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Supplement of

Spatiotemporal variations in surface marine carbonate system properties across the western Mediterranean Sea using volunteer observing ship data

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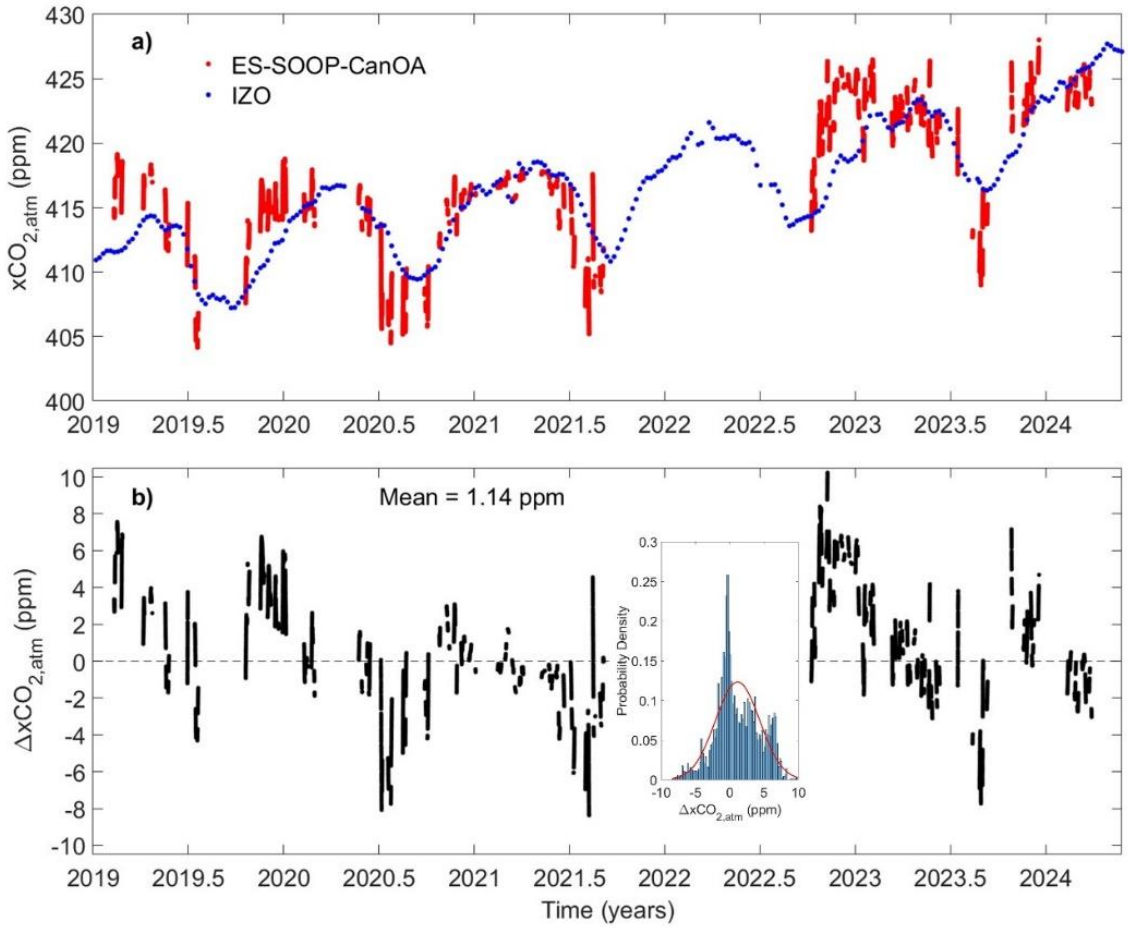

Figure S1. (a) $xCO_{2,atm}$ measurements from ES-SOOP-CanOA (red) and Izaña Atmospheric Research Center (IZO site; blue) during 2019-2024. The IZO site (https://gml.noaa.gov/dv/site/site.php?code=IZO, last access: 14 May 2025) is located in Tenerife (Canary Islands, Spain; 28.3090ºN, 16.499ºW) and placed at 2372.9 m above sea level. Dry air xCO_2 data collected at the IZO site are available through the NOAA GML dataset (https://gml.noaa.gov/data/dataset.php?item=izo-co2-flask; last access: 14 May 2025). (b) Differences between $xCO_{2,atm}$ from ES-SOOP-CanOA and $xCO_{2,atm}$ from IZO ($\Delta xCO_{2,atm}$), with a histogram illustrating the statistical distribution and normality of the differences.

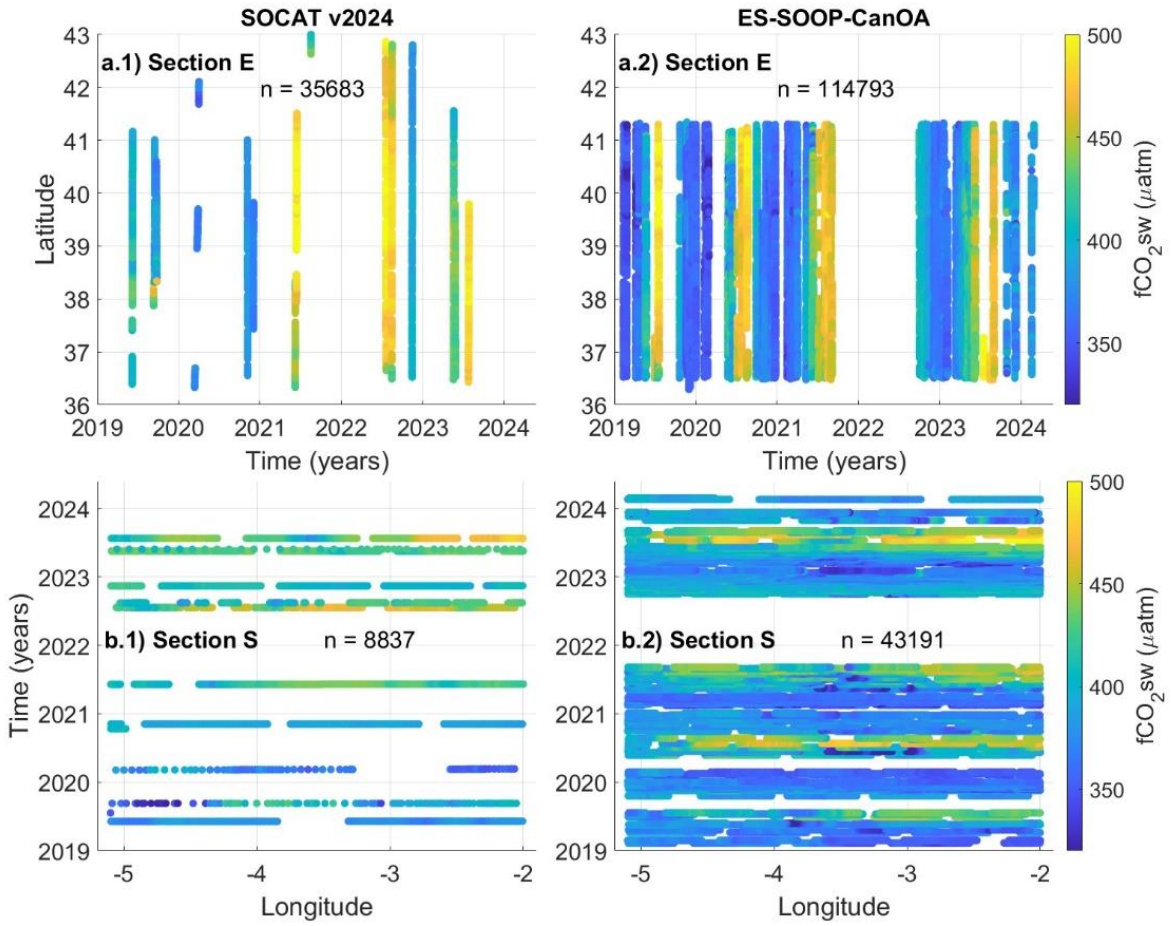

Figure S2. Spatio-temporal distribution of $fCO_{2,sw}$ data collected by the ES-SOOP-CanOA station and available at the SOCATv2024 dataset (Bakker et al., 2016, 2024) within 2019-2024 in (a) the Alboran Sea (Section S) and (b) the eastern Iberian coastal transitional region (Section E). *n* refers to the total number of data points or each section and dataset.

