

## **Shallowing of Caspian Sea in regional politics of RF and IRI campaign**

### **ARVAK Center comment, April 28, 2025<sup>1</sup>**

Azerbaijan has expressed significant concern about the environmental situation in the Caspian Sea. In recent assessments experts have posited the cyclical nature of the current shallowing of the world's largest closed reservoir. However the most recent studies have cast doubt on the restoration of the reservoir's water balance.

The Caspian Sea is experiencing a precipitous decline in depth, with an accelerating rate of shallowing. Research conducted at the University of Leeds (UK) has indicated that accelerated evaporation of water, occurring under conditions of global warming, outpaces the rate of inflow, thereby inducing a decrease in sea level. Even if warming is limited to 2 degrees Celsius, the Caspian Sea may experience a decline in depth by 5 to 10 meters, losing more than 110,000 square kilometers of its area. For the sake of comparison, this is almost 1.5 times the territory of Azerbaijan. If current climate trends continue, water levels could diminish by 21 meters by the end of the 21<sup>st</sup> century.

The shallowing of the Caspian Sea is of particular concern especially for Kazakhstan, Turkmenistan and Azerbaijan, which are already experiencing environmental problems given its the desert-steppe nature of the vast majority of their territories. The Caspian Sea, thanks to its vast expanse of water, played a pivotal role in regulating the climate of the region, providing the minimum required level of precipitation and air humidity, and balancing the impact of desert winds and soil erosion. Now the rapid shallowing of the reservoir threatens the degradation of the entire ecosystem of the region, thereby posing existential threats to the mentioned states.

The media in Azerbaijan is alarming about the reduction in the number of endemic Caspian seals, the disappearance of sturgeon and the loss of migratory of the bird stopovers, but this is not what really concerns Azerbaijan. Baku's exploitation of the oil and gas deposits of the Caspian shelf, has long contributed to the destruction of the fauna and flora of the reservoir and has always ignored the warnings of environmentalists in this regard.

In fact, Azerbaijan is concerned about the consequences of an environmental blow to its economic interests, as such issues can lead to a social crisis and, consequently, political problems for the government. Reduction of the Caspian reservoir's surface area is anticipated to result in droughts, which will negatively affect the agricultural sector, which employs a significant proportion of the Azerbaijani workforce. However, the most dangerous thing for Baku seems to be the potential loss of the logistics capabilities of the Caspian Sea. Against the backdrop of extremely negative environmental trends, Azerbaijan's desire to take a key role in the "*Middle Corridor*" project of the "*The Great Silk Road*" mega project may be unjustified. Already now, maritime cargo transportation from Central Asia to Azerbaijan and vice versa has become problematic due to the inability to maximize vessel loading capacity, resulting in increased costs for shippers. For example, according to Azerbaijani sources, tankers transporting oil from Kazakhstan to Baku are currently carrying loads significantly below their designed capacity: they only hold about 7-7,300 tons of oil, far below the

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<sup>1</sup> The original (in Rus.) was posted on our website on 28.04.2025.

designed capacity of 12,000. The maximum capacity of the bulk carriers that previously carried up to 350 containers is currently restricted to 280. The losses amount to hundreds of tons of cargo for every 10 cm drop in water levels. The situation threatens that sea transportation may soon become financially unprofitable.

The Caspian countries are trying to carry out some work to deepen the seabed on the transportation routes, but there has been no tangible success in this matter. The intense decline in water levels forces the Azerbaijani authorities to undertake systematic modernization of their port infrastructure and, in particular, to systematically deepen the pier bottoms. But this cannot be done indefinitely, as the water is constantly being drained, which puts the ports in danger of appearing far from the coastline. Despite Baku's relatively successful management of previous volumes of cargo transportation, challenges persist for Kazakhstan and Turkmenistan due to the shallowness of the northern and eastern shores of the Caspian Sea. For example, while maintaining the current dynamics of the drop of the Caspian Sea level, the ports of Turkmenbashi (Turkmenistan) and Lagan (Russia) could be situated within 16 and 115 km from the coastline. In such conditions, it seems unrealistic to talk about the key role of Caspian maritime logistics in the system of large-scale international trade routes.

Baku understands this, as well as the fact that the shallowing of the sea also threatens big problems for the Azerbaijani oil and gas industry, which will have to adapt to new environmental conditions at the cost of expensive investments and technological innovations.

The main problem is that even the most advanced systemic measures on the part of the mentioned countries will be ineffective in preventing the decline in the level of the Caspian Sea if the natural and anthropogenic drying up of the Volga artery, the most important source of replenishment for the Caspian waters, continues. The Volga provides 85% of the water inflow of the Caspian basin, but in recent years, the permanent drought in Russia, caused by global warming, has significantly bolted down this artery. In addition to this, the Russian authorities, in addition to this, have built a number of new dams and water intake stations along the river to provide irrigation to the central regions of the country. On the other hand, the Iranian government has already begun implementing a program for large-scale withdrawal of Caspian waters, their desalination and redirection to the arid regions of the Islamic Republic. The Iranian section of the Caspian Sea is the deepest, and therefore Tehran is not very concerned about the prospect of changes in the coastlines of its neighbors. As a result, an unfavorable picture of the future emerges for Kazakhstan, Turkmenistan and Azerbaijan, no administrative and technical measures of which will be able to stop the catastrophe without the assistance of the Russian Federation and Iran. For this reason, the environmental problem of the Caspian Sea spills over into the political plane.

The Volga artery and water intake projects have the potential to serve as instruments of political pressure by Russia and Iran on their neighbors in order to establish their own rules of the game in the region, as well as their control over the system of trade and logistics communications. Specifically, this control could extend to the Trans-Caspian route project, which has been lobbied by the European Union and China. And these tools, as shown by the dynamics of the decline in the profitability of cargo transportation in the Caspian Sea, are

extremely effective. If the shallowing of the Caspian Sea does not force maritime logistics to be curtailed completely, then with a high degree of probability it may contribute to the adjustment of China's plans. Beijing may be thinking about additional bypass railway routes from Central Asia to Iran and Russia, with the further possibility of extending to Europe. In this scenario, Azerbaijan will have to abandon plans to become a key link in the Middle Route, a pivotal hub for trans-Caspian logistics.

Thus, Russia and Iran have the potential to contribute to the revision of China's strategic plans and, in particular, consistently lead Azerbaijan to focus on the North-South land route. Hypothetically, in case of diversification of the *"Middle Way"* routes, practical steps can be taken to stop the environmental degradation of the Caspian basin. This will require Russia to technically increase its release of Volga water into the Caspian Sea, and Iran to completely retool its seawater diversion program towards the Persian Gulf, where it is also building extensive desalination infrastructure.

Taking into account the aforementioned points, it can be assumed that the problem of shallow water in the Caspian Sea was one of the key topics at I. Aliyev's negotiations in China on April 23-24, 2025. The Azerbaijani leader was tasked with comprehending the prospects of the transit projects discussed with Beijing, as well as the extent to which the People's Republic of China (PRC) could exert its influence over the Russian Federation and Iran within the context of the Caspian ecology.