Baku State University

2025 REPORT ON

INTRODUCTION

The university's commitment to supporting Sustainable Development Goal 15, focusing on Life on Land, is evident through a range of initiatives and policies. The university actively promotes education and awareness on land ecosystem conservation and sustainable land utilization. It hosts events, offers educational programs on flora and fauna, and provides outreach on sustainable land management.

The institution has established policies to ensure sustainable food sourcing on campus, reducing plastic waste, and promoting clean water standards. Furthermore, the university actively engages with local communities and collaborates with external organizations on projects related to land ecosystem protection and sustainable development.

The university's actions extend to the conservation, restoration, and sustainable use of terrestrial ecosystems, including forests, mountains, and drylands. The institution also prioritizes the protection of IUCN Red Listed and national conservation list species.
While the campus takes proactive steps to minimize its impact on land ecosystems, it does not have a specific policy for managing alien species. Nevertheless, it has demonstrated a commitment to environmental stewardship, sustainability, and carbon footprint reduction.

The university's efforts reflect a strong dedication to the conservation and sustainable use of land ecosystems, aligning with the principles of Sustainable Development Goal 15.




Our university has policies to convince that products on campus are sustainably farmed. According to the agreements made with the corporations or the crops used for food on campus, should be preferred from the products grown with sustainable agriculture methods. This creates policies that cover the companies from which services are purchased and other participants in the supply chain, as well as supporting sustainable agriculture.

Furthermore, the completion of a five-story Educational-practical and recreational center in Guba region of Azerbaijan (distance - about 165 km from Baku), capable of serving about 400 individuals (separate rooms with own showers and toilets), has laid a solid foundation for fostering the scientific-practical creativity of both teachers and students and for their recreation and relaxation, especially during the summer period. Additionally, a portion of the faculty and staff families have chosen to reside on campus.

This Center has furnished rooms, a large canteen with all facilities, sportive areas, stadiums, big modern conference room, some educational rooms, hundreds of fruit trees in the large territory - harvest is usually delivered to university staff, river, and forest nearby. The University provides its own buses and rented vehicles for students and staff to travel to the Center.

The university has a policy on reducing plastic waste on campus

It is forbidden to use any plastic bottle in canteens that are locating in different buildings	BSU signs service agreement with catering companies that are operating in line with SDGs	BSU consider SDGs as a selection criterion while procurement	Recycle bins for both plastic and paper waste were placed in the buildings

According to Sustainable Investment Policy, Actions

Investing in projects that demonstrate strong environmental stewardship, promote sustainability, and actively work to reduce carbon footprint	Continuing to allocate funds to projects that demonstrate a strong commitment to environmental stewardship, sustainability, and reducing carbon footprint

Community Educational Programmes on Ecosystems and Sustainable Land Management

1. Educational Programmes on Ecosystems (Wild Flora and Fauna)

BSU, through its Faculty of Biology and Faculty of Ecology and Soil Science, offers several educational and outreach programmes aimed at raising public awareness and providing training on the conservation of ecosystems, wild flora, and fauna.

- **Community and School Outreach:**
  The university regularly organizes field workshops, seminars, and lectures for local schools and environmental clubs focusing on biodiversity, the importance of ecosystem services, and conservation of Azerbaijan's endemic species.
- **Research-Based Activities:**
  BSU's Zoology, Botany, and Ecology departments conduct joint projects with the Ministry of Ecology and Natural Resources, studying the biodiversity of the Absheron Peninsula and protected areas such as Shirvan National Park. Findings from these projects are shared with the public through exhibitions, open lectures, and educational materials.
- **Environmental Education Centre:**
  The Environmental Education and Research Centre at BSU develops and delivers short-term training courses on ecosystem protection, environmental monitoring, and sustainable biodiversity management for teachers, students, and local community groups.

Example Activities:

- "Biodiversity Week" - a public awareness event involving schoolchildren and NGOs to promote the protection of wild flora and fauna.
- "Ecosystem Restoration in Absheron" - community seminars on the restoration of degraded coastal ecosystems and vegetation.

2. Educational Programmes on Sustainable Management of Land for Agriculture

BSU provides educational and extension programmes promoting sustainable agricultural land management practices in cooperation with public institutions and local farmers.

- Faculty of Ecology and Soil Science offers training sessions and applied workshops on soil fertility management, organic farming, and sustainable irrigation practices.

- The Irrigo Model Project, developed by BSU researchers, promotes smart water use and wastewater treatment for irrigation - this initiative has been introduced to agricultural communities to demonstrate resource-efficient farming methods.
- Collaboration with Azerbaijan National Academy of Sciences and local municipalities supports capacity building for rural populations on sustainable land use and protection against soil degradation and salinization.

Example Activities:

- "Sustainable Agriculture for the Future" - annual seminar for regional farmers on soil conservation and efficient water management.
- "Agro-ecology Summer School" - a short-term programme for students and farmers focusing on land sustainability and climate-adaptive crop planning.

3. Educational Programmes on Sustainable Management of Land for Tourism

BSU contributes to promoting sustainable tourism practices through academic programmes and public engagement projects focusing on eco-tourism and landscape preservation.

- The Faculty of Geography offers special training and community lectures on eco-tourism, sustainable land use in natural parks, and the balance between tourism development and environmental conservation.
- In cooperation with local tourism departments and environmental NGOs, BSU organizes public workshops that highlight the role of local communities in protecting natural landscapes while benefiting economically from eco-tourism.
- Fieldwork components of geography and ecology courses often include eco-tourism route planning in protected zones such as Gobustan, Shahdag, and Hirkan National Parks, where BSU students and community members jointly engage in awareness and conservation campaigns.

Example Activities:

- "Eco-tourism for Sustainable Future" - awareness seminars for local tourism operators.
- "Green Routes of Azerbaijan" - community-led mapping initiative led by BSU researchers and students to identify low-impact tourism paths.

Community Collaboration for Shared Land Ecosystems

BSU actively engages with local communities through various partnerships and initiatives aimed at preserving and enhancing shared land ecosystems. These collaborations encompass educational outreach, environmental conservation projects, and sustainable development efforts.

1. Educational Workshops and Awareness Campaigns

BSU collaborates with the Biological Diversity Protection Service under the Ministry of Ecology and Natural Resources to organize educational meetings and workshops. For instance, a recent event held at BSU focused on biodiversity conservation, bringing together students, faculty, and community members to discuss the importance of preserving local ecosystems. sdg.bsu.edu.az

2. "Eco Space" Project: A Hub for Sustainability

In partnership with organizations like Bayramli Group, LU-MUN Holding, and Azecolab, BSU launched the "Eco Space" project. This initiative serves as a center for ecological education and sustainable development practices, promoting community involvement in environmental conservation efforts. greenpen.az

3. Community-Based Environmental Projects

BSU collaborates with local communities on various sustainable development projects, including community recycling programs, urban green space development, and energy efficiency initiatives. These projects aim to create tangible benefits while fostering active community involvement in environmental stewardship. sdg.bsu.edu.az

4. Partnerships with Non-Governmental Organizations (NGOs)

BSU partners with NGOs to advance the United Nations Sustainable Development Goals (SDGs) and address climate adaptation challenges. These partnerships integrate education, research, and community engagement to foster sustainable development and enhance climate resilience both within Azerbaijan and internationally. sdg.bsu.edu.az