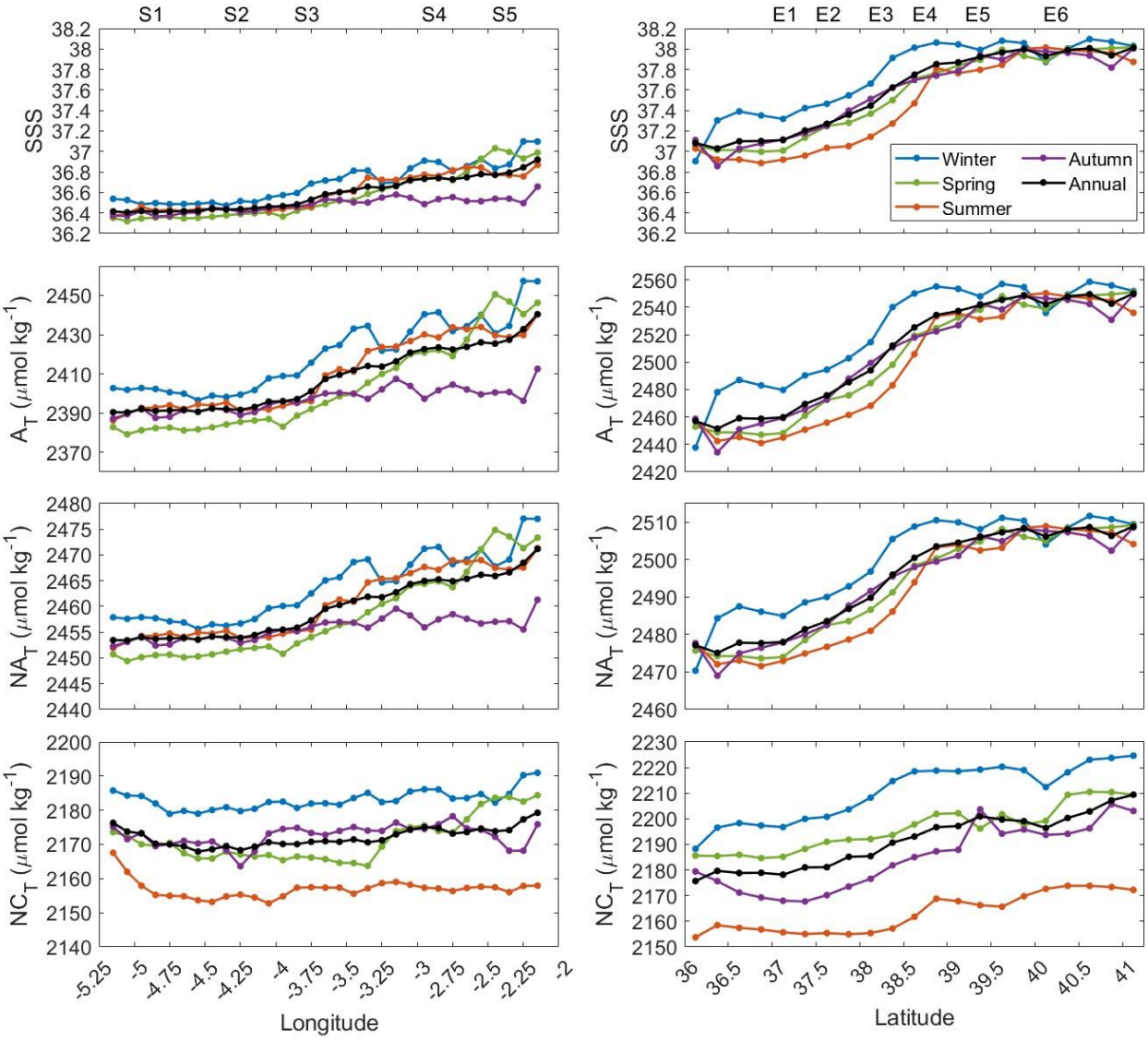

Figure S3. Spatial distribution of the average SSS, A_T, NA_T and NC_T calculated on a seasonal and annual basis every 0.1º longitude along the S section (left panels) and every 0.25º latitude along the E section (right panels). The 3-months periods January-March, April-June, July-September and October-December were considered as winter, spring, summer and autumn, respectively. Note the different scales used for A_T, NA_T and C_T due to significant variations between the S and E sections. Standard deviations are provided in Table S1 and indicate the range of variability among the study period.

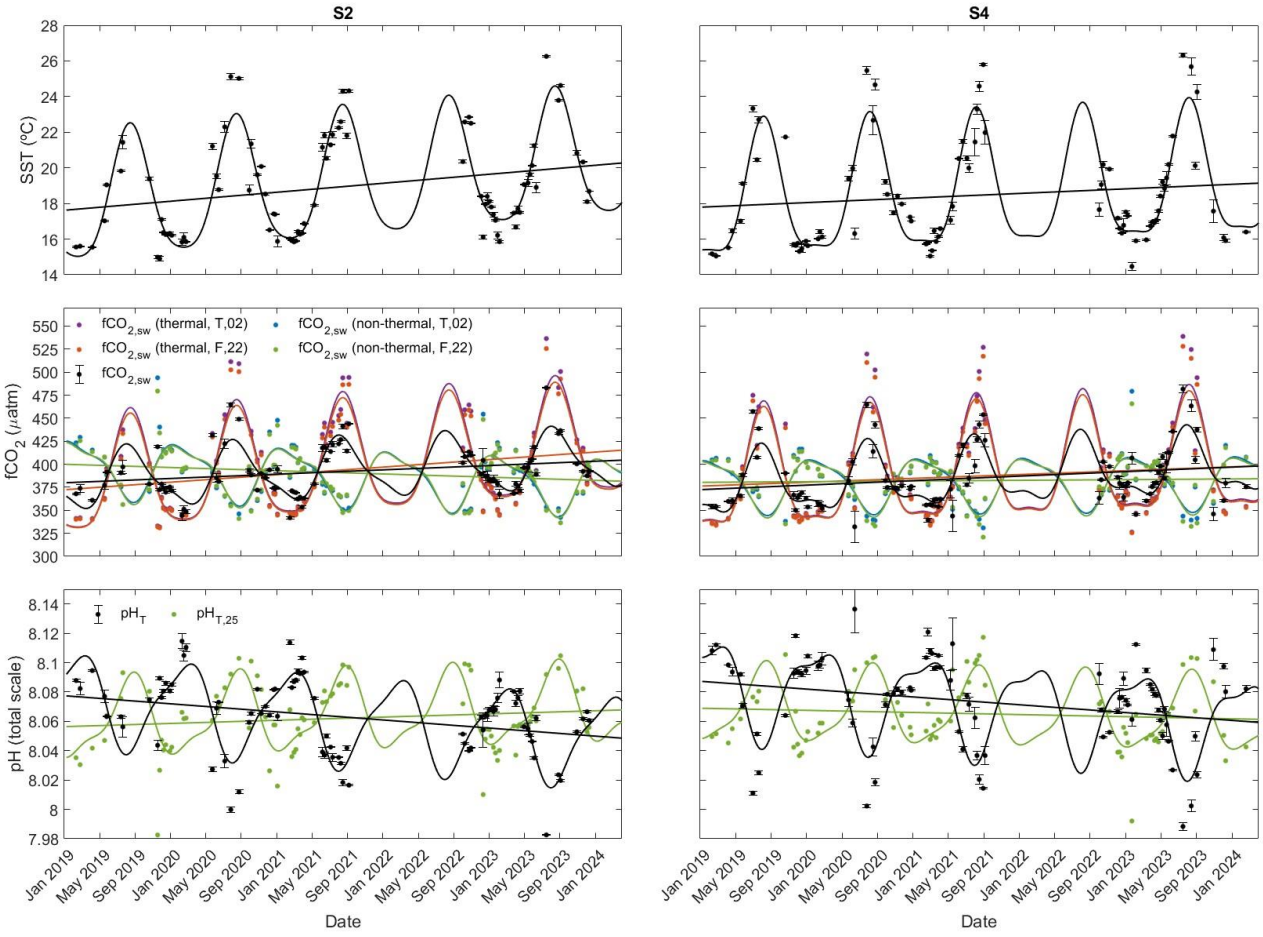

Figure S4. Time-series of SST, $fCO_{2,sw}$ and pH at S2 and S4 in the Alboran Sea within the five years of observations. The weekly average data was fitted to Eq. A.1. The thermal and non-thermal terms of the average $fCO_{2,sw}$ calculated by following the procedures of Takahashi et al., 2002 (T,02) and Fassbender et al., 2022 (F'22) and the pH_{19} are depicted. The coefficients *a-f*, the standard error of estimate and the r^2 given by Eq. A.1 are presented in Table S1.

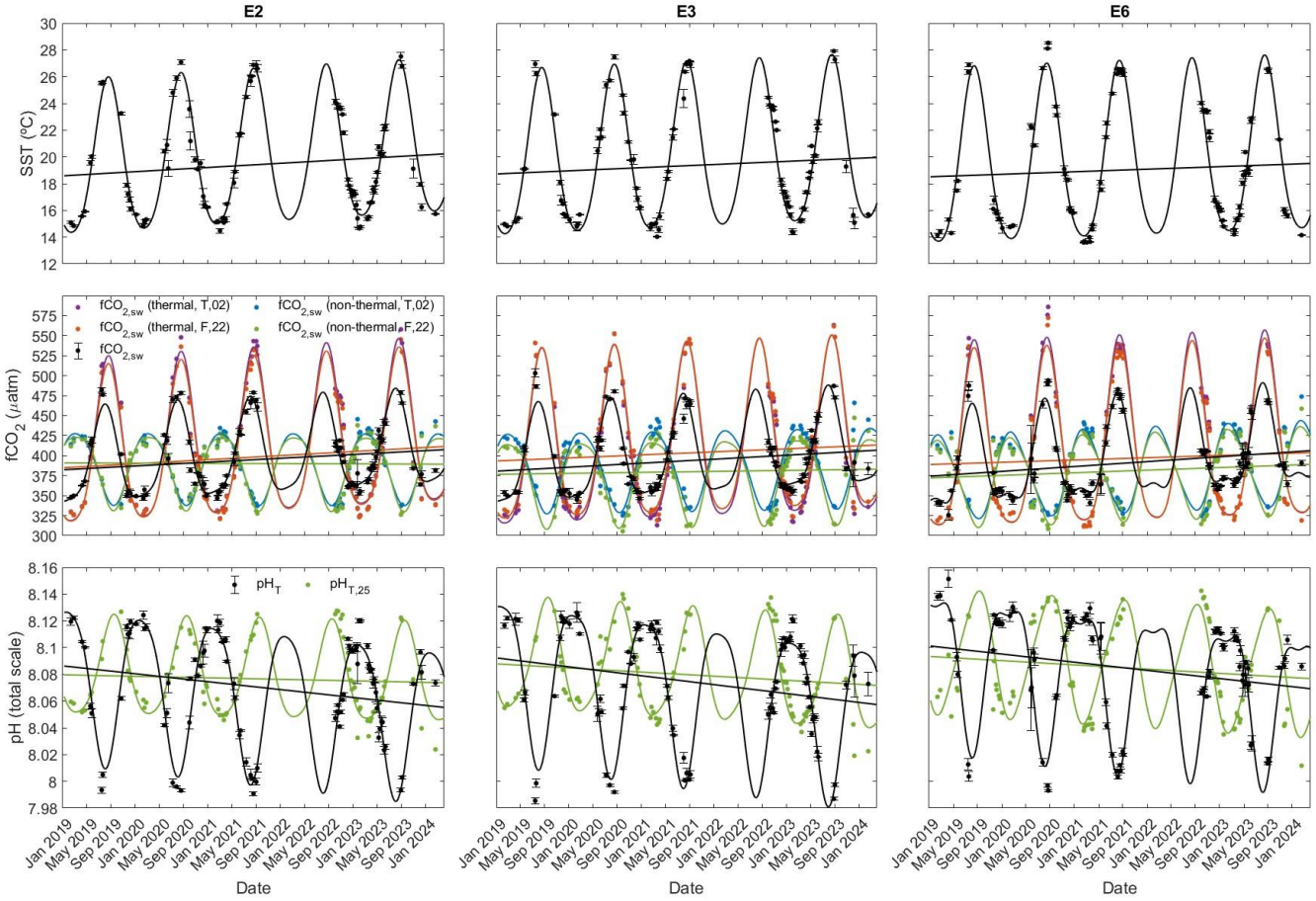

Figure S5. Time-series of SST, $fCO_{2,sw}$ and pH at E2, E3 and E6 along the eastern Iberian margin within the five years of observations. The weekly average data was fitted to Eq. A.1. The thermal and non-thermal terms of the average $fCO_{2,sw}$ calculated by following the procedures of Takahashi et al., 2002 (T,02) and Fassbender et al., 2022 (F'22) and the pH_{19} are depicted. The coefficients *a-f*, the standard error of estimate and the r^2 given by Eq. A.1 are presented in Table S1.

