

Electronic Supplementary Material (ESM)

Lacustrine systems of Clearwater Mesa (James Ross Island, northeastern Antarctic Peninsula): geomorphological settings and limnological characterization

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Contents:

FIGURES:

Fig. S1: Bathymetric map of Lake Katerina

Fig. S2: Lake Katerina water temperature over January 2015

Fig. S3: Typical flora of lakes and their surroundings in CWM

TABLES:

Table S1: Chemical characteristics of lake water samples from 2015–2016 (data also displayed in Fig. 5).

Fig. S1. Bathymetry of Lake Katerina.

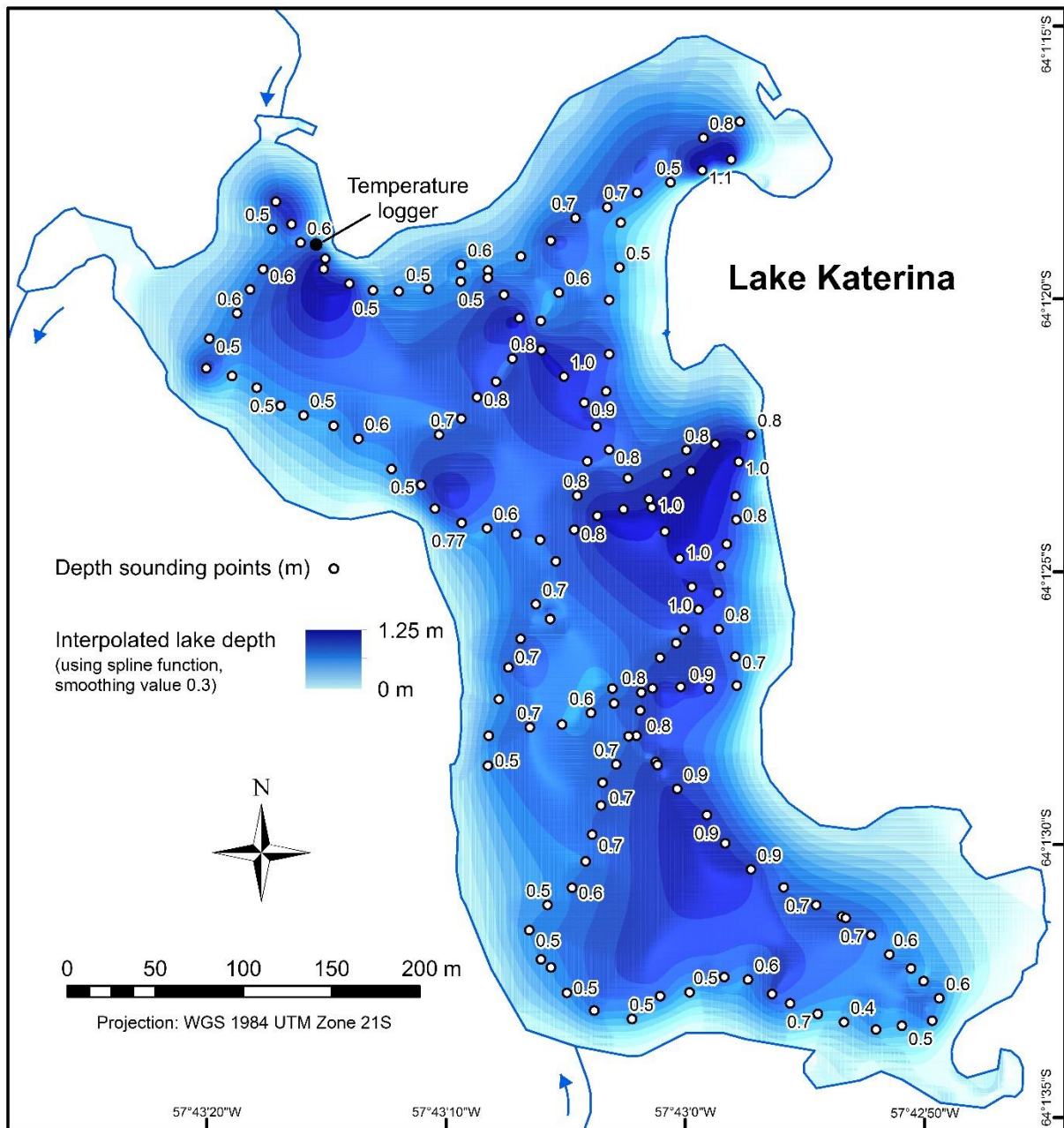


Fig. S2. Water temperature measured in Lake Katerina in January 2015. The logger was placed at ~0.3m depth.

