

Supplementary Materials:

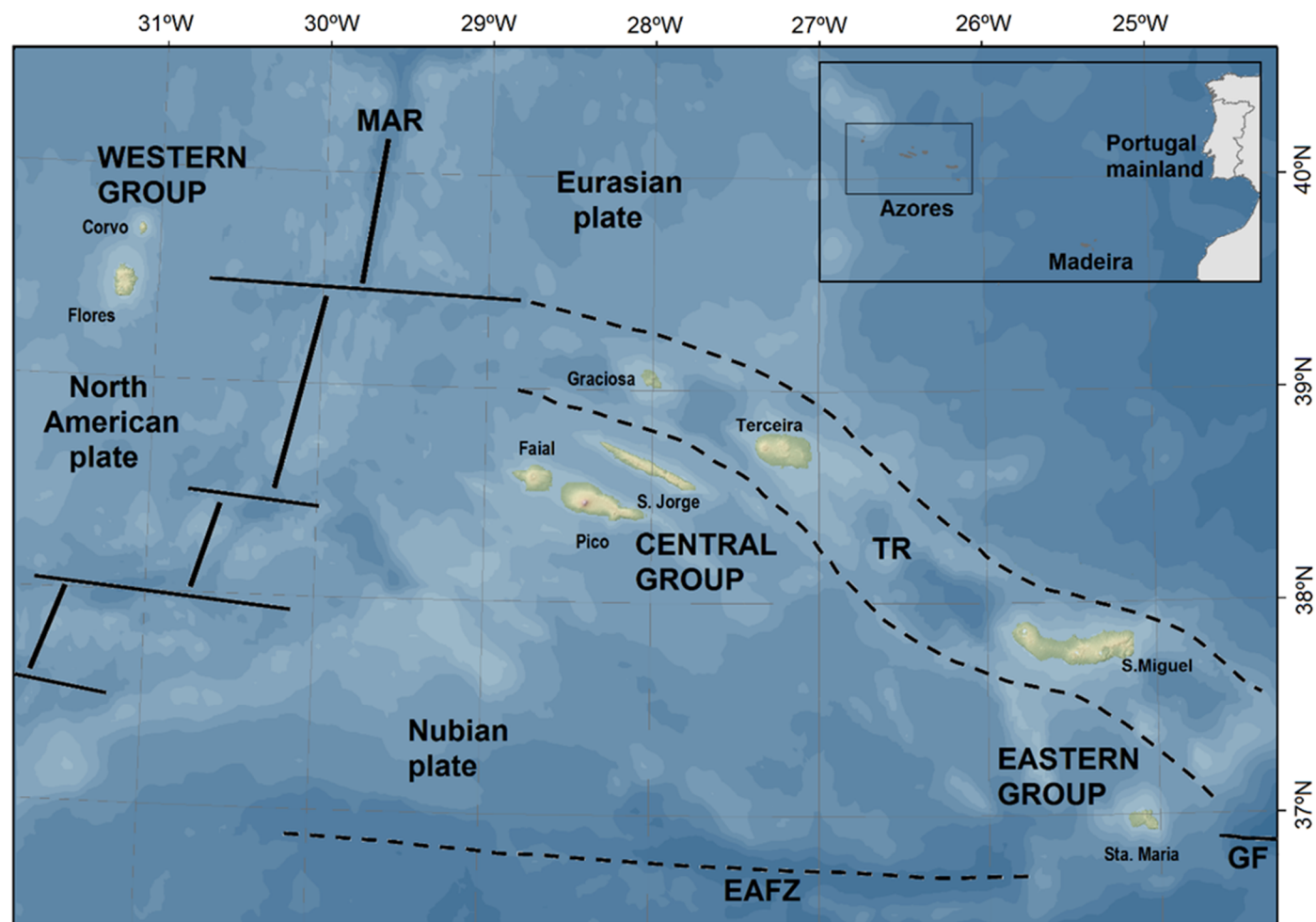


Figure S1. Setting of the Azores archipelago within the North American (NA), Eurasian (Eu), and Nubian (Nu) triple junction. Tectonic structures: MAR—Mid-Atlantic Ridge; EAFZ—East Azores Fracture Zone; GF—Gloria Fault; and TR—Terceira Rift. The Eu–Nu boundary in the Azores, limited by a dotted black line representing the TR main structure (based on [68]).

