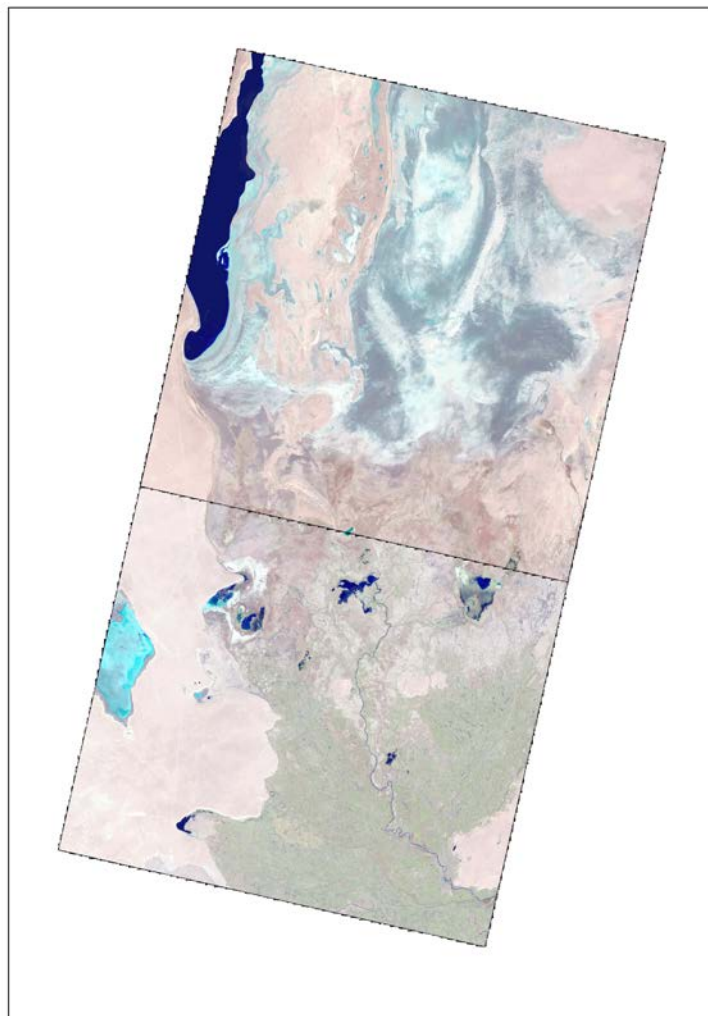


## **Monitoring of changes in the water surface and wetland area of the Aral Sea and the Aral Region**

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 2 November 2023, the areas of wetlands and open water surface were determined



