

Seventh North and Central Asia Multistakeholder Forum on the Implementation of the Sustainable Development Goals, November 1-2, 2023, Almaty, Kazakhstan

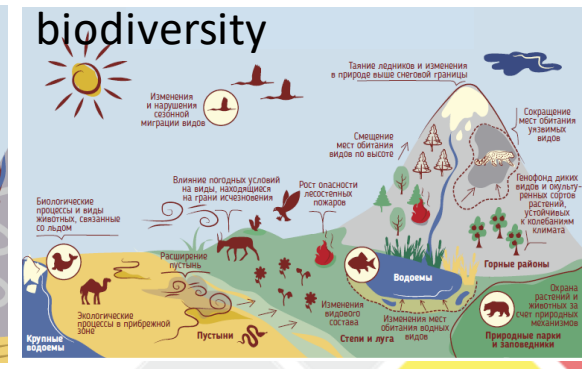
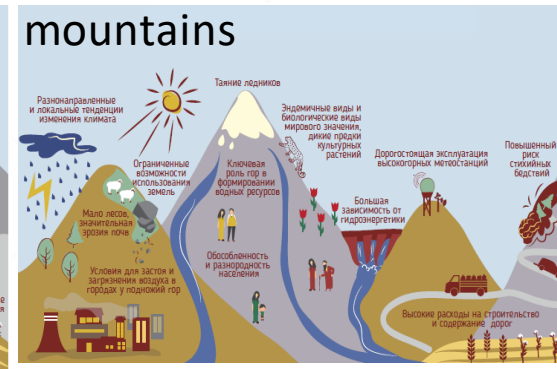
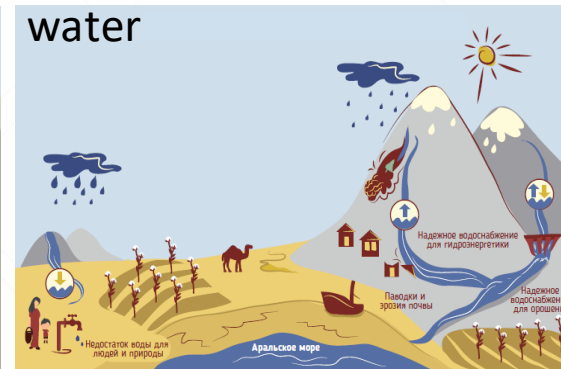
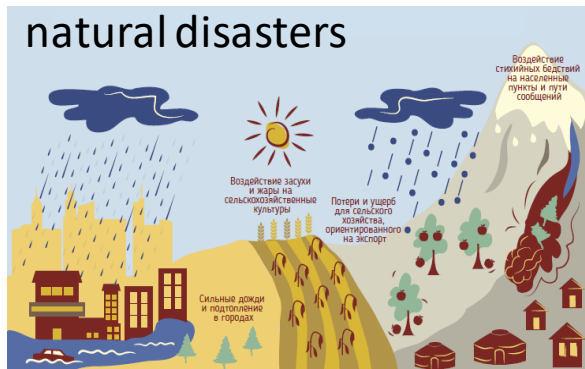
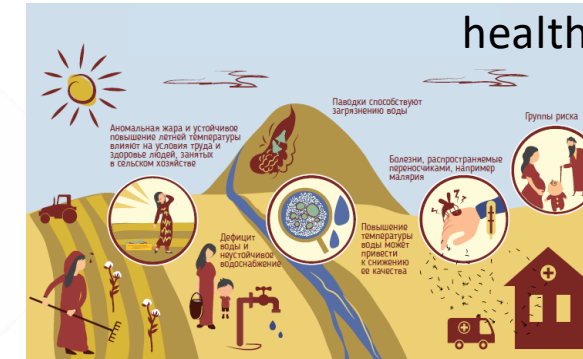
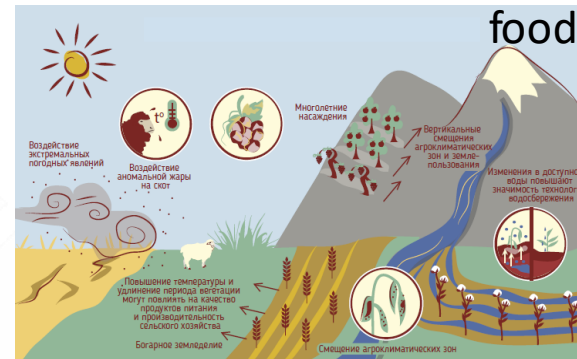
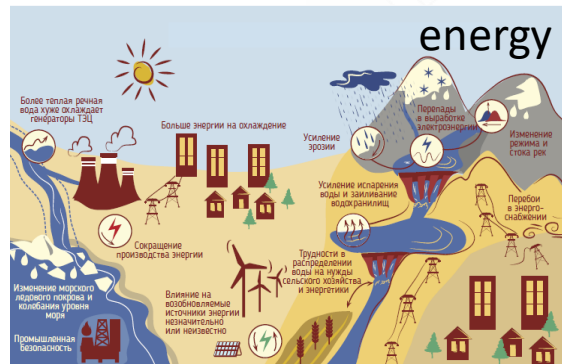
Water and climate nexus in Central Asia. Current development and future recommendations.

