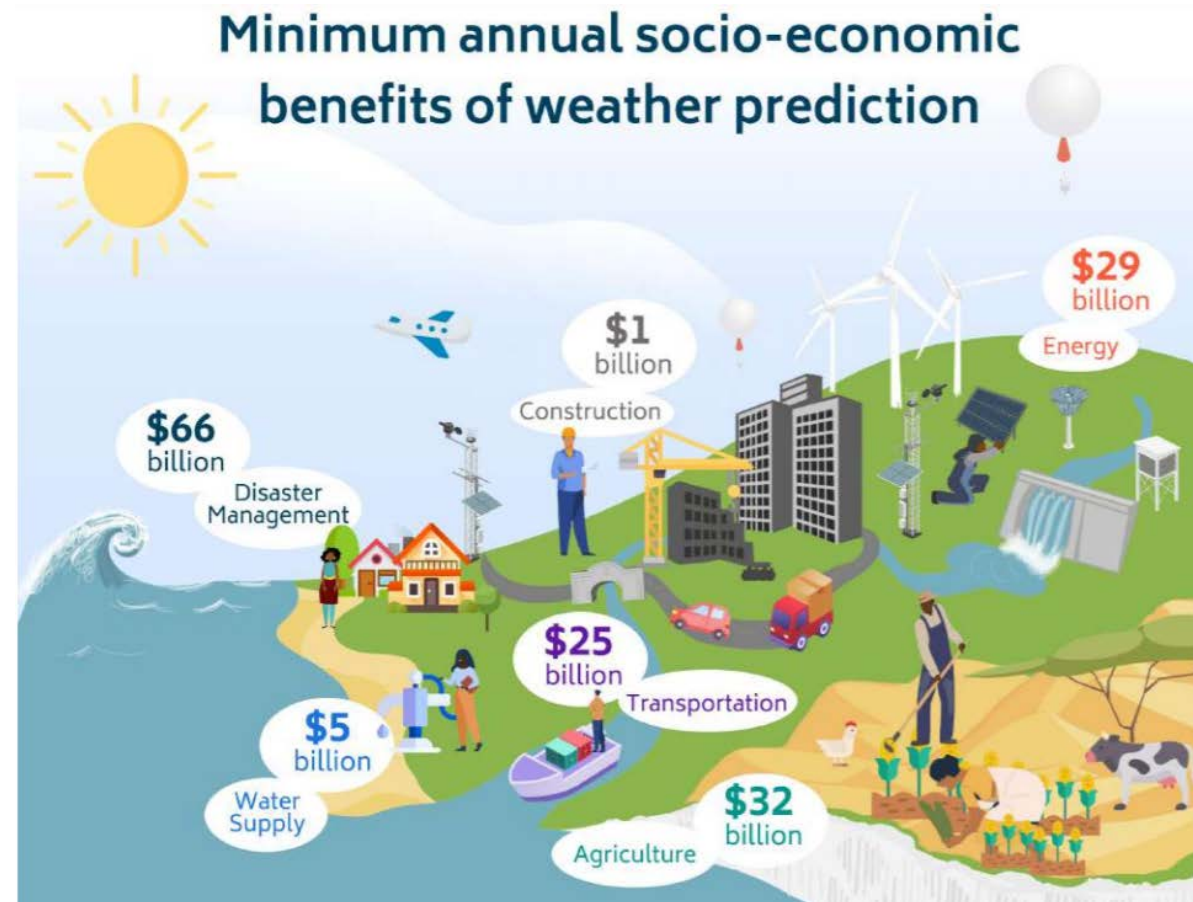
## Sendai Framework

Substantially increase the availability and access to **multi-hazard early warning systems and disaster risk information** and assessments to the people