Fig. Sup6

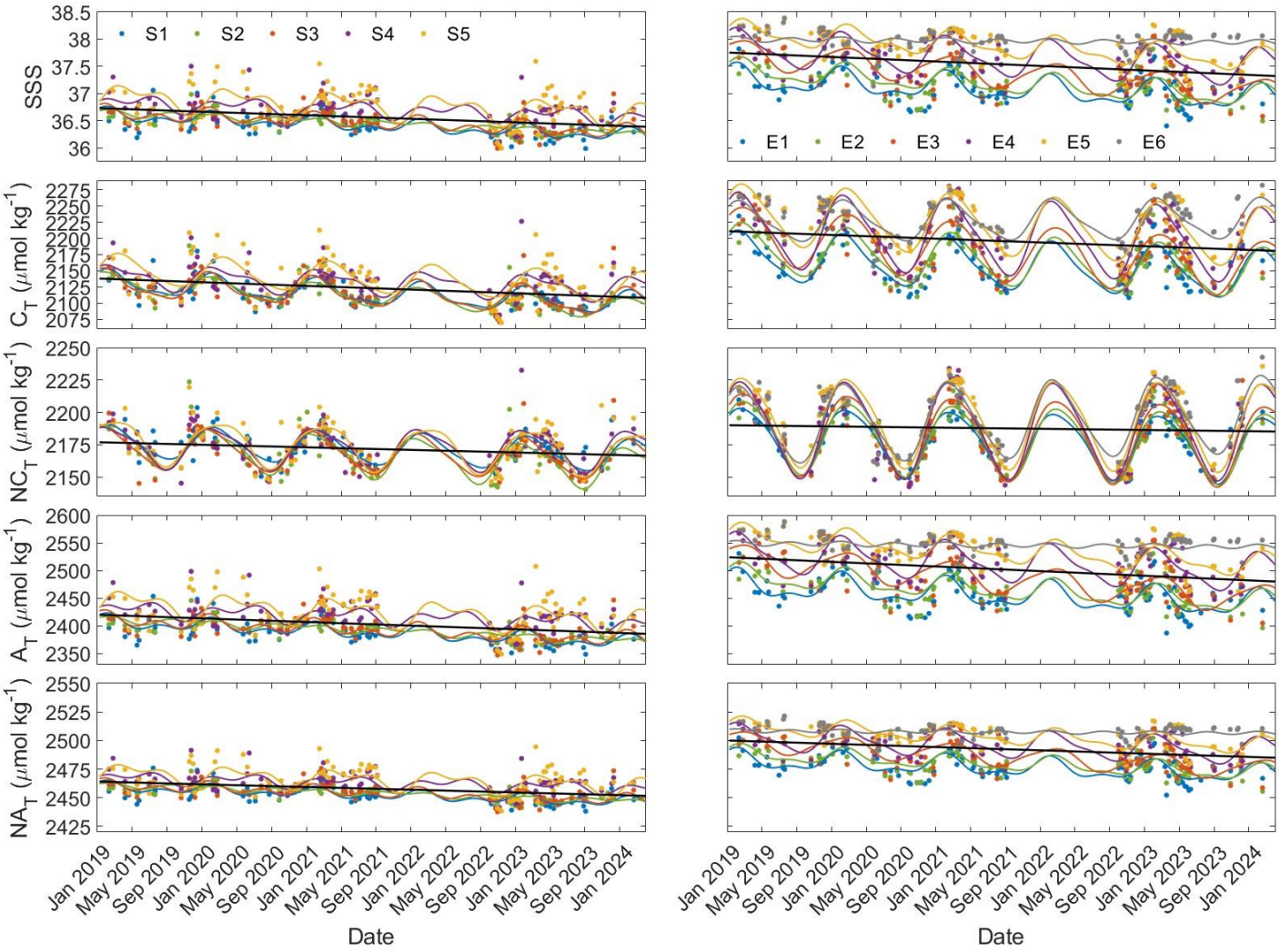

Figure S6. Time-series of SSS, C_T, NC_T, A_T and NA_T at S1-S5 and E1-E6 within the five years of observations. The weekly average data was fitted to Eq. A.1. The thermal and non-thermal terms of the average $fCO_{2,sw}$ calculated by following the procedures of Takahashi et al., 2002 (T,02) and Fassbender et al., 2022 (F'22) and the pH_{19} are depicted. The coefficients *a-f*, the standard error of estimate and the r^2 given by Eq. A.1 are presented in Table S1.

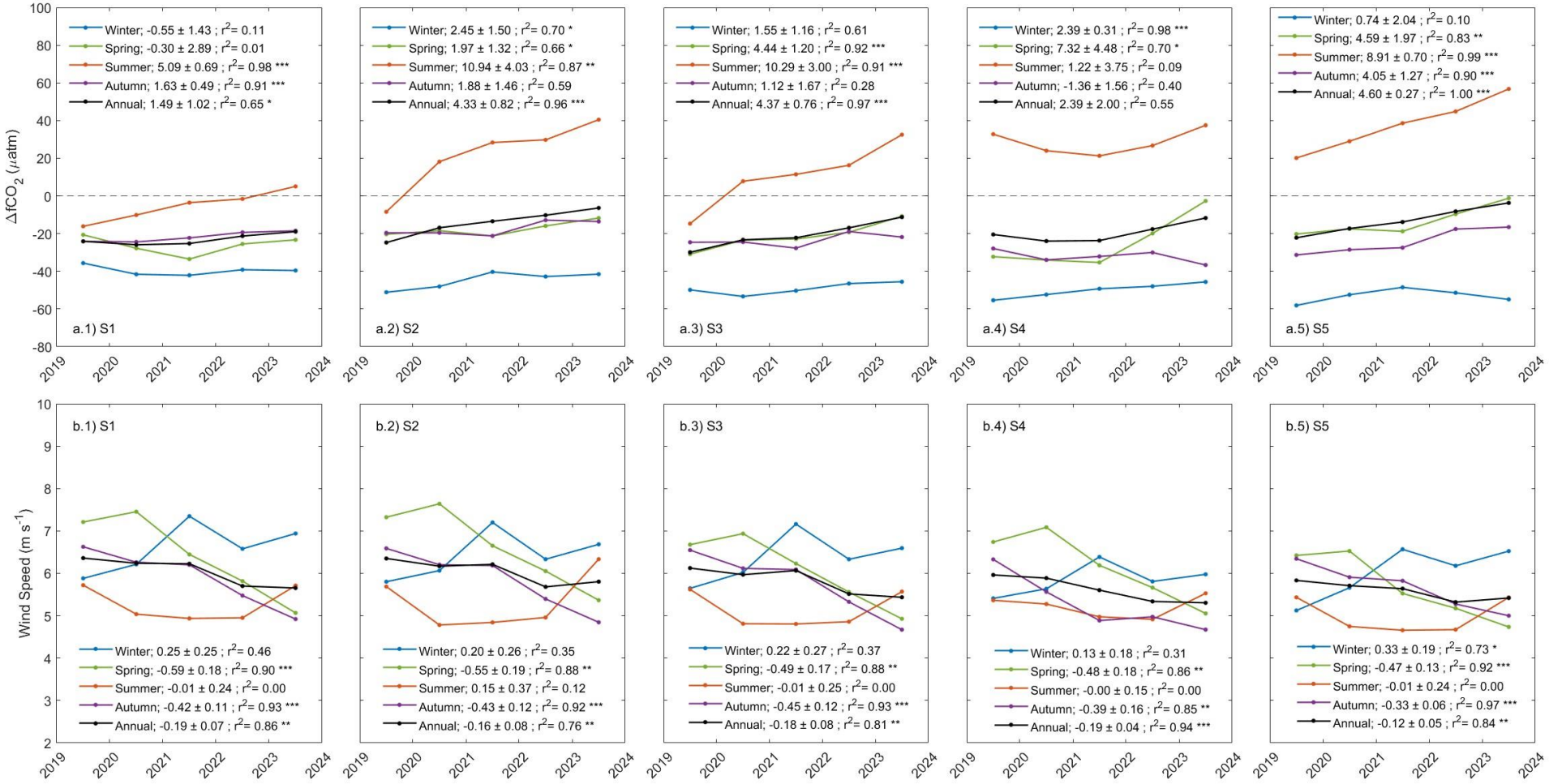

Figure S7. Temporal evolution of average ΔfCO_2 and wind speed calculated on a seasonal and annual basis for each year (2019-2023) at S1-S5. The 3-months periods January-March, April-June, July-September and October-December were considered as winter, spring, summer and autumn, respectively. The legend includes the interannual trends for ΔfCO_2 (µatm yr^{-1}) and wind speed (m s^{-1} yr^{-1}) based on linear regression of the seasonal and annual means. *** denotes that the trends are statistically significant at the 99% level of confidence, ** at the 95% level of confidence and * at the 90% level of confidence. Standard deviations are presented in Table S4.

