

ADVANCED ST. PETERSBURG STATEMENT ON THE ARAL SEA AND ARAL SEA REGION

Introductory information (preamble)

From 18 to 20 November 2024, the Third International Conference on the Aral Sea and Aral Sea Region was held in St. Petersburg, Russia. It was held by decision of the Second International Conference on the Aral Sea, which was held from 15 to 18 November 2019.

The conference was attended by representatives from 8 countries: Kazakhstan, Russia, Tajikistan, Uzbekistan, the United Kingdom of Great Britain and Northern Ireland, Greece, the Islamic Republic of Iran and Japan.

Russia was represented by thirty speakers.

Three of those speakers were from Moscow:

1. *Novikova Nina Maksimovna*, Professor, Doctor of geographical sciences, Water Problems Institute of the Russian Academy of Sciences. She presented a report on “Dynamics of vegetation in the Amu Darya delta in conditions of desertification of landscapes”.
2. *Zakrevskaya Elena Yuryevna*, Doctor of geological and mineralogical sciences, Chief Researcher, V.I. Vernadsky State Geological Museum of the Russian Academy of Sciences. She presented a report on “Zonal subdivision of the Eocene by nummulitids and orthophragminids in the Northern Aral Sea region based on old collections”.
3. *Lyushvin Petr Vladimirovich*, Candidate of geographical sciences, independent researcher. He presented a report on “Seismic degassing regulation of the development of aerobic zoobenthos and fish”.

The other ten Russian speakers were from St. Petersburg:

1. *Aladin Nikolai Vasilievich*, Professor, Doctor of biological sciences, Head of the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He presented a report on “Staff members of the Zoological Institute of the Russian Academy of Sciences, involved in the studies of the Aral Sea biological diversity and biological resources”.
2. *Smurov Alexey Olegovich*, Candidate of biological sciences, Senior Researcher at the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He presented a report on “Changes in the fish fauna of the Aral Sea in the 20th – 21st centuries”.
3. *Plotnikov Igor Svetozarovich*, Doctor of biological sciences, Leading Researcher at the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. He made a presentation on “Parasites of the Aral Sea fish”.
4. *Alekseev Viktor Rostislavovich*, Doctor of Biological Sciences, Chief Researcher of the Laboratory of Freshwater and Experimental Hydrobiology, Zoological Institute of the Russian Academy of Sciences. He presented a report on “Hydrofauna of the Aral Sea as an underestimated derivative of the last phase of the Tethys Sea”.
5. *Lisovskiy Sergey Anatolyevich*, editor-in-chief of the newspaper “Society and Ecology”. He presented a report on “The Aral Sea is a tragedy for all mankind”.
6. *Gontar' Valentina Ivanovna*, Candidate of biological sciences, Senior Researcher at the Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. She presented a report on “Bryozoa of the Aral Sea”.

7. *Zhakova Lubov Vasilievna*, Researcher, Laboratory of Brackish Water Research, Zoological Institute of the Russian Academy of Sciences. She made a presentation on “Study of aquatic vegetation of the Aral Sea”.
8. *Romanov Roman Evgenievich*, Candidate of biological sciences, Senior Researcher, Komarov Botanical Institute of the Russian Academy of Sciences. He presented a report on “Charophyta (Characeae) of the Aral Sea and the Aral Sea region: uniqueness or triviality on the scale of Central Asia?”
9. *Pugovkin Andrey Petrovich*, Doctor of biological sciences, Associate Professor, Saint Petersburg State Electrotechnical University LETI. He presented a report on “Negative consequences of the Aral ecological disaster for the environment as a possible cause of changes in physical strength and endurance in young people of Karakalpakstan”.
10. *Medzhidova Almaz Samedovna*, Doctor of pedagogical sciences, UN Goodwill Ambassador, Vice President of the Academy of Sciences Turan, Director of the Research Institute of Ecoanthropocosmism of the World. She presented a report on “Ecoanthropocosmism of the World: anthropocosmism as a basis for environmental education and upbringing in the process of creative activity of adolescents”.

There was four speakers from Kazakhstan:

1. *Narbaev Marat Tursynbekovich*, Deputy Director, The Executive Board of the International Fund for saving the Aral Sea in the Republic of Kazakhstan, Almaty. He presented a report on “The International Fund for Saving the Aral Sea is the basis for sustainable development in Central Asia”.
2. *Kusherbaev Aitbay Kusherbaevich*, Public Association “Syr Maraty”, Korkyt-Ata Kyzylorda University. He presented a report on “Restoration of the Northern Aral Sea”.
3. *Munbaev Nurlan Sarsenbaevich*, Professor of econometrics – expert of the Parliamentarism Fund of the Republic of Kazakhstan, Aktau. He presented a report on “The Aral Sea Tragedy: Causes of Shallowing and Recovery Forecast”.
4. *Yessekin Bulat Kamalbekovich*, Candidate of Technical Sciences, International expert on environmental policy and institutional foundations of environmental protection, Almaty. He presented a report on “IFAS – a protracted reform – what can be done to improve its effectiveness?”

