

Monitoring of changes in the water surface and wetland area of the Aral Sea and the Aral Region

SIC specialists are constantly monitoring the state of the Western and Eastern parts of the Greater Aral Sea and the water surface of the Southern Aral Sea by using the Landsat 8,9 OLI images. Areas of open water surface, wetlands, and dried territories within the study polygon were identified based on satellite imagery. The results as of June 27, 2026, are presented in Figure 1–2 and Tables 1–5. The figure 2 illustrates the dynamics of the Amu Darya River discharge at the Samanbay gauging station.



The Southern Aral Sea region is a natural-geographical area whose territory includes the water bodies of the Amu Darya River delta and the Main South Karakalpak Collector (MSKC).



Water body is a natural or artificial water feature characterized by specific morphometric parameters (area, volume, depth).



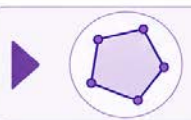
Water surface refers to the portion of a water body directly covered by open water at a given time; it is one of the main indicators of the water body's condition.



Wetlands are natural complexes characterized by excessive moisture; they represent part of the water body territory.



Dried area is a territory previously occupied by water surface but transformed into land due to declining water levels during monitoring; it represents part of the water body territory.



Polygon is a spatial object representing a closed area with defined boundaries, used for mapping and analysis of territories in satellite imagery.

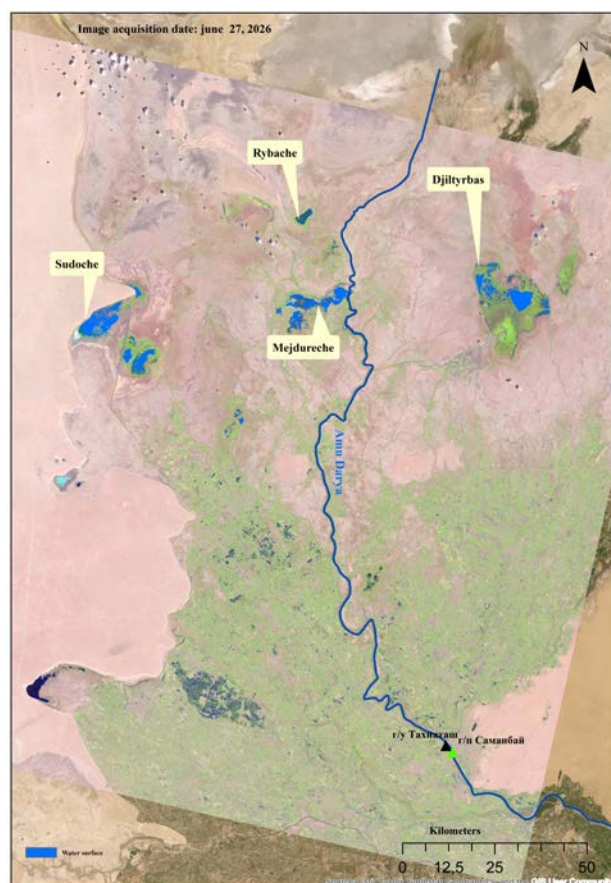


Figure 1. Southern Aral Sea region based on Landsat 9 imagery (June 27, 2026)

Table 1

Wetland areas of the Southern Aral Sea region, ha

Water body	17.12.2025	15.03.2026	02.05.2026	27.06.2026
Sudoche	28563	23170	8223	5280
Mejdureche	3064	4301	715	634
Rybach	3144	1668	123	113
Muynak	5290	3863	537	129
Djiltyrbas dam-terminated	3526	17251	13167	1745
Djiltyrbas (together with former right and left streams)	5506	35929	6058	407
Dumalak	16	1731	21	4
Makpalkul	1451	993	535	23
Mashan Karadjar	3897	2826	602	206
Water surface southward of Muynak	263	3554	21	0
Water surface southward of Kazakhdarya	123	1453	10	0
Zakirkol	79	70	39	19
Total:	54922	96809	30051	8560

