

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 3 October 2024, the areas of wetlands and open water surface were determined

Figure. The Aral Region. Landsat 8 and 9, 3 October 2024

Table 1**Areas of wetlands in the Aral Region, ha**

Water body	18.04.2024	06.06.2024	31.07.2024	24.08.2024	09.09.2024	03.10.2024
Sudoche	16276	7377	10470	9959	8599	18663
Mejdureche	1191	534	275	401	264	292
Rybatche	241	79	103	177	174	259
Muynak	2136	106	131	239	274	986
Djiltyrbas dam-terminated	16353	960	535	956	657	1891
Djiltyrbas (together with former right and left streams)	10236	668	895	753	757	4211
Dumalak	37	6	7	4	2	8
Makpalkul	385	302	30	36	13	31
Mashan Karadjar	1388	326	232	111	150	762
Water surface southward of Muynak	166	2	40	30	47	226
Water surface along Kazakhdarya river channel	11	0	0.09	0	0.18	1.35
Zakirkol	117	56	1	0	0	1
Total:	48537	10416	12719.09	12666	10937	27331.35

Table 2**The area of open water surface in the Aral region, ha**

Water body	18.04.2024	06.06.2024	31.07.2024	24.08.2024	09.09.2024	03.10.2024
Sudoche	15293	9521	4412	3830	4874	5490
Mejdureche	7391	2078	1648	1389	990	2340
Rybatche	1996	1735	1037	721	702	656
Muynak	1382	168	19	4	12	33
Djiltyrbas dam-terminated	14247	5522	4637	3883	2865	3289
Djiltyrbas (together with former right and left streams)	1771	51	30	14	11.34	35
Dumalak	0	0	0	0	0	0
Makpalkul	3180	206	60	79	50	31
Mashan Karadjar	1150	420	170	153	241	635
Water surface southward of Muynak	0	0	0.18	0	0	1
Water surface along Kazakhdarya river channel	0	0	0.18	0	0	0.09
Zakirkol	534	79	0	0	0	0
Total:	46944	19780	12013.36	10073	9745	12510.09

Table 3

Dried ground area* in the Aral Region, ha

Water body	18.04.2024	06.06.2024	31.07.2024	24.08.2024	09.09.2024	03.10.2024
Sudoche	41128	55799	57815	58908	59224	48544
Mejdureche	29202	35172	35861	35994	36530	35152
Rybatche	9256	9679	10353	10595	10617	10578
Muynak	12646	15890	16014	15921	15878	15145
Djiltyrbas dam-terminated	16872.39	40990.39	42300	42633	43950.3	42292.39493
Djiltyrbas (together with former right and left streams)	86944	98232	98026	98184	98182.66	94705
Dumalak	16013	16044	16043	16046	16048	16042
Makpalkul	5119	8176	8594	8569	8621	8622
Mashan Karadjar	24663	26455	26799	26937	26810	25804
Water surface southward of Muynak	9439	9603	9564.82	9575	9558	9378
Water surface along Kazakhdarya river channel	4740.5	4751.5	4751.23	4751.5	4751.32	4750.06
Zakirkol	2140.3	2656.3	2790.3	2791.3	2791.3	2790.3
Total:	258163	323448	328911.74	330905.1	332961.6	313802.7

* bare soil, dense or rare vegetation

Table 4**Inflow to Inflow to the Aral Region and Aral Sea in 2024, mln.m³**

Month	From Amu Darya River*	From canal systems**	Collector-drainage runoff	Total	Plan	Runoff from North Aral Sea
January	30	34	30	94	774	0
February	22	37	26	85	167	0
March	19	0	107	126	185	0
April	37	0	219	256	180	0
May	37	0	81	118	336	0
June	82	0	87	169	391	0
July	116	0	113	229	480	0
August	78	6	144	228	391	0
September	102	6	130	238	319	0

*Source: Uzhydrometeoservice

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

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