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 Southern Aral Sea and parts of the Greater Aral Sea by using the Landsat 8-9 OLI images. The use of the NDVI index with refined threshold values has been started, which allow recognizing three categories of surfaces: 1) open water surface, 2) wetlands, 3) land. According to the image from 4 September 2025, the areas of wetlands and open water surface were determined.

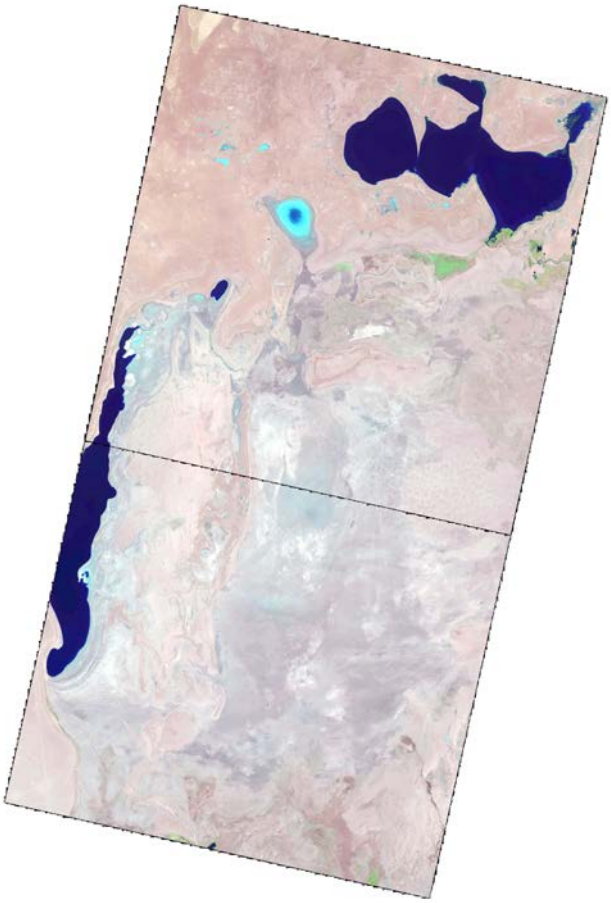

Figure 1. The Aral Region. Landsat 8 and 9, 4 September 2025

Table 1

**The area of wetlands, open water surfaces and dried ground*
in the Western and Eastern parts of the Aral Sea**

	29.04.2025	31.05.2025	16.06.2025	10.07.2025	27.08.2025	04.09.2025
Western part of the Aral Sea, ha						
Wetland	327496	328980	308277	Cloudy	328207	333464
Water surface	193474	192685	191657		189092	188184
Dried ground*	40380	39685	61416		44021	39702
Eastern part of the Aral Sea, ha						
Wetland	1466098	Cloudy	Cloudy	Cloudy	1456135	1458456
Water surface	43				11	10
Dried ground*	30683				40678	38358