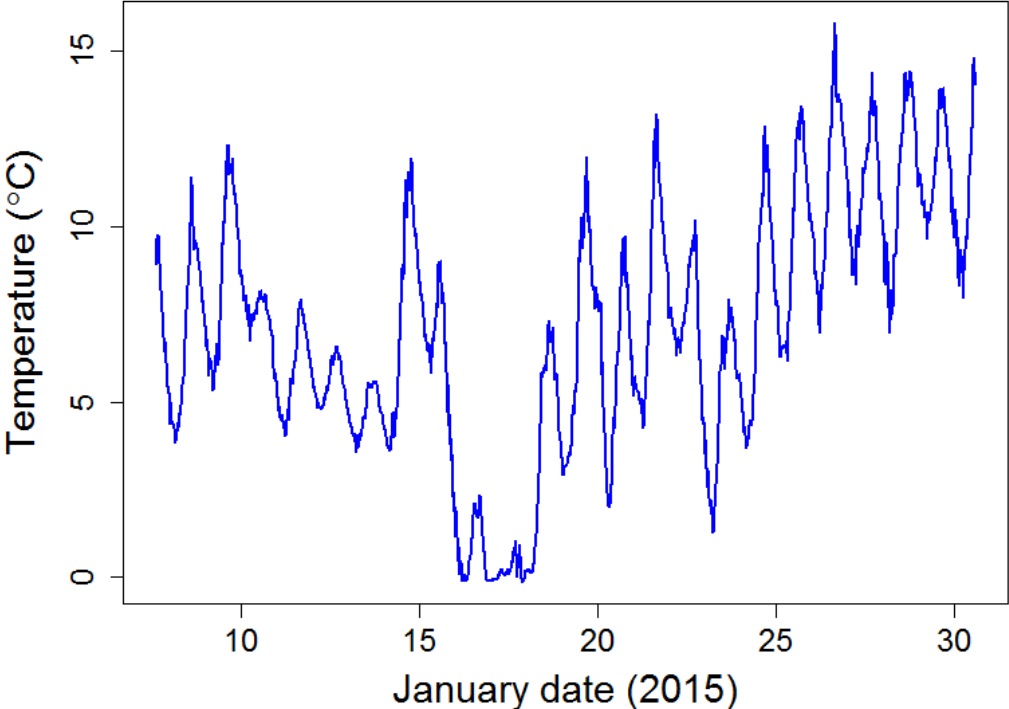


Fig. S3. Typical flora of the littoral zone and the surrounding areas. **a.** Bright orange cyanobacterial mats of the Lake Leticia littoral zone. **b.** Cyanobacterial mats with green algae and dark-coloured *Nostoc* tufts in Lake Ileana. **c.** Partly submerged bryophytes (*Warnstorfia* type) with cyanobacterial mats in a snowbank-fed stream near Lake Cecilia. **d.** Filamentous green algae in a stream. **e.** Strips of moss fringing lake shore. **f.** Orange, grey, and white crustose and foliose lichens (*Xanthoria* and *Umbilicaria* type) on basaltic rock. **g.** Patches of fruticose lichens (*Usnea* type) in a sheltered, downwind hollow.

