



AGA KHAN FOUNDATION

INTERNATIONAL CONFERENCE PROGRAMME

Integrating Science and Modern Technologies to Address Water Challenges and Improve the Management of Glaciers and Glacial Lakes

22–23 October 2026 · Dushanbe, Tajikistan

Venue: National Library of Tajikistan

The rational use and sustainable management of water resources requires bringing together scientific knowledge, modern technologies and practical experience. In the context of climate change, the study of glaciers and glacial lakes, improved hydrological monitoring, the use of satellite observations and the forecasting of hazardous natural processes are of particular importance. International scientific cooperation and data sharing make it possible to develop well-founded solutions for preserving water sources, reducing disaster risk and ensuring a reliable water supply for the population.

“We must always bear in mind the growing impact of climate change on efforts to ensure the sustainable management of water resources.”

— Emomali Rahmon

PROGRAMME AT A GLANCE

DAY 1 · THURSDAY

22 October

- 09:30** Registration
- 10:00** Opening ceremony
- 11:00** Plenary Presentations
- 13:30** Session I · Water security
- 15:30** Session II · Glacier dynamics
- 16:30** Day summary

DAY 2 · FRIDAY

23 October

- 09:00** Sessions III–IV · Hall 1
- 09:00** Sessions V–VI · Hall 2
- 11:00** Summary and closing ceremony



DAY

1

22 October 2026

Thursday · All sessions — Hall 1

■ Hall 1 ■ Breaks

09:30–10:00

Registration welcome coffee

OPENING

HALL 1

Opening Ceremony and Welcome Session

Objective: to officially open the conference and highlight the vital role of science, technology and international cooperation in addressing the challenges of sustainable water resources management, glacier preservation and climate change adaptation.

10:00–10:10

Screening of a short film on the global initiatives of the Republic of Tajikistan on water and glacier preservation

10:10–10:20

Quvvatzoda Zaydullo Zuvayd

Welcome address

Head of the Education and Science Division, Department of Education, Culture, and Information, Executive Office of the President of the Republic of Tajikistan

10:20–10:30

Qobiljon Khushvakht Khushvakhtzoda

Welcome address

President of the National Academy of Sciences of Tajikistan

10:30–10:40

Markus Durst

Welcome address

Deputy Director Swiss Cooperation office in Tajikistan Swiss Consular Agency Government of Switzerland

10:40–10:50

Javlon Hamdamov

Welcome address

Aga Khan Foundation Tajikistan (AKF)

10:50–11:00

York Schuegraf

Welcome address

German Embassy Representative

Moderator: Aminjon Gulakhmadzoda

PLENARY SESSION

HALL 1

Plenary Presentations

11:00–11:15

Natalya Ershova

Использование инновационных технологий для уточнения водных ресурсов и оледенения бассейнов рек Кыргызстана на современном этапе»

Leading researcher at the Laboratory of Surface Water Resources of the Institute of Hydrometeorology and Geophysics of the National Academy of Sciences of Kyrgyzstan

11:15–11:25

Safiya Asalbekova

River Water Quality in Mountainous Catchments: Scientific Approaches of Monitoring and Environmental Assessment – a case study of science-based teaching at the university level.

International Water Management Institute, Kazakh German University.



11:25–11:40 **Nasser Mehrdadi/Saeed Givehchi**
Climate Policy and Water Governance in Iran: Towards an Integrated Framework for Community Resilience/Climate Change and Landslide Hazard in Iran: A Conceptual Framework for Mountain Disaster Risk Reduction
Professors, Faculty of Environment Engineering Dept., Faculty of Environment, University of Tehran

11:40–11:50 **Ilkhomjon Makhmudov**
Research on Hydraulic Parameters of the Water Supply Channel of a Cascade Pumping Station
Scientific Research Institute of Irrigation and Water Problems Uzbekistan

11:50–12:00 **Khusnoro Saidova**
Green Central Asia: Developing Regional Cooperation on Climate Change, Glacier Research, and Sustainable Water Resource Management
Environmental Policy Advisor, GIZ

Moderator: Said Sharipov

12:30–13:30 **GROUP PHOTO / LUNCH AND NETWORKING**

SESSION I

HALL 1

Water Security and Innovative Water Resources Management

Objective: to examine and advance science-based, integrated and innovative approaches to sustainable water resources management under climate change, with a focus on improving water-use efficiency, strengthening integrated water resources management, enhancing monitoring and data-sharing systems, and developing cross-sectoral and transboundary cooperation to strengthen water security and climate resilience.