For previous year's report please see: **REPORT ON SDG 15: LIFE ON LAND**

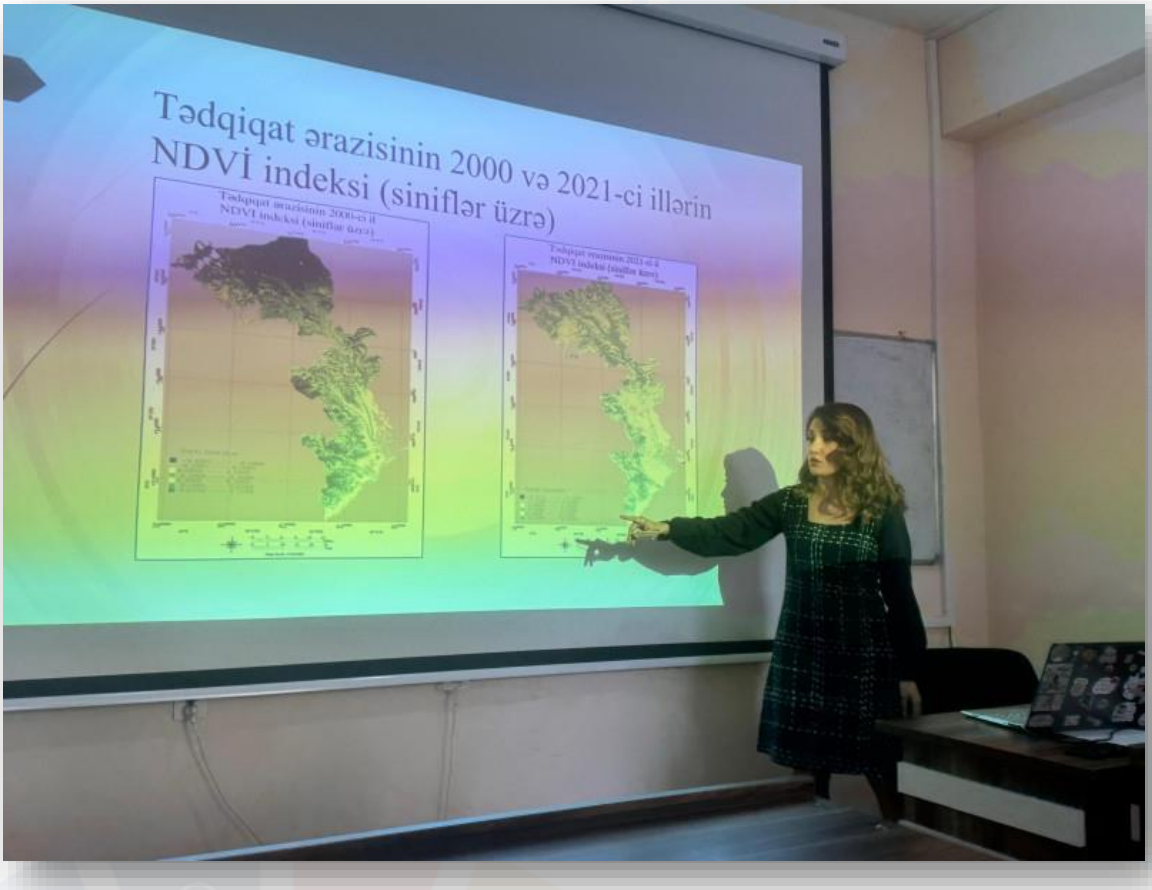
Activities carried out at BSU in 2025 in the direction of SDG 15

An assessment of the ecological situation in the Hakaricay reservoir was conducted at BSU

A scientific seminar was held at the Faculty of Ecology and Soil Science of BSU, where the dynamic state of forest-vegetation cover in the Hakaricay Basin (Lachin, Gubadli, and Zangilan districts) during the occupation period was studied.

The research analyzed changes in vegetation cover, hydrological conditions, and aerosol levels using satellite data and various indices (NDVI, MNDWI, etc.). The results were presented through maps, diagrams, and multi-layer electronic maps.

For more information please click.



A training session at BSU dedicated to World Reserves and National Parks Day

Employees of the Biodiversity Conservation Service of the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan held a training session at the Faculty of Ecology and Soil Science of BSU on January 11 – World Reserves and National Parks Day.

During the training, Elnur Ibrahimov and Aytaj Khalafli provided information about specially protected natural areas in the country, including national parks, state nature reserves, and sanctuaries. They also spoke about plans to establish a Geopark based on the Absheron mud volcanoes, a Biosphere Reserve based on the Zagatala State Nature Reserve, and the creation of new national parks.

For more information please click.

BSU Volunteers Participate in Tree Planting Campaign Dedicated to Azerbaijan Youth Day

On February 1, a tree-planting campaign for Azerbaijan Youth Day was held in Mushfigabad, organized by government ministries and youth organizations. “BSU Volunteers” from BSU participated, planting Eldar pine and olive trees suitable for the Absheron Peninsula’s soil and climate.

For more information please click.

A roundtable discussion titled Scientific innovation and Biotechnology: New perspectives in Ensuring Ecological Balance Sustainability was held at BSU

As part of the events dedicated to "Science Day" at BSU, the Faculty of Biology organized a roundtable discussion on "Scientific Innovation and Biotechnology: New Perspectives in Ensuring Ecological Balance."

During the event, the Dean of the Faculty, Afat Mammadova, emphasized the role of scientific innovation and biotechnology in preserving ecological balance and ensuring sustainable development. The speakers provided information on topics such as ecosystem protection, the application of microbiology and biotechnology, and the impact of radioactive contamination on biodiversity.

For more information please click.

BSU Volunteers organize awareness event dedicated to International Recycling Day

The "BSU Volunteers" organization, together with students from the Faculty of Ecology and Soil Science, held an awareness-raising event dedicated to International Recycling Day.

The event discussed proper waste management, the importance of recycling, and the preservation of ecological balance. Students were provided with practical tips on sorting waste and increasing their environmental responsibility in daily life.

For more information please click.

BSU students at the round table dedicated to World Wildlife Day

Faculty members and students of the Faculty of Ecology and Soil Science and the Faculty of Biology of BSU participated in a round table discussion held at the Ministry of Ecology and Natural Resources of Azerbaijan dedicated to World Wildlife Day (March 3). During the event, information was provided about biodiversity conservation, the protection of rare and endangered plant and animal species, and the bird fauna of Azerbaijan.

For more information please click.

BSU SCIENTIFIC SEMINAR: BIRDS OF AZERBAIJAN AND THEIR CONSERVATION

BSU's Faculty of Ecology and Soil Science held a seminar for International Bird Day on April 1, where PhD student Ramil Hasanov presented on Azerbaijan's bird species and their conservation. He highlighted the country's rich avian biodiversity, recorded 400+ species with 78 in the Red Book, discussed threats, conservation measures, and the role of protected areas, and shared 2024–2025 monitoring results showing 152 species, including 22 Red Book species, while noting climate change and human impacts on birds.

For more information please click.

A scientific staff member from BSU gave a presentation at a conference on bee diseases

Elvira Tahmazli, a scientific staff member of the Cell Culture and Genome Editing Research Laboratory at the Research, Development, and Innovation Excellence Center of BSU, gave a presentation on “The Importance of Diagnostics of Bee Diseases.”