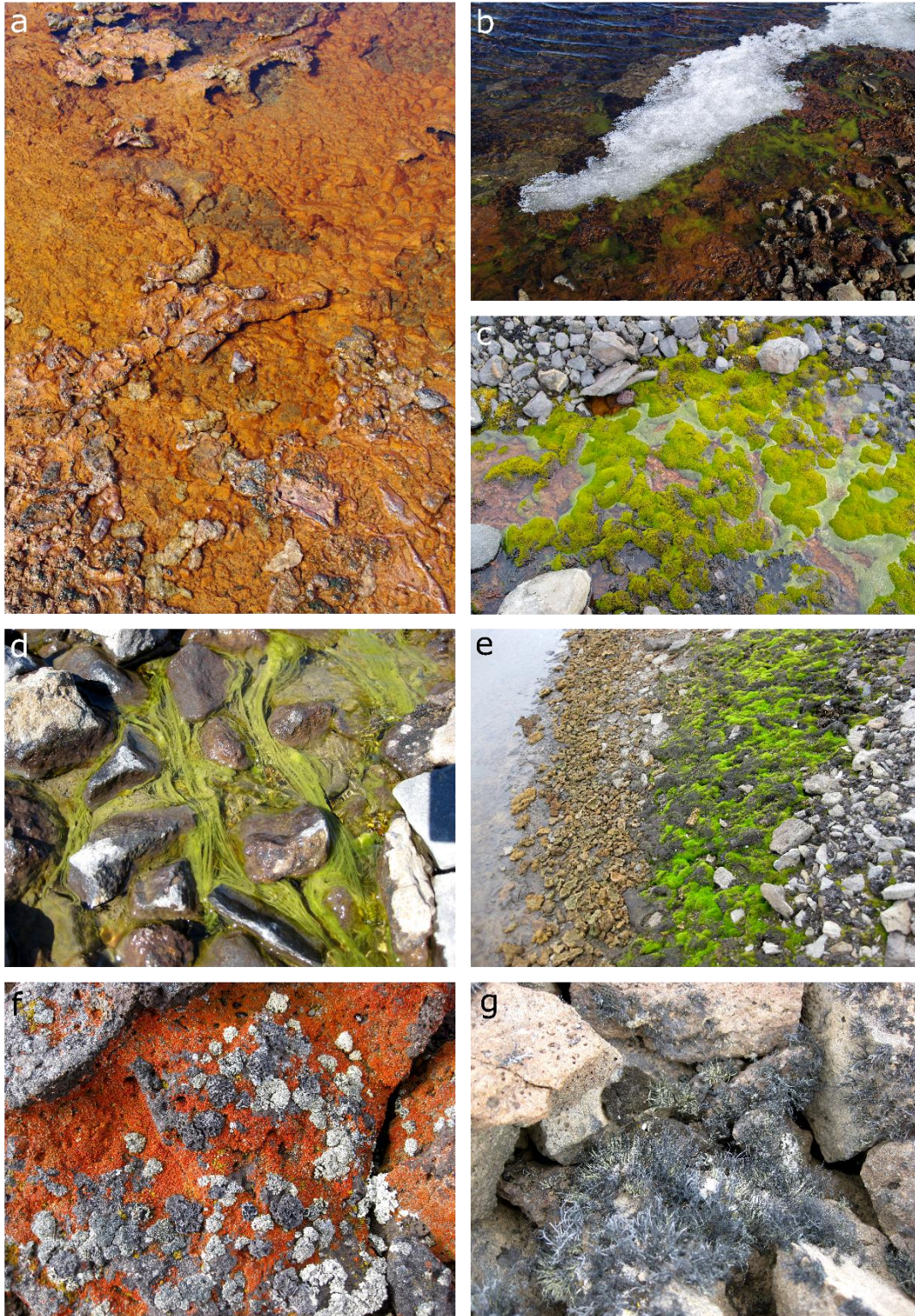


Table S1. Chemical characteristics of lake water samples collected in 2015–2016 (compiled with Table III data to create Table II and Fig. 8).