13:30–13:45 **Dilshod Begimkulov**
Integration of hydrogeological data for monitoring irrigated lands of Mirzachul
Tashkent State Technical University named after Islam Karimov

13:45–14:00 **Zafar Sultonov**
Climate Change, Water Security and Energy Resilience in Tajikistan
Climate and Sustainable Development Specialist, OSCE Academy in Bishkek

14:00–14:15 **Dilmurod Ruziev**
Climate-driven changes in the Charvak Reservoir system and implication for downstream water security in Central Asia
PhD Researcher Tashkent Uzbekistan

14:15–14:30 **Aslam Qadamov**
Hydro-Climatic Drivers of Discharge Variability in the Gunt River, Tajikistan (1960–2023)
University of Central Asia, Mountain Societies Research Institute

14:30–14:45 **Nigora Akbarova**
Intelligent Digital In-Line Holography for Multi-Parameter Water Monitoring: Suspended Sediment, Microplastics and Groundwater
Department of Intelligent Systems, Tashkent, Uzbekistan

14:45–15:00 **Qumriya Vafodorova**
Scaling Climate-Smart Agricultural Technologies and Local Governance: Pathways to Mountain Water Security and Community Resilience in Tajikistan"
Welt Hunger Hilfe (WHH)

Moderator: Hofiz Navruzshoev



15:00–15:30

COFFEE AND NETWORKING

SESSION II

HALL 1

Glacier Dynamics, Climate Change and Future Water Resources

Objective: to provide a scientific assessment of the dynamics of glaciers and associated ecosystems under changing climatic conditions, including the effects of temperature and precipitation variability on glacier mass balance and evolution, and to examine the role of glaciers in sustaining water resources, mountain ecosystems and long-term environmental resilience.

15:30–15:40

Manuchehr Gulakhmadov

Accelerated glacier retreat and declining snow persistence reshape seasonal runoff in the Upper Amu Darya (2000–2025)

PhD student, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences

15:40–15:50

Navruzshoev

Межгодовая изменчивость баланса массы ледников в бассейне реки Гунт (Ледник №457)

Mountain Societies Research Institute, University of Central Asia, Dushanbe, Tajikistan

15:50–16:00

Asif Khan

Glacier Change and Recent Flood Hazards in the Shutubar Glacier–Nala System, Upper Hunza, Pakistan: A Multi-Temporal Remote Sensing Assessment

Senior year student, Earth and Environmental Science Department, University of Central Asia, Tajikistan

16:00–16:10

Yusuf Rakhimbekov

Bathymetric mapping and hydrodynamic modelling of outburst processes in high-mountain lake systems of Tajikistan

PhD, Aga Khan Foundation Tajikistan

16:10–16:20

Amirkhamza Murodov

Future climate-driven earlier shifts and reductions in Vakhsh River flow extremes, Amu Darya basin

Moderator: Khurshedmo Aknazarova

CLOSING SESSION OF THE DAY

HALL 1

Key Outcomes and Next Steps

Objective: to summarise the key findings and outcomes of the conference sessions, and to identify and agree on priority areas and practical pathways for further cooperation, joint action and follow-up initiatives.

16:30–17:00

— PLENARY SESSION

— Session I. Water Security and Innovative Water Resources Management

— Session II. Glacier Dynamics, Climate Change and Future Water Resources

Facilitator: Aminjon Gulakhmadzoda



DAY

2

23 October 2026

Friday · Parallel sessions in Halls 1 and 2

08:30–09:00 COFFEE AND NETWORKING · BOTH HALLS

09:00–10:30 · HALL 1

Sessions III and IV

09:00–10:30 · HALL 2

Sessions V and VI

SESSION III

HALL 1

Water Governance, Climate Policy and Community Resilience

Objective: to examine governance mechanisms, policy frameworks and integrated approaches to the protection and sustainable use of water resources and glacier-dependent ecosystems under changing climatic conditions, and to identify ways to strengthen the environmental and socio-economic resilience of vulnerable communities.

09:00–09:10

Khurshedmo Aknazarova

Regional Cooperation and Climate Resilience in Central Asia: Addressing Cryosphere Change and Glacial Lake Outburst Flood Risks

UNESCO AF-GEF National Coordinator for Tajikistan, UNESCO Regional Office in Almaty

09:10–09:20

Egor Gennadyevich Prikaznyuk

Water Quality Monitoring System for the Syr Darya River

Assistant Professor at the University of Twente, Netherlands

09:20–09:30

Payrav Nazirov

Тақмили Механизмҳои Ҳуқуқии Ҷиғзи Кӯлҳои Пиряхӣ Ва Пешгирии Хавфҳои Экологӣ Дар Ҷумҳурии Тоҷикистон

A 3rd year student of the Faculty of Law of the Tajik State University of Law, Business and Politics.

09:30–09:40

Salomat Ayozova

Information regarding natural disasters in mountain villages and high-risk zones within the Zeravshan Valley. Challenges faced by the local population and the impact of these natural disasters; the victims are primarily women and children.