The event, held in Sheki, was organized by the Professional Beekeepers Association and the “Qinyətoğulları” Beekeeping Farm, and was attended by representatives from the Azerbaijan Beekeepers Association, SME Development Agency (KOBIA), as well as beekeeping experts from Kazakhstan, Russia, and Israel.

For more information please click.

An International Earth Day has been celebrated at BSU

A scientific seminar dedicated to International Earth Day (April 22) was held at BSU, jointly organized by the Faculties of Geology and Geography. The aim of the event was to highlight the significance of Earth Day, draw attention to global environmental challenges, and discuss current issues in geological and geographical sciences.

During the seminar, the Dean of the Faculty of Geography, Professor Magsad Qocamanov, spoke about the history of Earth Day and emphasized the importance of maintaining ecological stability. Associate Professor Avaz Mammadov, Head of the Department of Seismology and Earth Physics at the Faculty of Geology, delivered a presentation on the problems of earthquake prediction. Professor Chingiz Ismayilov, Head of the Department of Economic and Social Geography at the Faculty of Geography, also informed participants about geomatics, methods of spatial data collection, and the role of these technologies in environmental monitoring and sustainable development.

For more information please click.

At BSU, research is being conducted on the trophic and biotopic relationships of birds along the southwestern coast of the Caspian Sea

The results of a study on the trophic and biotopic relationships of birds on the southwestern coast of the Caspian Sea were presented at a scientific seminar held at BSU.

The research, covering the years 2015–2024, was conducted in Absheron, Shirvan, and Gizilaghaj National Parks, as well as in the Kura River delta area. According to the findings, the decrease in the Caspian Sea's water level has affected the birds' food sources, population structure, and settlement areas. The study analyzed the trophic and biotopic

relationships of 126 bird species belonging to 13 families using GIS technologies, and it was noted that 22 rare bird species listed in the Red Book of the Republic of Azerbaijan were observed.

For more information please click.

The first workshop of the project titled "Application of Artificial Intelligence in Precision Agriculture" organized by the Agricultural Innovation Center at BSU has been held

The Ministry of Agriculture's Agrarian Innovation Center launched the "Application of Artificial Intelligence in Precision Agriculture" project, and its first workshop was held at BSU on April 16. The initiative promoted AI in agriculture through university workshops, farm visits, and practical training. BSU Rector Elchin Babayev highlighted the role of AI and smart management in modern agriculture, noting BSU's achievements in

research, TEKNOFEST competitions, and innovative projects like “Irrigo – Sustainable Agricultural Ecosystem.”

The project aimed to strengthen cooperation between higher education and industry, support youth innovation, and implement smart agricultural solutions in practice. A bootcamp in Zangilan provided hands-on experience, while experts from universities, agro-parks, and private companies shared insights on AI applications in agriculture. The initiative marked a key step toward modernizing Azerbaijan’s agricultural sector and fostering technological innovation.

For more information please click.

. The Azerbaijan representative office of the World Nature Conservation Fund held an awareness-raising meeting at BSU

The WWF Azerbaijan office, together with the Student Youth Organization of the Faculty of Biology at BSU, held an awareness session to promote ecological thinking and knowledge of rare and endangered species.

During the event, Konul Ahmadova, WWF Azerbaijan project manager, presented key conservation projects in Azerbaijan, including the reintroduction of gazelles and the protection of leopards and Caucasian vultures.

For more information please click

Cytological and histological characteristics of certain reptile species are being studied at BSU

A scientific seminar was held at the Faculty of Biology of BSU, presented by Ramin Hashimov, a doctoral candidate from the Department of Zoology and Physiology.

The seminar provided information about the habitats of several lizard species found in Azerbaijan, their adaptation mechanisms to ecological factors, and tissue-level changes. The research highlighted the impact of urbanization, temperature changes, and other ecological factors on the morphological and histological characteristics of these species, as well as on their distribution ranges.

For more information please click.

BSU students visit the Gobustan Mud Volcanoes

Faculty members and students from BSU's Department of Economic-Political Geography and Tourism visited the Gobustan Mud Volcanoes Tourism Complex to study geological processes and the area's natural resource potential. They learned about the significance of mud volcano research for environmental protection, disaster prediction, and scientific studies, and examined the characteristics of the volcanoes and local stratigraphic rock formations.

For more information please click.

Awareness event on Combating Environmental Crimes: Legal and Organizational Approaches held at BSU

The event focused on combating environmental crimes, aiming to enhance students' legal knowledge and environmental awareness. The presentations covered measures taken in Azerbaijan to protect the environment, the responsibilities and penalties for violations, and the relevant articles of the Criminal Code. The session continued in an interactive format, during which students' questions were answered.

For more information please click.

The ECOLEAD project is being successfully implemented

A tree-planting campaign was held in the Surakhani district as part of the ECOLEAD (Environmental Empowerment: Awareness and Law Enforcement Measures) project in honor of the 102nd anniversary of the birth of National Leader Heydar Aliyev.

The event was attended by Kamran Aliyev, Elchin Babayev, and representatives of various state institutions, and 500 trees were planted on 2 hectares of land. It was noted that since 2024, within the framework of the ECOLEAD project, more than 2,200 trees have been planted in different districts of Baku.

For more information please click.

BSU students learn ways to protect the environment

BSU held an event titled “Protect the Environment! Take Care of It!”, organized by History and Geology faculty student committees. Speakers emphasized the historical and modern importance of environmental protection, sustainable use of natural resources, and public participation. The event concluded with an educational video on environmental conservation.

For more information please click

Republic Scientific Conference on the new stage of land reform and the resolution of ecological problems at BSU

A nationwide scientific conference on “The New Stage of Land Reform and the Resolution of Ecological Problems” was held at BSU. The event was dedicated to the 102nd anniversary of the birth of National Leader Heydar Aliyev. The speeches highlighted Heydar Aliyev’s role in the development of agriculture, land reforms, environmental protection, and sustainable state-building, noting that during his leadership, the foundations for ecological policy, efficient use of natural resources, and ecosystem restoration were established.

For more information please click.

Training for BSU Students: Use of GPS in Geological Exploration

A practical training session on “Use of GPS in Geological Exploration” was held at BSU, jointly organized by the Student Youth Organization of the Faculty of Geology and the “BSU Volunteers” organization.

During the training, Elfaq Mammadov, a leading specialist in the Geological Exploration Department of “AzerGold” CJSC, provided students with information on the application of GPS technology in geological exploration and the operating principles of the devices. Participants gained practical skills in determining coordinates, collecting data, and transferring the information onto maps.

For more information please click.

BSU Biology Faculty Students participate in field training at Hirkan National Park

BSU biology students visited Hirkan National Park as part of a field training program and participated in the “BioDay 2025” event for International Day for Biological Diversity. During the visit, 144 students studied the park’s habitats, learned about its rare and endemic species, and gained knowledge on biodiversity conservation, ecological balance, and sustainable development, enhancing their research skills and environmental awareness.

For more information please click.

Presentation of an interactive map on the environmental impacts of Armenia's Mining Industry held at BSU

A presentation of an interactive map illustrating the negative environmental impacts of mining enterprises operating in Armenia was held at BSU. The map was developed by the "Environmental Protection First" coalition.