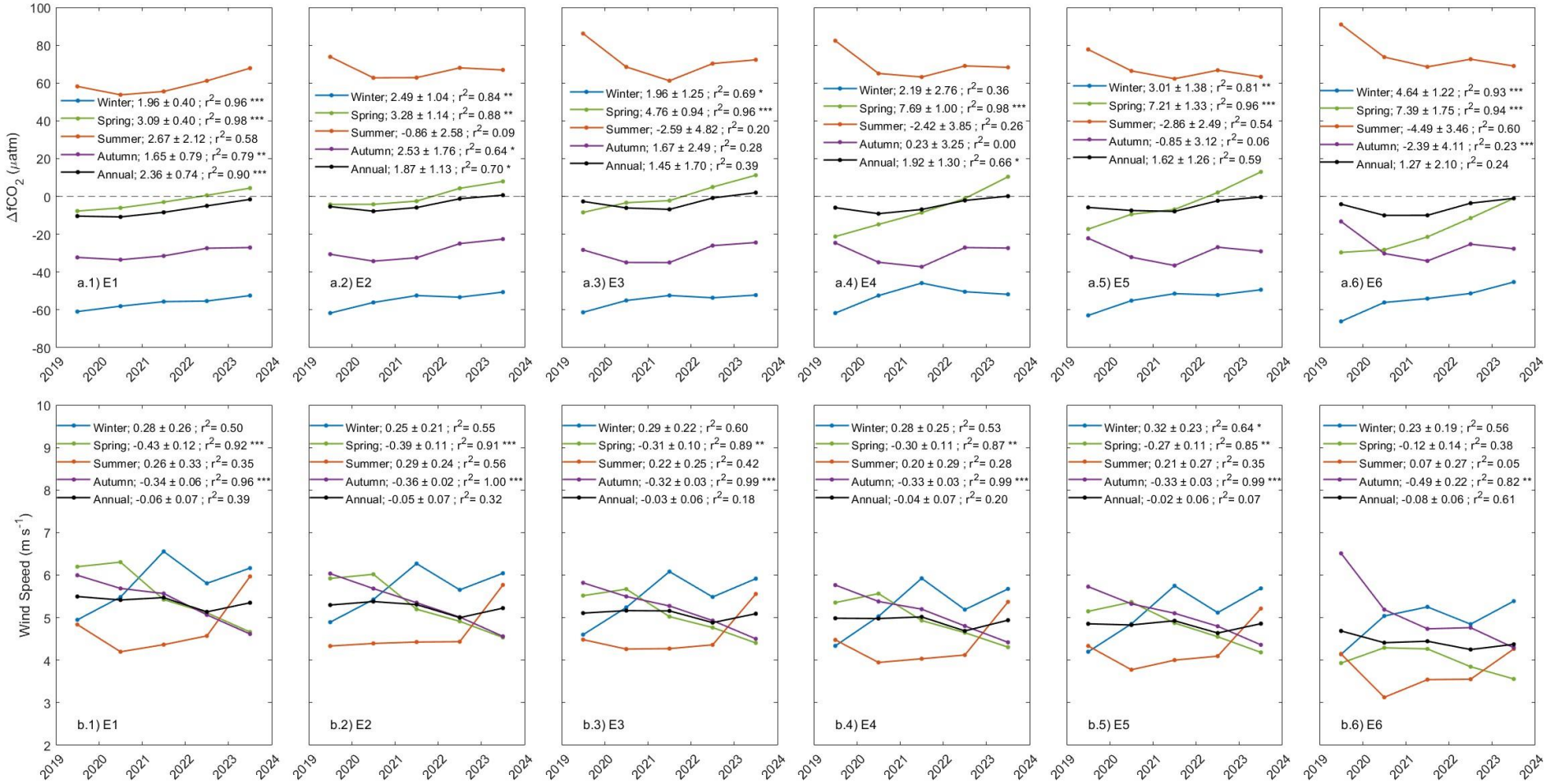

Figure S8. Temporal evolution of average ΔfCO_2 and wind speed calculated on a seasonal and annual basis for each year (2019-2023) at E1-E6. The 3-months periods January-March, April-June, July-September and October-December were considered as winter, spring, summer and autumn, respectively. The legend includes the interannual trends for ΔfCO_2 (µatm yr^{-1}) and wind speed (m s^{-1} yr^{-1}) based on linear regression of the seasonal and annual means. *** denotes that the trends are statistically significant at the 99% level of confidence, ** at the 95% level of confidence and * at the 90% level of confidence. Standard deviations are presented in Table S4.

Table S1. Coefficients *a-f*, standard error of estimate and r^2 given by Eq. A.1 for each variable. The standard error of each coefficient was calculated at the 95% level of confidence and is provided.

	Coefficients	S1	S2	S3	S4	S5	E1	E2	E3	E4	E5	E6
SST (ºC)	a	17.35 ± 0.44	17.94 ± 0.52	17.77 ± 0.55	18.04 ± 0.59	18.07 ± 0.58	19.22 ± 0.50	19.30 ± 0.43	19.58 ± 0.44	19.40 ± 0.42	19.23 ± 0.39	19.23 ± 0.47
	b	0.28 ± 0.14	0.52 ± 0.17	0.36 ± 0.18	0.26 ± 0.20	0.46 ± 0.19	0.29 ± 0.16	0.32 ± 0.14	0.24 ± 0.15	0.24 ± 0.14	0.23 ± 0.13	0.20 ± 0.16
	c	-1.19 ± 0.29	-2.61 ± 0.33	-2.42 ± 0.36	-3.02 ± 0.40	-3.45 ± 0.38	-3.97 ± 0.33	-4.05 ± 0.29	-4.35 ± 0.30	-4.64 ± 0.28	-4.59 ± 0.26	-4.69 ± 0.31
	d	-1.63 ± 0.32	-2.51 ± 0.38	-1.95 ± 0.40	-2.11 ± 0.42	-2.78 ± 0.38	-3.74 ± 0.34	-4.06 ± 0.29	-4.35 ± 0.30	-4.49 ± 0.29	-4.46 ± 0.28	-4.52 ± 0.32
	e	-0.10 ± 0.32	0.08 ± 0.36	0.18 ± 0.39	0.39 ± 0.43	0.50 ± 0.40	-0.06 ± 0.34	-0.06 ± 0.30	-0.05 ± 0.32	0.07 ± 0.30	0.12 ± 0.28	0.12 ± 0.35
	f	0.06 ± 0.29	0.65 ± 0.35	0.35 ± 0.36	0.94 ± 0.40	0.97 ± 0.37	0.90 ± 0.33	0.76 ± 0.28	0.81 ± 0.29	0.91 ± 0.28	0.92 ± 0.26	0.95 ± 0.30
	Standard error of estimate	0.95	1.09	1.19	1.29	1.17	1.08	0.91	0.95	0.90	0.87	1.01
	r^2	0.69	0.85	0.78	0.81	0.87	0.92	0.94	0.95	0.95	0.96	0.95
SSS	a	36.610 ± 0.075	36.667 ± 0.062	36.651 ± 0.077	36.838 ± 0.105	36.947 ± 0.141	37.265 ± 0.107	37.429 ± 0.116	37.747 ± 0.141	37.840 ± 0.113	38.130 ± 0.105	38.001 ± 0.092
	b	-0.075 ± 0.025	-0.080 ± 0.021	-0.070 ± 0.025	-0.052 ± 0.035	-0.063 ± 0.046	-0.070 ± 0.035	-0.096 ± 0.038	-0.142 ± 0.046	-0.071 ± 0.038	-0.101 ± 0.035	-0.012 ± 0.031
	c	0.079 ± 0.050	0.038 ± 0.039	0.069 ± 0.050	-0.065 ± 0.071	-0.110 ± 0.093	0.180 ± 0.071	0.109 ± 0.078	0.191 ± 0.097	0.196 ± 0.078	0.065 ± 0.071	0.014 ± 0.062
	d	0.041 ± 0.055	-0.016 ± 0.044	0.039 ± 0.056	0.077 ± 0.075	0.155 ± 0.094	0.116 ± 0.074	0.146 ± 0.078	0.166 ± 0.097	0.247 ± 0.080	0.181 ± 0.074	-0.003 ± 0.063
	e	0.025 ± 0.055	-0.023 ± 0.042	0.060 ± 0.055	0.070 ± 0.077	-0.034 ± 0.098	0.038 ± 0.074	0.004 ± 0.081	-0.045 ± 0.101	0.088 ± 0.082	0.009 ± 0.075	0.014 ± 0.068
	f	0.071 ± 0.050	0.035 ± 0.042	0.073 ± 0.051	0.061 ± 0.071	0.119 ± 0.090	0.099 ± 0.071	0.080 ± 0.075	-0.016 ± 0.093	0.048 ± 0.076	0.084 ± 0.070	0.040 ± 0.060
	Standard error of estimate	0.164	0.129	0.167	0.228	0.287	0.232	0.243	0.302	0.246	0.233	0.275
	r^2	0.43	0.48	0.41	0.23	0.32	0.42	0.40	0.42	0.50	0.46	0.04