Director, "Nuri Umed" LLC

09:40–09:50

Umed Unusaliev

Artificial Intelligence and Digital Technologies in Sustainable Water Resource Management and Strengthening Climate Resilience in Tajikistan

Independent Journalist and Media Professional

Moderator: Ubaydullo Pirmamadov



SESSION IV

HALL 1

Science, Technology and Innovation for Water Security and Climate Resilience

Objective: to examine the role of science, digital technologies and innovation in advancing research, monitoring, modelling and sustainable management of water resources, glaciers and climate systems, and to present modern solutions that strengthen evidence-based decision-making, improve risk forecasting and early warning, and enhance the resilience of river basins under climate change.

09:50–10:00**Uktam Jovliev**

Methods for calculating the resistance coefficient of screens and mesh structures in hydraulic engineering facilities

Head of the Laboratory of River, Canal and Hydraulic Structures, Uzbekistan

10:00–10:10**Oybek Gulomov**

Hydraulic Justification of Parameters for an Adaptive Shallow Drainage System for Irrigated Lands Under Conditions of Water Resource Scarcity

Director, Surkhandarya Regional Centre of the Scientific Research Institute of Irrigation and Water Problems, Termez, Uzbekistan

10:10–10:20**Navruz Murodov**

Scientific Foundations for the Design and Construction of Micro-Hydropower Plants on Irrigation Canals

Scientific Research Institute of Irrigation and Water Problems

Moderator: Said Sharipov

SESSION V

HALL 2

Glacial Lakes and Glacial Lake Outburst Floods (GLOF): Risk Assessment, Early Warning and Resilience

Objective: to strengthen international scientific and institutional cooperation among research institutions, international organisations and development partners in monitoring, assessing and studying glacial lakes and glacial lake outburst floods (GLOF), promoting the exchange of advanced technologies, methodologies, data and best practices in risk assessment, forecasting, early warning, preparedness and disaster risk reduction.

09:00–09:10**Nasim Saidov**

Climate Change and the Hydro-Solar Tandem: A Way to Supply Electricity to Consumers

Center for Innovative Development of Science and Digital Technologies

09:10–09:20**Ахлиддин Умаров**

Protection of Glacial Lakes and Mountain Ecosystems: Legal and Institutional Mechanisms in the Republic of Tajikistan

Second-year law student

09:20–09:30**Амир Мирзобобоев**

The impact of global warming on Tajikistan's drinking water reserves from glaciers: projections up to 2050.

Specialist – Secretary of the Legal Department within the Office of the Chairman of the Sughd Region

09:30–09:40**Ubaydullo Pirmamadov**

Integrated assessment of the Shokhdara River watershed, water resources management planning and high-mountain lake outburst risk in Roshtkala District, Tajikistan

Geologist, Aga Khan Foundation Tajikistan

Moderator: Sattor Dustmadov



SESSION VI

HALL 2

Mountain Hazards, Disaster Risk Reduction and Resilience

Objective: to advance research and interdisciplinary cooperation in assessing, monitoring, modelling and managing mountain hazards, including debris flows and mudflows, landslides, flash floods and other cascading hazards, and to promote advanced approaches to disaster risk reduction, early warning, preparedness and strengthening the resilience of mountain communities and critical infrastructure.

09:40–09:50 **Narziev Jasurbek**
Critical Groundwater Depth as a Control Criterion For Climate-Adaptive Shallow Drainage Of Irrigated Lands
Uzbekistan

09:50–10:00 **Sattor Dustmadow**
Integrated Risk Assessment and Preparedness for Resilient Mountain Communities in Gorno-Badakhshan, Tajikistan

10:00–10:10 **Sohibi Bahrullo**
Potential risks of Lake Sarez to regional security: threats and ways to reduce the risk
 Institute for the Study of Problems of Asian and European Countries, National Academy of Sciences of Tajikistan

10:10–10:20 **Bozor Ibodov**
Development of a Deep Learning-Based Technology for GSHP Potential Mapping from GIS Data
Research fellow, Center for Innovative Development of Science & Digital Technologies of NAST

Moderator: Yusuf Rahimbekov

CLOSING SESSION

HALL 1

Key Outcomes and Next Steps · Closing Ceremony

Objective: to summarise the key findings and outcomes of the conference sessions, and to identify and agree on priority areas and practical pathways for further cooperation, joint action and follow-up initiatives.

10:20–11:00 **SESSION SUMMARIES**

- Session III. Water Governance, Climate Policy and Community Resilience
- Session IV. Science, Technology and Innovation for Water Security and Climate Resilience
- Session V. Glacial Lakes and Glacial Lake Outburst Floods (GLOF): Risk Assessment, Early Warning and Resilience
- Session VI. Mountain Hazards, Disaster Risk Reduction and Resilience

OFFICIAL CLOSING CEREMONY

- **Resolution**
- Closing remarks

Facilitator: Aminjon Gulakhmadzoda

11:00–12:00 **LUNCH AND NETWORKING**