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Climate change and security hotspots in Central Asia

Climate security risks in Central Asia:

- Tension between downstream and upstream countries rises due to growing water scarcity
- Border conflicts intensify as climate change restricts access to natural resources
- Climate-insensitive development undermines regional opportunities for cooperation
- Social instability increases as a result of the uncontrolled impact of climate change and energy



National Determined Contributions (updated, 2022)

- **Kazakhstan:** By 2030, a 15% reduction in greenhouse gas emissions (base year 1990) and a 25% reduction with international support.
Priority sectors for climate change adaptation: DRR, Agriculture, Forestry, Water Recourses.
- **Kyrgyzstan:** By 2050, CO2 emissions will not exceed 1.23 tons of CO2 per person.
Priority sectors for climate change adaptation: Energy, DRR, Agriculture, Forestry, Water Recourses, Health.
- **Tajikistan:** By 2030, limit CO2 emissions to no more than 90% of 1990 levels.
Priority sectors for climate change adaptation: Energy, DRR, Agriculture, Ecosystem, Forestry, Water Recourses.
- **Turkmenistan:** By 2030 - to stop the growth of CO2 emissions.
Priority sectors for climate change adaptation: Agriculture, Soil, Ecosystem, Forestry, Water Recourses, Health.
- **Uzbekistan:** Halve the energy intensity of GDP by 2030, introduce modern energy-saving technologies.
Priority sectors for climate change adaptation: Agriculture, Ecosystem, Forestry, Water Recourses.

Regional Climate Change Adaptation Strategy

As a part of Aral Sea Basin Plan, was approved by Intergovernmental Working Group on September 28, 2023. Within a project facilitating by GIZ under an umbrella of a Green Central Asia program.

Recommendation 1: Lay the foundations for adaptation through rapid, robust, and inclusive development

- Develop an overarching climate adaptation policy
 - Cross-sectorial implementation, monitoring, evaluation and coordination
 - Capacity building on monitoring adaptation and resilience initiatives and integrating research into policy
 - Accelerate investment in human capital development and review university curriculum
 - Invest in extending universal health coverage to predominantly rural parts of the country



The climate change impacts on and adaptation measures for Water, Agriculture, Rangelands and Pasture Lands in Kazakhstan

Barbara Janusz-Pawletta, Viktoriya Krylova, Saltanat Zhakenova, ArsenTleppayev, Yuliya Borissova, Larissa Kogutenko, Maira Kussainova