# The benefits from better prediction are measurable and significant

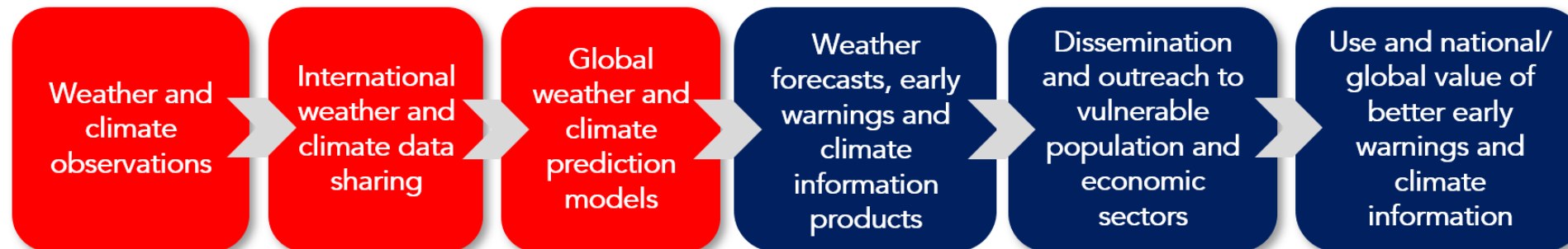
**USD 160 billion**

World Bank estimates of the **minimum annual socio-economic benefits of weather prediction and climate information**



# Weather and climate observations from the whole globe are the basis for weather forecasts, early warning systems, and climate services

## The hydromet value chain



# The foundational role of surface-based observations

- **Essential for weather and climate prediction models**
- **Measure weather and climate variables** that cannot be reliably observed from space
- **Play a vital role** in the calibration and validation of satellite data



Surface land-based observations



Upper-air land-based observations

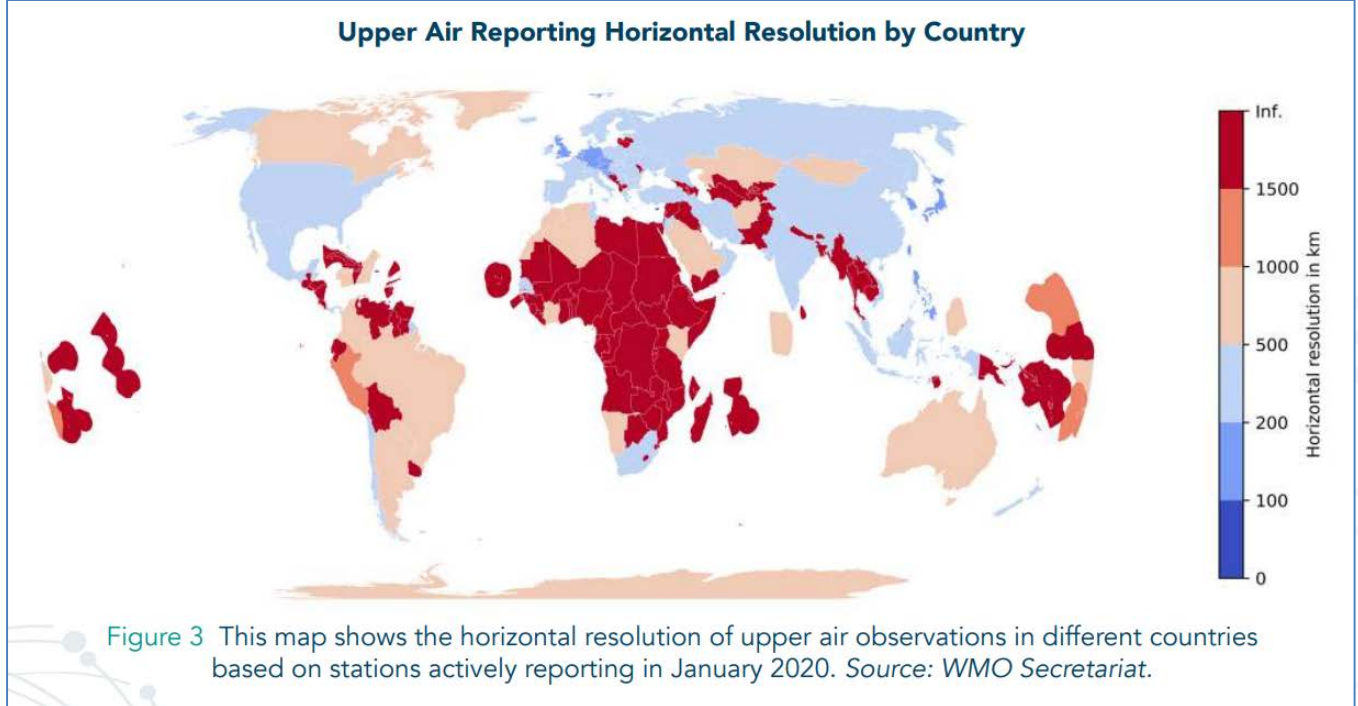
## The Global Basic Observing Network (GBON)