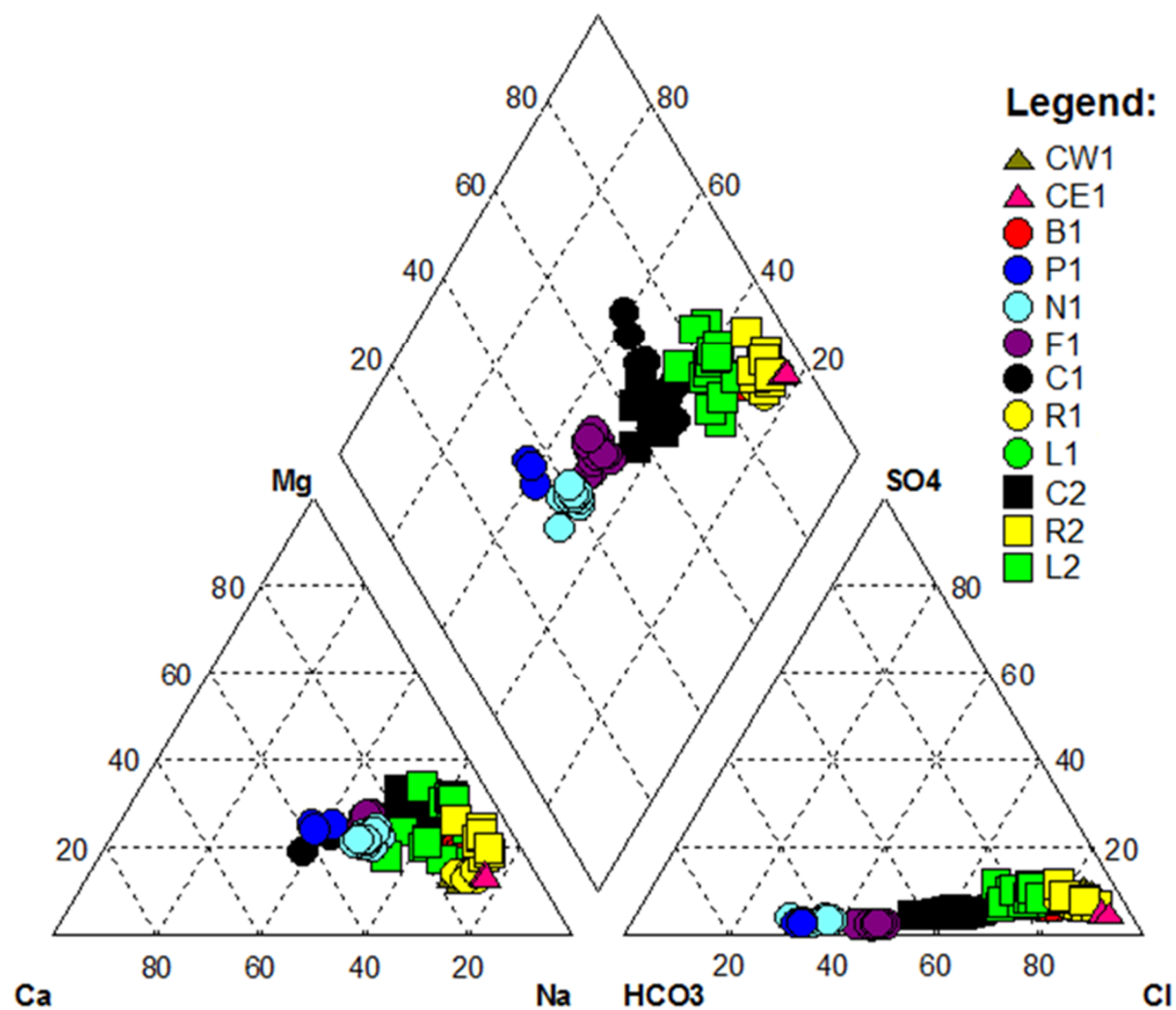


Figure S2. Major ion relative water composition represented by means of a piper-type diagram for the Corvo and Flores lakes (CW1—Caldeirão West, first survey; CE1—Caldeirão East, first survey; B1—Branca, first survey; P1—Patos, first survey; N1—Negra, first survey; F1—Funda first survey; C1— Comprida, first survey; R1—Rasa, first survey; L1—Lomba, first survey; C2—Comprida, second survey; R2—Rasa, second survey; and L2—Lomba, second survey). The sampling took place in July 2016 (survey 1) and March 2017 (survey 2).