The coalition's co-founder Amin Mammadov and member Muqabil Bayramov informed participants about the project, noting that the map was prepared using satellite images and various sources and shows the environmental impacts of more than 20 mining sites.

During the event, the website hosting the interactive map was demonstrated, discussions were held, and participants' questions were answered.

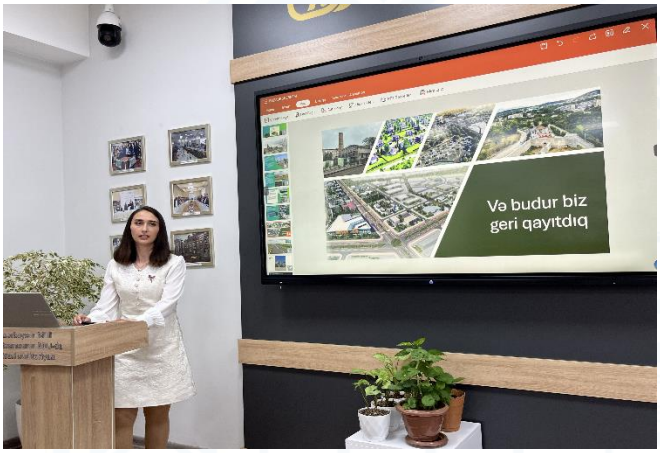
For more information please click.

Event on Ecological Terror and the Nature of Karabakh held at BSU

An event titled "Ecological Terror and the Nature of Karabakh" was held at the Faculty of Information and Document Management of BSU. During the event, lecturer Shabnam Alizade spoke about the ecological crimes committed in Karabakh during the period of

occupation, including the destruction of biodiversity and damage to rare species of flora and fauna.

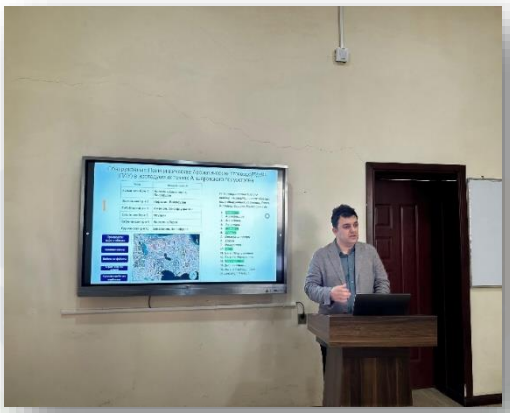
It was also emphasized that the facts of ecological terror should be investigated at the international level and that those responsible should be held legally accountable.
For more information please click.



BSU presents results of active biomonitoring of atmospheric air in Baku and Absheron

At a scientific seminar held at the Faculty of Ecology and Soil Science of BSU, doctoral student Orkhan Hajiyev presented the results of his research on the biomonitoring of atmospheric air in Baku and the Absheron Peninsula.

The study analyzed monitoring results obtained from moss samples collected at 21 locations. The findings revealed that in some areas the levels of heavy metals and other pollutants exceeded permissible limits, and it was determined that the main sources of pollution are industrial activities and transportation emissions.
For more information please click.



Genetic mapping of Karabakh and Dilbaz horse breeds initiated with BSU's Support Science

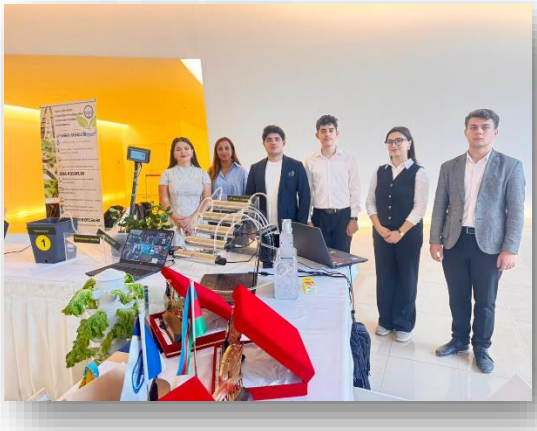
A comprehensive project has been launched to create genetic maps of Azerbaijan's Karabakh and Dilbaz horse breeds, led by the Ministry of Agriculture with support from BSU and FAO. The initiative aims to preserve their genetic heritage, study genomic diversity, and develop scientifically-based breeding programs. Phenotypic evaluations and sample collection have been conducted, and for the first time, complete genome maps will be created, with marker-assisted selection, genobank storage, and integration into international scientific databases planned.

For more information please click.

BSU participates in "Sustainability Exhibition: Art and Innovation for the Planet"

BSU participated in the "Sustainability Exhibition: Art and Innovation for the Planet" held within Baku Climate Action Week with two innovative projects: "Irrigo: Sustainable Agricultural Ecosystem" and "Hydroponics." These projects focus on efficient water use, sustainable agriculture, and the application of innovative technologies to address environmental and climate challenges.

For more information please click.



International conference co-organized by BSU successfully concludes

The III International Scientific Conference on “Conservation of Eurasian Biodiversity” was held in Nukus, Uzbekistan, on 16–18 October 2025, jointly organized by Andijan State University, Ege University, and BSU. BSU was represented by Professor Rovshan Khalilov, who highlighted Azerbaijani research in biodiversity conservation, chaired sessions, and established international collaborations. The conference focused on biodiversity protection, sustainable use of flora and fauna, ecosystem restoration, and modern environmental monitoring.

For more information please click.

Next seminar of the Student Scientific Society was held

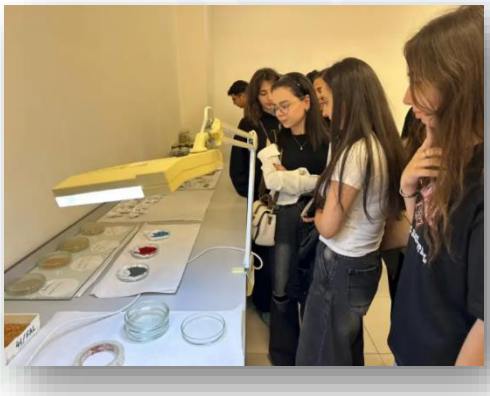
BSU's Ecology and Soil Science Student Scientific Society held a seminar where Nubar Nasibova presented on atmospheric toxic elements and Mahammad Omarzade on microplastics in soil. The presentations sparked audience interest, followed by a Q&A session, and the speakers received certificates and books as gifts.

For more information please click.

Students of BSU visit the Vegetable Research Institute

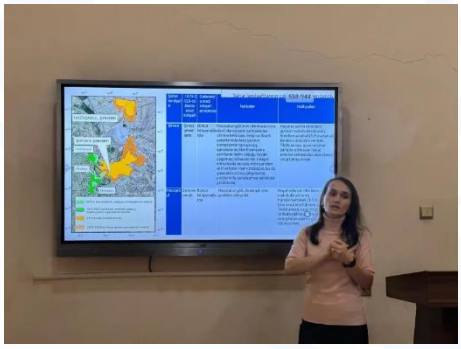
BSU "BDU Volunteers" students from the Ecology, Soil Science, and Geography faculties visited the Ministry of Agriculture's Vegetable Research Institute. They learned about the Institute's research, observed lab work, and explored the greenhouse, where new tomato and cucumber varieties were presented.

For more information please click.