There was one speaker from Tajikistan:

Karimov Farshed Khilolovich, Doctor of Physical and Mathematical Sciences, Professor, Engineering Academy of the Republic of Tajikistan, Dushanbe. He presented a report on “Glaciers of Tajikistan in the context of global warming and environmental problems”.

There was one speaker from Uzbekistan:

Razakov Rustam Madjitovich, “ECOSERVIS” Ilmiy Konsultativ Markazi, Tashkent. He presented a report on “Possibilities to rehabilitate degraded nature ecosystems on the Aral Sea, Priaralie and Aral basin, using ecological innovation and technologies for sustainable development”.

There was one speaker from Greece:

Vagionis Nikolaos G., Centre of Planning and Economic Research, Athens. He presented a report on “Tourism Possibilities based on Natural and Cultural Heritage in Aral Sea”.

There was one speaker from the Islamic Republic of Iran:

Agh Naser, Artemia and Aquaculture Research Institute, Urmia University, Urmia. He presented a report on “Effects of the Shrinking Aral Sea on Artemia Population and Local Livelihoods”.

There was one speaker from the United Kingdom:

Gallagher Ronald, former head of the Environmental Department of British Petroleum in Azerbaijan. He gave a lecture on “Strandlines and Mud Volcano erosion: Evidence and Implications of a Global Cataclysmic Marine Flood”.

There was one speaker from Japan:

Chida Tetsuro, Associate Professor, School of Global Management and Cooperation, Nagoya University of Foreign Studies. He presented a report on “The role of animal husbandry in the post-disaster reconstruction in the Small Aral Sea region in Kazakhstan”.

The statement below is based on the reports presented at the conference, the discussions that took place, and the proposals and comments of the conference participants and experts who did not participate in the conference. This statement is based on the statement adopted after the Second International Conference on Aral Sea Problems held from 15 to 18 November 2019 (<https://www.zin.ru/conferences/Aral2019/index.html>).

Statement

1. The Aral Sea is a large endorheic lake located in the deserts of Central Asia. Over the past 65 years, it has undergone an unprecedented reduction in size and salinization. This has had a strong negative environmental impact on the lake and the deltas of the two rivers flowing into it. The population of the territories adjacent to the lake has also experienced the ever-increasing negative consequences of the degradation of the lake, which has led to an even greater deterioration of the environment, to the emergence of conditions unfavorable for human health and economic activity.
2. In order to adequately assess the current regression that began after 1960, it is necessary to understand that the lake has repeatedly changed its level over the past at least 10 thousand years. This has occurred as a result of natural climate change, repeated shifts in the riverbeds of the Syr Darya and Amu Darya rivers that feed the lake and the redirection of their flow from the Aral Sea towards the Caspian Sea or simply into the desert, as well as the development of irrigation in the basin over the past at least 4 thousand years.
3. The modern regression observed after 1960 differs from the previous ones by its accelerating pace. For the first time, irrigation became the dominant factor in the regression, more significant than the deviation of the Amu Darya riverbed from the lake. This resulted in the desiccation of the lake, which is the most significant in at least the last few thousand years and will soon become the most significant in the last 10 thousand years. The main factor that led to the modern desiccation of the Aral Sea was the increase in the use of riverine water for irrigation in the lake basin from the mid-1950s to the mid-1980s. It significantly exceeded the permissible threshold of water use from the point of view of sustainable development, causing a significant reduction in the inflow of river water into the lake. The second most important cause of this phenomenon was natural climatic cycles. Global warming in recent decades has begun to affect the water balance of the Aral Sea and by forecast to become an important factor in the very near future. However, until now, climate change has not been one of the main reasons for the desiccation of the Aral Sea.
4. The diversion (transfer) of Siberian rivers south to the Aral Sea basin or the pumping of water from the Caspian Sea to the Aral Sea are still considered by the conference participants to be unrealistic measures for solving the water problems of Central Asia. Such measures would not only be extremely expensive and technically extremely complex, they would also require the development and adoption of new highly controversial international agreements. In addition, such projects could lead to extremely serious environmental consequences. The conference participants continue to believe that it would be more reasonable to focus efforts on developing local and regional solutions to these key problems, such as increasing the efficiency of water use in irrigation and taking measures to preserve and partially restore the remaining parts of the Aral Sea. The conference organizers considered the appeal of Abzal Yergaliyev (North Caspian Operating Company N.V.,

Atyrau, Kazakhstan) with a request to evaluate the project of studying Siberian rivers and their transfer to the region of Northern Kazakhstan. If such a project will be sent to us, we will forward it to the specialists who are working on the preparation of the Aral-Balkhash-Caspian EAEU project.