$fCO_{2,sw}$	a	377.26 ± 4.65	381.71 ± 6.77	374.07 ± 8.11	374.33 ± 8.95	378.97 ± 6.19	388.42 ± 5.35	389.91 ± 5.12	389.31 ± 5.10	386.25 ± 5.86	386.69 ± 4.90	381.69 ± 6.16
	b	3.16 ± 1.54	4.78 ± 2.27	5.16 ± 2.69	4.98 ± 2.98	6.27 ± 2.01	4.54 ± 1.74	4.92 ± 1.67	5.14 ± 1.67	5.64 ± 1.95	5.50 ± 1.62	6.46 ± 2.05
	c	-7.60 ± 3.09	-22.13 ± 4.31	-19.30 ± 5.30	-27.65 ± 6.09	-35.29 ± 4.07	-50.91 ± 3.53	-52.57 ± 3.44	-54.14 ± 3.50	-50.26 ± 4.02	-51.17 ± 3.28	-47.84 ± 4.12
	d	-10.65 ± 3.38	-21.77 ± 4.87	-16.89 ± 5.91	-17.30 ± 6.38	-25.62 ± 4.11	-25.07 ± 3.71	-25.96 ± 3.47	-26.48 ± 3.51	-26.89 ± 4.11	-25.84 ± 3.46	-32.58 ± 4.20
	e	0.51 ± 3.39	7.23 ± 4.66	5.50 ± 5.82	9.35 ± 6.52	10.54 ± 4.29	5.75 ± 3.71	5.76 ± 3.59	7.77 ± 3.66	8.32 ± 4.25	11.12 ± 3.51	9.31 ± 4.55
	f	0.28 ± 3.11	4.64 ± 4.58	2.15 ± 5.39	9.70 ± 6.02	6.39 ± 3.95	10.95 ± 3.54	12.10 ± 3.32	13.10 ± 3.35	16.59 ± 3.92	13.41 ± 3.25	20.05 ± 3.99
	Standard error of estimate	10.13	14.13	17.68	19.46	12.59	11.59	10.77	10.92	12.72	10.86	15.09
	r^2	0.50	0.72	0.55	0.63	0.86	0.92	0.93	0.93	0.90	0.93	0.91
$fCO_{2,T}$ T'02	a	378.00 ± 7.52	379.96 ± 9.42	378.07 ± 9.86	382.79 ± 10.85	384.42 ± 10.18	397.76 ± 8.82	400.82 ± 7.75	403.68 ± 7.54	405.76 ± 7.08	407.72 ± 6.55	405.04 ± 8.06
	b	4.58 ± 2.48	8.68 ± 3.15	6.09 ± 3.27	4.43 ± 3.62	7.92 ± 3.30	5.23 ± 2.87	5.44 ± 2.53	3.97 ± 2.48	3.92 ± 2.35	3.77 ± 2.16	3.06 ± 2.68
	c	-19.88 ± 5.00	-44.93 ± 6.00	-41.19 ± 6.45	-51.68 ± 7.38	-60.20 ± 6.70	-69.50 ± 5.82	-71.33 ± 5.20	-76.23 ± 5.17	-81.87 ± 4.86	-81.20 ± 4.39	-82.30 ± 5.38
	d	-27.40 ± 5.47	-43.74 ± 6.77	-33.44 ± 7.19	-36.69 ± 7.74	-49.52 ± 6.75	-66.74 ± 6.11	-72.48 ± 5.25	-77.21 ± 5.19	-79.82 ± 4.97	-79.55 ± 4.62	-79.97 ± 5.50
	e	-1.99 ± 5.48	1.28 ± 6.48	3.45 ± 7.08	7.38 ± 7.91	8.16 ± 7.05	-1.01 ± 6.12	-1.44 ± 5.43	-1.19 ± 5.41	1.34 ± 5.13	1.91 ± 4.69	2.02 ± 5.95
	f	1.82 ± 5.03	13.49 ± 6.36	7.98 ± 6.55	18.75 ± 7.30	20.73 ± 6.49	21.06 ± 5.83	19.17 ± 5.02	20.21 ± 4.95	22.89 ± 4.74	22.51 ± 4.34	23.38 ± 5.22
	Standard error of estimate	16.39	19.66	21.50	23.60	20.70	19.09	16.29	16.15	15.37	14.52	17.30
	r^2	0.68	0.84	0.76	0.80	0.88	0.92	0.94	0.95	0.96	0.96	0.95
$fCO_{2,NT}$ T'02	a	385.61 ± 6.73	397.48 ± 8.35	383.76 ± 6.95	378.10 ± 6.50	390.25 ± 8.83	388.67 ± 5.04	387.23 ± 4.63	381.28 ± 6.51	378.71 ± 7.09	377.18 ± 6.92	371.22 ± 8.41
	b	-1.54 ± 2.22	-3.92 ± 2.80	-0.80 ± 2.30	0.83 ± 2.17	-1.33 ± 2.86	-0.18 ± 1.64	-0.07 ± 1.51	1.47 ± 2.14	1.65 ± 2.36	2.00 ± 2.29	3.57 ± 2.79
	c	11.76 ± 4.48	21.88 ± 5.32	21.04 ± 4.54	22.46 ± 4.42	22.26 ± 5.81	16.30 ± 3.33	16.04 ± 3.11	19.85 ± 4.46	28.01 ± 4.86	26.13 ± 4.64	30.77 ± 5.62
	d	15.78 ± 4.89	19.00 ± 6.01	14.87 ± 5.07	17.34 ± 4.64	19.61 ± 5.85	37.43 ± 3.50	41.73 ± 3.13	45.62 ± 4.48	47.43 ± 4.97	47.30 ± 4.89	42.07 ± 5.74
	e	2.26 ± 4.91	5.61 ± 5.75	2.43 ± 4.98	2.96 ± 4.74	2.03 ± 6.11	4.83 ± 3.50	4.75 ± 3.24	5.79 ± 4.68	4.77 ± 5.14	6.85 ± 4.96	5.48 ± 6.21
	f	-0.66 ± 4.51	-6.96 ± 5.65	-3.93 ± 4.61	-6.17 ± 4.38	-10.38 ± 5.62	-4.79 ± 3.33	-1.67 ± 3.00	-1.66 ± 4.28	0.26 ± 4.74	-2.67 ± 4.60	2.91 ± 5.45
	Standard error of estimate	14.67	17.44	15.14	14.14	17.94	10.92	9.73	13.95	15.39	15.35	19.24
	r^2	0.46	0.60	0.59	0.67	0.58	0.86	0.90	0.85	0.84	0.84	0.78