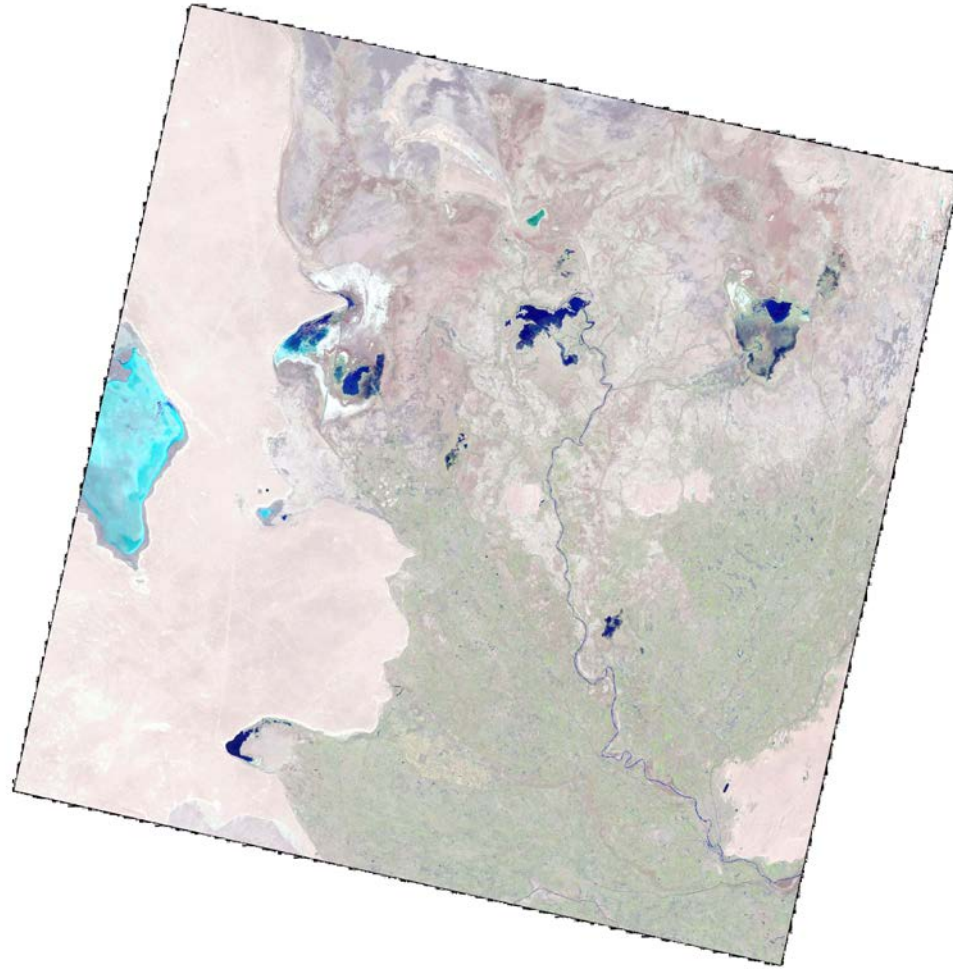
**Figure 1 Western and Eastern parts of the Aral Sea  
Landsat 8-9, 2 November 2023**

**Table 1**

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

	<b>27.06.2023</b>	<b>13.07.2023</b>	<b>22.08.2023</b>	<b>23.09.2023</b>	<b>17.10.2023</b>	<b>02.11.2023</b>
<i>Western part of the Aral Sea, ha</i>						
Wetland	336 388	271 323	311 505	318 556	324 587	331 197
Water surface	206 861	208 318	203 458	201 970	200 855	200 819
Dried ground*	18 101.2	81 709	46 387	40 823	35 908	29 334
<i>Eastern part of the Aral Sea, ha</i>						
Wetland	1 446 824	1 430 500	1 445 526	1 457 765	1 462 390	1 470 950
Water surface	699	406	12	26	15	32
Dried ground*	49 190	65 918	51 286	39 033	34 419	25 842

\* bare soil, dense or rare vegetation



**Figure 2. The Aral Region. Landsat 8 and 9. 2 November 2023**

**Table 2****Areas of wetlands in the Aral Region, ha**

<b>Water body</b>	<b>27.06.2023</b>	<b>13.07.2023</b>	<b>22.08.2023</b>	<b>23.09.2023</b>	<b>17.10.2023</b>	<b>02.11.2023</b>
Sudoche	22414.68	23579.01	17992.35	2110.94	23576.22	33806.88
Mejdureche	1629.36	1320.21	293.85	210.96	352.89	2117.52
Rybatche	974.61	1043.73	42.57	15.75	41.31	2480.94
Muynak	220.59	188.19	93.96	79.2	185.67	2537.91
Djiltyrbas dam-terminated	2024.55	2024.37	874.71	1012.95	1552.5	9370.71
Djiltyrbas (together with former right and left streams)	13947.57	15009.66	1868.4	2443.32	5033.88	17307
Dumalak	840.69	740.7	24.3	14.85	20.7	342.27
Makpalkul	238.95	141.66	67.41	21.69	22.95	488.34
Mashan Karadjar	1595.43	1256.4	319.23	1040.85	1169.1	3028.95
Water surface southward of Muynak	609.48	594.45	83.43	7.11	272.52	2949.21
Water surface along Kazakhdarya river channel	163.44	84.15	1.17	3.51	4.5	93.06
Zakirkol	3.09	2.34	0.09	0.63	1.8	25.83
<b>Total:</b>	<b>44 662.44</b>	<b>45 984.87</b>	<b>21 661.47</b>	<b>6 961.76</b>	<b>32 234.04</b>	<b>74 548.62</b>