Scientific seminar held: Climate-adaptive cities: management models for reducing heat risks

At a scientific seminar held at the Faculty of Ecology and Soil Science of BSU, Şahnaz Amanova presented a report titled “Climate-Adaptive Cities: Management Models for Reducing Heat Risks (Case Study of Shirvan City).”



The study identified urban heat islands using satellite imagery and GIS technologies, analyzed landscape changes between 1975 and 2025, and mapped climate risk zones such as flooding, heat waves, and drought. Based on the results, management models were proposed to reduce these risks.

For more information please click.

Excursion to Baku Zoological Park organized

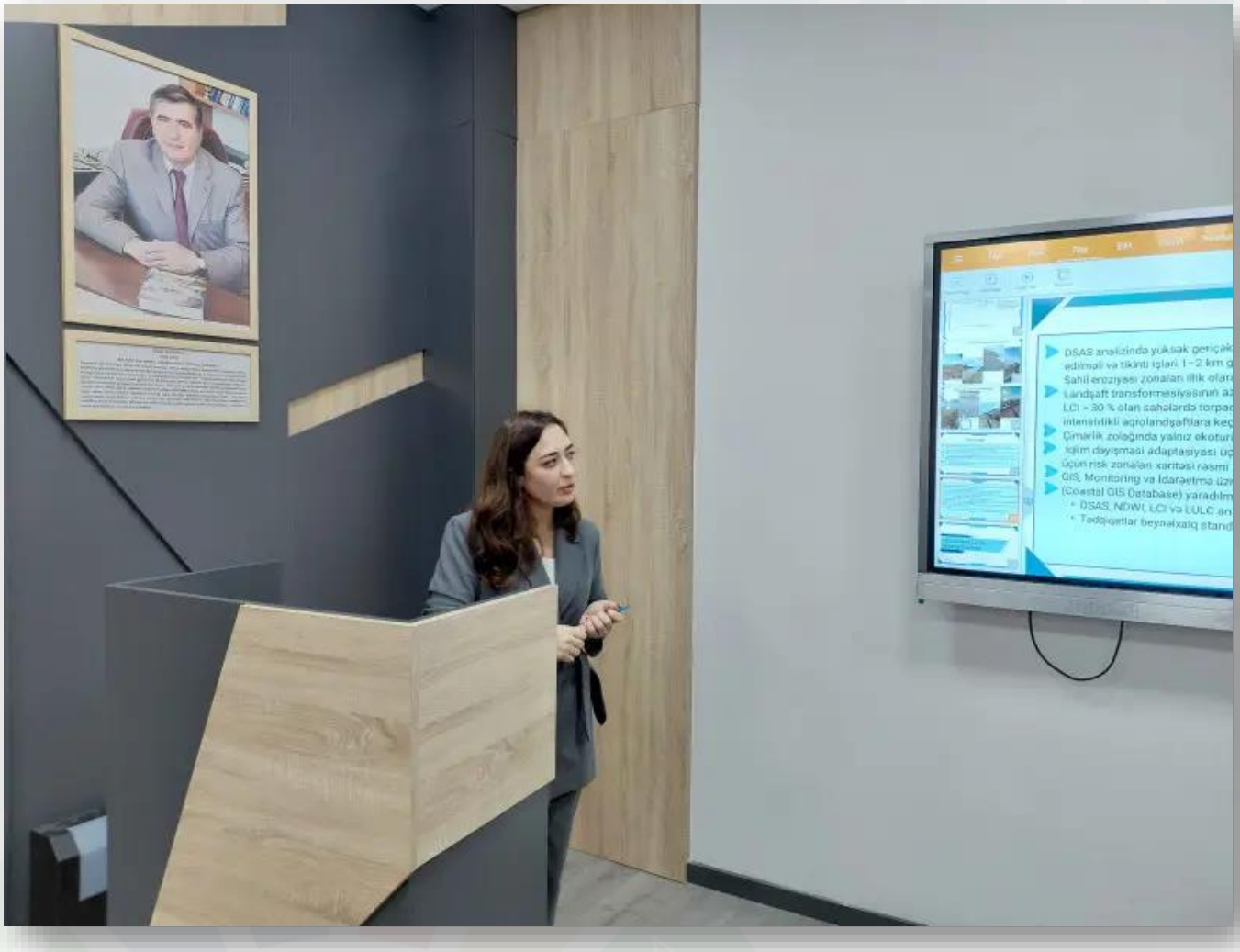
An excursion to Baku Zoological Park was organized for students by the Student Youth Organization and the Student Trade Union Committee of the History Faculty of BSU. During the visit, students toured the zoo's sections and received information about rare and protected animal species, their natural habitats, feeding habits, and conservation programs.

For more information please click.

Scientific seminar on the transformation of Caspian Coastal landscapes

At the Faculty of Geography of BSU, a scientific seminar was held on the transformation of Caspian coastal landscapes. Doctoral student Günay Abbasova presented research on the impact of anthropogenic factors on landscape changes in the Lankaran physical-geographical region.

The study analyzed the natural conditions of the region and identified intensive economic activity and population density as key drivers of landscape transformation. As a result, a zoning map was developed showing areas with different levels of transformation and preliminary assessments of ecological risk and coastal ecosystem resilience.
For more information please click.



Scientific seminar held: Ecological aspects of the use of polyene antibiotics in plant protection

On November 26, 2025, a scientific seminar was held at the Faculty of Ecology and Soil Science of BSU. Associate Professor Vafa Qasımova, Doctor of Biological Sciences, presented on “Ecological aspects of the use of polyene antibiotics in plant protection.”

Her research focused on using soil microorganisms, particularly Actinomycetes, to produce biologically active polyene antibiotics. These eco-friendly antibiotics were applied to vegetable crops in open-field and greenhouse conditions, showing high effectiveness against phytopathogenic bacteria and fungi. The antibiotics penetrate plant tissues efficiently, remain active under varying climatic conditions, and offer advantages over conventional plant protection agents.

For more information please click.

National Youth Climate Statement of Azerbaijan adopted at the UN Local Conference of Youth on Climate Change

The second day of "LCOY Azerbaijan 2025" – the UN Local Conference of Youth on Climate Change was held, organized by the EkoSfera Ecological-Social Center in partnership with BSU and Sea Breeze Resort.

During the event, Mukhtar Babayev emphasized that hosting COP29 in Azerbaijan is an important milestone in global climate diplomacy and highlighted the importance of active youth participation in this process. Other speakers also stressed the crucial role of young people in addressing climate challenges and building a sustainable future.

Within the framework of the conference, panel discussions were held on topics such as climate change, sustainable infrastructure, the circular economy, biodiversity conservation, and green jobs. At the end of the event, the initial draft of Azerbaijan's National Youth Statement on Climate was adopted, which will contribute to the Global Youth Statement to be presented at COP30.

For more information please click.

Scientific seminar on the ecological problems caused by the mining industry

A scientific seminar titled "Investigation of Ecological Problems Caused by the Mining Industry in the Dashkasan District Using GIS Technology" was held at the Faculty of Geography of BSU.

