



Encouraging regional cooperation to enhance South Caucasus countries' climate change adaptation scientific research initiatives





BACKGROUND

As one of the most vulnerable regions in the world to changing climate patterns, the South Caucasus countries (Armenia, Azerbaijan, Georgia) have been experiencing increased climate change impacts on biodiversity, human well-being and ecosystems and their services over the past few years.¹ Growing recognition of the need for joint action to strengthen the adaptation capacity of each country in the region has resulted. Positive outcomes and shared successes would result from regional research on climate change if conducted cooperatively through sharing reliable data, carrying out joint research projects, and making decisions to ensure the climate resilience of the region. However, opportunities for shared regional research and joint data management (e.g., collection data in agreement compatible methodologies) concerning climate change adaptation need to be multiplied.

Regional research

Out of the 5,000 regional publications stored on the online knowledge exchange platform of the Scientific Network for the Caucasus Mountain Region (SNC-mt: www.caucasus-mt.net/resources), only about 200 publications are from the last decade and dedicated to the effects of climate change in the Caucasus region. The majority of these are focused on national levels and the cryosphere is the top subject.

Most climate change vulnerability assessments are prepared with donor support within the UNFCCC National Communications framework (e.g., regarding biodiversity, forestry, energy, natural disasters, water resources, human health, and tourism). Very few sectors are entirely covered by those studies, even in the national context.²

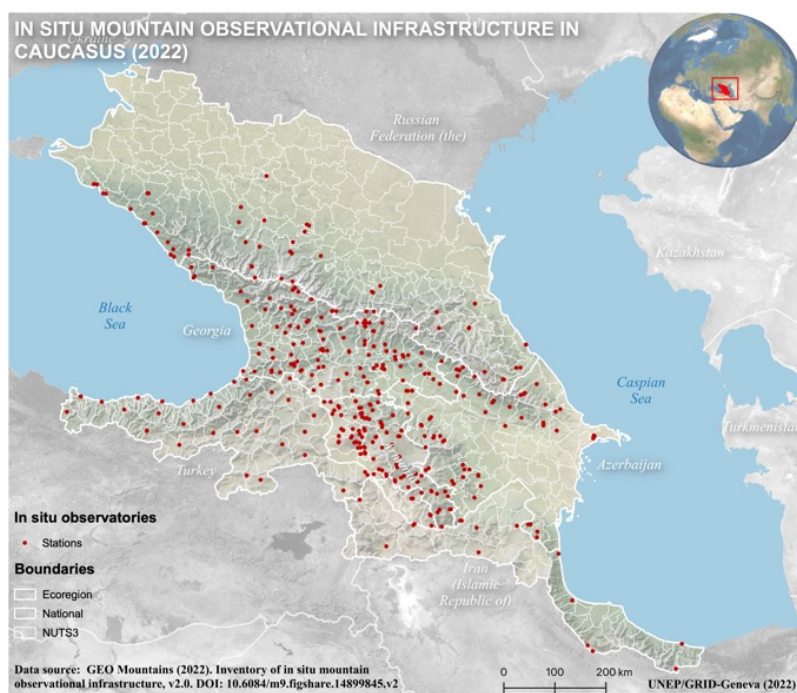
- 1 Rucevska, I., Emelin, V., Malashkhia, N., Kirkfeldt, T., Jørstad, H., Yemelin, V., ... & Lengyel, Z. (2017). Climate Change and Security in the South Caucasus Republic of Armenia, Republic of Azerbaijan and Georgia: Regional Assessment.
- 2 Shatberashvili, N.; Rucevska, I.; Jørstad, H.; Artsivadze, K.; Mehdiyev, B.; Aliyev, M.; Fayvush, G.; Dzneldze, M.; Jurek, M.; Kirkfeldt, T. & Semernya, L. (2015). Outlook on climate change adaptation in the South Caucasus mountains. United Nations Environment Programme, GRID-Arendal and Sustainable Caucasus.

Data availability and sharing

Despite many attempts, data exchange between these countries has not become systematic and thus still only occurs on an *ad hoc* basis. Although national monitoring of hydrogeological networks cover a significant territory of the region (Map 1), systems do not support regional data-sharing and thus constrain the use of reliable official data in research and decision-making. Moreover, when sharing does occur it is usually of hard-copy reports as national data collection and sharing set-ups do not often provide access to digitalized data free of charge to stakeholders.

