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 9 September 2024, the areas of wetlands and open water surface were determined

Figure. The Aral Region. Landsat 8 and 9, September 2024

Table 1

Areas of wetlands in the Aral Region, ha

Water body	01.03. 2024	18.04. 2024	06.06. 2024	31.07. 2024	24.08. 2024	09.09. 2024
Sudoche	13257.2	16276	7377	10470	9959	8599
Mejdureche	3095.3	1191	534	275	401	264
Rybache	1812.1	241	79	103	177	174
Muynak	2989.1	2136	106	131	239	274
Djiltyrbas dam-terminated	16892.4	16353	960	535	956	657
Djiltyrbas (together with former right and left streams)	16697	10236	668	895	753	757
Dumalak	632.6	37	6	7	4	2
Makpalkul	559.0	385	302	30	36	13
Mashan Karadjar	2595.2	1388	326	232	111	150
Water surface southward of Muynak	1171.7	166	2	40	30	47
Water surface along Kazakhdarya river channel	76.3	11	0	0.09	0	0.18
Zakirkol	84.3	117	56	1	0	0
Total:	**59862.7**	**48537**	**10416**	**12719.09**	**12666**	**10937**

Table 2

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

Water body	01.03. 2024	18.04. 2024	06.06. 2024	31.07. 2024	24.08. 2024	09.09. 2024
Sudoche	14748.03	15293	9521	4412	3830	4874
Mejdureche	12208.68	7391	2078	1648	1389	990
Rybache	1493.82	1996	1735	1037	721	702
Muynak	1172.88	1382	168	19	4	12
Djiltyrbas dam-terminated	15505.2	14247	5522	4637	3883	2865
Djiltyrbas (together with former right and left streams)	1164	1771	51	30	14	11.34
Dumalak	0	0	0	0	0	0
Makpalkul	3261.42	3180	206	60	79	50
Mashan Karadjar	1519.11	1150	420	170	153	241
Water surface southward of Muynak	44.91	0	0	0.18	0	0
Water surface along Kazakhdarya river channel	0.09	0	0	0.18	0	0
Zakirkol	740.52	534	79	0	0	0
Total:	**51858.66**	**46944**	**19780**	**12013.36**	**10073**	**9745**

Table 3

Dried ground area* in the Aral Region, ha

Water body	01.03. 2024	18.04. 2024	06.06. 2024	31.07. 2024	24.08. 2024	09.09. 2024
Sudoche	44691.7	41128	55799	57815	58908	59224
Mejdureche	22479.95	29202	35172	35861	35994	36530
Rybache	8187.03	9256	9679	10353	10595	10617
Muynak	12001.95	12646	15890	16014	15921	15878
Djiltyrbas dam-terminated	15074.734 93	16872.394 93	40990.394 93	42300	42633	43950.394 93
Djiltyrbas (to-gether with former right and left streams)	81090	86944	98232	98026	98184	98182.66
Dumalak	15417.39	16013	16044	16043	16046	16048
Makpalkul	4863.5	5119	8176	8594	8569	8621
Mashan Karadjar	23086.65	24663	26455	26799	26937	26810
Water surface southward of Muynak	8388.38	9439	9603	9564.82	9575	9558
Water surface along Kazakhdarya river channel	4675.09	4740.5	4751.5	4751.23	4751.5	4751.32
Zakirkol	1966.45	2140.3	2656.3	2790.3	2791.3	2791.3
Total:	**241922.8**	**258163**	**323448**	**328911.74**	**330905.1**	**332961.6**

* bare soil, dense or rare vegetation

Table 4

Inflow to Inflow to the Aral Region and Aral Sea in 2024, mln.m^3

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

*Source: Uzhydrometeoservice

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

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