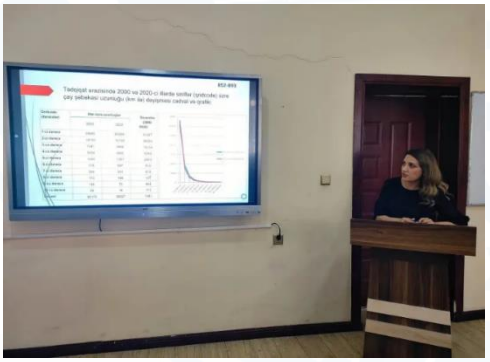
During the seminar, the Dean of the Faculty, Maqsad Qocamanov, emphasized the importance of the topic in terms of ecological safety and sustainable development. The presenter, Ilhama Qaribova, provided information about the environmental impacts of the mining industry in the Dashkasan district, including soil degradation, forest transformation, and pollution of water resources. She also presented the results of research conducted using GIS technology, including the mapping of ecological risk zones.

The scholars who spoke at the seminar highlighted the relevance of the topic and recommended continuing further research in this field.

For more information please click.

Scientific seminar held

On November 25, 2025, BSU doctoral student Gunel Heydarzade presented a seminar on using the MNDWI index and satellite imagery to assess humidity in Lachin, Gubadli, and Zangilan districts. The study analyzed relief, climate, hydrography, vegetation, and soils from 2000 and 2021, mapping changes in forest and vegetation cover. Results showed significant shifts in moisture distribution, especially in shrublands, grasslands, non-forested, and sparse forest areas, providing insights for ecological monitoring and sustainable land management in the liberated territories.



For more information please click.

Roundtable at BSU: “Constitution and natural resources from a scientific-legal perspective”

BSU hosted a roundtable titled “Constitution and Natural Resources,” organized by the student trade union committees of the Geology and Law faculties. Law student Roza Khalilova discussed Azerbaijan’s Constitution, its principles, and provisions on natural resource protection. Geology student Saima Annagiyeva highlighted the scientific and legal aspects of oil and geological research. The event included discussions on the Constitution’s impact on geological policy, state control of resources, and the development of scientific research.

For more information please click.

Scientific seminar held: Assessment of the Assimilation Potential of Coastal Landscapes of the Caspian Sea under Technogenic Impacts

PhD candidate Laman Guliyeva from the Department of Bioecology at the Faculty of Ecology and Soil Science of BSU delivered a scientific seminar devoted to the assessment of the assimilation potential of coastal landscapes of the Caspian Sea under technogenic impacts.

The research investigated the physicochemical and biological properties of soils in the coastal zone, the activity of microorganisms, and the level of degradation of pollutants.

For more information please click.

BSU becomes the South Caucasus leader in "UI GreenMetric 2025" Ranking

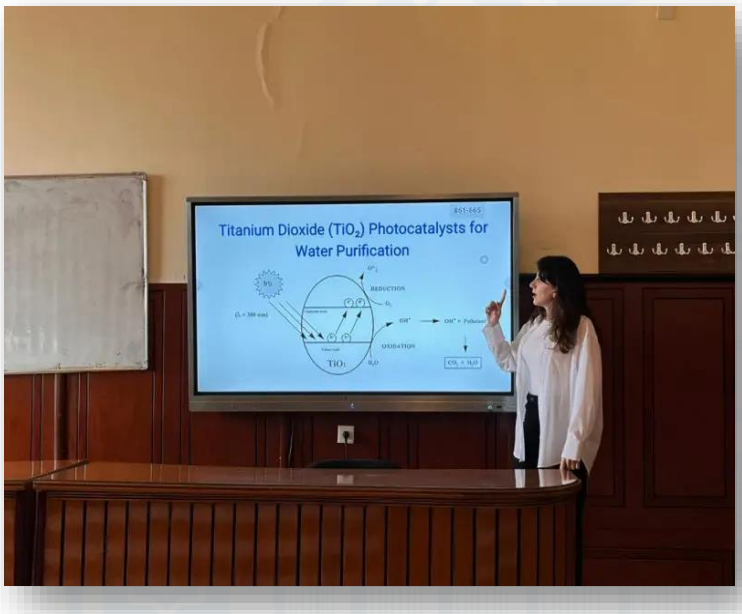
BSU has been recognized as the leader in the South Caucasus according to the "UI GreenMetric World University Ranking 2025," ranking 493rd out of 1,745 universities and improving by 114 positions compared to the previous year. The ranking evaluates universities based on their ecological sustainability performance, and BSU achieved the highest position among Azerbaijani universities.

This achievement reflects the university's ecological initiatives and the contributions of its students and academic staff to environmental protection. In the future, BSU aims to further expand the implementation of modern ecological practices, continue safeguarding the environment, and successfully fulfill its academic and social mission in the field of sustainable development.

For more information please click.

BSU students conduct scientific research on nanotechnologies and environmental safety

BSU's Faculty of Physics Student Scientific Society held a seminar where Shahane Isagova discussed nanotechnology in water purification, and Shahane Bahdudzadeh presented on environmental protection and safety, covering legal frameworks, resource management, pollution, and climate risks. The Faculty Dean, Bakhtiyar Pashayev, emphasized fostering student interest in scientific research.



For more information please click.

The 1st International Scientific Conference on "A Sustainable Future: Integrated Development of Earth Sciences and Ecology" is being held at BSU

The 1st International Scientific Conference "A Sustainable Future: Integrated Development of Earth Sciences and Ecology" was held at BSU with participation from 12 countries and 280 papers. BSU Vice-Rector Huseyn Mammadov highlighted Azerbaijan's efforts in green economy transition, climate change mitigation, and alignment with UN Sustainable Development Goals. The conference emphasized sustainable regional development, environmental protection, and the impact of global climate change on geology, ecology, and geography, with collaboration from international universities and research institutions.

For more information please click.

Scientific seminar on “Social Structure of Primates: The social brain hypothesis” held at BSU

BSU’s Faculty of Biology held a seminar where Associate Professor Sevinc Humbatova discussed primate social structures and the social brain hypothesis, highlighting the evolutionary role of social interactions, the link between brain size and cognitive abilities, and the complexity of primate societies.

For more information please click.

Participation in the final of the “Earth Observation” competition

Dissertation candidate Tahir Yunuslu and doctoral student Ramil Hasanov from BSU reached the final stage of the “Earth Observation” competition organized by Azercosmos. Yunuslu’s project focused on creating a GIS for the Mud Volcanoes Group State Nature Reserve, analyzing relief, vegetation, fauna, and landscape dynamics, while Hasanov studied the impact of the Caspian Sea’s declining water level on biodiversity in Gizilaghaj National Park. The competition, themed “Map of the Future” and dedicated to the 5th anniversary of the 2020 Patriotic War Victory, received 293 applications, with 50 projects advancing to the final, covering AI, environmental protection, cartography, and other topics, prioritizing young researchers.

For more information please click.

Excursion and agro-Training organized at BSU for Children of the Child Shelter Reintegration Center

Within the framework of the “100 Days – 100 Initiatives” campaign of the Regional Development Public Union, an excursion and agro-training was organized at Baku State University for children from the “Azerbaijan’s Children” Public Union – Child Shelter Reintegration Center as part of the “Agro School” project.

Participants visited the aquaponic and hydroponic systems laboratory located in the university’s “Eco Space” project area and received information about hydroponic technologies and soilless plant cultivation. During the excursion, they also visited the Genetics and Evolution Museum and the Mineral Resources Museum of the university.
For more information please click.

