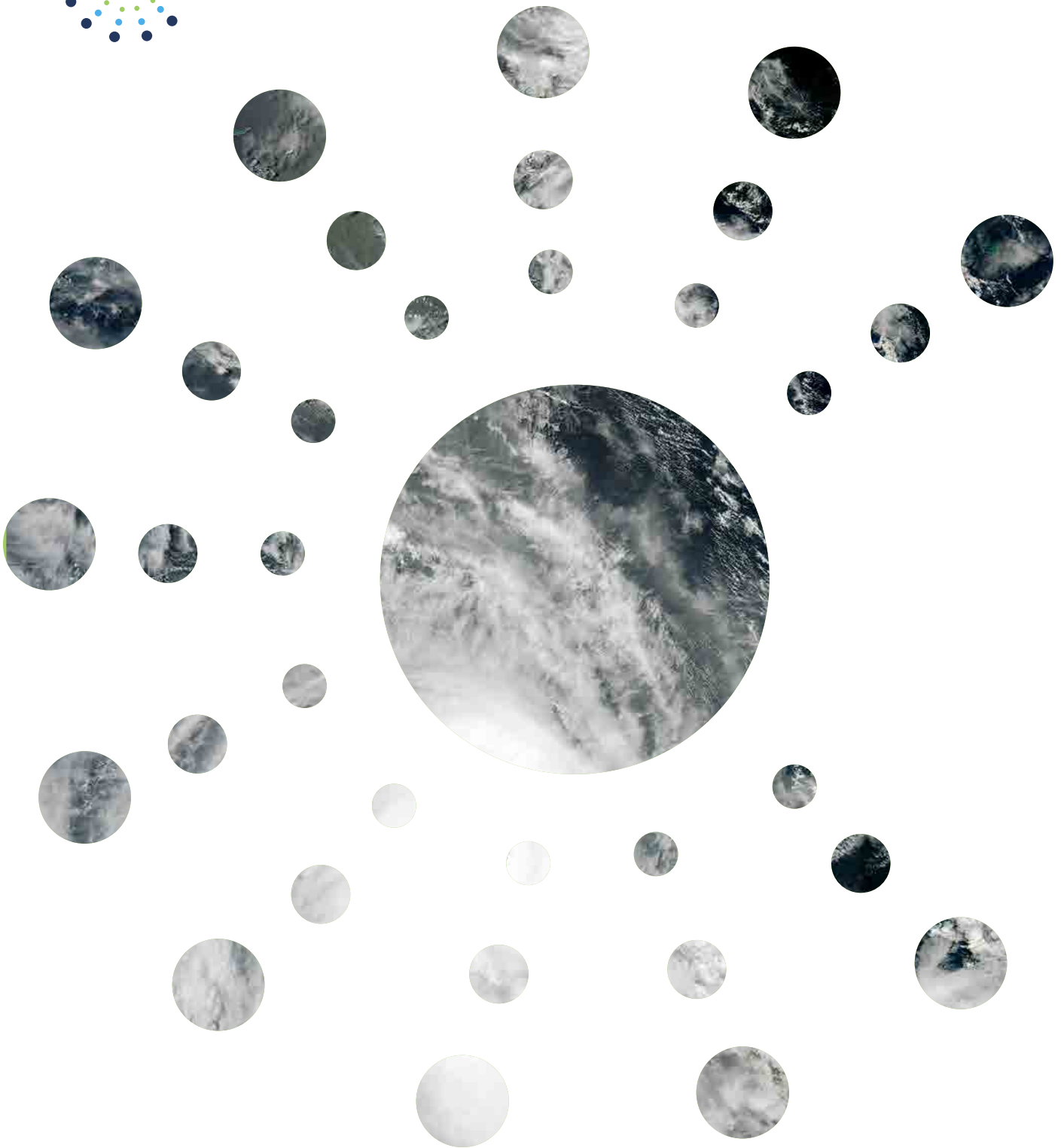




Alliance for Hydromet Development



HYDROMET GAP REPORT 2021

Alliance for Hydromet Development

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FOREWORD

Our climate is rapidly changing. The past decade was the hottest on record. The global mean temperature is approximately 1.2 °C warmer than pre-industrial times. The world is far off track from reducing global greenhouse gas emissions to avert the worst impacts of climate change and limit temperature rise to within 1.5 °C in line with the Paris Agreement.

