

Table 1. Coordinates of phytoplankton monitoring stations in the waters of the Argentine Islands.

Point	Longitude	Latitude
1	64.236	65.256
2	64.22	65.249
3	64.245	65.246
4	64.255	65.244
5	64.254	65.247
6	64.254	65.249

Table 2. Interannual differences in average abundance (N), biomass (B), surface area (S), surface index (ISC), average cell volume (V), specific surface (S/W), chlorophyll a concentration (Chla) and pheophytin (Phae) of phytoplankton groups in the waters of the Argentine Islands in the late summer period of 2019-2021 (Multiple Range Tests for 95.0% LSD).

	N		B		S		ISC		V		S/W		Phae		Chla	
	Diff	Lim	Diff	Lim	Diff	Lim	Diff	Lim	Diff	Lim	Diff	Lim	Diff	Lim	Diff	Lim
2019-20	2.42	0.91	1.62	0.59	0.64	0.45	1.66	0.55	-0.80	0.77	0.22	0.21	0.88	0.27	0.97	0.25
2019-21	2.06	0.85	0.99	0.55	0.19	0.42	1.06	0.51	-1.07	0.72	0.21	0.20	1.66	0.36	2.18	0.33
2020-21	-0.36	0.65	-0.63	0.42	-0.45	0.32	-0.60	0.39	-0.27	0.55	-0.01	0.15	0.78	0.37	1.20	0.34

* Blue indicates a statistically significant difference, orange indicates a statistically insignificant difference. ** Diff – Difference, Lim - +/- Limits

Table 3. Distribution of phytoplankton abundance ($10^6 \cdot m^{-3}$) between taxonomic classes in the Argentine Islands waters in late summer period 2019-2021.

Abundance N	Bacillario phyceae	Crypto phyceae	Cocco litho phyceae	Dinofla gellata inc. sed.	Dino phyceae	Dicty ocho phyceae	Chloro phyceae	Cyano phyceae	Eugleno phyceae	Mami ello phyceae	Trebo uxio phyceae	Ulvo phyceae	Undeter mined flagellate
2019													
1-10 Feb.	1921.96	167.18	287.46	31.91	4.61	-	-	-	-	-	0.06	-	-
11-20 Feb.	1045.57	83.59	148.06	16.31	2.79	-	-	-	-	-	0.03	-	3.06
21-30 Feb.	169.18	-	8.66	0.71	0.98	-	-	-	-	-	-	-	6.12
1-10 Mar.	83.33	60.12	58.06	1.51	5.96	-	0.01	-	-	-	-	0.07	-
11-20 Mar.	366.91	4.87	0.79	0.66	5.50	0.09	-	-	-	-	-	-	0.25
21-30 Mar.	191.01	2.44	0.40	0.33	2.88	0.04	-	-	-	-	-	-	0.59
1-10 Apr.	15.10	-	-	-	0.25	-	-	-	-	-	-	-	0.92
average	541.87	45.46	71.92	7.35	3.28	0.02	0.00	-	-	-	0.01	0.01	1.56
2020													
1-10 Feb.	75.00	-	-	-	0.03	-	0.05	-	-	-	-	-	0.05
11-20 Feb.	31.87	0.00	0.01		0.10		2.35	0.06	0.01	0.03		0.03	1.08
21-30 Feb.	29.71	-	-	-	-	-	2.15	-	-	-	-	-	0.01
1-10 Mar.	17.41	-	-	-	0.10	-	0.12	0.03	-	-	0.01	-	0.04
11-20 Mar.	14.22	-	0.03	-	0.14	-	2.31	0.25	-	-	-	-	0.22
21-30 Mar.	17.47	-	-	-	0.04	0.13	0.55	6.29	-	-	-	-	16.99
1-10 Apr.	1.02	-	-	-	-	-	-	0.05	-	-	-	-	0.02
11-20 Apr.	6.43	-	-	-	0.08	0.02	0.02	-	-	-	-	-	0.45
average	24.14	0.00	0.01	-	0.06	0.02	0.94	0.83	0.00	0.00	0.00	0.00	2.36
2021													
1-10 Feb.	1.11												
11-20 Feb.	4.31	-	-	-	-	0.01	8.71	0.00	-	-	-	-	11.27
21-30 Feb.	5.98	-	-	-	-	0.00	0.00	0.00	-	-	-	-	2.18
1-10 Mar.	1.98	-	-	-	-	0.00	0.00	0.00	-	-	-	-	5.78
11-20 Mar.	2.57				0.00		2.53	0.02					1.45
21-30 Mar.	7.79				0.00		2.25						0.40
1-10 Apr.	5.28	-	-	-	-	-	0.47	-	-	-	-	-	0.05
11-20 Apr.	0.93	-	-	-	-	-	-	-	-	-	-	-	4.05
average	3.74	-	-	-	0.00	0.00	1.99	0.00	-	-	-	-	3.60

Table 4. Distribution of phytoplankton biomass (mg·m⁻³) between taxonomic classes in the Argentine Islands waters in late summer period 2019-2021.