Table S1. Chemical data (averages) collected in the Corvo and Flores lake profiles performed along the water column: main variables (temperature, pH, and electrical conductivity), major ion composition, and SiO₂ content (n.d.—not detected). Lakes: CW1—Caldeirão West, first survey; CE1—Caldeirão East, first survey; B1—Branca, first survey; P1—Patos, first survey; N1—Negra, first survey; F1—Fundá, first survey; C1—Comprida, first survey; R1—Rasa, first survey; L1—Lomba, first survey; C2—Comprida, second survey; R2—Rasa, second survey; and L2—Lomba, second survey. The surveys were carried out in July 2016 (survey 1) and March 2017 (survey 2).

Lake	Depth (m)	T °C	pH	Cond. μS/cm	CO ₂ mg/L	HCO ₃ mg/L	Cl mg/L	SO ₄ mg/L	Na mg/L	Mg mg/L	K mg/L	Ca mg/L	SiO ₂ mg/L
CW1	Max.	24.00	7.53	74.00	2.80	3.05	27.53	2.99	11.27	1.05	0.59	2.16	3.40
	Min.	23.40	7.49	72.00	1.30	2.44	26.29	2.47	10.16	0.92	0.54	1.90	3.04
	Mean	23.77	7.51	73.00	1.90	2.85	26.81	2.80	10.72	0.98	0.57	2.07	3.17
	Std. Dev.	0.32	0.02	1.00	0.79	0.35	0.64	0.29	0.56	0.07	0.03	0.15	0.20
	Median	23.90	7.50	73.00	1.60	3.05	26.61	2.95	10.73	0.97	0.59	2.16	3.08
CE1	Max.	25.20	6.64	84.00	1.80	2.44	30.78	2.86	14.40	1.28	2.84	1.70	1.90
	Min.	25.20	6.59	74.00	1.30	2.44	28.28	2.75	14.25	1.25	2.77	1.69	0.88
	Mean	25.20	6.62	79.00	1.55	2.44	29.53	2.81	14.33	1.27	2.81	1.70	1.39
	Std. Dev.	0.00	0.04	7.07	0.35	0.00	1.77	0.08	0.11	0.02	0.05	0.01	0.72
	Median	25.20	6.62	79.00	1.55	2.44	29.53	2.81	14.33	1.27	2.81	1.70	1.39
B1	Max.	22.80	5.86	60.00	10.50	6.10	20.02	0.60	10.66	1.65	0.41	1.72	2.59
	Min.	20.40	5.42	59.00	6.40	4.88	18.02	0.48	10.33	1.44	0.36	1.58	1.49
	Mean	21.70	5.63	59.33	8.80	5.49	19.03	0.55	10.53	1.55	0.39	1.65	1.99
	Std. Dev.	1.21	0.22	0.58	2.14	0.61	1.00	0.06	0.18	0.11	0.03	0.07	0.56
	Median	21.90	5.60	59.00	9.50	5.49	19.04	0.56	10.60	1.56	0.39	1.64	1.90
P1	Max.	25.40	10.50	175.00	n.d.	70.76	24.23	3.56	15.42	5.20	2.02	13.27	24.57
	Min.	19.20	10.27	171.00	n.d.	67.10	23.38	3.32	14.50	4.77	1.68	10.59	21.87
	Mean	21.97	10.38	173.00	n.d.	68.32	23.90	3.41	14.90	5.03	1.89	12.26	23.01
	Std. Dev.	3.15	0.12	2.00	n.d.	2.11	0.45	0.13	0.47	0.23	0.18	1.46	1.40
	Median	21.30	10.38	173.00	n.d.	67.10	24.08	3.35	14.77	5.12	1.97	12.93	22.60
F1	Max.	22.50	7.98	129.00	3.20	43.31	24.44	4.42	14.49	3.93	1.80	6.47	10.04
	Min.	13.90	7.16	121.00	0.60	33.55	23.25	2.68	11.51	3.06	1.48	5.59	6.81
	Mean	16.94	7.59	124.06	1.84	37.65	23.91	3.13	12.82	3.49	1.65	5.98	8.23
	Std. Dev.	2.97	0.28	2.15	0.88	2.21	0.38	0.46	0.79	0.24	0.08	0.25	0.86