While reducing greenhouse gas emissions remains essential, United Nations Secretary-General António Guterres has called for a breakthrough on adaptation and resilience in 2021, with significant increases in the volume and predictability of adaptation finance. Such a breakthrough is vital to ensure all people, especially the most vulnerable, can adapt and be more resilient to the consequences of inevitable future weather and climate events.

Science-based, data-driven weather and climate services, such as early warnings, are the foundation for effective adaptation measures. These services are proven to provide a significant return on investments, yielding benefits across all Sustainable Development Goals. Yet large capacity gaps remain to effectively provide these services, particularly in countries most vulnerable to weather and climate events.

The Alliance for Hydromet Development was launched at COP25 in Madrid, bringing together major multilateral development and climate finance institutions for united and scaled-up action in support of better weather forecasts, early warning systems and climate information.

As an Alliance, we made important commitments to increase the effectiveness and sustainability of our work. We prioritized three topics for collective action: developing a common tool to assess countries' hydromet development status, seeking innovative ways to finance developing country surface-based observations, and issuing the first Hydromet Gap Report.

On behalf of all Alliance members I am herewith presenting this report to you. It puts a spotlight on our collective work over the past 18 months. It is an account of progress made and of the major work ahead of all of us to provide a stronger foundation for adaptation and resilient development.



**Prof Petteri Taalas,
Secretary-General, WMO**

*On behalf of the Alliance for
Hydromet Development*



We are in a climate crisis. While the contribution of developing countries to greenhouse gas emissions is limited, the impacts of disasters from climate related weather events are three times higher than in high income countries. Therefore, investments in adaptation must be substantially increased and prioritized.

Accurate weather forecasts and robust climate prediction is critical to make the right adaptation policy and investment decisions. Yet many developing countries, including my own, do not have the resources to sustain the human, institutional and infrastructure capacity required for the provision of high-quality weather forecasts, early warnings and climate information. In this regard, I warmly welcome the commitment of the Alliance for Hydromet Development to unite and scale up support to countries in need.

We highly appreciate the development of the Country Hydromet Diagnostics as a common tool of the Alliance to inform and guide investments. I am particularly pleased that my country has been among the pioneers that contributed to its development and participated in its early application.

Finally, I am encouraged by the innovative way the Alliance aims at tackling the perennial problem of missing basic weather and climate observations, in particular from Africa. Echoing other African leaders, I firmly support the creation of the Systematic Observations Financing Facility.

Weather and climate do not know boundaries. We all need to work together, across our political and institutional boundaries. The Alliance for Hydromet Development is an example of such collaboration – for the benefits of the most vulnerable.



H.E. Alassane Ouattara,
President of Côte d'Ivoire

ALLIANCE MEMBERS' STATEMENTS

“Providing Hydromet assistance to developing countries is key for scaling up and uniting efforts to achieve the common goal of closing the capacity gap on weather, climate, hydrological, disaster risk management, and related environmental services by 2030, and is critical to enable funders such as the Adaptation Fund to help the most vulnerable communities adapt and build resilience to climate change.”

Mikko Ollikainen, Adaptation Fund, Head

“In our region, we have significant gaps in weather observations, especially in our Least Developed Countries and Small Island Developing States, and that’s hampering the ability to respond and adapt to extreme weather events.”

Bruno Carrasco, Asian Development Bank, Director General

“The region where the EBRD operates is vulnerable to climate change impacts, and includes some of the world’s most water-stressed countries. While climate change is exacerbating these vulnerabilities, the aging weather observation systems in many of these countries are not being adequately maintained and are even falling into disrepair. As EBRD recognises the need to help such countries build weather observation and climate forecasting capabilities, the Bank has joined the Alliance for Hydromet Development and fully supports its objectives.”

Harry Boyd-Carpenterr, European Bank for Reconstruction and Development, Managing Director

“The Alliance partnership is important to the Bank and to Africa. It offers a platform to strengthen resilient development and climate adaptation through improved ground-based observing systems, leading to better weather forecasts of extreme events and climate prediction services. ”

Akinwumi A. Adesina, African Development Bank, President

“The lack of sound climate information services impact people from developing countries the most. Only by taking the pulse of our entire planet can we start to meaningfully assess and manage the risks and future impacts climate change may bring.”