CONCLUSION

The efforts of BSU underscore the critical importance of protecting terrestrial ecosystems and biodiversity as a foundation for sustainable development. By integrating scientific research, technological innovation, legal analysis, and international collaboration, BSU plays a pivotal role in conserving natural habitats, managing land sustainably, and restoring degraded ecosystems in Azerbaijan and the broader South Caucasus region. The university's work encompasses a wide range of activities, including ecological monitoring, species conservation, habitat restoration, and the application of advanced technologies such as remote sensing, GIS mapping, and AI-based ecosystem modeling.

These initiatives not only protect rare and endangered species but also enhance ecosystem resilience, mitigate the impacts of human activity, and provide data-driven insights to guide policy and management decisions. Furthermore, BSU fosters environmental awareness and capacity-building among students, researchers, and local communities, ensuring that ecological stewardship becomes an integral part of society. By contributing to both national and international sustainability efforts, Baku State University strengthens Azerbaijan's role in achieving Sustainable Development Goal 15, safeguarding life on land for future generations, and promoting ecological balance, resilience, and sustainable use of natural resources at regional and global levels.

SDG FOCUSED MEMBERSHIPS

aashe member
The Association for the Advancement of Sustainability in Higher Education

CANIE
climate action network

WAITRO

GUNI
GLOBAL UNIVERSITY NETWORK FOR INNOVATION

ISCN
International Sustainable Campus Network

SDG FOCUSED RANKING RESULTS

Rated for Excellence

Baku State University

Through rigorous and independent data collection and analysis of performance metrics as set out in the QS Stars™ methodology Baku State University has been awarded 5 Stars.

TEACHING	FACILITIES
EMPLOYABILITY	GOOD GOVERNANCE
ENVIRONMENTAL IMPACT	ACADEMIC DEVELOPMENT
GLOBAL ENGAGEMENT	CHEMISTRY
DIVERSITY, EQUITY & INCLUSION	

QS Stars

The QS Stars™ rating system evaluates universities across a wide spectrum of important performance indicators as set against pre-established international standards. By assessing a broader scope of criteria than any world ranking exercise, QS Stars™ illuminates the unique strengths and diversity of the rated institution with both precision and clarity.

Leigh Kamolins, Head of Evaluation

QS WORLD UNIVERSITY RANKINGS

SUSTAINABILITY RANKINGS 2025

Baku State University

941-950

in overall performance

December 2024

Date

Ben Sowter
Senior Vice-President
QS Quacquarelli Symonds

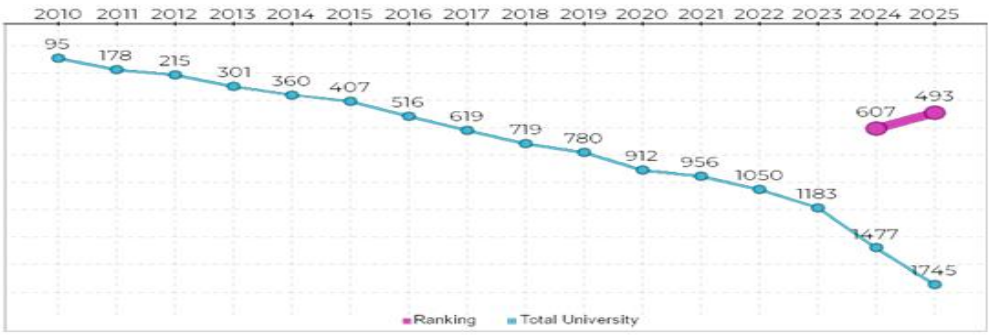
4. RANKING IN AZERBAIJAN

Country Ranking	SI Ranking	EC Ranking	WS Ranking	WR Ranking	TR Ranking	ED Ranking
1	2	11	3	5	1	2

2. RESULTS SUMMARY

World Ranking	SI Ranking	EC Ranking	WS Ranking
493	660	1102	654
	WR Ranking	**TR Ranking**	**ED Ranking**
	607	98	239

3. WORLD RANKINGS HISTORY



UNIVERSITY PROFILE

NAME : BAKU STATE UNIVERSITY
EST. : 1919
COUNTRY : AZERBAIJAN

1. VERIFIED DATA

Campus Sustainability Scores

Overall Performance
68.75 %

Total Score
6875 / 10000

68.75%

SI Setting & Infrastructure
Current: **950** Maximum: 1500
63.33%

WR Water
Current: **662.5** Maximum: 1000
66.25%

EC Energy & Climate Change
Current: **1000** Maximum: 2100
47.62%

TR Transportation
Current: **1625** Maximum: 1800
90.28%

WS Waste
Current: **1075** Maximum: 1800
59.72%

ED Education & Research
Current: **1562.5** Maximum: 1800
86.81%

THE IMPACT RANKINGS

OVERALL RANK

401–600 out of **2318** institutions

OVERALL SCORE

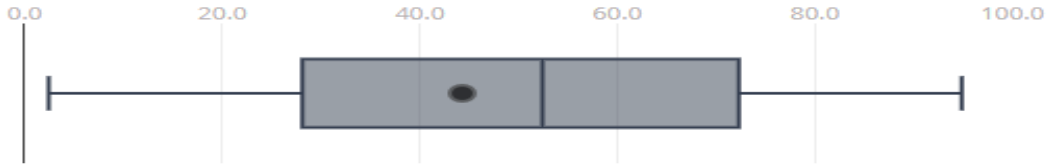
71.8 out of **100**

15 LIFE ON LAND

SCORE	RANK
66.2	101–200 out of 854 institutions

SCORE
44.3 **Research on land ecosystems**

27% OF THIS SDG



SCORE
60.8 **Supporting land ecosystems through education**

23% OF THIS SDG

SCORE
75.8 **Supporting land ecosystems through action**

27% OF THIS SDG

SCORE
86.1 **Land sensitive waste disposal**

23% OF THIS SDG

SDG FOCUSED RESEARCH

BSU is actively advancing Sustainable Development Goal 15: Life on Land through biodiversity conservation, sustainable land management, and ecosystem restoration in Azerbaijan and the South Caucasus. Researchers at BSU are addressing key challenges such as habitat degradation, deforestation, land-use pressures, and the protection of rare and endangered species. Their studies include monitoring algal diversity and freshwater ecosystems in Samur-Yalama National Park, using advanced modeling like MaxEnt to assess fire risks and threatened plant species, and examining biodiversity legislation to align with international standards.

BSU also employs remote sensing, AI-based vegetation mapping, and genetic research on species like Pterocarya fraxinifolia to conserve genetically diverse habitats in the Hyrcan forests. Interdisciplinary work on soil erosion, land degradation, and forest management provides actionable strategies for sustainable land use and habitat restoration. These initiatives demonstrate BSU's commitment to protecting terrestrial ecosystems, supporting global sustainability, and ensuring Azerbaijan's biodiversity is preserved through scientific, technological, and legal approaches.