* bare soil, dense or rare vegetation

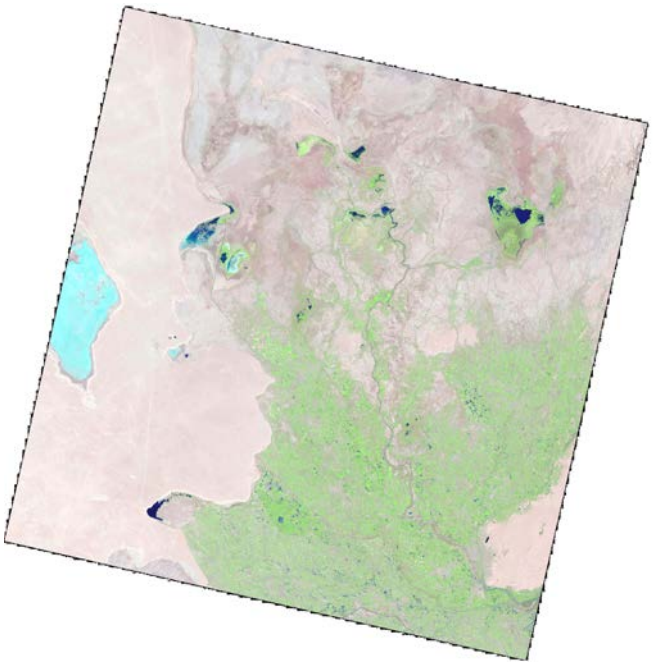

Figure 2. The Aral Region. Landsat 8 and 9, 4 September 2025

Table 2

Wetland areas of the Southern Aral Sea region, ha

Water body	12.03.2025	31.05.2025	16.06.2025	10.07.2025	27.08.2025	04.09.2025
Sudoche	32711	6551	12420	10129	13684	13985
Mejdureche	1907	519	398	318	243	257
Rybache	946	323	254	318	277	302
Muynak	2550	199	172	120	146	167
Djiltyrbas dam-terminated	7351	2218	1700	781	588	559
Djiltyrbas (together with former right and left streams)	20787	1037	2053	931	2074	2103
Dumalak	140	0	0	0	0	0
Makpalkul	527	338	201	49	25	16
Mashan Karadjar	3091	420	528	379	319	318
Water surface southward of Muynak	1273	11	3.06	36	199	222
Water surface southward of Kazakhdarya	74	0	0	0	0	0.7
Zakirkol	90	22	77	16	1	0.6
Total:	**71447**	**11638**	**17806.06**	**13077**	**17556**	**17930**

Table 3

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

Water body	12.03.2025	31.05.2025	16.06.2025	10.07.2025	27.08.2025	04.09.2025
Sudoche	18004	9854	8057	6915	4146	3785
Mejdureche	13931	1813	1683	1573	957	986
Rybache	2688	1586	1366	952	733	750
Muynak	2745	339	167	139	50	42
Djiltyrbas dam-terminated	18764	6822	5662	5217	4527	4298
Djiltyrbas (together with former right and left streams)	3161	44	0	17	14	14
Dumalak	0.18	0	0	0	0	0
Makpalkul	3725	267	170	68	70	58
Mashan Karadjar	2425	560	609	548	204	171
Water surface southward of Muynak	171	2	0.09	0	0	0
Water surface southward of Kazakhdarya	0.8	0	0	0	0	0
Zakirkol	581	131	6	0	0	0
Total:	**66195.78**	**21418**	**17720**	**15429**	**10701**	**10104**

Table 4

Dried ground area* in the Aral Region, ha

Water body	12.03.2025	31.05.2025	16.06.2025	10.07.2025	27.08.2025	12.09.2025
Sudoche	21982	56292	52220	55653	54867	54927
Mejdureche	21946	35452	35703	35893	36584	36541
Rybache	7859	9584	9873	10223	10483	10441
Muynak	10869	15626	15825	15905	15968	15955
Djiltyrbas dam-terminated	21357.39	38432.39	40110.39	41474.39493	42357.39493	42615
Djiltyrbas (together with former right and left streams)	75003	97870	96898	98003	96863	96834
Dumalak	15909.8		16050	16050	16050	16050
Makpalkul	4432	8079	8313	8567	8589	8610
Mashan Karadjar	21685	26221	26064	26274	26678	26712
Water surface southward of Muynak	8161	9592	9601.85	9569	9406	9383
Water surface southward of Kazakhdarya	4679.9	4751.5	4751.5	4751.5	4751.5	4751
Zakirkol	2120.3	2638.3	2708.3	2775.3	2790.3	2791
Total:	**216001.4**	**299786.6**	**318118**	**325138**	**325387**	**325610**