Mafalda Duarte, Climate Investment Funds, Chief Executive Officer

“We need to scale up and support long-term global cooperation and partnership to strengthen climate resilience of the most vulnerable. The Alliance for Hydromet Development plays a foundational role in this regard.”

Carlos Manuel Rodriguez, Global Environment Facility, Chief Executive Officer and Chairperson

“Better weather forecasts and early warning systems would save millions of lives. Better climate analytics can also dramatically reduce climate physical and transition risks for businesses and preserve livelihoods.”

Yannick Glemarec, Green Climate Fund, Executive Director

“Having access to the highest quality climate information for forecasts, weather and climate phenomena, including extreme weather events, is crucial.”

Bandar M.H. Hajjar, Islamic Development Bank, President

“Extreme weather and climate events are now increasing in frequency, intensity and severity as a result of climate change. Vulnerable communities are among the hardest hit. The Alliance for Hydromet Development is supporting countries to generate and leverage climate and weather information.”

Achim Steiner, United Nations Development Programme, Administrator

“It’s critical that we strengthen local and global resilience and capacity to prepare and adapt. A big part of that success will depend on our ability to predict and protect. Therefore, better weather forecasts, early warnings and climate information are essential.”

Inger Andersen, United Nations Environment Programme, Executive Director

“Weather and climate observations are essential to realize the full benefits of investments in weather forecasts, early warnings and climate information. There are triple benefits of avoided losses through reliable and accurate early warning systems; optimized production processes through the application of robust weather forecasts in highly weather-sensitive sectors; and social and environmental benefits related to increased capital investments and fiscal stability.”

Mari Pangestu, World Bank, Managing Director

“Countries need greater ability to forecast and predict this climate crisis, so they can protect lives. One of the many different factors driving global hunger today, climate extremes, are one of the most predictable. So let’s work together to help vulnerable communities be better prepared for them.”

David Beasley, World Food Programme, Executive Director

EXECUTIVE SUMMARY

With the past decade being the hottest on record,¹ and the increase in average global temperature already surpassing 1.2°C since pre-industrial times, it is clear that climate change is posing an existential threat. Current pledges, made in light of the Paris Agreement, are estimated to result in an average temperature increase of 3.2°C or more by the end of the century.² Developing countries, and in particular Small Island Developing States (SIDS) and Least Developed Countries (LDCs), are already experiencing the most devastating impacts from increasing weather, water and climate-related extreme events. This not only calls for ambitious mitigation measures but also for stepped-up adaptation and resilience efforts.

High-quality weather, climate, hydrological, and related environmental services ('hydromet' services) provide the foundation for effective climate adaptation and resilience action. Investments in improved weather forecasts, early warnings and climate information make massive economic sense. They create a triple dividend that includes: first, avoided losses – reliable and accurate early warning systems save lives and assets worth at least ten times their cost; second, optimized production – the estimated annual benefits of improved economic production through the application of weather forecasting in highly weather-sensitive sectors amount to about USD 96 billion;³ and third, improved long-term strategic response to climate change. The Global Commission on Adaptation estimates that strategically investing USD 1.8 trillion between 2020 and 2030 globally could generate USD 7 trillion in total net benefits.⁴ High-quality hydromet services are an essential requisite to realize these benefits.

While hydromet services provide a foundational role for economic prosperity and resilient development, many countries face substantial challenges in delivering them. To more effectively support countries to address these challenges sustainably, the World Meteorological Organization (WMO) and major development and

– the Country Hydromet Diagnostics; second, creating an innovative mechanism to finance developing country surface-based weather and climate observations – the Systematic Observations Financing Facility; and third, producing a regular Hydromet Gap Report to track progress on closing the hydromet capacity gap – this is the first such report.

The Country Hydromet Diagnostics (CHD) are a standardized and integrated, operational tool and approach for assessing National Meteorological Services, their operating environment, and their contribution to high-quality hydromet services. They provide coherent and authoritative peer-to-peer assessments across countries.

The Diagnostics allow for a more systematic approach to strengthening countries' hydromet capacity, whereby the coordination, sequencing, and programming of investments are led by the country considering global requirements. The Diagnostics aim to inform hydromet policy and investment decision-making, guiding coordination and sequencing of investments from Alliance members and other funders. Through the Diagnostics, developing countries are expected to benefit from better targeted and aligned support as the assessment of maturity levels indicates where additional focus and

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