1. Authors: Abiyev Y., Mukhtarova S., Muradova A., Markova L.M., Hasanova G.
Focus: Freshwater algal diversity and ecological health in Samur-Yalama National Park.
Methods: Field survey documenting algal taxa, ecological and water quality assessment.
Findings: Identified 46 algal taxa, with many new regional records; pristine waters had sensitive species, nutrient-enriched areas had tolerant ones.
Recommendation: Use results as baseline for biomonitoring and conservation in the South Caucasus.
Full text

2. Authors: Teymurova V.E., Abdullayeva S., Muradova K., Aslanova M.M., Bayramli M.
Focus: Environmental challenges and their economic impacts in Azerbaijan.
Methods: Analysis of air, land, and water resource issues and their economic implications.
Findings: Pollution, land degradation, and water scarcity constrain growth; weak

vocational education hinders green transition.
Recommendation: Strengthen education, human capital, and international cooperation to reduce risks and enhance competitiveness.
Full text

3. Authors: Abiyev Y., Eker R., Acil A., Coskuner K.A.
Focus: Fire susceptibility of rare plants in Samur-Yalama National Park.
Methods: MaxEnt modeling of fire risk for 21 rare plant species.
Findings: 12.56% of park highly fire-prone; Red Book species (e.g., *Alcea kusariensis*, *Orchis purpurea*) at risk; AUC = 0.855 showed good model accuracy.
Recommendation: Integrate fire risk maps into biodiversity conservation strategies.
Full text

4. Authors: Bougdour N., Ali I., Bakas I., Assabbane A., Imanova G.T.
Focus: Effects of landfill leachate on basil and alfalfa growth.
Methods: Experimental comparison of raw leachate, UV-treated leachate, and well water.
Findings: Raw leachate inhibited germination; UV-treated leachate improved germination, chlorophyll, and biomass.
Recommendation: Apply UV treatment for safe reuse of leachate in irrigation.
Full text

5. Authors: Amiraslanova M.S., Həsənova-Babazade R., Musabayli K.
Focus: Vegetation mapping with AI, UAV, and satellite imagery.
Methods: Machine learning and deep learning for plant classification and feature extraction.
Findings: Accurate mapping over large areas supports biodiversity and climate monitoring.
Recommendation: Expand AI-based remote sensing tools for environmental management.
Full text

6. Authors: Mikhnevych L.V., Luchko I., Gahramanova N., Dubova O., Myskovets I.
Focus: Comparative biodiversity conservation laws in Ukraine and Azerbaijan.
Methods: Legal analysis of national legislation and international standards.
Findings: Ukraine focuses on national parks; Azerbaijan integrates traditional knowledge; gaps in harmonization exist.
Recommendation: Strengthen legal alignment with global standards and promote cross-border cooperation.
Full text

7. Authors: Ayazoglu R.A., Alisoy G.T., Akbulut S., Ağirman Aydin T.
Focus: Nonlinear parabolic equations with p(·)-Laplacian.
Methods: Analytical method proving global existence and decay of solutions.
Findings: Established precise decay estimates before extinction time.
Recommendation: Apply method for solving broader nonlinear differential equation models.
Full text

8. Authors: Karimova T.
Focus: Legal protection of plant varieties in Azerbaijan.
Methods: Analysis of national legislation and international treaties (e.g., UPOV).
Findings: Azerbaijan applies sui generis protection but has legislative gaps.
Recommendation: Reform laws to align with best practices and strengthen IP protection.
Full text

9. Authors: Togola A., Yusifova M., Sadigova N.A., Akhundova A., Karimova L.R.
Focus: Ecological condition of arid forests in Ajinohur foothills.
Methods: Field surveys (2021–2022) and GIS-based mapping.
Findings: Only 7.2% of forests unaltered; heavy modification due to agriculture; lowland forests most degraded.
Recommendation: Implement urgent restoration and sustainable land-use policies.
Full text

10. Authors: Rahimli S.
Focus: Soviet Russia's aggression against the Azerbaijan Democratic Republic (ADR).
Methods: Historical and legal analysis under international law frameworks.
Findings: Aggression violated 1907 Hague Convention; annexation did not erase ADR's international legal status.
Recommendation: Recognize continuity of ADR and strengthen legal narratives of sovereignty.
Full text

11. Authors: Ayazoglu R.A., Akkoyunlu E.
Focus: p(·)-Laplace equations with nonstandard nonlinearity.
Methods: Mathematical analysis with homogeneous Dirichlet boundary condition.
Findings: Proved global existence of weak solutions; identified extinction/non-extinction conditions.
Recommendation: Extend framework to multidimensional and applied models.
Full text

12. Authors: Ibadullayeva S.J., Huseynova I.M.
Focus: Plant diversity and conservation in Azerbaijan.
Methods: Flora analysis, land-use mapping, and rare species documentation.
Findings: Nearly 5,000 taxa recorded; 20% need protection; ~800 species highly threatened.
Recommendation: Prioritize conservation in Talysh, Nakhchivan, and Caucasus regions.
Full text

13. Authors: Maharramova E., Huseynova I., Kolbaia S., Gruenstaeudl M., Borsch T.
Focus: Genetic diversity of *Pterocarya fraxinifolia* in South Caucasus.
Methods: Genetic and phylogeographic analysis across Colchis and Hyrcan refuges.
Findings: Hyrcan populations more diverse; species colonized northwest from southeast pre-LGM.
Recommendation: Prioritize Hyrcan populations for conservation.
Full text

14. Authors: Bayramov E.R., Buchroithner M.F., Bayramov R.V.
Focus: Vegetation recovery and erosion risks along BTC and SCP pipelines.
Methods: NDVI satellite analysis and USLE erosion modeling.
Findings: Vegetation recovery in 5.40 km²; erosion mostly low but some hotspots persist.
Recommendation: Continue monitoring pipeline corridors for vegetation and soil stability.
Full text

15. Authors: Shakhmurov V.B., Sahmurova A.
Focus: Singular perturbation in parabolic differential-operator equations.
Methods: Mathematical modeling with applications to phytoremediation.
Findings: Established uniform well-posedness of parameter-dependent problems.
Recommendation: Apply framework for environmental and biological system modeling.
Full text

16. Authors: Rustamov R.B., Salahova S.E.
Focus: Climate change impacts on flooding in Azerbaijan.
Methods: GIS and satellite-based flood pattern analysis.
Findings: Strong correlation between climate change and increasing flood frequency/severity.
Recommendation: Strengthen flood monitoring and integrate climate change adaptation.
Full text

17. Authors: Noack F.A., Hidayatov A.
Focus: Deforestation drivers in Talysh Mountains.
Methods: Socio-economic and environmental assessment.
Findings: Illegal logging and fuelwood dependence drive forest loss; poor governance exacerbates.
Recommendation: Provide property rights, alternative energy, and income to reduce deforestation.
Full text

For all SDGs related articles please visit: Scopus - Baku State University

SDG contributions

Goal 1: No poverty	9 documents	Goal 10: Reduced inequalities	40 documents
Goal 2: Zero hunger	74 documents	Goal 11: Sustainable cities and communities	37 documents
Goal 3: Good health and well-being	241 documents	Goal 12: Responsible consumption and productior	44 documents
Goal 4: Quality education	21 documents	Goal 13: Climate action	55 documents
Goal 5: Gender equality	12 documents	Goal 14: Life below water	50 documents
Goal 6: Clean water and sanitation	83 documents	Goal 15: Life on land	31 documents
Goal 7: Affordable and clean energy	353 documents	Goal 16: Peace, justice and strong institutions	36 documents
Goal 8: Decent work and economic growth	68 documents	Goal 17: Partnership for the goals	47 documents
Goal 9: Industry, innovation and infrastructure	101 documents		