Table 2

The area of open water surface in the Southern Aral Sea region, ha

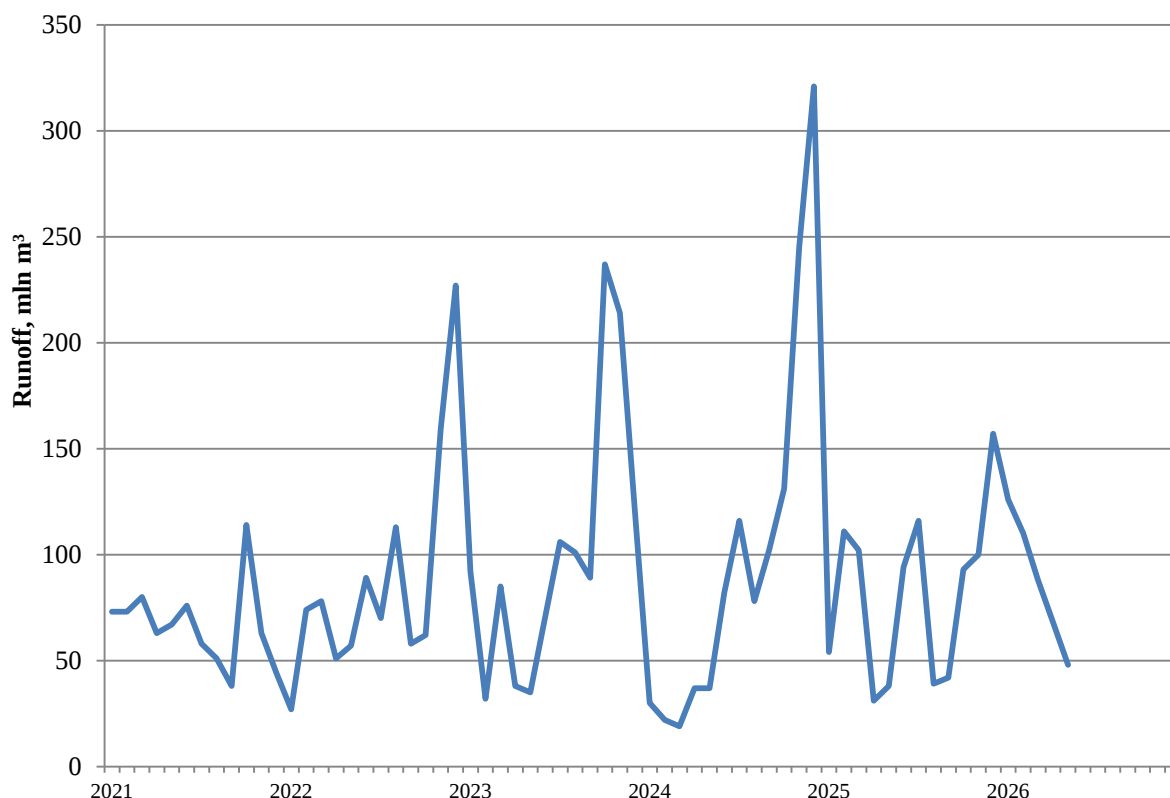
Water body	17.12.2025	15.03.2026	02.05.2026	27.06.2026
Sudoche	6108	8198	12227	6228
Mejdureche	4643	11718	9952	4182
Rybach	1009	1543	1035	233
Muynak	227	1454	320	43
Djilyrbas dam-terminated	9660	12787	10654	5007
Djilyrbas (together with former right and left streams)	307	1324	2606	69
Dumalak	0	2	0	0
Makpalkul	1678	1817	817	56
Mashan Karadjar	949	1083	1026	284
Water surface southward of Muynak	11	158	0	0
Water surface southward of Kazakhdarya	0	0	0	0
Zakirkol	100	449	476	148
Total:	24692	40533	39113	16250

Table 3

Dried area in the Southern Aral Sea region, ha

Water body	17.12.2025	15.03.2026	02.05.2026	27.06.2026
Sudoche	38026	41329	52247	61189
Mejdureche	30077	21765	27117	32968
Rybach	7340	8282	10335	11147
Muynak	10647	10847	15307	15992
Djilyrbas dam-terminated	34286	17434	23651.39493	40720.4
Djilyrbas (together with former right and left streams)	93138	61698	90287	98475
Dumalak	16034	14317	16029	16046
Makpalkul	5555	5874	7332	8605
Mashan Karadjar	22355	23292	25573	26711
Water surface southward of Muynak	9331	5893	9584	9605
Water surface southward of Kazakhdarya	4628.5	3298.5	4741.5	4751.5
Zakirkol	2612.3	2272.3	2276.3	2624.3
Total:	274030	216302	284480	328834