Lake	Date	Acronym	Cond.	ANC	Na ⁺	K ⁺	Ca ²⁺	SO ₄ ²⁻	Cl ⁻	TN	TP	DOC
			μS cm ⁻¹	mmol l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹	mg l ⁻¹
Adela	26/1/2015	ade15	243	0.683	28.2	0.72	5.23	10.5	40.6	0.84	0.026	3.33
Adriana	30/1/2015	adr15	4890	4.340	723	16.4	18.6	106	1480	1.33	<0.025	5.67
	1/2/2016	adr16	7170	5.810	1030	25.4	32.5	197	2140	1.48	0.025	–
Adru	28/1/2015	adru15	191	0.402	23.7	0.78	4.93	<5	38.9	0.59	<0.025	1.35
Alejandra	27/1/2015	ale15	341	0.903	38.8	1.10	7.84	7.44	64.9	0.92	<0.025	4.23
Argentina	29/1/2015	arg15	481	0.893	60.4	0.91	7.31	6.19	118	1.30	<0.025	5.15
Cecilia	2/2/2016	cec16	193	0.371	30.4	1.56	2.4	3.04	43.2	<0.5	0.080	2.42
Claudina	26/1/2015	cla15	235	0.683	26.3	0.87	6.0	6.59	42.1	0.80	0.028	3.50
Erminda	1/2/2016	erm16	6010	2.310	940	32.1	81.4	437	1690	5.86	0.077	–
Esther	29/1/2015	est15	270	0.281	6.7	0.15	4.65	<5	9.79	0.77	0.034	3.66
Florencia	2/2/2016	flo16	54	0.082	7.4	0.5	1.0	1.21	10.8	<0.5	0.051	3.02
Graciela	26/1/2015	gra15	524	1.170	55.4	1.39	9.94	13.4	129	0.91	<0.025	3.63
	5/2/2016	gra16	945	1.550	61.5	2.37	16.3	21.0	145	0.58	<0.025	5.25
Ileana	13/2/2016	ile16	208	0.659	32.3	2.36	7.93	7.9	65.8	1.11	0.144	13.1
Joanna	26/1/2015	joa15	228	0.341	13.7	0.39	3.90	<5	21.8	0.69	<0.025	1.80
	5/2/2016	joa16	370	0.742	39.8	1.76	8.95	13.4	80.6	0.62	<0.025	3.70
Katerina	30/1/2015	kat15	426	0.964	37.5	1.30	10.4	14.0	93.7	0.81	<0.025	4.27
	13/2/2016	kat16	623	1.550	57.6	2.54	13.6	23.9	150	1.02	0.036	7.32
Linda	26/1/2015	lin15	601	1.300	64.8	3.08	10.5	21.8	146	0.92	0.035	4.69
Ludmila	26/1/2015	lud15	200	0.562	24.7	0.53	4.49	<5	38	0.71	<0.025	1.95
Natasha	30/1/2015	nat15	938	1.290	39.1	1.10	6.29	<5	97.1	0.96	<0.025	5.76
Nora	28/1/2015	nor15	375	0.853	38.2	1.18	7.49	8.8	83.5	0.89	<0.025	4.01
Norma	28/1/2015	norm15	190	0.462	20.9	0.78	6.23	<5	39.3	0.72	<0.025	3.38
	12/2/2016	norm16	281	0.598	30.3	1.40	7.07	9.1	61.5	0.50	0.034	3.85
Paula	28/1/2015	pau15	303	0.924	34.2	1.12	7.98	7.5	56.5	1.70	0.026	7.18
Silvia	30/1/2015	sil15	528	1.120	56.5	1.89	10.4	22.1	119	0.80	0.033	3.70
	5/2/2016	sil16	589	1.630	57.5	2.84	15.6	21.2	129	0.69	0.082	4.83
Soledad	28/1/2015	sol15	128	0.351	15.7	0.49	3.08	<5	26.2	0.69	<0.025	3.06
Susan	28/1/2015	sus15	107	0.341	9.5	0.46	3.19	<5	17.8	0.62	<0.025	2.51
Tamara	9/2/2016	tam16	358	0.701	39.3	1.49	8.85	10.9	79.7	0.65	0.037	6.38
Tatana	29/1/2015	tat15	1030	1.780	140	2.14	14.3	19.4	296	1.18	<0.025	5.54
Trinidad	29/1/2015	tri15	1820	2.920	223	3.21	8.11	10.5	527	1.39	<0.025	6.28
Veronika	1/2/2016	ver16	31	0.124	4.8	0.40	0.51	0.8	4.29	<0.5	0.103	1.23
Vlasta	9/2/2016	vla16	455	0.701	50.3	2.12	12.3	12.7	107	<0.5	0.027	2.95

Abbreviations: Cond. = conductivity (laboratory values at 25 °C), ANC = acid neutralizing capacity, TN = total nitrogen, TP = total phosphorus, DOC = dissolved organic carbon; – missing values.