Consistent and efficient regional research and decision-making are further challenged by a lack of agreement on common climate variables for adaptation and, consequently, a lack of indicators that would allow all disciplines and sectors, even those not considered to be climate related, to collect and share information. For decades, this has remained a significant roadblock not only at the regional level but also at the national levels in each country. Therefore, not much progress has been made among the South Caucasus countries in conducting joint research and establishing a proper mechanism for systematically sharing collected national data required for regional studies.

Generally, certain obstacles challenge joint research and systematised data transfer processes in the South Caucasus region. At a national level, the institutions that support decision-makers with scientific knowledge and data generally lack the financial, technological and human resources and expertise to carry out comprehensive studies and to collect reliable data.³ Relevant historical data is also fragmented or insufficient for qualified long term climate projections. Meagre monitoring and observation system in the South Caucasus countries arose with the decline in the observation network after the fall of the Soviet Union. Ongoing conflicts due to the sensitive geopolitical situation in the region hamper cooperation in several areas, including managing common environmental issues.⁴



Map.1 In situ mountain observational infrastructure in Caucasus (2022)⁵

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3 *ibid*

4 *ibid*

5 Thornton, James (2021): GEO Mountains Inventory of In Situ Observational Infrastructure v2.0. figshare. Dataset. <https://doi.org/10.6084/m9.figshare.14899845.v2>. Layout prepared by Guigoz, Yaniss (2022) for the second edition of Caucasus Environmental Outlook (CEO).



CLIMATE ADAPTATION- RELEVANT DATA EXCHANGE AND REGIONAL RESEARCH: INCENTIVES AND ARGUMENTS

Given that the risks caused by increasing climate change impacts on ecosystems are shared across the whole Caucasus region, the need for joint research cooperation between these countries is widely recognized. The countries of the South Caucasus should therefore work towards exchanging their respective climate-relevant data and making it openly accessible to all interested stakeholders. Making efforts towards sharing research and data is especially crucial in the fields of forest management, agriculture adaptation, biodiversity conservation, disaster risk reduction (DRR), and water ecosystem protection and water resources management due to the transboundary nature of these sectors. Managing them separately on national levels is not sufficient to build climate resilience across all affected areas and ecosystems at the regional level.⁶

Without shared regional research and access to reliable, comparable data, evaluation of the current status of transboundary ecosystems and their services cannot be conducted and the economic sectors most vulnerable to climate change cannot be identified. Comprehensive regional knowledge is needed to serve as a foundation to assist beneficiaries, as well as responsible decision-makers, otherwise developing and implementing scientific evidence-based climate change adaptation-related policies, strategies and initiatives will remain out of reach.

Additionally, it should be acknowledged that effective regional action requires cooperation with the relevant national scientific community, including both government agencies and the non-governmental sectors. This approach requires the development of a mechanism for gathering and sharing data, as well as scientific progress at the respective national level too. The presence of such a mechanism will enhance the effectiveness of regional cooperation between the scientific community.



RECOMMENDATIONS

Acknowledging the undeniable significance of research collaboration and data exchange as an essential part of regional cooperation, we (members of RIG) consider it vital to establish Regional Scientific Panel on climate change adaptation for science-based regional climate adaptation planning to promote joint data management in order to enhance the climate resilience of the region. For that, we consider it necessary to elaborate a concept of the Regional Scientific Panel on climate change adaptation, including:

- Definition of main cooperation principles, key directions, tasks and activities of the Panel;
- Identification of beneficiaries;
- Defining schemes and principles of interactions with state and municipal authorities;
- Establishment of institutionalised cooperation with relevant national coordination bodies;
- Detecting priority studies and research.

To implement the tasks and activities of the Regional science group, it is necessary to mobilize resources, both financial and technical to help the three developing countries of the South Caucasus with regional climate change adaptation activities, including joint scientific research. Since these countries generally lack the financial and technical capacity to conduct comprehensive research projects, even at national levels, it is necessary to attract various and innovative funding mechanisms such. Both governmental and international funding should be distributed efficiently and at the same time, be target oriented. The use of existing funding instruments, e.g., the Green Climate Fund, the Kyoto Protocol Adaptation Fund (AF), the Global Environment Facility (GEF) and, for the future consideration, the “Loss and Damage” Fund established at COP 27 of the UNFCCC should be improved and systematised.



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Within the framework of the project, National Initiative Group of Georgia, Armenia, and Azerbaijan and Regional Initiative Groups have been created to strengthen national/regional dialogue and cooperation and advocate for sustainable development of mountain regions, and improve their resilience to natural disasters and climate adaptation capacities. The Policy Brief may not necessarily reflect the views and position of SDC



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