

Figure S1. The Barguzin river mouth, sampling point location (Sentinel-2, 03.07.2020).

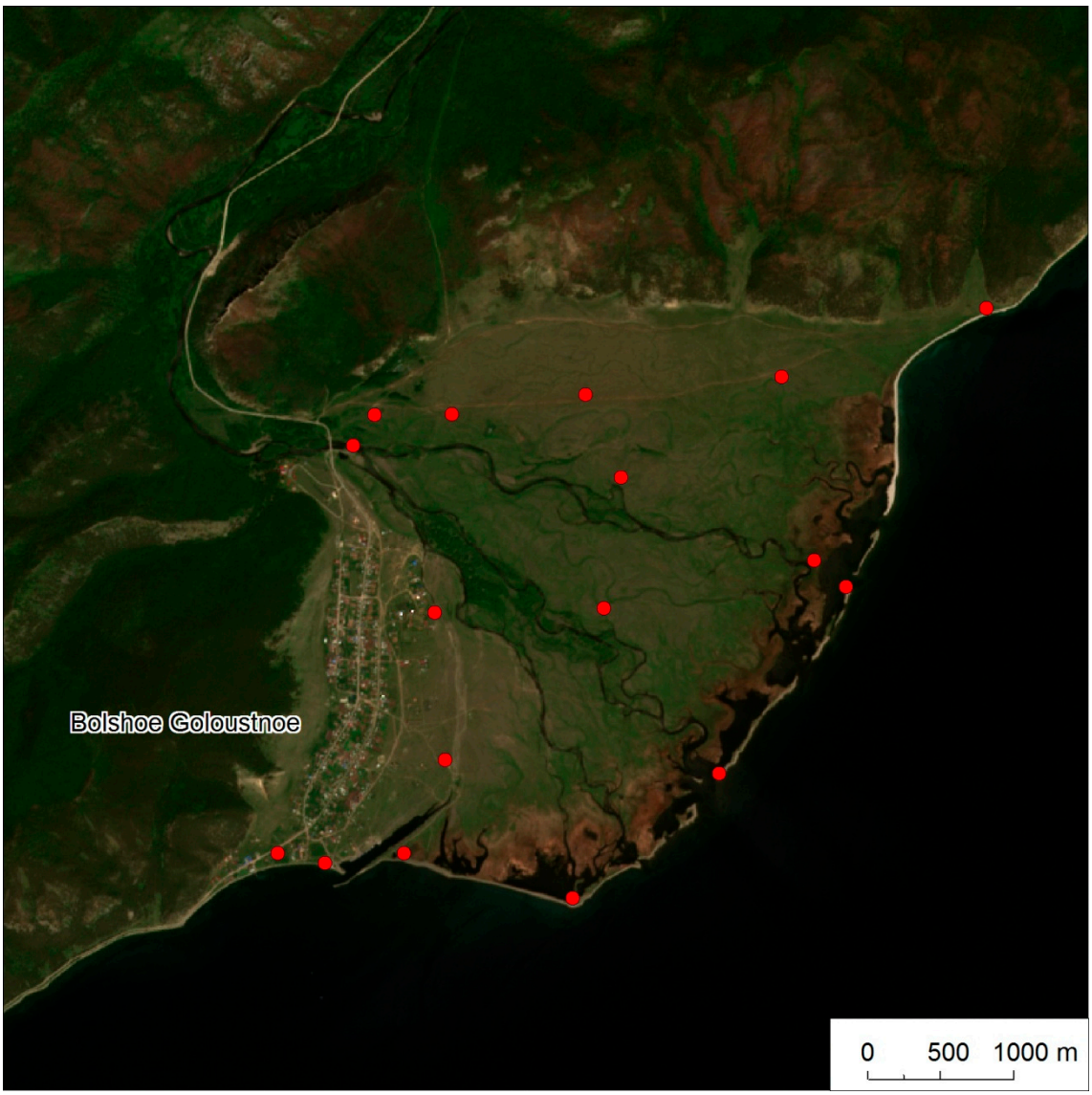

Figure S2. The Goloustnaya river mouth, sampling point location (Sentinel-2, 09.06.2020).



Figure S3.The Sarma river mouth, sampling point location (Sentinel-2, 04.09.2020).



Figure S4.The Kika river mouth, sampling point location (Sentinel-2, 04.09.2020).