$fCO_{2,T}$ F'22	a	378.01 ± 7.27	377.71 ± 8.96	375.01 ± 9.36	380.51 ± 10.31	378.78 ± 9.64	393.09 ± 8.37	397.38 ± 7.38	408.62 ± 7.37	405.80 ± 6.86	404.95 ± 6.34	401.83 ± 7.74
	b	4.47 ± 2.40	8.36 ± 3.00	5.86 ± 3.11	4.26 ± 3.44	7.55 ± 3.13	4.95 ± 2.72	5.22 ± 2.41	3.91 ± 2.42	3.84 ± 2.28	3.68 ± 2.09	3.01 ± 2.57
	c	-19.34 ± 4.84	-43.14 ± 5.70	-39.54 ± 6.12	-49.68 ± 7.01	-57.25 ± 6.34	-66.21 ± 5.52	-68.16 ± 4.95	-74.39 ± 5.05	-79.02 ± 4.71	-77.93 ± 4.25	-78.96 ± 5.17
	d	-26.63 ± 5.28	-41.89 ± 6.44	-32.07 ± 6.83	-35.19 ± 7.35	-46.91 ± 6.39	-63.39 ± 5.80	-69.11 ± 4.99	-75.19 ± 5.08	-76.93 ± 4.82	-76.25 ± 4.48	-76.61 ± 5.28
	e	-1.88 ± 5.30	1.25 ± 6.16	3.26 ± 6.72	6.99 ± 7.51	7.85 ± 6.67	-0.96 ± 5.81	-1.32 ± 5.16	-1.12 ± 5.29	1.26 ± 4.97	1.85 ± 4.54	1.94 ± 5.72
	f	1.63 ± 4.87	12.58 ± 6.05	7.33 ± 6.22	17.61 ± 6.94	19.10 ± 6.14	19.21 ± 5.53	17.40 ± 4.78	18.71 ± 4.84	21.00 ± 4.59	20.60 ± 4.21	21.37 ± 5.02
	Standard error of estimate	15.85	18.69	20.41	22.41	19.60	18.12	15.51	15.79	14.90	14.06	16.61
	r^2	0.68	0.84	0.76	0.80	0.88	0.92	0.94	0.95	0.96	0.96	0.95
$fCO_{2,NT}$ F'22	a	383.92 ± 6.75	396.44 ± 7.62	384.72 ± 6.57	377.94 ± 6.29	392.47 ± 8.24	389.70 ± 5.00	385.97 ± 4.57	370.06 ± 6.12	370.23 ± 7.17	372.48 ± 6.65	366.59 ± 8.12
	b	-1.36 ± 2.23	-3.58 ± 2.55	-0.68 ± 2.18	0.75 ± 2.10	-1.27 ± 2.68	-0.54 ± 1.63	-0.33 ± 1.49	1.25 ± 2.01	1.74 ± 2.38	1.78 ± 2.20	3.44 ± 2.70
	c	11.71 ± 4.49	21.05 ± 4.85	20.47 ± 4.29	22.22 ± 4.28	21.92 ± 5.42	15.51 ± 3.30	15.54 ± 3.07	20.45 ± 4.19	28.88 ± 4.92	26.85 ± 4.46	31.12 ± 5.43
	d	16.11 ± 4.90	20.10 ± 5.48	15.27 ± 4.79	18.26 ± 4.49	21.31 ± 5.47	38.55 ± 3.47	43.16 ± 3.09	48.74 ± 4.21	50.19 ± 5.03	50.49 ± 4.70	44.08 ± 5.54
	e	2.48 ± 4.92	5.97 ± 5.24	2.27 ± 4.71	2.65 ± 4.58	2.70 ± 5.71	6.73 ± 3.47	7.16 ± 3.20	8.70 ± 4.39	7.08 ± 5.19	9.15 ± 4.76	7.42 ± 6.00
	f	-1.31 ± 4.51	-7.91 ± 5.15	-5.15 ± 4.36	-8.05 ± 4.23	-12.71 ± 5.25	-7.90 ± 3.30	-5.24 ± 2.96	-5.68 ± 4.02	-4.47 ± 4.80	-7.25 ± 4.41	-1.30 ± 5.27
	Standard error of estimate	14.70	15.90	14.31	13.68	16.76	10.83	9.61	13.10	15.56	14.74	18.90
	r^2	0.46	0.64	0.61	0.70	0.64	0.87	0.91	0.88	0.85	0.87	0.81
pH (total scale)	a	8.0792 ± 0.0048	8.0758 ± 0.0061	8.0831 ± 0.0078	8.0855 ± 0.0085	8.0826 ± 0.0060	8.0786 ± 0.0054	8.0794 ± 0.0052	8.0840 ± 0.0047	8.0877 ± 0.0054	8.0911 ± 0.0044	8.0946 ± 0.0053
	b	-0.0041 ± 0.0016	-0.0056 ± 0.0020	-0.0059 ± 0.0026	-0.0054 ± 0.0028	-0.0068 ± 0.0019	-0.0054 ± 0.0018	-0.0061 ± 0.0017	-0.0068 ± 0.0016	-0.0063 ± 0.0018	-0.0066 ± 0.0015	-0.0065 ± 0.0017
	c	0.0085 ± 0.0032	0.0214 ± 0.0039	0.0193 ± 0.0051	0.0254 ± 0.0058	0.0319 ± 0.0039	0.0497 ± 0.0036	0.0502 ± 0.0035	0.0525 ± 0.0033	0.0495 ± 0.0037	0.0486 ± 0.0029	0.0451 ± 0.0035
	d	0.0111 ± 0.0035	0.0207 ± 0.0044	0.0170 ± 0.0057	0.0178 ± 0.0061	0.0268 ± 0.0040	0.0256 ± 0.0038	0.0267 ± 0.0035	0.0276 ± 0.0033	0.0292 ± 0.0038	0.0277 ± 0.0031	0.0314 ± 0.0036
	e	-0.0003 ± 0.0035	-0.0069 ± 0.0042	-0.0042 ± 0.0056	-0.0075 ± 0.0062	-0.0104 ± 0.0041	-0.0037 ± 0.0038	-0.0041 ± 0.0036	-0.0062 ± 0.0034	-0.0054 ± 0.0039	-0.0091 ± 0.0031	-0.0075 ± 0.0039
	f	0.0008 ± 0.0032	-0.0034 ± 0.0041	-0.0006 ± 0.0052	-0.0079 ± 0.0057	-0.0037 ± 0.0038	-0.0075 ± 0.0036	-0.0089 ± 0.0034	-0.0109 ± 0.0031	-0.0133 ± 0.0036	-0.0103 ± 0.0029	-0.0166 ± 0.0034
	Standard error of estimate	0.0105	0.0127	0.0170	0.0186	0.0121	0.0117	0.0109	0.0102	0.0117	0.0097	0.0128
	r^2	0.54	0.76	0.58	0.63	0.86	0.92	0.92	0.94	0.91	0.94	0.92
pH_{19} (total scale)	a	8.0539 ± 0.0064	8.0596 ± 0.0070	8.0644 ± 0.0063	8.0710 ± 0.0056	8.0682 ± 0.0075	8.0810 ± 0.0047	8.0835 ± 0.0045	8.0926 ± 0.0055	8.0932 ± 0.0064	8.0942 ± 0.0061	8.0976 ± 0.0071
	b	0.0002 ± 0.0021	0.0022 ± 0.0023	-0.0004 ± 0.0021	-0.0015 ± 0.0019	0.0003 ± 0.0024	-0.0008 ± 0.0015	-0.0012 ± 0.0015	-0.0032 ± 0.0018	-0.0025 ± 0.0021	-0.0030 ± 0.0020	-0.0034 ± 0.0024
	c	-0.0097 ± 0.0043	-0.0183 ± 0.0045	-0.0177 ± 0.0041	-0.0207 ± 0.0038	-0.0206 ± 0.0049	-0.0108 ± 0.0031	-0.0113 ± 0.0030	-0.0138 ± 0.0038	-0.0213 ± 0.0044	-0.0213 ± 0.0041	-0.0264 ± 0.0048
	d	-0.0139 ± 0.0047	-0.0173 ± 0.0050	-0.0128 ± 0.0046	-0.0146 ± 0.0040	-0.0155 ± 0.0050	-0.0315 ± 0.0033	-0.0350 ± 0.0030	-0.0386 ± 0.0038	-0.0392 ± 0.0045	-0.0403 ± 0.0043	-0.0375 ± 0.0049
	e	-0.0019 ± 0.0047	-0.0056 ± 0.0048	-0.0015 ± 0.0046	-0.0019 ± 0.0041	-0.0028 ± 0.0052	-0.0047 ± 0.0033	-0.0051 ± 0.0031	-0.0068 ± 0.0039	-0.0044 ± 0.0047	-0.0073 ± 0.0044	-0.0057 ± 0.0053
	f	0.0017 ± 0.0043	0.0064 ± 0.0047	0.0046 ± 0.0042	0.0064 ± 0.0037	0.0108 ± 0.0048	0.0055 ± 0.0031	0.0024 ± 0.0029	0.0011 ± 0.0036	0.0002 ± 0.0043	0.0034 ± 0.0040	-0.0025 ± 0.0046
	Standard error of estimate	0.0140	0.0146	0.0138	0.0121	0.0152	0.0103	0.0095	0.0118	0.0140	0.0135	0.0164
	r^2	0.40	0.61	0.55	0.70	0.61	0.82	0.87	0.85	0.81	0.83	0.80
C_T (µmol kg^{-1})	a	2131.5 ± 6.4	2132.9 ± 7.0	2129.1 ± 7.1	2141.4 ± 9.8	2152.6 ± 12.9	2172.2 ± 8.8	2184.5 ± 9.2	2207.4 ± 12.4	2213.7 ± 10.4	2237.7 ± 9.8	2224.6 ± 10.1
	b	-6.5 ± 2.1	-8.1 ± 2.3	-5.8 ± 2.3	-3.6 ± 3.3	-5.7 ± 4.2	-5.6 ± 2.9	-7.6 ± 3.0	-10.5 ± 4.1	-4.6 ± 3.5	-6.8 ± 3.2	1.0 ± 3.4
	c	12.3 ± 4.3	13.6 ± 4.5	16.2 ± 4.6	6.5 ± 6.7	2.5 ± 8.5	21.8 ± 5.8	16.3 ± 6.2	23.3 ± 8.5	30.3 ± 7.2	19.0 ± 6.6	17.3 ± 6.8
	d	11.5 ± 4.7	8.5 ± 5.0	10.7 ± 5.1	15.3 ± 7.0	22.6 ± 8.6	28.9 ± 6.1	33.8 ± 6.2	37.6 ± 8.6	45.8 ± 7.3	40.9 ± 6.9	23.9 ± 6.9
	e	3.0 ± 4.7	1.2 ± 4.8	6.0 ± 5.1	7.1 ± 7.2	-1.5 ± 8.9	6.1 ± 6.1	3.5 ± 6.4	1.9 ± 8.9	10.3 ± 7.6	5.3 ± 7.0	5.2 ± 7.5
	f	5.1 ± 4.3	-1.0 ± 4.7	3.6 ± 4.7	1.3 ± 6.6	3.7 ± 8.2	5.1 ± 5.8	5.4 ± 5.9	-1.7 ± 8.2	3.9 ± 7.0	5.0 ± 6.5	4.5 ± 6.6
	Standard error of estimate	14.0	14.6	15.4	21.4	26.2	19.1	19.3	26.6	22.7	21.8	27.4
	r^2	0.56	0.55	0.55	0.28	0.33	0.65	0.68	0.60	0.73	0.68	0.45
NC_T (µmol kg-1)	a	2177.5 ± 3.7	2175.7 ± 4.6	2172.6 ± 4.0	2174.0 ± 4.6	2178.8 ± 6.0	2180.0 ± 3.5	2182.8 ± 3.2	2186.1 ± 5.0	2187.6 ± 5.0	2194.7 ± 4.7	2189.2 ± 5.7
	b	-2.3 ± 1.2	-3.6 ± 1.6	-1.8 ± 1.3	-0.6 ± 1.5	-2.1 ± 1.9	-1.5 ± 1.1	-2.0 ± 1.0	-2.0 ± 1.6	-0.4 ± 1.7	-0.9 ± 1.5	1.7 ± 1.9
	c	7.9 ± 2.5	11.8 ± 3.0	12.4 ± 2.6	10.4 ± 3.1	9.0 ± 3.9	11.5 ± 2.3	9.9 ± 2.2	13.2 ± 3.4	18.5 ± 3.4	14.9 ± 3.1	16.6 ± 3.8
	d	9.4 ± 2.7	9.8 ± 3.3	8.7 ± 2.9	11.0 ± 3.3	13.9 ± 4.0	22.3 ± 2.4	25.4 ± 2.2	28.1 ± 3.4	31.0 ± 3.5	29.9 ± 3.3	23.5 ± 3.9
	e	1.7 ± 2.7	2.7 ± 3.2	2.6 ± 2.9	3.0 ± 3.3	0.7 ± 4.1	4.0 ± 2.4	3.4 ± 2.2	3.6 ± 3.6	5.2 ± 3.6	4.8 ± 3.4	4.2 ± 4.2