*A global endeavor for better weather and climate information*

- **A global “optimal” design to respond to the most essential data requirements of weather and climate prediction models** that are not met or fully met by satellite systems
- **Agreed by 193 WMO Member countries and territories**
- **Clear requirements for countries** to collect and internationally exchange the most essential surface-based weather data
- Based on the principle of global **free and unrestricted** data sharing

# Surface-based observations necessary for weather and climate prediction are not being collected and/or internationally shared in many parts of the world

**SIDS and LDCs** are currently far from meeting the Global Basic Observing Network requirements





# The output and outcome problem

## Limited observations mean

- degraded local weather forecasts and climate prediction;
- degraded worldwide medium to long-range weather forecasts and climate predictions, since weather and climate prediction models fall short of their potential in terms of the quality of their predictions;
- LCDs and SIDS suffer the most from direct and indirect effects of poor weather and climate services

Example: Lack of observations in red area limits 7-10 day forecast skill in green area



# The benefits from GBON

## Closing the GBON gap is highly beneficial and economically efficient.

- **USD 5 billion per year** - the potential benefits directly attributed to the implementation of GBON in those countries with the largest data-sharing gaps
- **1:25 cost-benefit** - for every dollar invested in GBON in these countries, at least 25 US dollars in socio-economic return could be realized, much higher than in low-gap countries
- **These investments provide the foundation to realize the USD 162 billion** of estimated minimum annual benefits of weather and climate prediction



**SOFF**

Systematic Observations  
Financing Facility

Weather and climate information for the global public good

**THANK YOU  
MERCI**



# Systematic Observations Financing Facility **First Funders' Forum**

## **Agenda item 3 - SOFF design and implementation**

Markus Repnik, Director Development Partnerships

- SOFF basic design
- SOFF institutional set up
- SOFF implementation and funding needs

