

Young Scientist School 2024

Climate Impact Assessment on Water Resources in Uzbekistan: Implications to agriculture and hydropower sectors

1 Dates & Venue

Dates: 29 – 31 July 2024
Venue: TIIAME National Research University,
39 Kari Niyaziy Street, Tashkent 100000, Uzbekistan

Description

The Young Scientist School (YSS) offers an intensive program covering climate change and water resources in Uzbekistan. Lecturers from prestigious institutions such as Humboldt University of Berlin, TIIAME National Research University, National University of Uzbekistan, as well as research centres like the German Research Centre for Geosciences (GFZ Potsdam) and the Centre for Environmental Research (UFZ Leipzig), will deliver insights into climate circulations, climate change impacts on water resources, and effective management strategies.

The curriculum includes theoretical sessions on hydrology and practical exercises using modern tools for managing water resources in Uzbekistan amidst climate change. This program aims to equip young scientists with the knowledge and skills needed to address real-world challenges in these fields.

Who can apply?

The workshop is open to young specialists and early career scientists from Uzbekistan who are interested in water, climate, and/or agriculture research. Fluency in English is a prerequisite for participation, as the courses will be conducted in English.

How to apply?

To apply, please submit a one-page CV to Ms Astrid Krahn (krahn@gfz-potsdam.de) no later than July 15th.

Please note that the school is free of charge, but participants are responsible for covering all other expenses related to their travel to attend the YSS.

Lecturers

- Dr. Stefan Geyer (Department of Catchment Hydrology, UFZ Leipzig, Germany)
- Mr. Phillip Schuster (Geography Department, Humboldt-University Berlin, Germany)
- Dr. Abror Gafurov (Hydrology Section, GFZ German Research Centre for Geosciences, Germany)
- Mr. Alexander Georgi (Geography Department, Humboldt-University Berlin, Germany)
- Dr. Milena Latinovic (Hydrology Section, GFZ German Research Centre for Geosciences)

Organizers

<p>Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences Hydrology Section, Potsdam, Germany</p>	
<p>Humboldt University to Berlin Berlin, Germany</p>	
<p>UFZ Helmholtz Centre for Environmental Research Leipzig, Germany</p>	
<p>Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIAME) National Research University (NRU)</p>	
<p>National University of Uzbekistan named after Mirzo Ulugbek</p>	
<p>Hydrometeorological Research Institute (NIGMI) under the Hydrometeorological Service of Uzbekistan (Uzhydromet)</p>	

Contact to the organizers:

Astrid Krahn, GFZ German Research Centre for Geosciences, krahn@gfz-potsdam.de

Preliminary Programme

Monday, 29 July	
<p>Welcome and Opening <i>Session head: Abror Gafurov, GFZ German Research Centre for Geosciences</i></p> <p><i>Venue: TIIAME NRU, Conference hall</i></p>	
8:30	Registration
9:00	<p>Opening of the event and moderation</p> <ul style="list-style-type: none"> ▪ Dr. Abror Gafurov, CLIMWATER Project Coordinator, GFZ Potsdam <p>Welcome speeches:</p> <ul style="list-style-type: none"> ▪ Prof. Bakhodir Mirzaev, Rector, TIIAME NRU ▪ Representative of the Innovation Agency, Ministry of Higher Education and Research of the Republic of Uzbekistan (TBC) ▪ Representative of German Embassy (TBC)
9:30	<p>Overview and objectives of the CLIMWATER Project <i>Dr. Abror Gafurov, Prof. Abdulkhakim Salokhiddinov, Mr. Phillip Schuster</i></p>
10:00	Questions and answers
10:30	<i>Coffee break</i>
<p>Modelling future runoff contribution in glacierized catchments <i>Session heads: Phillip Schuster, Alexander Georgi, Humboldt-University Berlin</i></p>	
11:00	Introduction to Climate Modelling
12:00	Glacio-hydrological modelling and the MATILDA tool
12:30	<i>Lunch</i>
<p>Glacio-hydrological modeling - Hands-on <i>Session heads: Phillip Schuster, Alexander Georgi, Humboldt-University Berlin</i></p>	
13:30	Quickstart in MATILDA glacio-hydrological modeling tool
14:30	<i>Coffee break</i>
15:00	MATILDA – Group Projects
16:00	Group Presentations and Discussion
17:00	Summary of day 1
Tuesday, 30 July	
<p>Monitoring of water resources using MODSNOW in Uzbekistan <i>Session head: Abror Gafurov, GFZ German Research Centre for Geosciences</i></p>	
9:00	Introduction into MODSNOW water resources monitoring system
10:00	Question and answers

10:30	<i>Coffee break</i>
11:00	Hydrological forecasting exercise using MODSNOW
13:00	<i>Lunch</i>
14:00	Introduction into modelling snow water equivalent (SWE)
15:30	<i>Coffee Break</i>
16:00	Estimation of water formation in the Chirchik River Basin (exercise)
17:00	Summary of day 2
Wednesday, 31 July	
Groundwater resources	
<i>Session head: Stefan Geyer, UFZ Leipzig</i>	
09:00	Introduction to Groundwater Resources and Climate change
10:00	Introduction to Groundwater Resources of Uzbekistan, an environmental and operational overview
11:00	<i>Coffee Break</i>
11:30	Using Tracer and Isotope Methods for the Management of Groundwater Resources
13:00	<i>Lunch</i>
Application of remote sensing data in CA – Introduction to GRACE/-FO missions	
<i>Session head: Milena Latinovic, GFZ German Research Centre for Geosciences</i>	
14:00	Introduction to remote sensing data application in the region
14:30	Hands-on: Modeling and analyzing trends of Terrestrial Water Storage
16:00	<i>Coffee Break</i>
16:30	Group Presentations and Discussion
17:30	Workshop Summary