Recommendation 2: Facilitate the adaptation of people and firms representing vulnerable sectors, such as agriculture and water resources management

- Increase investment in R&D, innovation, and develop strategies for integrating research outcomes into policy
- Accelerating access to finance by the rural population
- Introduction of special incentives to investors targeting vulnerable sectors

Recommendation 3: Adapt land use and water use plans to protect critical public assets

- Institutional coordination, inter-sectoral collaboration and enhance stakeholder involvement in land-use planning and water management
- Develop incentives for private sector
- Expansion of agricultural extension services on organic agriculture
- Expanding the scope of biodiversity hotspots and develop nationwide data on animal and plant biodiversity
- To ensure climate-smart development and private sector investment in the strategic environmental assessment (SEA) tool



Recommendation 4: Help firms and people manage residual risks and natural disasters

- Modernize early warning systems and increase data availability
- Scale-up non-life insurance coverage
- Build sub-national capacity and enhance information sharing
- Develop sustainable financing mechanisms and build the capacity of private sector to support investments in adaptation
- Increase the number of qualified planners to implement regional adaptation plans

Recommendation 5: Manage financial and macro-fiscal issues

- Policy reforms for large firms and banks to identify, quantify and communicate their exposure to climate risk and hazards
 - Aggregate climate-related disaster impact analysis at the national level to ascertain the severity and frequency
 - Employ contingent credits, risk transfer, and planning



Gaps in Education and Science on CC, it's Mitigation and Adaptation and possible solutions

- Issues of transdisciplinarity in climate change science and education in Central Asia should be sufficiently addressed
- More focus should be given on innovation and digitalization in climate-related education and science
- Issues of technical capacity and hands-on experience should be sufficiently addressed
- Increasing a number of scientific publications integrating climate sciences and economic and social dimensions, thus contributing to the enhancement of knowledge exchange between global and local academicians
- Common to develop the Central Asian Journal of Sustainability and Climate Research for the purpose of publicity and transparency of knowledge about CC in Central Asia
- Need for stocktaking on existing climate change education in Central Asia.