Biomass B	Bacillario phyceae	Crypto phyceae	Cocco litho phyceae	Dinofla gellata inc. sed.	Dino phyceae	Dicty ocho phyceae	Chloro phyceae	Cyano phyceae	Eugleno phyceae	Mami ello phyceae	Trebo uxio phyceae	Ulvo phyceae	Undeter mined flagellate
2019													
1-10 Feb.	117.38	19.69	67.38	13.28	10.33	-	-	-	-	-	0.01	-	-
11-20 Feb.	81.03	9.84	34.71	6.93	6.43	-	-	-	-	-	0.00	-	0.81
21-30 Feb.	44.68	-	2.03	0.57	2.53	-	-	-	-	-	-	-	1.63
1-10 Mar.	214.56	26.66	13.85	1.86	11.72	-	0.00	-	-	-	-	0.20	-
11-20 Mar.	338.38	1.47	1.79	0.41	10.67	0.38	-	-	-	-	-	-	0.27
21-30 Mar.	210.43	0.73	0.90	0.21	5.82	0.19	-	-	-	-	-	-	0.22
1-10 Apr.	82.47	-	-	-	0.96	-	-	-	-	-	-	-	0.16
average	155.56	8.34	17.24	3.32	6.92	0.08	0.00	-	-	-	0.00	0.03	0.44
2020													
1-10 Feb.	85.82	-	-	-	0.28	-	0.00	-	-	-	-	-	0.00
11-20 Feb.	111.54	0.01	0.03	-	0.26	-	0.30	0.01	0.05	0.00	-	1.20	0.32
21-30 Feb.	45.90	-	-	-	-	-	0.10	-	-	-	-	-	0.00
1-10 Mar.	32.96	-	-	-	0.21	-	0.00	0.51	-	-	0.00	-	0.02
11-20 Mar.	76.76	-	0.13	-	0.29	-	0.20	0.16	-	-	-	-	0.13
21-30 Mar.	10.84	-	-	-	0.31	0.29	0.46	0.03	-	-	-	-	6.74
1-10 Apr.	11.99	-	-	-	-	-	-	0.01	-	-	-	-	0.03
11-20 Apr.	28.17	-	-	-	0.68	0.02	0.00	-	-	-	-	-	0.16
average	50.50	0.00	0.02	-	0.25	0.04	0.13	0.09	0.01	0.00	0.00	0.15	0.93
2021													
1-10 Feb.	84.23	-	-	-	-	-	-	-	-	-	-	-	-
11-20 Feb.	45.80	-	-	-	-	0.02	0.54	0.03	-	-	-	-	2.25
21-30 Feb.	58.08	-	-	-	-	0.01	0.00	0.01	-	-	-	-	0.67
1-10 Mar.	105.81	-	-	-	-	0.00	0.00	0.03	-	-	-	-	2.74
11-20 Mar.	160.04	-	-	-	0.00	-	1.23	0.01	-	-	-	-	0.54
21-30 Mar.	94.52	-	-	-	0.00	-	0.30	-	-	-	-	-	0.11
1-10 Apr.	67.85	-	-	-	-	-	0.07	-	-	-	-	-	0.02
11-20 Apr.	27.62	-	-	-	-	-	-	-	-	-	-	-	0.40
average	80.49	-	-	-	0.00	0.00	0.31	0.01	-	-	-	-	0.96

Table 5. Distribution of phytoplankton surface area (mkm²·m⁻³) between taxonomic classes in the Argentine Islands waters in late summer period 2019-2021.