Table S1 The content of oil products and main ions in the water of the Goloustnaya, Sarma, Kika and Barguzin rivers, in the coastal waters of Lake Baikal and in the snow waters of deltas according to the field research data in 2015 to 2019 [20 - 24].

Content	pH	Anoins							Cations					Susp.	∑	Petrol.
		F^-	HCO_3^-	Cl^-	SO_4^{2-}	NO_2^-	NO_3^-	PO_4^{3-}	Ca^{2+}	Mg^{2+}	K^+	Na^+	NH_4^+			
		mg/dm^3												g/dm^3	mg/dm^3	
Snow waters at the mouth of the Goloustnaya river, 2015-2019, 54 samples																
max	6.7	0.22	7.32	4.38	13.60	0.033	0.012	**0.078**	3.00	1.24	0.73	1.02	**9.600**	0.210	41.2	0.045
min	6.1	0.02	2.44	2.10	0.01	0.010	0.001	0.001	0.62	0.12	0.12	0.17	0.001	0.003	5.6	0.018
mean	6.3	0.08	4.15	3.24	0.94	0.021	0.007	0.009	1.23	0.39	0.31	0.54	1.924	0.070	12.8	0.024
Snow waters at the mouth of the Sarma river, 2015-2018, 52 samples																
max	6.8	0.10	6.32	4.38	3.10	0.051	0.350	0.005	4.64	0.40	0.85	0.45	0.300	0.458	21.0	0.049
min	6.1	0.02	1.22	1.58	0.11	0.005	0.000	0.001	0.07	0.09	0.11	0.13	0.001	0.003	3.3	0.009
mean	6.4	0.07	3.78	3.04	0.56	0.034	0.070	0.002	1.00	0.19	0.25	0.25	0.080	0.154	9.3	0.034
Snow waters at the mouth of the Kika river, 2015-2018, 42 samples																
max	7.4	0.10	6.10	3.85	0.30	0.025	0.010	0.003	4.22	1.00	0.37	0.50	0.010	0.150	16.5	0.004
min	6.2	0.06	1.22	2.98	0.01	0.001	0.001	0.001	1.03	0.16	0.06	0.18	0.001	0.063	5.7	0.002
mean	6.5	0.08	2.66	3.45	0.09	0.013	0.003	0.002	2.34	0.48	0.21	0.28	0.004	0.103	9.6	0.003
Snow waters at the mouth of the Barguzin river, 2015-2018, 43 samples																
max	6.4	0.06	9.76	4.20	23.01	0.009	0.001	**0.045**	2.21	0.33	0.67	1.61	0.001	0.339	41.9	0.044
min	6.1	0.05	1.83	3.04	0.00	0.004	0.001	0.001	0.90	0.25	0.12	0.28	0.001	0.203	6.5	0.014
mean	6.2	0.06	4.70	3.55	6.01	0.007	0.001	0.006	1.46	0.29	0.33	0.43	0.001	0.287	16.9	0.027
back-ground *	6.4	0.09	4.14	3.33	3.70	0.030	0.016	0.004	1.54	0.31	0.29	0.52	0,160	0.090	11.1	0.050
Water of the Goloustnaya, 2015-2019, 44 samples																
max	8.2	0.19	70.15	4.97	16.20	0.084	0.200	0.009	32.47	14.50	2.37	5.97	0.250	0.033	122.8	0.010