Figure 2. Dynamics of the Amu Darya River runoff at the Samanbay gauging station



Changes in the Areas of Water Bodies in the Southern Aral Sea Region

Changes in the Areas of Water Bodies in the Southern Aral Sea Region, ha

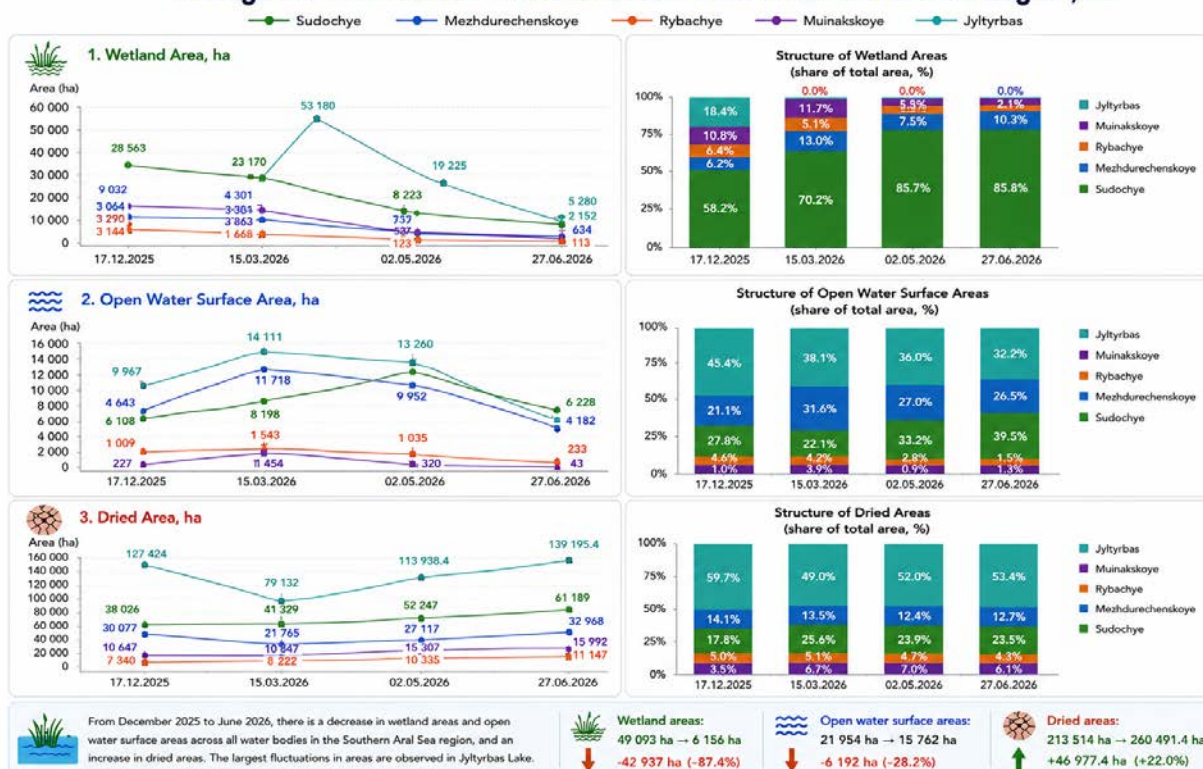


Table 4

Inflow to the Southern Aral Sea region, mln m³

Month	Delta			MSKC***	Total
	From Amu Darya River*	From canal systems**	Collector-drainage runoff**		
January	126	46	41	17	230
February	110	38	33	21	202
March	88	0	75	36	199
April	68	0	107	52.6	227.6
May	48	0	67	174.7	289,7

*Source: Uzhydrometeoservice

** Source: Ministry of Water Resources of the Republic of Uzbekistan

***Source: BWO “Amu Darya”

Table 5

Outflow to the Greater Aral Sea, mln m³

Month	From Amu Darya River*	MSKC**	Outflow from SAS***	Total
January	0	17	0	17
February	0	21	0	21
March	0	36	0	36
April	0	52.6		52.6
May	0	174,7	0	174,7

*Aral Sea Delta Management Authority, Rybachye Dam, PK 12 and PK 22.

**Source: BWO “Amu Darya”

*** Small Aral Sea

The monitoring results are as follows:

1. As of the end of June 2026, the water bodies of the Southern Aral Sea region exhibited a significant reduction in wetland areas accompanied by a simultaneous increase in dried territories. Compared to May 2026, the total wetland area decreased from 30.0 thousand ha to 8.5 thousand ha, while the area of dried lands increased from 284.4 thousand ha to 328.8 thousand ha. At the same time, the area of open water surface declined from 39.1 thousand ha to 16.2 thousand ha. The most pronounced changes were observed in the Sudoche, Jyltyrbas, and Muynak systems, where an expansion of dried areas and a reduction in wetlands were recorded. These changes may be associated with seasonal decreases in water inflow and increased evaporation during the spring period.
2. In May 2026, an increase in the total inflow of water to the Southern Aral Sea region was observed, reaching 289.7 million m³ after lower values recorded in previous months. The

main contribution was provided by the flow of the Amu Darya River, while additional water supply was ensured through canals and the collector-drainage system.

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