

UNFCCC COP28 – Dubai, United Arab Emirates

Central Asia Regional Pavilion

December 3, 2023. 11.15-12.45

<p>Title</p>	<p>Monitoring climate change impacts in Central Asia’s cryosphere: cooperation, research and technology for improved climate change adaptation and resilience</p>
<p>Short description</p>	<p>The side-event will feature experiences and examples of monitoring climate change impacts on glaciers and seasonal snow in the high-mountains of Central Asia.</p> <p>It advocates for cooperation among Central Asian countries and coordinated efforts across relevant institutions to build capacity and knowledge of cryosphere monitoring for enhanced disaster risk reduction and improved water resources planning and allocation for sustainable economic development.</p> <p>It addresses cooperation among decision-makers, private sector and research institutions and the use of innovative technology to enhance early warning systems as well as short and long-term water availability forecasting for water users and watershed managers.</p>
<p>Long description</p>	<p>Cryospheric stores of water play a major role in the economy, livelihoods and ecosystems across Central Asia. Particularly, irrigated agriculture, accounting for nearly 90 per cent of all freshwater withdrawals in the region, relies heavily on mountain water given the average low levels of precipitation in the region and the increasingly longer, drier and hotter summer season.</p> <p>At the same time, and in connection with the higher temperatures due to climate change, the rapid melt of</p>

glaciers and snow in upstream countries, like Tajikistan and Kyrgyzstan, is increasingly triggering water-related disasters, such as mudflows, landslides and flash floods, negatively affecting the lives of the most vulnerable.

The prospects for the upcoming decades in Central Asia are challenging. By 2050, the population is anticipated to grow by 37%. Water availability due to the rapid melt of glaciers and snow and the low levels of average rainfall in the region will have reached its peak point by 2050, only to dramatically decrease shortly after; water-related disasters are expected to increase along the way. All combined, water, energy, food and environment security in Central Asia is expected to be heavily compromised in the future.

In this sense, improving the understanding of the water cycle at higher altitudes, specifically understanding the different contributions of rainfall, glacier and snow melt is of utmost importance to improve climate change adaptation and resilience in Central Asia.

In the short-term, early warning systems to face water-related disasters and seasonal water availability forecasts to protect agriculture productivity can strengthen the adaptive capacities of communities and make them more resilient. In the medium and longer term, climate change-informed water allocation scenario analysis will enhance watershed managers' planning capacities to face future periods of water excess or shortage.

The side event will focus on experiences and examples of cooperation, data sharing, use of glacier and snow survey technology and scientific research across Central Asian countries, and relevant public, private sector and research institutions to improve cryosphere monitoring in the region.

Speakers from different countries and relevant institutions with capacities and knowledge for cryosphere monitoring and glacio-hydrological modelling for early warning and water allocation will present lessons learned and discuss the importance of cooperation, data sharing, research and

	<p>technology to improve the understanding of the high-altitude water cycle and achieve greater climate change adaptation and resilience in the region, particularly by:</p> <ul style="list-style-type: none"> • Showcasing the potential of regional and global cooperation and data sharing between the public and private sectors and scientific research institutions to monitor key hydrometeorological variables in high mountainous environments and to quantify water supply availability through hydrological modelling. • Debating cryosphere monitoring survey technology and hydrological modelling approaches suited for alerting on water-related disaster risks and dealing with future changes in water demand in light of increasing pressures on water, energy, food and environment security in Central Asia. <p>The session advocates for creating strong partnerships across cryosphere-focused organizations, water-related stakeholders and across different Central Asian countries to scale local to regional capacities to systematically assess the understanding of the water cycle at higher altitudes and inform short-term and long-term management of water resources. It will showcase how to leverage cooperation, research and state-of-the-art technology for the purpose of improving climate change adaptation and resilience in Central Asia.</p>
<p>Organizing Partners</p>	<p>GIZ on behalf of the Federal Foreign Office (AA) and the German Federal Ministry for Economic Cooperation and Development (BMZ), SDC, Republic of Tajikistan and Kyrgyz Republic and UNESCO Central Asian Regional Glaciological Center in Kazakhstan.</p>
<p>Contact persons</p>	<p>Caroline Milow (caroline.milow@giz.de), Esteban Boj Garcia (esteban.boj@giz.de)</p>

<p>Speakers / Panellists /Moderators</p>	<ul style="list-style-type: none"> ● Mr. Torsten Brezina, Deutsche Gesellschaft für Internationale Zusammenarbeit (Moderator) ● Ms. Christina Wegelein, Climate and Security Division, German Federal Foreign Office ● Mr. Jamshed Shoimzoda, First Deputy Minister, Ministry of Energy and Water Resources, Republic of Tajikistan ● XXX, Swiss Development Cooperation ● Mr. Igor Severskiy, Central Asian regional glaciological centre as a category 2 centre under the auspices of UNESCO, Almaty, Kazakhstan (online) ● Mr. Abdulhamid Kauymov, Centre for Glacier Research under the Academy of Sciences, Republic of Tajikistan ● Mr. Walter Immerzeel, University of Utrecht ● Dr. Abror Gafurov , GFZ Potsdam
<p>Please indicate proposed format of the event, including any innovative/interesting elements</p>	<p>The event will be opened by high-level government officials to set the scene. A keynote will be provided by a scientific research institution as a technical input to the side-event. A panel will combine the themes of cooperation and technology as enablers for efficient and effective cryosphere monitoring interventions to improve early warning and glacio-hydrological water allocation in Central Asian countries.</p>

Proposed agenda

Duration (mins)	Agenda Item (description)	Speaker/Moderator (name, organisation, position)
5 min	Welcome	Moderation (Torsten Brezina, GIZ)
15 min	Opening remarks (2 persons, 7 min each)	German Foreign Office (Ms. Christina Wegelein, Climate and Security Division) Republic of Tajikistan (Jamshed Shoimzoda, First Deputy Minister of Energy and Water)
15 min	Keynote – Technical Input on Cryosphere monitoring for improved	University of Utrecht (Walter Immerzeel, virtual)

	understanding of the high-altitude water cycle	
50 min	<p>Panel: Cooperation, research and technology to monitor climate change impacts in Central Asia's cryosphere. Potential and constraints. (5 panellists, 2 questions per panellist, 10 questions in total)</p>	<p>SDC (XXX)</p> <p>Central Asian regional glaciological centre as a category 2 centre under the auspices of UNESCO, Almaty, Kazakhstan (Mr. Igor Severskiy) (online)</p> <p>Centre for Glacier Research, Republic of Tajikistan (Mr. Abdulhamid Kauymov)</p> <p>Central-Asian Institute for Applied Geosciences, CAIAG) (Mr. Bolot Moldobekov)</p> <p>Hydrometeorological Centre of Kyrgyzstan (Ms. Tatyana Chernikova)</p> <p>GFZ Potsdam (Dr. Abror Gafurov)</p>
5 min	Closing	Moderation
TOTAL = 90 mins		