	Median	15.90	7.61	125.00	1.80	37.52	23.94	3.00	12.68	3.49	1.66	5.94	8.09
	Max.	19.10	9.49	144.00	7.60	58.56	22.34	3.42	16.08	3.99	1.65	8.04	15.51
	Min.	12.60	7.26	130.00	2.00	49.41	21.44	2.89	13.97	3.07	1.33	6.74	12.28
N1	Mean	15.05	8.28	132.21	3.59	52.20	22.00	3.20	14.79	3.48	1.41	7.39	13.96
	Std. Dev.	2.35	0.69	3.21	1.75	1.86	0.22	0.13	0.60	0.24	0.07	0.38	0.94
	Median	14.40	8.00	131.00	2.75	51.85	22.06	3.18	14.66	3.40	1.39	7.32	14.02
	Max.	21.40	7.76	92.00	4.20	17.08	25.69	2.96	10.18	2.21	2.62	5.64	2.89
	Min.	16.10	7.46	82.00	1.50	13.42	23.30	2.52	7.20	1.73	0.98	2.23	0.02
C1	Mean	19.53	7.64	87.25	2.34	15.48	24.75	2.71	7.99	1.92	2.00	3.57	1.42
	Std. Dev.	2.07	0.11	3.41	1.13	1.30	0.89	0.14	0.94	0.17	0.57	1.45	1.38
	Median	20.70	7.68	87.50	1.60	15.86	25.06	2.70	7.79	1.88	2.16	3.08	1.20
	Max.	24.80	6.63	69.00	9.80	4.88	28.02	2.80	12.62	1.20	2.29	1.99	3.30
	Min.	16.10	5.70	62.00	1.40	3.05	22.86	2.52	10.42	0.99	0.45	1.46	0.94
R1	Mean	20.21	6.19	64.22	4.31	4.13	24.69	2.67	11.22	1.10	1.13	1.68	2.06
	Std. Dev.	3.51	0.35	3.03	3.47	0.67	1.80	0.09	0.70	0.06	0.69	0.18	0.91
	Median	20.90	6.32	62.00	1.90	4.27	24.07	2.67	11.15	1.10	0.99	1.65	1.63
	Max.	21.60	7.67	68.00	8.80	9.76	21.26	2.23	8.31	1.41	2.48	3.54	3.75
	Min.	15.00	6.70	53.00	0.80	4.88	17.89	1.74	6.11	0.94	0.37	1.42	0.88
L1	Mean	18.75	7.30	56.00	3.11	6.63	19.18	2.03	6.92	1.18	0.98	1.90	1.76
	Std. Dev.	2.54	0.37	5.42	3.11	1.54	1.32	0.16	0.76	0.17	0.78	0.71	1.34
	Median	19.70	7.51	53.00	1.30	6.41	18.43	2.05	6.71	1.14	0.72	1.58	1.20
	Max.	12.30	7.72	89.00	4.70	21.96	25.58	2.83	12.20	3.07	1.18	4.38	n.d.
	Min.	11.80	7.52	89.00	3.30	17.08	24.83	2.53	9.08	2.48	0.92	2.00	n.d.
C2	Mean	12.05	7.58	89.00	3.88	18.99	25.14	2.71	10.40	2.82	1.05	2.77	n.d.
	Std. Dev.	0.19	0.06	0.00	0.58	1.64	0.25	0.10	0.92	0.17	0.09	0.75	n.d.
	Median	12.00	7.57	89.00	3.55	18.30	25.17	2.72	10.42	2.86	1.06	2.53	n.d.
	Max.	13.00	6.22	67.00	1.50	2.44	26.01	2.91	11.62	1.86	0.65	1.10	n.d.
	Min.	12.60	6.07	66.00	1.20	1.83	23.77	2.51	8.78	1.32	0.37	0.61	n.d.
R2	Mean	12.79	6.14	66.11	1.34	2.10	25.05	2.75	9.99	1.57	0.46	0.84	n.d.
	Std. Dev.	0.17	0.06	0.33	0.12	0.32	0.71	0.12	0.91	0.17	0.10	0.17	n.d.
	Median	12.70	6.13	66.00	1.40	1.83	24.97	2.78	9.67	1.56	0.43	0.79	n.d.
L2	Max.	13.40	7.77	61.00	1.90	6.10	19.29	2.11	10.42	2.41	0.43	1.56	n.d.

	Min.	13.10	7.19	59.00	1.00	4.27	18.41	1.54	7.89	1.91	0.32	0.85	n.d.
	Mean	13.25	7.43	59.63	1.41	5.11	18.75	1.85	8.61	2.15	0.36	1.07	n.d.
	Std. Dev.	0.11	0.21	0.92	0.33	0.56	0.29	0.16	0.84	0.16	0.04	0.23	n.d.
	Median	13.30	7.41	59.00	1.35	4.88	18.72	1.86	8.34	2.15	0.36	1.02	n.d.