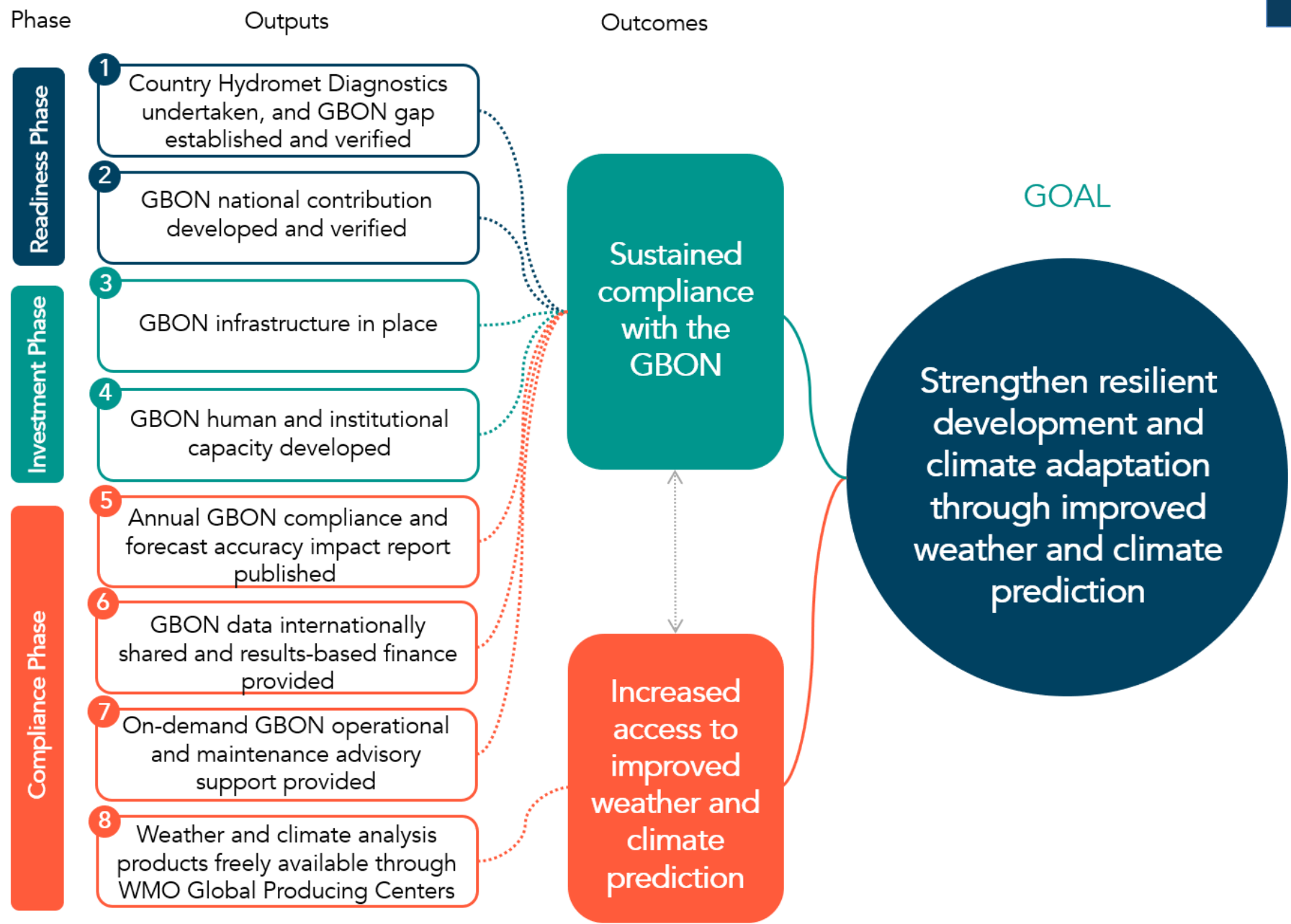
# SOFF value proposition

**SOFF** will provide grants and technical assistance to countries with the largest capacity gaps for the long-term generation and international exchange of basic surface-based weather and climate observations.

## SOFF three basic features

- **Investments guided by internationally agreed global design and metrics** – the GBON requirements
- **Data sharing as a measure of success**
- **Long-term, results-based finance** to contribute to operations and maintenance costs, in recognition of the global public good of observations

# SOFF results framework



# SOFF operational design

## Readiness

- Country Hydromet Diagnostics undertaken and GBON gap assessed and verified
- GBON national contribution developed and verified

## Investment

- GBON infrastructure in place
- GBON human and institutional capacity developed

## Compliance

- GBON data internationally shared and results-based finance provided
- Annual GBON compliance and impact report published



# SOFF beneficiaries

- Focus on **Small Island Developing States and Least Developed Countries** for all three phases of SOFF support
- Other **OECD Official Development Assistance** countries eligible to access SOFF readiness support

# SOFF operational partners

- **WMO technical authority** – Verify GBON requirements and compliance, and contribute to SOFF impact monitoring
- **Country Support Initiative (CSI)** – Provide peer to peer SOFF technical advisory, incl. Country Hydromet Diagnostics
- **SOFF implementing entities** – Execute SOFF investments and blend SOFF financing with own resources (Multilateral Development Banks and selected UN organizations)
- **WMO Global Producing Centres** – Provide free access to improved weather and climate analysis products and contribute to SOFF impact monitoring

# A foundational and complementary partnership

- **SOFF most direct benefit is for investments in weather forecasts, early warning systems and climate services -**  
Alliance for Hydromet Development current hydromet portfolio  
USD 2.5 billion
- **SOFF improvements in weather and climate prediction will enhance the effectiveness** of major initiatives, incl. InsuResilience, REAP and CREWS.