Table 3

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

<b>Water body</b>	<b>27.06.2023</b>	<b>13.07.2023</b>	<b>22.08.2023</b>	<b>23.09.2023</b>	<b>17.10.2023</b>	<b>02.11.2023</b>
Sudoche	5393.61	3101.49	2491.38	4561.47	4981.05	9686.43
Mejdureche	855.54	1104.48	1478.07	1057.41	2816.46	9016.56
Rybatche	1292.22	531	0	0.09	0	0.18
Muynak	37.99	16.38	6.57	6.75	11.88	24.39
Djiltyrbas dam-terminated	3746.61	2890.82	2179.71	2168.73	2326.23	5373.82
Djiltyrbas (together with former right and left streams)	14.31	10.71	7.47	433.89	382.68	483.75
Dumalak	0	0.54	0	0	1.53	0.09
Makpalkul	149.31	60.93	134.64	2.88	7.47	307.53
Mashan Karadjar	206.28	160.83	76.77	348.39	490.32	544.77
Water surface southward of Muynak	0	0	0	0	0	0
Water surface along Kazakhdarya river channel	0	0	0	0.09	0.09	1.17
Zakirkol	0	0	0	0	0	139.14
<b>Total:</b>	<b>11 695.87</b>	<b>7 877.18</b>	<b>6 374.61</b>	<b>8 579.7</b>	<b>11 017.71</b>	<b>25 577.83</b>

Table 4

## Dried ground area\* in the Aral Region, ha

<b>Water body</b>	<b>27.06.2023</b>	<b>13.07.2023</b>	<b>22.08.2023</b>	<b>23.09.2023</b>	<b>17.10.2023</b>	<b>02.11.2023</b>
Sudoche	44888.71	46016.5	52213.27	66024.59	44139.73	29203.69
Mejdureche	35299.1	35359.31	36012.08	36515.63	34614.65	26649.92
Rybatche	9226.17	9918.27	11450.43	11477.16	11451.69	9011.88
Muynak	15905.42	15959.43	16063.47	16078.05	15966.45	13601.7
Djiltyrbas dam-terminated	41701.23	42557.20	44417.97	44290.71493	43593.66493	32727.86493
Djiltyrbas (together with former right and left streams)	84989.12	83930.63	97075.13	96073.79	93534.44	81160.25
Dumalak	15209.31	15308.76	16025.7	16035.15	16027.77	15707.64
Makpalkul	8295.74	8481.41	8481.95	8659.43	8653.58	7888.13
Mashan Karadjar	25399.29	25783.77	26805	25811.76	25541.58	23627.28
Water surface southward of Muynak	8995.52	9010.55	9521.57	9597.89	9332.48	6655.79
Water surface along Kazakhdarya river channel	4588.06	4667.35	4750.33	4747.9	4746.91	4657.27
Zakirkol	2788.21	2788.96	2791.21	2790.67	2789.5	2626.33
<b>Total:</b>	<b>297 285.8</b>	<b>299 782.1</b>	<b>325 608.1</b>	<b>338 102.7</b>	<b>310 392.4</b>	<b>253 517.7</b>

\* bare soil, dense or rare vegetation

**Table 5****Inflow to Inflow to the Aral Region and Aral Sea in 2023**

Month	Inflow to Inflow to the Aral Region and Aral Sea, mln.m <sup>3</sup>					Runoff from North Aral Sea, mln.m <sup>3</sup>
	From Amu Darya River	from canal systems	collector-drainage runoff	Total	Plan	
Jan	92	8	40	140	774	0
Feb	32	98	45	175	167	0
Mar	85	50	122	257	185	0
Apr	38	0	214	252	180	0
May	35	0	71	106	336	0
June	71	0	91	162	391	0
July	106	0	99	205	480	0
Aug	101	0	131	232	391	0
Sep	89	0	145	234	319	0
Oct	237	57	94	388	148	0

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