	f	1.0 ± 2.5	-2.9 ± 3.1	-0.6 ± 2.7	-2.2 ± 3.1	-3.2 ± 3.8	-0.6 ± 2.3	0.7 ± 2.1	-1.1 ± 3.3	1.0 ± 3.3	0.0 ± 3.1	2.2 ± 3.7
	Standard error of estimate	8.2	9.7	8.8	9.9	12.2	7.5	6.7	10.7	10.8	10.4	13.7
	r^2	0.55	0.61	0.61	0.54	0.48	0.83	0.88	0.79	0.83	0.82	0.71
A_T (µmol kg^{-1})	a	2407.7 ± 7.5	2413.4 ± 6.2	2412.0 ± 7.7	2430.9 ± 10.7	2442.1 ± 14.3	2474.3 ± 10.8	2490.9 ± 11.7	2523.1 ± 14.3	2532.6 ± 11.5	2561.9 ± 10.7	2549.3 9.0
	b	-7.4 ± 2.5	-8.1 ± 2.1	-7.1 ± 2.6	-5.3 ± 3.6	-6.4 ± 4.6	-7.1 ± 3.5	-9.7 ± 3.8	-14.4 ± 4.7	-7.2 ± 3.8	-10.2 ± 3.5	-1.3 3.0
	c	8.0 ± 5.0	3.8 ± 4.0	7.0 ± 5.1	-6.6 ± 7.2	-11.1 ± 9.4	18.2 ± 7.2	11.0 ± 7.9	19.3 ± 9.8	19.9 ± 7.9	6.6 ± 7.1	1.1 6.0
	d	4.2 ± 5.5	-1.7 ± 4.5	3.9 ± 5.6	7.8 ± 7.6	15.6 ± 9.5	11.7 ± 7.5	14.8 ± 7.9	16.8 ± 9.8	25.1 ± 8.1	18.4 ± 7.5	-0.1 6.2
	e	2.4 ± 5.5	-2.4 ± 4.3	6.0 ± 5.5	7.1 ± 7.8	-3.5 ± 9.9	3.8 ± 7.5	0.5 ± 8.2	-4.6 ± 10.3	8.9 ± 8.3	0.9 ± 7.6	1.5 6.7
	f	7.1 ± 5.0	3.4 ± 4.2	7.3 ± 5.1	6.2 ± 7.2	11.9 ± 9.1	10.1 ± 7.2	8.2 ± 7.6	-1.7 ± 9.4	4.9 ± 7.7	8.6 ± 7.1	3.8 5.9
	Standard error of estimate	16.4	13.0	16.8	23.2	29.0	23.5	24.6	30.6	25.0	23.6	27.4
	r^2	0.4	0.5	0.4	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.0
NA_T (µmol kg^{-1})	a	2459.7 ± 2.7	2461.8 ± 2.2	2461.3 ± 2.8	2467.9 ± 3.8	2471.9 ± 5.1	2483.1 ± 3.8	2488.9 ± 4.1	2499.8 ± 4.9	2503.0 ± 3.9	2512.9 ± 3.6	2508.6 ± 3.0
	b	-2.7 ± 0.9	-2.9 ± 0.8	-2.6 ± 0.9	-1.9 ± 1.3	-2.3 ± 1.6	-2.5 ± 1.2	-3.4 ± 1.3	-5.0 ± 1.6	-2.4 ± 1.3	-3.4 ± 1.2	-0.4 ± 1.0
	c	2.9 ± 1.8	1.4 ± 1.4	2.5 ± 1.8	-2.4 ± 2.6	-4.0 ± 3.3	6.3 ± 2.5	3.8 ± 2.7	6.6 ± 3.4	6.7 ± 2.7	2.2 ± 2.4	0.4 ± 2.0
	d	1.5 ± 2.0	-0.6 ± 1.6	1.4 ± 2.0	2.8 ± 2.7	5.5 ± 3.4	4.0 ± 2.6	5.1 ± 2.7	5.8 ± 3.4	8.5 ± 2.7	6.2 ± 2.5	0.0 ± 2.1
	e	0.9 ± 2.0	-0.9 ± 1.5	2.2 ± 2.0	2.5 ± 2.8	-1.2 ± 3.5	1.3 ± 2.6	0.2 ± 2.8	-1.6 ± 3.5	3.0 ± 2.8	0.3 ± 2.6	0.5 ± 2.2
	f	2.6 ± 1.8	1.2 ± 1.5	2.7 ± 1.8	2.2 ± 2.5	4.2 ± 3.2	3.5 ± 2.5	2.8 ± 2.6	-0.6 ± 3.2	1.6 ± 2.6	2.9 ± 2.4	1.3 ± 2.0
	Standard error of estimate	5.9	4.7	6.1	8.2	10.3	8.2	8.5	10.5	8.5	8.0	9.2
	r^2	0.4	0.5	0.4	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.0
FCO_2 (mmol m^{-2} d^{-1})	a	-2.55 ± 0.94	-2.37 ± 1.11	-2.55 ± 1.13	-2.98 ± 1.15	-2.30 ± 0.99	-1.93 ± 0.97	-1.69 ± 0.93	-1.52 ± 0.91	-1.65 ± 0.85	-1.47 ± 0.79	-1.85 ± 0.84
	b	0.19 ± 0.31	0.32 ± 0.37	0.23 ± 0.38	0.44 ± 0.38	0.34 ± 0.32	0.31 ± 0.32	0.30 ± 0.30	0.26 ± 0.30	0.30 ± 0.28	0.25 ± 0.26	0.35 ± 0.28
	c	-1.36 ± 0.63	-1.90 ± 0.71	-1.98 ± 0.74	-2.12 ± 0.78	-2.82 ± 0.65	-3.44 ± 0.64	-3.34 ± 0.62	-3.26 ± 0.62	-2.74 ± 0.58	-2.65 ± 0.53	-2.35 ± 0.56
	d	-1.49 ± 0.68	-2.31 ± 0.80	-1.90 ± 0.83	-1.79 ± 0.82	-2.00 ± 0.66	-1.94 ± 0.67	-1.86 ± 0.63	-1.80 ± 0.63	-1.58 ± 0.59	-1.51 ± 0.56	-1.36 ± 0.57
	e	0.01 ± 0.69	0.63 ± 0.76	0.37 ± 0.81	0.89 ± 0.84	0.45 ± 0.69	0.28 ± 0.67	0.16 ± 0.65	0.19 ± 0.65	0.23 ± 0.61	0.37 ± 0.56	0.00 ± 0.62
	f	-0.32 ± 0.63	-0.04 ± 0.75	-0.37 ± 0.75	0.28 ± 0.78	0.01 ± 0.63	0.26 ± 0.64	0.44 ± 0.60	0.50 ± 0.60	0.68 ± 0.57	0.53 ± 0.52	0.84 ± 0.54
	Standard error of estimate	2.05	2.31	2.47	2.51	2.01	2.10	1.95	1.95	1.84	1.75	1.85
	r^2	0.33	0.46	0.39	0.42	0.58	0.63	0.63	0.61	0.57	0.58	0.54
d$f$$CO_2$	a	-25.24 ± 4.67	-20.49 ± 6.97	-28.39 ± 8.10	-27.57 ± 9.06	-22.63 ± 6.21	-12.44 ± 5.22	-10.89 ± 5.11	-11.40 ± 5.19	-15.11 ± 5.92	-14.39 ± 5.04	-18.35 ± 6.49
	b	1.13 ± 1.54	2.92 ± 2.33	3.27 ± 2.69	2.84 ± 3.02	4.12 ± 2.02	2.11 ± 1.70	2.75 ± 1.67	3.01 ± 1.70	3.70 ± 1.97	3.45 ± 1.67	4.21 ± 2.16
	c	-12.70 ± 3.11	-27.96 ± 4.44	-25.04 ± 5.29	-33.93 ± 6.16	-41.71 ± 4.09	-57.56 ± 3.45	-59.99 ± 3.43	-61.70 ± 3.55	-58.00 ± 4.06	-58.93 ± 3.38	-55.15 ± 4.34
	d	-16.46 ± 3.40	-27.87 ± 5.01	-22.92 ± 5.90	-23.43 ± 6.46	-32.03 ± 4.12	-32.63 ± 3.62	-33.73 ± 3.46	-33.88 ± 3.57	-33.94 ± 4.15	-32.58 ± 3.56	-40.32 ± 4.43
	e	-1.57 ± 3.41	5.20 ± 4.79	3.84 ± 5.81	7.22 ± 6.60	8.98 ± 4.30	4.16 ± 3.62	4.37 ± 3.58	6.52 ± 3.72	7.28 ± 4.29	10.38 ± 3.61	8.45 ± 4.79
	f	1.82 ± 3.13	6.38 ± 4.71	3.46 ± 5.38	11.35 ± 6.10	8.30 ± 3.96	12.76 ± 3.45	13.96 ± 3.31	14.81 ± 3.41	18.50 ± 3.96	15.39 ± 3.35	22.97 ± 4.21
	Standard error of estimate	10.18	14.55	17.65	19.69	12.63	11.31	10.73	11.10	12.86	11.18	16.18
	r^2	0.66	0.78	0.65	0.71	0.89	0.94	0.95	0.95	0.92	0.94	0.92