5. The flow of the Amu Darya and Syr Darya rivers remains a key factor determining the size of the lake and its ecological condition. Therefore, it is imperative to ensure proper management of the water resources of the Aral Sea basin. This requires cooperation and joint work of the states located in the Aral Sea basin to solve important water management issues, including water sharing issues and conflict resolution between upstream and downstream countries over the need for irrigation versus maximizing hydroelectric power generation. Currently, the most acute problem is the construction of the Kosh-Tepa irrigation canal in the Islamic Emirate of Afghanistan. The banks and the bed of the canal are not concreted or compacted in order to reduce the cost of work. The canal is being built in two stages without technical and financial support from outside. Construction began in March 2022. The first section of the canal, 108 km long, was completed and filled with water on May 19, 2023. The canal is designed to irrigate more than half a million hectares of land in northern Afghanistan. The operators of this canal expect to take about 10 km³ of water from the Amu Darya per year, that is, up to a quarter of its flow.
6. Actions are needed to implement agricultural reform and rational water use at all levels of governance and society in Central Asian countries – from individual users to decision makers. This process should involve specialists, as well as socio-ecological organizations, associations and activist groups. It is necessary to continue even more actively the phyto-melioration of the former bottom of the Aral Sea in order to prevent dust and salt storms and improve climatic conditions in the Aral Sea region.
7. The study of the Aral Sea has a long and rich history, which began in the mid-19th century. Archives, institutes, universities, and museums of St. Petersburg store and disclose to scientists and to a wide circle interested in the problems of the Aral Sea and the Aral Sea region, accumulated materials. Modern researchers should not ignore the valuable scientific contribution that has already been made, and not neglect successful international developments and practices in the Aral Sea and the Aral Sea region.
8. Reports of the complete death of the Aral Sea are still untrue. Returning the Aral Sea to its early 1960s borders is currently problematic. However, significant parts of this lake continue to exist as residual water bodies. The brackish-water ecosystem of the Small (Northern) Aral Sea is partially and very successfully being restored at the moment. This part of the Aral Sea is now of great importance: ecologically, economically and socially. Although the Eastern Large Aral Sea has been completely lost, residual water bodies of the Western Large Aral Sea remain. It is necessary to continue studying the biodiversity of the Aral Sea itself and deltaic water bodies.
9. Efforts to protect and preserve the Syr Darya delta and the lakes in its lower reaches continue to yield positive results. Similar efforts are being made in the Amu Darya delta, but in this case, due to the lack of water, success has been insignificant.
10. The development of an updated scientific approach to the study of the Aral Sea, river deltas and the entire region is ongoing. It is necessary to maintain a balance between theoretical and applied research, and to strengthen cooperation between scientists and specialists in various disciplines from as many countries as possible, both with the International Fund for Saving the Aral Sea (IFAS) and with other organizations involved in solving the problems of the Aral Sea and the Aral Sea region, including the Islamic Emirate of Afghanistan. The conference participants are closely following the attempts to reform IFAS and urge that this be done with great caution, since 30 years of work by this fund have allowed achieving many important results. Preservation and restoration of natural ecosystems as a natural basis for sustainable water supply, mitigation and adaptation to climate change is becoming an increasingly urgent task and requires priority and joint measures by

all countries in the basin. In this regard, the conference participants recommend that IFAS, national and international programs increase their attention to projects to preserve ecosystems with the necessary institutional, legal and other mechanisms. The conference participants also draw attention to the key role of the Eurasian forest massif in maintaining water regimes for the countries of Central Asia and China. There are great expectations from the process initiated by the heads of states of Central Asia to improve the effectiveness of IFAS structures and its working bodies. The participants also emphasized the important role of clarifying the goals of regional programs as a basis for cooperation and coordination.

11. Created International Committee of Intellectual Solidarity with the Aral Sea (ICISwAS) has failed to achieve most of its goals over the past 5 years due to the global COVID-19 pandemic and other events that have weakened international contacts. Its task remains to assess comprehensively the remaining ecosystems of the lake and the deltas of the two rivers flowing into it.
12. As 5 years ago, all participants of this conference, both speakers and listeners, note the important role of not only scientists, but also media, cultural and artistic figures in the preservation and rehabilitation of the Aral Sea and the Aral Sea region. It is also necessary to inform the environmental community and the population about this problem and ways to solve it through existing means of communication. Thus, humanitarian, informational and rational ways of understanding the consequences of the environmental disaster in the Aral Sea and the Aral Sea region will logically complement each other and will serve to achieve quickly a better future for the Aral Sea and all the peoples of the Aral Sea region.

We, the participants of the Third International Conference on the Aral Sea Problems, call upon politicians, representatives of science, art, culture, business, civil society and journalists to actively assist in the implementation of the ideas set out in this statement. We invite you to promote the dissemination of positive experience of international cooperation, to facilitate the creation and implementation of programs, projects and decisions aimed at improving the natural environment, humanitarian and economic life, with the aim of implementing a successful model of sustainable development, we confirm the importance and continue to support the annual holding of events dedicated to March 26 – “*Aral Sea Day*”. We believe that the holding of Aral Sea Day is necessary as a reminder of the catastrophe to which the unreasonable selfish actions of people can lead to their habitat. We believe it is necessary to draw the attention of the UNEP, UNESCO, UNDP, BRICS, SCO, Organization of Turkic States (OTS), Organizing Committee of the Nevsky International Ecological Congress, Regional Environmental Centre for Central Asia (CAREC), public environmental organizations of Central Asia and other international and regional organizations.