Surface area S	Bacillario phyceae	Crypto phyceae	Cocco litho phyceae	Dinofla gellata inc. sed.	Dino phyceae	Dicty ocho phyceae	Chloro phyceae	Cyano phyceae	Eugleno phyceae	Mami ello phyceae	Trebo uxio phyceae	Ulvo phyceae	Undeter mined flagellate
2019													
1-10 Feb.	46520.99	198.59	270.11	188.30	3280.64	-	-	-	-	-	47.70	-	-
11-20 Feb.	48100.01	99.29	158.04	266.52	2189.74	-	-	-	-	-	23.85	-	192.78
21-30 Feb.	49679.03	-	45.96	344.74	1098.84	-	-	-	-	-	-	-	385.57
1-10 Mar.	94307.42	328.35	488.71	529.92	7118.67	-	7.20	-	-	-	-	217.90	-
11-20 Mar.	103847.38	189.33	611.69	322.43	5087.88	170.23	-	-	-	-	-	-	120.11
21-30 Mar.	88994.10	94.67	305.84	161.22	3035.36	85.12	-	-	-	-	-	-	134.27
1-10 Apr.	74140.82	-	-	-	982.84	-	-	-	-	-	-	-	148.43
average	72227.11	130.03	268.62	259.02	3256.28	36.48	1.03	-	-	-	10.22	31.13	140.17
2020													
1-10 Feb.	46171.29	-	-	-	698.05	-	29.24	-	-	-	-	-	28.27
11-20 Feb.	70745.24	28.27	42.11	-	250.94	-	14.75	25.84	34.47	0.32	-	1074.60	140.49
21-30 Feb.	66224.75	-	-	-	-	-	42.74	-	-	-	-	-	8.99
1-10 Mar.	41856.50	-	-	-	497.26	-	11.03	1068.02	-	-	11.51	-	99.40
11-20 Mar.	64932.09	-	310.35	-	164.52	-	22.50	895.50	-	-	-	-	180.53
21-30 Mar.	18409.36	-	-	-	303.84	154.47	224.47	122.08	-	-	-	-	140.66
1-10 Apr.	25384.51	-	-	-	-	-	-	44.93	-	-	-	-	118.59
11-20 Apr.	25428.78	-	-	-	857.61	90.85	8.38	-	-	-	-	-	238.61
average	44894.07	3.53	44.06	-	346.53	30.66	44.14	269.55	4.31	0.04	1.44	134.33	119.44
2021													
1-10 Feb.	12870.09	-	-	-	-	-	-	-	-	-	-	-	-
11-20 Feb.	178190.36	-	-	-	-	840.97	675.80	7454.07	-	-	-	-	479.01
21-30 Feb.	98588.11	-	-	-	-	567.13	398.34	3253.55	-	-	-	-	161.25
1-10 Mar.	158922.70	-	-	-	-	237.03	376.91	2484.69	-	-	-	-	473.25
11-20 Mar.	182000.51	-	-	-	123.56	-	1359.48	165.62	-	-	-	-	575.02
21-30 Mar.	90370.11	-	-	-	307.82	-	141.77	-	-	-	-	-	103.12
1-10 Apr.	103042.36	-	-	-	-	-	47.53	-	-	-	-	-	87.13
11-20 Apr.	84744.24	-	-	-	-	-	-	-	-	-	-	-	69.52
average	113591.06	-	-	-	61.63	235.02	428.55	1908.28	-	-	-	-	278.33

Table 6. Averages and standard deviations for abundance (N, $10^6 \cdot m^{-3}$), biomass (B, $mg \cdot m^{-3}$), surface area (S, $\mu m^2 \cdot m^{-3}$), surface index (ISC, m^{-1}), specific surface (S/W, $m^2 \cdot kg^{-1}$) and average cells' volume (V, $mk m^3$) of phytoplankton in the Argentine Islands waters in 2019-2021.

	N	St. dev.	B	St. dev.	S	St. dev.	ISC	St. dev.	SW	St. dev.	V	St. dev.
2019												
1-10 Feb.	2413.18	2158.69	228.08	140.69	50506.32	23382.52	0.49285	0.30786	2111.15	323.67	851.36	2490.37
11-20 Feb.	1377.80	2119.41	130.83	146.71	37807.86	23100.34	0.30490	0.32816	1764.33	524.79	1178.45	2347.21
21-30 Feb.	236.28	356.42	41.82	13.62	27014.02	8126.06	0.05310	0.02198	1377.04	839.61	1536.78	1972.65
1-10 Mar.	195.59	255.61	254.34	187.80	104704.04	38122.57	0.29948	0.18748	1329.96	509.20	2751.65	2139.33
11-20 Mar.	379.09	290.94	353.38	286.62	110349.06	49907.03	0.73826	0.62246	2061.27	510.40	1851.65	1921.01
21-30 Mar.	212.38	295.38	234.03	270.19	99032.31	46027.96	0.44837	0.60001	1535.23	713.36	3808.89	2719.05
1-10 Apr.	16.27	8.94	83.60	43.29	75272.10	23220.52	0.09264	0.08202	952.75	484.62	5786.27	2400.98
2020												
1-10 Feb.	75.13	46.78	86.11	38.60	46926.86	22682.50	0.06270	0.02557	761.41	148.59	1254.58	377.85
11-20 Feb.	36.40	35.24	113.74	76.72	72377.43	43589.32	0.14704	0.10447	1367.68	351.35	5113.50	3811.00
21-30 Feb.	31.90	30.84	46.01	27.98	66283.56	45963.10	0.07605	0.04582	1726.06	319.93	3017.71	2858.55
1-10 Mar.	17.83	13.35	33.71	21.30	43547.27	31370.40	0.04773	0.02972	1479.04	267.24	5466.62	8815.50
11-20 Mar.	37.17	35.24	78.11	67.09	66530.29	46829.73	0.14268	0.12818	1760.91	285.93	5630.58	9849.93
21-30 Mar.	42.08	75.97	18.68	23.08	19365.52	13710.56	0.03841	0.06271	1869.05	347.64	798.90	658.41
1-10 Apr.	1.09	0.88	12.03	8.68	25551.57	14409.24	0.01251	0.01013	1086.69	287.47	13929.55	9855.36
11-20 Apr.	6.99	13.64	29.04	18.76	26624.23	10762.18	0.01707	0.01642	549.80	197.24	15666.20	10262.49
2021												
1-10 Feb.	1.11	-	84.23	-	12870.09	-	0.01431		169.86	-	33770.72	-
11-20 Feb.	24.29	8.09	48.64	9.21	187640.22	113955.09	0.05612	0.01342	1146.52	70.12	2242.79	1133.85
21-30 Feb.	1101.97	928.38	86.60	63.65	103208.97	82628.90	0.17465	0.12896	2010.55	48.69	80.75	55.33
1-10 Mar.	12.49	2.21	108.96	19.59	162638.10	177264.85	0.10791	0.04007	984.09	259.27	9111.89	3266.54
11-20 Mar.	7.04	2.93	161.87	72.03	184288.81	131128.46	0.10510	0.05072	710.54	247.24	27384.14	16766.43
21-30 Mar.	12.29	5.99	95.06	33.37	91006.11	64033.64	0.11288	0.03790	1254.70	386.14	11372.37	11756.40
1-10 Apr.	6.46	3.94	67.97	29.95	103216.11	74342.90	0.06436	0.02792	948.49	193.04	12765.23	5875.00
11-20 Apr.	6.53	8.25	28.09	14.19	84833.30	19110.28	0.02301	0.01861	809.92	354.57	11531.41	13431.53