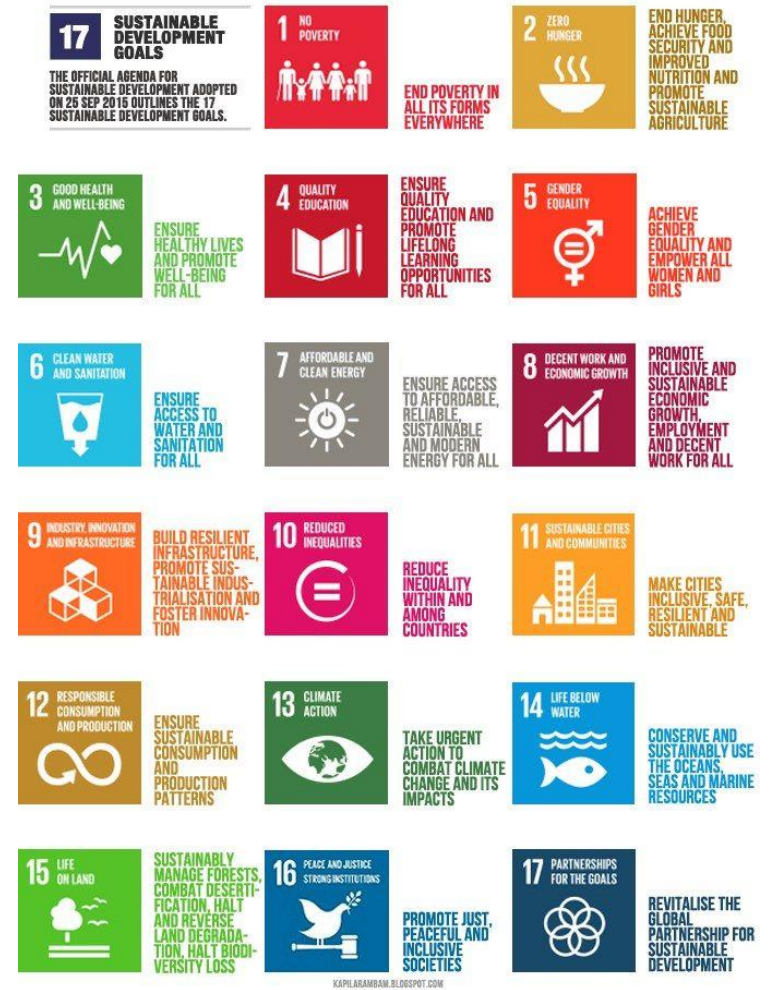
DKU IWRM MA courses

Natural and Technical Science

- Water System and Climate
- Land and Water Interaction
- Data Management, Analysis and Monitoring (GIS)
- Hydrological Modeling
- Hydraulic Engineering
- Environmental Planning, Water Usage and Treatment
- Water, Hygiene and Sanitation
- Project. Field research

Social, politics, economy sciences

- Water Diplomacy
- Water and Climate Legislation
- Water Economy
- Climate, Water, Energy Nexus
- Water Governance and Cooperation
- Integrated Watershed Management
- Strategic Management
- Project Planning and Management



Hands-on experience for young experts

- *Summer School on the Aral Sea*

Aims to inspire young people to choose natural solutions when solving environmental problems;

- *Educational trip to study the best practices in the use of renewable energy sources in Central Asia*

Aims to exchange of experience between target countries, development of cooperation networks and establishment of contacts.

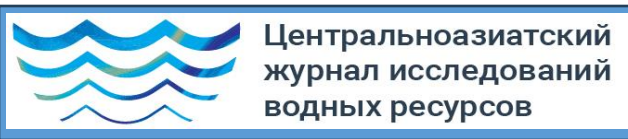
Greening the Universities

- Introduce Sustainable University Lifestyles through sustainable lifestyles-oriented education, research, and operation.
- Build the capacity of universities and students on sustainable lifestyle related topics through awareness raising and lectures and scaling up existing tools and approaches

Youth in Eco-Business: *Ecothon – Incubator – Accelerator*

- *ECOTHONES/SDG OLYMPIADS*. Generating a variety of eco-business and social innovative ideas among youth of Central Asia.
- *ECO-TALK INCUBATOR*. **Training** youth of CA to turn their eco-business ideas into working sustainable business projects
- *CLIMATE/SMART CITY ACCELERATOR*. **Mentoring** young eco-entrepreneurs to ‘accel’ working businesses and open it up for investors





<https://water-ca.org/>

Research areas:

Economic and financial mechanisms
Climate and environment
Hydraulic structures
Water management
Capacity Development
Food security
Drinking water and sanitation

CAJWR is indexed in **DOAJ**, **EBSCO**, **IndexCopernicus**, **РИНЦ (Российский индекс научного цитирования)**, **Cite Factor** и **Google Scholar**. Published articles receive a DOI prefix from CrossRef. CAJWR is included in the list of recommended publications by the Ministry of Education and Science of the Republic of Kazakhstan (subject areas: water resources and biology, order No 623 as of July 29, 2021; geography, order No 152 as of March 1, 2023).

**Central Asian Journal of
Sustainability and Climate Research**

<https://cajscr.com/>

Research areas:

Climate
Energy
Land/Agriculture
Sustainable mobility

CAJSCR is indexed in **Crossref**, **ISSN PORTAL**, **EBSCO**, **IndexCopernicus**, **РИНЦ (Российский индекс научного цитирования)**, **ResearchGate** and **Google Scholar**.

“There is less available research and data on observed and projected climate change impacts in Central Asia than any other region in Asia.”

“Out of 54 thematic areas, 51 thematic areas have critical knowledge gaps or no data at all.”

Thank you for attention!

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