min	7.9	0.10	40.10	1.70	2.10	0.001	0.010	0.000	16.72	5.30	0.47	2.33	0.020	0.029	94.1	0.005
mean	8.1	0.15	56.30	3.52	10.20	0.038	0.104	0.005	23.14	9.60	1.25	3.79	0.154	0.031	108.4	0.007
Water of the Sarma, 2015-2019, 32 samples																
max	8.3	0.19	82.02	2.50	20.10	0.050	11.600	**0.060**	37.63	8.55	1.89	3.36	0.040	0.080	113.3	0.016
min	7.8	0.07	36.50	0.20	1.60	0.010	0.010	0.002	16.80	3.41	0.31	0.67	0.010	0.035	37.4	0.003
mean	7.9	0.11	60.32	0.67	5.23	0.020	2.670	0.028	28.24	6.34	0.75	1.73	0.020	0.050	86.4	0.009
Water of the Kika, 2015-2018, 12 samples																
max	7.9	0.23	61.56	2.45	4.91	0.010	0.100	0.003	27.95	2.74	2.10	3.59	0.021	0.060	105.2	0.023
min	7.5	0.10	20.41	0.18	0.76	0.008	0.010	0.001	6.89	1.74	0.76	1.05	0.001	0.034	32.0	0.001
mean	7.7	0.13	31.56	1.78	1.01	0.009	0.050	0.002	17.95	2.16	1.01	2.50	0.010	0.041	58.8	0.003
Water of the Barguzin, 2015-2018, 24 samples																
max	8.1	0.22	90.06	18.5	20.10	0.200	11.600	**0.077**	38.85	8.55	2.96	11.37	0.250	0.169	120.2	**0.080**
min	7.3	0.09	36.58	1.60	1.00	0.008	0.010	0.001	16.80	3.39	0.40	1.90	0.010	0.042	96.5	0.002
mean	7.9	0.16	65.27	4.12	2.70	0.034	1.550	0.012	28.95	4.33	1.94	4.86	0.062	0.111	111.6	0.004
Coastal waters of Lake Baikal, vil. Bolshoe Goloustnoe, 2015-2019, 24 samples																
max	7.9	0.20	68.20	0.01	0.10	0.011	0.010	0.000	19.09	3.93	1.05	3.06	0.020	0.019	95.7	**0.340**
Coastal waters of Lake Baikal, vil. Sarma, 2015-2019, 22 samples																
max	8.1	0.29	92.10	1.32	5.10	0.06	0.010	0.010	15.07	3.30	1.06	2.31	0.140	0.070	120.8	0.008
Coastal waters of Lake Baikal, the mouth of the Kika river, 2015-2018, 12 samples																
max	6.4	0.21	55.05	1.60	1.01	0.032	1.450	0.003	11.94	2.71	1.31	2.77	0.029	0.052	77.1	0.002
Coastal waters of Lake Baikal, vil. Ust-Barguzin, 2015-2018, 19 samples																
max	8.2	0.25	92.05	1.79	20.03	0.014	0.010	**0.010**	16.02	3.52	1.04	3.52	0,021	0.050	120.3	0.009
back-ground**	-	0.10	-	-	-	-	-	-	36.0	9.0	1.00	-	-	-	-	-
MPC, APC***	-	0.7-1.5	-	350	500	-	130	.01-0.00	180	50	40-50	120-200	1,5	-	-	0.050