# SOFF basic institutional elements

## Trustee

- SOFF fiduciary function
- Contributions will be bundled in a multi-donor trust fund or a financial intermediary fund

## Steering Committee

- SOFF decision making body for operational guidelines, funding allocations, country requests
- Expected to be composed of funding partners, beneficiary country representatives and potentially other observers

## Specialized Secretariat

- Coordinates and ensures that diverse functions and partners work together coherently
- Reports to and supports work of Steering Committee
- Administers Country Support Initiative
- Issues annual compliance and impact report

# SOFF integration into an existing mechanism

- **SOFF – a dedicated mechanism, not a new institution:** SOFF to be integrated into an existing development or climate finance institution/mechanism
- **Criteria for selection of SOFF institutional host:** mandate/scope, diverse sources of financial contributions, transfer-out, ability to host specialized SOFF secretariat, complexity SOFF establishment and operation
- **7 SOFF host options identified:** Adaptation Fund, CIF, CREWS, GCA, GEF, GCF, UNEP with UN Multi-Partner Trust Fund
- **Firming up SOFF host and institutional arrangements:** envisioned by second SOFF funders' forum, decision in collaboration with potential funders

# SOFF implementation milestones and funding needs

|   | SOFF implementation milestones                                     | Estimated Funding Needs USD | Outputs  |
|---|--|-----------------------------|--|
| <b>SOFF initial implementation period</b> | 67 SIDS and LDCs   | 400 M                       | Up to 28-fold increase of exchanged observations             |
|   | Additional OECD ODA eligible countries supported - Readiness Phase |                             | Hydromet baselines assessed and GBON national plans verified |
| <b>SOFF second implementation period</b>  | Results-based finance to SIDS and LDC                              | 50 M per year               | Continuous international data sharing                        |
|   | Potential extension of GBON to other observation domains           | TBD                         | TBD  |

# How will resources be deployed?

## Readiness

- Advisory support to countries and SOFF implementing entities through the CSI
- On cost-recovery basis with standardized funding caps per country

## Investment

- SOFF implementing entities draw on resources on behalf of countries

## Compliance

- Annual results-based finance for verified GBON compliant stations provided to national meteorological service
- Covers averaged 75% of operation and maintenance costs

# SOFF monitoring and evaluation

## Annual GBON compliance and SOFF impact report

### Adaptive management and continuous learning

- As needed, adjustments proposed to Steering Committee
- Self-assessment in third year

### External evaluation

- In fourth year to inform SOFF operational design adjustment, for subsequent funding period



# SOFF adaptation, evolution and risk mitigation

## **Evolving science and technology**

- SOFF will finance best available and environmentally friendly technology – guided by WMO Infrastructure Commission

## **Evolving GBON regulatory framework**

- SOFF envisioned to evolve as GBON evolves
- Potential future expansion into other earth observation domains

## **Managing risks**

- SOFF implementation confronted with political, institutional, technical risks
- Risks assessment to be presented at second SOFF funders' forum



# Systematic Observations Financing Facility **First Funders' Forum**

## **Agenda item 4 – Roadmap to COP 26**

Laura Tuck, SOFF Global Facilitator

- The journey so far
- Consultations
- SOFF Funders' Forum meetings

# The SOFF journey so far

## **June to December 2019 - Initial SOFF idea and concept**

- Brainstorming workshop and initial SOFF concept note
- Alliance launch, with commitment to create SOFF

## **January to October 2020 – SOFF design**

- Multi-partner SOFF working groups and SOFF design workshop
- WMO data policy conference
- WMO Executive Council SOFF decision
- European meteorological institutions support

## **Since November 2020 – SOFF roadmap to COP26**

- Institutional design, including hosting arrangements
- Consultations
- Resource mobilization: aiming for USD200m pledges by COP26; the rest in 2022

# Country Consultations

- **WMO Presidents Regional Associations engaged** from the start
- **SOFF decisions by Regional Associations** Africa, South America, North/Central America and Caribbean, Europe; Asia and South-West Pacific upcoming
- **Country Hydromet Diagnostics “road-testing”** with 18 countries
- Tailored consultations with **LDC Group, African Group Negotiators, AOSIS, V20** starting.
- **Additional consultations** facilitated by Varysian platform (Caribbean, Latin America) and global webinar in the making

