

# HIGH MOUNTAIN SUMMIT

*Road map to high mountain hydro-meteorological and climate services, addressing water and hazard impacts and management needs*

## CONCEPT NOTE

**DATES:** 29-31 October 2019;

**VENUE:** World Meteorological Organization Headquarters, Geneva, Switzerland

### CONTEXT AND RELEVANCE

Rising global temperatures are causing unprecedented changes in the environments of high mountain regions. The mountain cryosphere - glaciers, snow, and permafrost - and high-altitude montane ecosystems, provide and regulate freshwater resources for around half of the world's population. The ongoing changes in the distribution of precipitation and in the mountain cryosphere affect the sustainability of these ecosystems. These, in turn, increase the risk of natural hazards, with cascading and, often, devastating effects for populations and economies in mountain regions and downstream, with transboundary effects, including in densely populated lowland areas. Often, these threats exacerbate existing vulnerabilities of social-ecological systems, stemming from poverty, inadequate infrastructure, deficiencies in governance, environmental degradation, and leading to food and water insecurity, health deprivation, destruction of communities, displacement of people, and migration.

Scientifically sound climate and hydro-meteorological data, prediction, information, and services, e.g. multi-hazard early warning systems, are key to strengthening local, national, and regional climate resilience and adaptation capabilities of regions affected, directly or indirectly, by changes in high mountain regions. These provide necessary tools to monitor and report on specific indicators, for informing policy and decision-making on optimizing the allocation and use of resources, regarding water security and risk management, at national, local, and community level.

### HIGH MOUNTAIN SUMMIT

The World Meteorological Organization (WMO), the UN system's authoritative global voice on weather, climate, and water, is taking the lead in addressing these challenges in collaboration with partners, by leveraging the critical role of existing coordination mechanisms, and enable action to enhance the quality, quantity, and application of hydro-meteorological and climate services for disaster risk reduction and related impacts on water resource management, food security and health, through strong cooperation and partnerships.

As a first step, WMO will convene a **High Mountain Summit** to foster a high-level dialogue and engage decision-makers and local actors providing and using hydro-meteorological and climate services, for developing a roadmap to science-based, socially relevant, urgently needed, reliable, and user-driven knowledge and information systems supporting sustainable development and the risk reduction in mountain and downstream regions.

The Summit will identify priority actions on policy, science, observations, and services, addressing the effects of climate changes observed in high mountain cryosphere, and their impacts on downstream ecosystems, communities, and water resources.

A limited number of high relevance initiatives will be identified to be pursued as part of the roadmap, with support from the engaged participants.

### FORMAT

The Summit is expected to bring together approximately 150 participants representing high-level stakeholders, partners, practitioners, and research communities.

The Summit will include high-level opening and closing plenary sessions, four thematic sessions with keynotes and panel and plenary discussions, as well as an information area, and a welcome and registration area. The Provisional Program of the Summit is included in the [Annex](#) to this Concept Note. It will conclude with adopting a Call for Action, and with formulating a roadmap for priority actions, including a limited number of priority pilot projects.

### GLOBAL CONTEXT

The Summit will follow shortly after the expected release of the IPCC [Special Report on the Ocean and Cryosphere in a Changing Climate](#) (SROCC), which includes a dedicated chapter on high mountain areas, at the 51st Session of the IPCC on the approval of the Summary for Policymakers (accepting the underlying Report), in Monaco, 20-23 September 2019. The Summit will be followed by the Santiago Climate Change Conference, featuring the 25th session of the Conference of the Parties (COP 25) to the UNFCCC and meetings of the UNFCCC subsidiary bodies, from 2-13 December 2019.

The Summit will take into account the needs of WMO Members regarding the monitoring and reporting on targets within the [Sendai Framework](#), [Paris Agreement](#), the [2030 Agenda](#), and the Sustainable Development Goals. In the broader context, it will contribute to the [Framework for Action for Implementing the 2030 Agenda for Mountains](#) (2017) approved by Mountain Partnership members and the [International Decade for Action: Water for Sustainable Development](#) (2018-2028).

### EXPECTED OUTCOMES

The Summit will seek to:

- Leverage the influence of relevant stakeholders, rights-holders, public and private sector leaders, and funding agencies for an integrated approach across policy frameworks, for the necessary level of attention and resources for priority action and investments addressing impacts of climate change in high mountains.
- Identify practical steps for strengthening the capacity for the provision of hydrological, meteorological, climate and prediction services, for optimizing and



enhancing cryosphere and high mountain observations and access to data, and for advancing the scientific research to bridge the information gaps.

- Identify roadmaps for climate risk and early warning systems for mountain-specific threats, including a focus on regional transboundary scales, e.g., extreme events, glacial lake outburst floods (GLOFs), avalanches, permafrost thawing related risks, *Foehn* type wind (storms), air pollution, and others.
- Promote closer and interactive links between science and policy at all levels of governance, ensuring science-based input to policy development and long-term adaptation strategies.

**For more information, please visit the Summit's website at:**

<http://highmountainsummit.wmo.int/>



**Annex**

**HIGH MOUNTAIN SUMMIT**

**Provisional Programme**

The Summit will include six segments. These are aligned with the long term goals of the WMO Strategic Plan, to provide a framework for engagement.

Segment	Theme
<b>Segment 1</b>	High Level messages: outline expected outcomes in the current international context, and the regional and national challenges and needs for high mountain hydro-meteorological and climate services, addressing water and hazard impacts and management needs
<b>Segment 2</b>	Identify priority user needs for socially relevant, urgently needed knowledge and information in support of risk reduction in mountain and downstream regions, and supporting adaptation to climate change and sustainable development of mountain regions
<b>Segment 3</b>	Identify the necessary prerequisites for closing the capacity gap on weather, hydrological, and climate services, user-oriented and fit-for-purpose for addressing water and hazard impacts and management needs in a changing mountain environment
<b>Segment 4</b>	Identify opportunities to enhance Earth system observations and data availability from High Mountain regions, as the technical foundation for sustainable services and research.
<b>Segment 5</b>	Leverage current science developments to improve the mountain earth systems science and predictive capability needed for closing the service and information gaps, and leading to improved policy-relevant advice for sustainable mountain development
<b>Segment 6</b>	High Level Panel endorsing the outcome of the Summit: Bringing it all, together, and adopt a Call for Action on High Mountain Weather, Climate, and Water, and identify a roadmap of actions and engagements, with 2-3 priority pilot projects.

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Each segment will be led by a panel of 6 participants, including a moderator, and two keynote speakers. The segments will consist of:

- Keynote speeches;
- Panel interventions and discussions;
- Forum or breakout session discussions, to ensure broader engagement;
- A wrap-up session.

Each segment will provide 1-2 key messages for the Call for Action, and will recommend 1-2 priority projects/initiatives for the immediate period, with indications of support, and by building on existing initiatives.

Segment 6 will bring forward the outcomes of individual sessions, and conclude with a Call for Action and roadmap of action and engagements.

Current and relevant projects will be identified in preparation of the Summit, to support the discussions on potential synergies and inform the development of a roadmap.