∑ - salinity;

Background* - regional background for snow waters [Belozertseva et al., 2017];

Background ** - regional background for surface waters [Grebenshchikova et al., 2008];

MPC *** (maximum permissible concentration), APC*** (approximate permissible concentration)

[GOST 2874-82, Drinking Water. Hygienic Requirements and Quality Control (1982) http://gostvoda.ru/d/677526/d14-gost-2874-82 ;

GN 2.2.5.1315-03. Threshold level values (TLV) of chemical substances in water of water bodies of domestic drinking and cultural and domestic water use. http://docs.cntd.ru/document/901862249]

Note: Dash "–" no data; the readings in bold exceed the MPC values

Table S2. The gross content of heavy and alkali-earth metals in the water of the Goloustnaya, Sarma, Kika and Barguzin rivers, the coastal waters of Lake Baikal, snow waters of deltas according to the field research data in 2015 to 2019 [20 -24].

Content	Mo	Mn	Ba	Al	Pb	Ni	Cu	V	Cr	Fe	Zn	Sr	Ti	Co	Cd
	mg/ dm^3														
Snow waters at the mouth of the Goloustnaya river, 2015-2019, 54 samples															
max	0.009	0.054	0.008	0.073	0.005	0.002	0.007	0.003	0.002	0.070	0.026	0.014	0.008	0.002	0.002
min	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001
mean	0.003	0.015	0.003	0.017	0.002	0.001	0.004	0.002	0.001	0.014	0.010	0.006	0.002	0.001	0.001
Snow waters at the mouth of the Sarma river, 2015-2018, 52 samples															
max	0.023	0.028	0.006	0.032	0.001	0.002	0.004	0.004	0.005	0.030	0.004	0.010	0.002	0.002	0.002
min	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.001
mean	0.003	0.006	0.003	0.016	0.001	0.001	0.002	0.002	0.002	0.013	0.002	0.005	0.001	0.001	0.001
Snow waters at the mouth of the Kika river, 2015-2018, 42 samples															
max	0.013	0.011	0.004	0.029	0.001	0.001	0.003	0.001	0.001	0.020	0.013	0.025	0.002	0.001	0.001
min	0.001	0.002	0.002	0.009	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.004	0.001	0.001	0.001
mean	0.007	0.007	0.003	0.017	0.001	0.001	0.002	0.001	0.001	0.010	0.007	0.013	0.001	0.001	0.001
Snow waters at the mouth of the Barguzin river, 2015-2018, 43 samples															
max	0.006	0.054	0.005	0.077	0.002	0.002	0.002	0.001	0.002	0.052	0.01	0.021	0.006	0.002	0.002
min	0.001	0.002	0.002	0.014	0.001	0.001	0.001	0.001	0.001	0.006	0.001	0.005	0.001	0.001	0.001
mean	0.003	0.023	0.003	0.041	0.001	0.001	0.002	0.001	0.001	0.028	0.005	0.011	0.003	0.002	0.002
background*	0.005	0.008	0.004	0.018	0.001	0.001	0.002	0.002	0.002	0.012	0.005	0.010	0.002	0.001	0.001
Water of the Goloustnaya, 2015-2019, 44 samples															
max	0.017	0.002	0.027	0.063	0.004	0.002	0.005	0.009	0.002	0.085	0.067	0.072	0.013	0.001	0.001
min	0.000	0.000	0.004	0.026	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.046	0.000	0.000	0.000
mean	0.006	0.001	0.012	0.043	0.003	0.001	0.003	0.005	0.001	0.027	0.027	0.062	0.006	0.0007	0.001
Water of the Sarma, 2015-2019, 32 samples															
max	0.009	0.010	0.019	0.057	**0.011**	0.001	0.001	0.004	0.000	0.080	0.012	0.127	0.006	0.001	0.001
min	0.001	0.001	0.009	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.002	0.058	0.001	0.000	0.000
mean	0.005	0.007	0.016	0.030	0.002	0.001	0.001	0.002	0.000	0.028	0.009	0.097	0.003	0.000	0.000
Water of the Kika, 2015-2018, 12 samples															
max	0.002	0.004	0.010	0.002	0.001	0.001	0.047	0.001	0.001	0.005	0.002	0.049	0.001	0.001	0.001
min	0.001	0.001	0.005	0.001	0.000	0.000	0.001	0.000	0.000	0.001	0.001	0.029	0.000	0.000	0.000
mean	0.001	0.003	0.007	0.001	0.001	0.001	0.011	0.001	0.000	0.002	0.002	0.038	0.000	0.001	0.000
Water of the Barguzin, 2015-2018, 24 samples															
max	0.011	0.060	0.024	0.050	**0.020**	0.001	0.044	0.003	0.001	0.240	0.012	0.190	0.005	0.002	0.002
min	0.001	0.001	0.010	0.001	0.001	0.000	0.001	0.001	0.000	0.000	0.001	0.035	0.001	0.000	0.000
mean	0.003	0.008	0.019	0.020	0.002	0.001	0.011	0.001	0.001	0.043	0.001	0.103	0.002	0.001	0.001
Coastal waters of Lake Baikal, vil. Bolshoe Goloustnoe, 2015-2019, 24 samples															
max	0.002	0.000	0.012	0.015	0.000	0.000	0.012	0.000	0.000	0.000	0.013	0.066	0.000	0.000	0.000
Coastal waters of Lake Baikal, vil. Sarma, 2015-2019, 22 samples															
max	0.028	0.001	0.007	0.009	**0.010**	0.000	0.001	0.000	0.000	0.006	0.000	0.075	0.000	0.000	0.000
Coastal waters of Lake Baikal, the mouth of the Kika river, 2015-2018, 12 samples															
max	0.001	0.006	0.008	0.046	0.001	0.001	0.001	0.001	0.001	0.070	0.007	0.047	0.001	0.001	0.001
Coastal waters of Lake Baikal, vil. Ust-Barguzin, 2015-2018, 19 samples															
max	0.001	0.040	0.010	0.050	**0.020**	0.006	0.011	0.001	0.010	0.030	0.011	0.120	0.020	0.010	0.000
background**	-	0.024	-	-	0.002	-	0.002	-	0.005	-	0.020	0.142	-	0.0004	-
MPC, APC ***	0.25	0.1	0.7	0.5	0.010-0.001	0.02	1.0	-	0.05	0.3	5.0-1.0	7	-	0.1	0.001-0.005