Table 7. Monthly averages and standard deviations for abundance (N, $10^6 \cdot m^{-3}$), biomass (B, $mg \cdot m^{-3}$), surface area (S, $\mu m^2 \cdot m^{-3}$), surface index (ISC, m^{-1}), specific surface (S/W, $m^2 \cdot kg^{-1}$) and average cells' volume (V, $mk m^3$) of phytoplankton in the Argentine Islands waters in 2020-2021.

	N	St. dev.	B	St. dev.	S	St. dev.	ISC	St. dev.	SW	St. dev.	Vx	St. dev.
Feb 2020	40.65	37.76	90.44	67.77	67000.50	42088.60	0.11452	0.09094	1383.47	436.50	3963.43	3530.86
Mar 2020	24.54	44.21	35.63	44.49	38748.70	34343.90	0.06063	0.08630	1548.92	420.61	6456.41	9305.06
Apr 2020	6.99	13.64	29.04	18.76	26624.20	10762.20	0.01833	0.01602	549.80	197.24	15666.20	10262.50
May 2020	0.19	0.03	6.98	5.12	17114.30	5209.79	0.00171	0.00016	322.81	214.37	38411.80	31739.80
Jun 2020	0.56	0.57	2.61	1.48	8592.83	6435.65	0.00150	0.00107	548.29	99.94	6929.33	4404.74
Jul 2020	0.42	0.49	3.94	2.31	8442.52	6261.53	0.00093	0.00002	283.58	160.82	39395.80	51441.90
Aug 2020	2.61	1.11	18.61	8.97	20801.10	355.58	0.00974	0.00504	518.45	21.08	7049.85	440.75
Sep 2020	3.56	1.39	23.56	24.35	27236.80	19863.40	0.02000	0.01414	855.73	270.43	5718.10	4618.51
Oct 2020	8.40	3.35	76.03	15.05	60556.60	19655.40	0.05500	0.00707	688.87	10.47	9442.69	1970.20
Nov 2020	2.04	-	48.07	-	20555.00	-	0.02000	-	488.81	-	23586.30	-
Dec 2020	0.92	0.38	43.17	3.29	19521.10	1117.11	0.01500	0.00707	308.45	194.55	52050.10	25206.80
Jan 2021	3.04	0.22	98.39	25.02	19393.70	1726.78	0.04500	0.00707	463.92	35.09	32227.40	5903.80
Feb 2021	482.84	789.17	69.99	42.17	126488.00	104387.00	0.10143	0.10351	1377.30	687.42	11820.20	28227.90
Mar 2021	10.23	4.88	124.57	57.68	142645.59	118600.29	0.10877	0.04092	982.91	384.89	17324.98	14976.31
Apr 2021	6.50	5.78	48.03	30.27	94024.71	49580.30	0.04369	0.03104	879.20	266.37	12148.32	9296.52
Total	46.39	194.89	63.29	60.41	62459.80	65556.80	0.07603	0.08312	1233.20	547.06	9871.71	14425.60