# Private Sector Consultations

## Consultations so far

- SOFF working group on private sector with focus insurance industry
- Association of Hydro-Meteorological Equipment Industry (HMEI)

## Targeted consultations in collaboration with HMEI going forward

- Benefitting from private sector experience
- Exploring public-private sector business models
- Standardizing tender specifications for Automatic Weather Stations

# Public Consultations

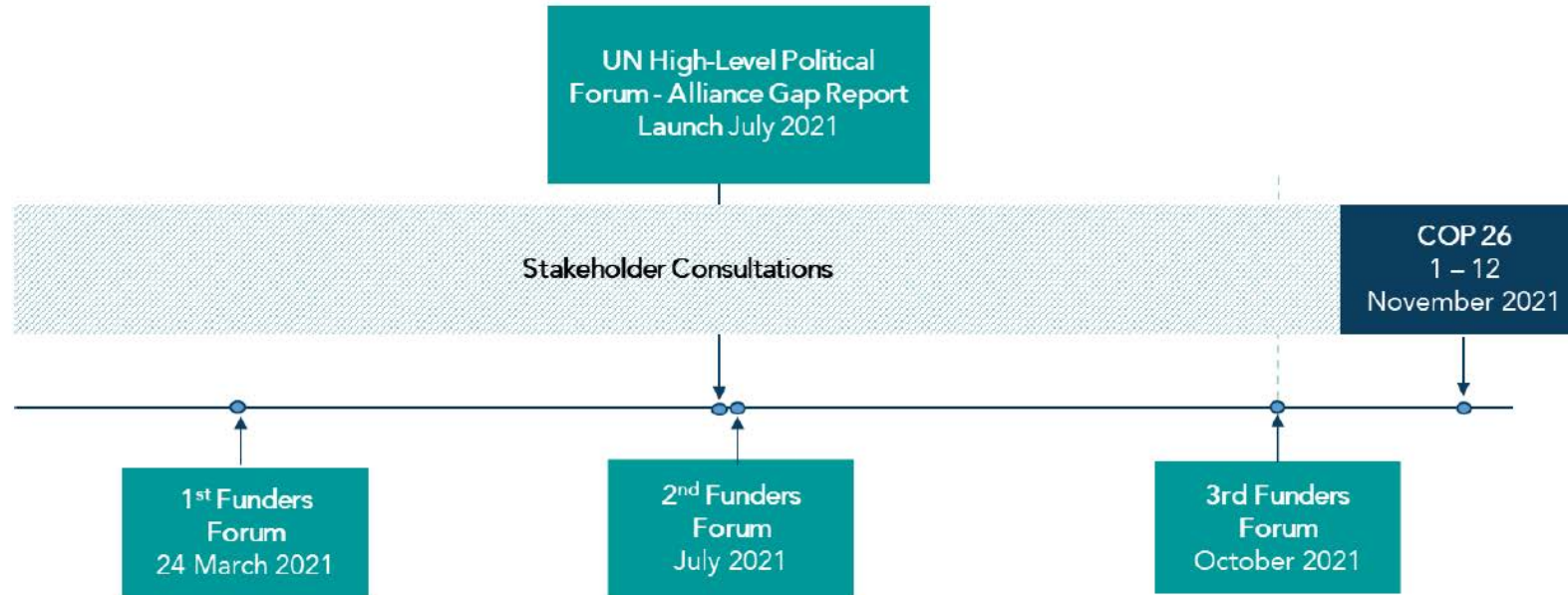
## Open web-based consultation

- Planned June 2021
- Consultation section on SOFF web space

## Other regional stakeholder consultations

- UNFCCC Regional Climate Weeks
- Global Commission on Adaptation regional events

# The Journey to COP26



- **Second Funders Forum:**
  - Draft Resource Mobilization Report
  - Issues addressed since first forum
  - Firmed up host arrangements and institutional design
  - Progress on implementation arrangements
  - Risk assessment
- **Potential additional Forum, as needed**
- **Third Funders Forum**
  - Approval of final Resource Mobilization Report
  - Pledging for SOFF initial financial commitments