Background* - regional background for snow waters [Belozertseva et al., 2017];

Background ** - regional background for surface waters [Grebenshchikova et al., 2008];

MPC *** (maximum permissible concentration), APC*** (approximate permissible concentration)

[GOST 2874-82, Drinking Water. Hygienic Requirements and Quality Control (1982) http://gostvoda.ru/d/677526/d14-gost-2874-82 ;

GN 2.2.5.1315-03. Threshold level values (TLV) of chemical substances in water of water bodies of domestic drinking and cultural and domestic water use. http://docs.cntd.ru/document/901862249]

Note: Dash "–" no data; the readings in bold exceed the MPC values.

Table S3. The gross content of oil products, heavy and alkali-earth metals in the upper soil horizons (0-20 cm) and sedimentary ash in the mouths of the Goloustnaya, Sarma, Kika and Barguzin rivers according to the field research data in 2015 to 2019 [20 - 24].

Content	Fe	Ca	Mg	Ti	Mn	Ba	Cr	Cu	Co	Sr	V	Ni	Pb	Petrol.
	%				mg/kg									
Soils of the Goloustnaya river mouth, 2018-2019, 22 samples														
max	2.2	1.8	0.8	0.4	**5707**	1013	**159**	**63**	11	184	55	**55**	14	22
min	1.2	1.3	0.4	0.2	1325	439	**114**	9	5	97	27	39	9	5
mean	1.63	1.53	0.54	0.30	1498	653	**121**	23	8	187	38	44	12	17
Soils of the Sarma river mouth, 2015-2019, 44 samples														
max	5.1	14.4	2.4	6.1	**6010**	606	**137**	**79**	**59**	349	97	128	**61**	20
min	1.3	0.2	0.3	0.2	269	197	27	10	3	76	19	10	7	6
mean	3.6	3.1	1.1	1.1	1242	373	79	34	14	137	54	47	14	12
Soils of the Kika river mouth, 2015-2018, 21 samples														
max	2.3	3.9	1.1	0.3	710	1708	40	23	10	468	90	15	11	18
min	0.9	1.6	0.4	0.1	261	1473	5	7	2	411	19	5	10	15
mean	1.6	2.75	0.75	0.2	486	1591	23	15	6	440	55	10	10.5	17
Soils of the Barguzin river mouth, 2015-2018, 23 samples														
max	2.8	2.6	0.7	0.6	618	1231	31	20	10	399	87	6	10	7
min	1.0	2.2	0.3	0.2	292	773	11	8	4	257	28	4	8	5
mean	1.9	2.4	0.5	0.4	472	1002	21	14	7	314	58	5	9	6
background*														
APC**	-	-	-	-	-	-	-	66-132	-	-	-	40-80	65-130	1000
MPC**	-	-	-	-	1500	-	100	51	17	-	150	44	32	-
Meadow-steppe vegetation (grasses and forbs) at the mouth of the Goloustnaya river, 2018-2019, 21 samples														
max	1.2	1.8	1.4	0.4	2504	0.8	90	10	4	375	19	15	0.8	-
Steppe vegetation (grasses) at the mouth of the Sarma river, 2015-2019, 32 samples														
max	1.5	2.4	1.6	0.9	1950	0.6	110	10	8	601	32	22	1.0	-
Meadow vegetation (grasses, forbs) at the mouth of the Kika river, 2015-2018, 14 samples														
max	2.2	2.0	2.1	0.9	1010	0.9	12	**20**	20	110	51	34	0.8	-
Meadow-bog (grasses and sedge) vegetation at the mouth of the Barguzin river, 2015-2018, 11 samples														
max	2.5	2.5	1.7	0.4	512	0.2	59	**35**	14	301	56	37	1	-
MPC***	-	-	-	-	-	-	-	10	-	-	-	-	1	-

Background * - regional background in alluvial soils [Grebenshchikova et al. 2008];
MPC, APC** - HS 2.1.7.2041-06, HS 2.1.7.2042-06;
MPC *** - for plant materials (grasses)
[SanPiN 42-123-4089-86. Threshold level values of heavy metals and arsenic in food raw materials and food products, 1986. https://www.dokipedia.ru/document/5182275]
Note: Dash "–" no data; the readings in bold exceed the MPC values.

References

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