* bare soil, dense or rare vegetation

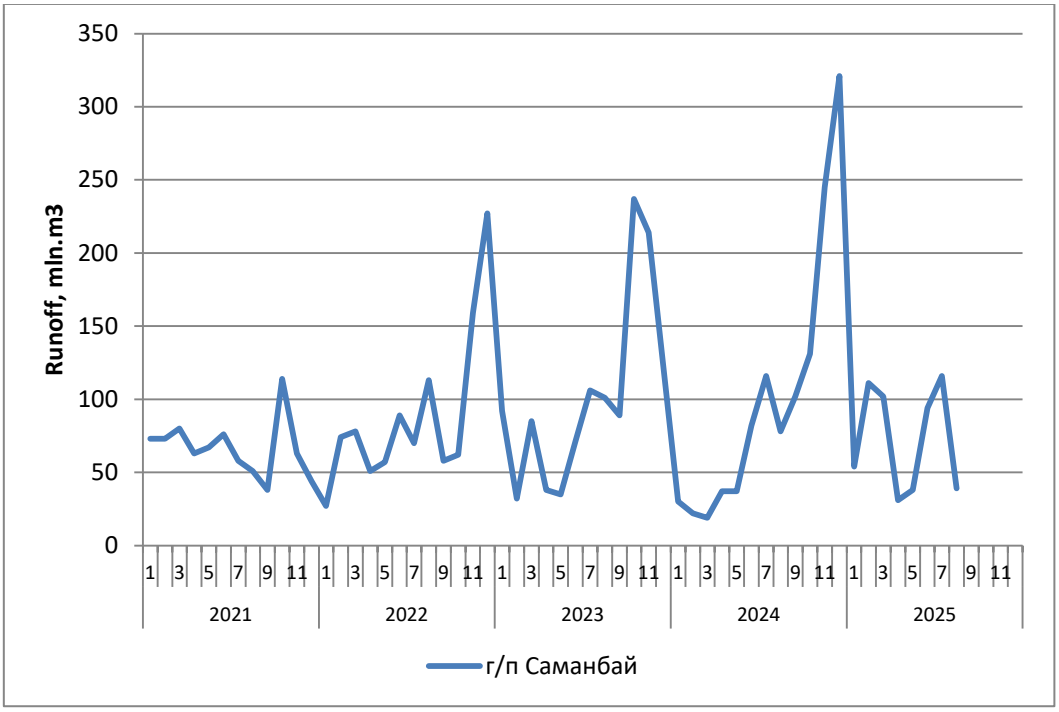

Fig.3 Dynamics of the Amu Darya River runoff at the Samanbay gauging station

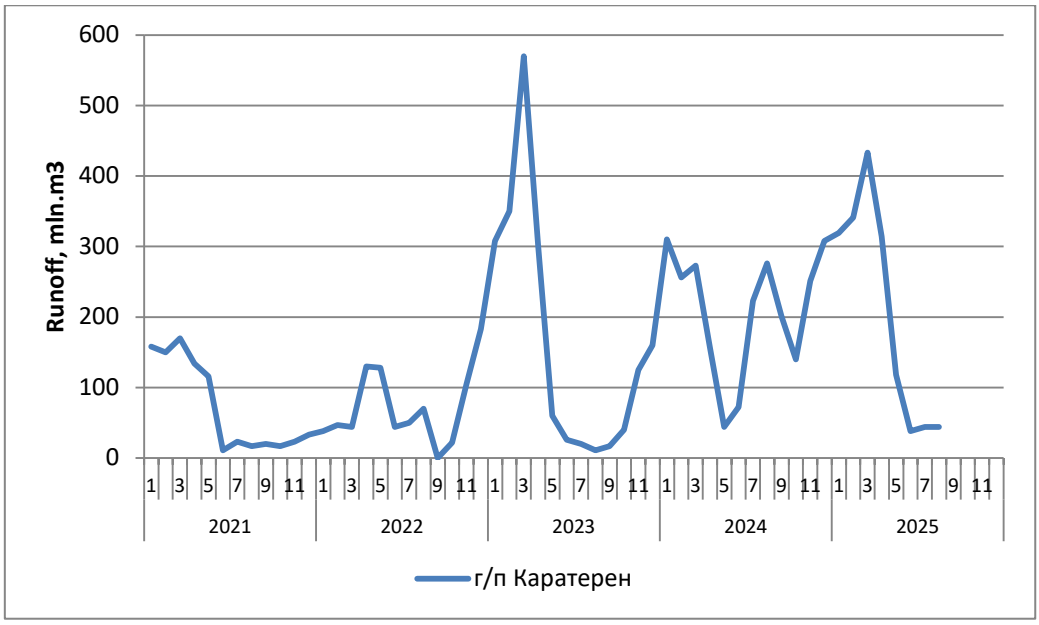

Fig.4 Dynamics of the Syr Darya river flow along the Karateren gauging station

Table 5

Inflow to Inflow to the Aral Region and Aral Sea, mln.m^3

Month	From Amu Darya River*	From canal systems**	Collector-drainage runoff**	Total	Release from North Aral sea
January	54	39	54	**147**	0
February	111	18	57	**186**	0
March	102	60	81	**243**	0
April	31	0	105	**136**	0
May	38	0	90	**128**	0
June	94	0	82	**176**	0
July	116	0	129	**245**	0
August	39	0	124	**163**	0

*Source: Uzhydrometeoservice

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

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