Table S2. Standard deviation of average SST, SSS, $fCO_{2,sw}$, pH, pH_{19}, C_T, NC_T, A_T and NA_T calculated on a seasonal and annual basis every 0.1º longitude along the S section and every 0.25º latitude along the E section. Means are represented in Figure 2 and Sup1.

		SST (ºC)					SSS					$fCO_{2,sw}$ (µatm)					pH (total scale)					pH_{19} (total scale)					C_T (µmol kg^{-1})					NC_T (µmol kg^{-1})					A_T (µmol kg^{-1})					NA_T (µmol kg^{-1})				
	Longitude (ºW)	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual	Winter	Spring	Summer	Autumn	Annual
	5.15	0.69	1.04	2.13	1.12	1.70	0.255	0.197	0.223	0.253	0.247	10.84	11.63	13.47	12.68	14.02	0.0121	0.0124	0.0137	0.0134	0.0151	0.0130	0.0166	0.0246	0.0186	0.0197	20.6	16.6	19.6	24.5	23.3	10.2	9.5	14.2	14.1	13.7	20.6	19.1	19.9	23.4	22.3	7.4	6.9	7.2	8.5	8.1
	5.05	0.68	1.02	2.12	1.31	1.83	0.232	0.173	0.241	0.261	0.243	12.41	11.73	17.09	11.65	15.16	0.0144	0.0124	0.0165	0.0136	0.0164	0.0133	0.0144	0.0155	0.0200	0.0192	17.9	14.5	19.0	23.2	22.0	8.5	8.3	9.9	13.7	12.8	20.1	16.8	21.1	21.8	21.7	7.3	6.1	7.6	7.9	7.8
	4.95	0.72	1.23	2.20	1.68	2.00	0.323	0.167	0.198	0.303	0.271	12.96	13.84	27.13	13.05	18.66	0.0149	0.0139	0.0260	0.0154	0.0195	0.0123	0.0168	0.0163	0.0211	0.0207	19.8	15.3	15.2	28.8	24.4	9.1	9.9	8.6	16.1	14.3	22.2	16.8	20.1	27.5	23.6	8.0	6.1	7.2	9.8	8.5
	4.85	0.67	1.27	2.46	1.69	2.46	0.345	0.151	0.225	0.252	0.261	13.08	15.57	29.38	11.53	23.55	0.0147	0.0155	0.0281	0.0133	0.0235	0.0131	0.0162	0.0168	0.0237	0.0224	22.5	11.9	12.3	24.4	22.2	10.5	8.2	8.4	16.1	14.4	24.4	15.0	17.4	21.9	21.5	8.8	5.4	6.3	7.9	7.8
	4.75	0.78	1.51	2.21	2.05	2.57	0.338	0.149	0.234	0.205	0.251	14.60	13.42	26.77	11.96	25.03	0.0167	0.0135	0.0255	0.0133	0.0249	0.0140	0.0146	0.0121	0.0271	0.0224	23.0	13.6	15.1	23.3	21.9	11.0	8.4	7.9	18.0	14.6	25.0	15.2	17.7	16.7	20.6	9.1	5.5	6.3	6.1	7.5
	4.65	0.73	1.60	1.92	1.93	2.64	0.306	0.133	0.179	0.225	0.235	13.43	13.90	20.14	12.55	24.95	0.0147	0.0128	0.0176	0.0138	0.0241	0.0127	0.0157	0.0130	0.0269	0.0229	21.2	12.7	8.1	24.2	21.3	10.4	9.0	7.0	18.0	14.9	22.2	13.5	9.7	17.6	18.4	8.0	4.9	3.5	6.4	6.7
	4.55	0.78	1.50	1.91	1.85	2.65	0.249	0.117	0.176	0.233	0.209	13.74	15.61	21.24	12.53	25.43	0.0153	0.0145	0.0185	0.0142	0.0245	0.0127	0.0122	0.0117	0.0258	0.0226	20.8	9.6	8.0	23.6	20.0	9.8	6.3	6.6	17.1	14.1	23.2	11.9	8.7	19.7	18.3	8.4	4.3	3.1	7.1	6.6
	4.45	0.77	1.62	1.91	2.10	2.77	0.265	0.128	0.175	0.209	0.212	13.71	18.37	22.49	14.27	26.40	0.0154	0.0178	0.0195	0.0147	0.0254	0.0141	0.0102	0.0111	0.0286	0.0240	19.4	11.5	8.1	29.0	22.5	9.8	6.3	6.5	20.3	15.9	21.2	13.0	8.0	20.3	18.3	7.7	4.7	2.9	7.3	6.6
	4.35	0.77	1.57	2.05	2.10	2.63	0.282	0.138	0.190	0.209	0.218	13.97	19.53	24.86	13.35	25.78	0.0161	0.0195	0.0217	0.0142	0.0249	0.0146	0.0082	0.0102	0.0258	0.0224	16.5	12.8	6.5	28.1	21.1	8.8	5.9	5.7	18.8	14.6	19.4	14.0	6.7	20.2	17.8	7.0	5.1	2.4	7.3	6.4
	4.25	0.80	1.50	2.63	2.07	2.58	0.230	0.140	0.166	0.194	0.197	12.13	17.98	31.35	12.98	25.05	0.0141	0.0183	0.0275	0.0143	0.0245	0.0122	0.0080	0.0145	0.0221	0.0198	18.0	13.6	7.4	23.0	20.2	8.5	6.4	7.5	15.5	13.3	20.6	14.2	8.6	17.6	17.7	7.4	5.1	3.1	6.4	6.4
	4.15	0.70	1.60	2.66	2.03	2.65	0.303	0.138	0.092	0.226	0.228	10.33	18.45	30.55	14.18	26.17	0.0124	0.0186	0.0267	0.0162	0.0255	0.0118	0.0095	0.0156	0.0220	0.0202	19.1	12.9	6.6	24.7	21.1	8.9	6.4	7.8	15.7	13.7	21.8	14.0	9.3	20.7	19.2	7.9	5.1	3.4	7.5	6.9
	4.05	0.63	1.55	2.32	1.77	2.67	0.382	0.146	0.161	0.251	0.272	13.70	17.45	29.39	12.54	26.62	0.0173	0.0179	0.0258	0.0150	0.0265	0.0148	0.0127	0.0146	0.0191	0.0217	22.4	13.4	9.1	25.9	23.8	9.3	7.6	8.4	15.0	14.8	30.2	14.8	7.8	23.2	23.4	10.8	5.3	2.8	8.4	8.4
	3.95	0.69	1.53	2.21	1.55	2.54	0.324	0.139	0.189	0.265	0.258	13.74	22.37	30.13	11.66	26.39	0.0150	0.0226	0.0276	0.0139	0.0260	0.0158	0.0166	0.0116	0.0182	0.0218	21.2	10.5	10.3	27.6	23.4	10.9	8.2	6.6	15.5	15.0	24.5	14.1	12.6	24.1	22.2	8.8	5.1	4.5	8.7	8.0
	3.85	0.70	1.67	2.11	1.70	2.37	0.279	0.195	0.211	0.253	0.247	12.09	23.74	26.21	11.85	24.37	0.0127	0.0227	0.0250	0.0141	0.0242	0.0134	0.0130	0.0125	0.0173	0.0190	22.1	15.4	13.6	25.9	23.0	10.9	7.1	7.7	14.4	13.6	21.9	19.8	16.2	23.1	22.0	7.9	7.2	5.8	8.3	7.9
	3.75	0.71	1.59	1.77	1.69	2.29	0.258	0.196	0.236	0.292	0.269	11.64	27.32	26.57	15.80	25.04	0.0139	0.0271	0.0248	0.0180	0.0256	0.0113	0.0118	0.0121	0.0188	0.0184	23.5	16.6	15.1	29.1	25.7	9.9	7.3	7.3	15.7	14.0	26.2	19.9	19.2	27.9	25.8	9.4	7.2	6.9	10.0	9.3
S section	3.65	0.75	1.60	2.17	1.73	2.49	0.345	0.218	0.294	0.281	0.306	13.81	28.28	34.05	17.14	28.89	0.0163	0.0292	0.0307	0.0186	0.0290	0.0131	0.0145	0.0114	0.0202	0.0201	22.3	17.8	14.4	26.7	24.7	9.3	8.7	4.7	15.2	13.7	28.5	22.0	22.0	28.3	28.2	10.2	7.9	7.9	10.2	10.1
	3.55	0.73	1.57	2.40	1.75	2.56	0.405	0.226	0.308	0.291	0.333	11.14	26.91	36.21	17.66	29.48	0.0148	0.0275	0.0326	0.0189	0.0293	0.0100	0.0165	0.0155	0.0190	0.0205	27.6	18.8	17.1	27.9	26.9	9.9	10.4	7.5	15.4	14.4	34.7	22.9	25.0	28.8	30.9	12.4	8.3	8.9	10.3	11.0
	3.45	0.68	1.62	2.17	1.61	2.51	0.419	0.200	0.253	0.306	0.343	9.66	25.03	34.51	15.49	27.95	0.0130	0.0249	0.0315	0.0171	0.0280	0.0096	0.0159	0.0125	0.0173	0.0201	30.5	16.1	14.5	31.0	29.4	11.6	9.4	6.4	16.2	15.5	36.1	19.4	20.6	29.0	31.8	12.8	7.0	7.4	10.4	11.3
	3.35	0.65	1.82	2.36	1.76	2.87	0.423	0.197	0.210	0.309	0.333	10.56	31.41	32.23	15.01	31.43	0.0134	0.0310	0.0283	0.0169	0.0306	0.0111	0.0178	0.0135	0.0179	0.0228	30.2	18.0	13.6	32.6	29.1	12.0	11.1	6.0	16.6	16.1	34.9	20.0	21.3	31.1	31.8	12.4	7.2	7.6	11.2	11.4
	3.25	0.63	1.97	2.30	1.76	2.97	0.361	0.149	0.288	0.289	0.292	10.89	31.42	31.66	16.76	33.95	0.0137	0.0309	0.0278	0.0189	0.0323	0.0096	0.0191	0.0142	0.0189	0.0226	23.3	16.4	15.7	32.2	24.7	9.1	11.9	7.1	17.0	14.8	29.0	15.1	22.9	29.1	26.5	10.4	5.4	8.2	10.5	9.5
	3.15	0.74	1.62	2.32	1.63	2.96	0.368	0.157	0.274	0.289	0.289	10.76	22.09	31.82	14.03	32.22	0.0128	0.0210	0.0277	0.0166	0.0303	0.0104	0.0156	0.0144	0.0184	0.0221	26.2	12.9	14.2	29.8	23.4	11.1	8.8	7.3	16.0	14.4	29.3	15.9	20.4	27.0	24.8	10.5	5.7	7.3	9.7	8.9
	3.05	0.78	1.62	2.25	1.62	3.04	0.353	0.236	0.281	0.296	0.316	13.53	26.61	30.24	13.38	33.47	0.0149	0.0266	0.0259	0.0164	0.0320	0.0140	0.0157	0.0150	0.0182	0.0228	33.2	18.7	13.8	28.3	27.6	14.4	9.4	7.6	14.7	15.5	34.4	24.0	19.8	28.0	29.8	12.2	8.5	7.0	10.0	10.6
	2.95	0.78	1.69	2.03	1.72	3.12	0.419	0.228	0.277	0.239	0.346	12.83	19.71	25.22	15.03	33.31	0.0160	0.0187	0.0212	0.0171	0.0322	0.0123	0.0111	0.0153	0.0190	0.0220	34.9	19.1	12.5	24.2	28.8	13.3	7.9	7.8	14.2	15.0	40.1	23.1	18.0	22.0	32.8	14.1	8.2	6.4	8.0	11.6
	2.85	0.70	1.69	1.78	1.75	3.13	0.438	0.173	0.286	0.273	0.344	14.82	23.98	20.43	16.78	34.93	0.0183	0.0225	0.0166	0.0191	0.0340	0.0119	0.0106	0.0135	0.0198	0.0217	31.9	13.9	15.2	26.7	27.5	9.6	7.0	7.7	14.5	14.2	40.0	17.6	20.1	26.5	32.2	14.1	6.3	7.2	9.5	11.4
	2.75	0.71	1.68	1.71	1.85	3.38	0.366	0.214	0.293	0.319	0.322	12.77	25.58	20.60	17.78	37.64	0.0158	0.0246	0.0168	0.0200	0.0355	0.0083	0.0112	0.0130	0.0199	0.0239	25.0	19.9	16.0	32.9	25.8	7.9	9.0	7.5	17.2	15.0	32.6	21.7	21.3	30.6	29.6	11.6	7.8	7.6	10.9	10.6
	2.65	0.59	1.76	1.65	1.89	3.33	0.307	0.212	0.240	0.325	0.314	13.98	24.78	18.76	16.39	37.04	0.0160	0.0234	0.0152	0.0186	0.0352	0.0115	0.0114	0.0141	0.0211	0.0233	25.2	21.1	16.4	32.6	27.1	9.7	9.8	7.7	17.8	15.4	29.2	21.5	22.5	30.3	29.6	10.4	7.6	8.0	10.8	10.5
	2.55	0.69	1.85	1.55	1.97	3.21	0.413	0.253	0.280	0.310	0.370	15.22	24.58	13.13	16.22	34.48	0.0181	0.0225	0.0102	0.0187	0.0333	0.0133	0.0112	0.0157	0.0225	0.0244	37.8	23.0	17.5	32.9	32.8	13.6	10.3	8.3	17.9	16.9	41.8	25.5	24.5	30.5	36.5	14.7	9.0	8.7	10.9	12.9
	2.45	0.74	1.73	1.61	1.91	3.13	0.405	0.257	0.323	0.332	0.381	14.43	27.82	16.22	17.00	35.71	0.0176	0.0264	0.0128	0.0201	0.0343	0.0114	0.0093	0.0147	0.0204	0.0221	35.3	24.9	17.7	35.2	33.9	12.3	10.2	7.4	17.8	16.4	41.1	26.1	25.6	33.7	37.7	14.5	9.1	9.1	12.0	13.4
	2.35	0.73	1.48	1.90	1.98	3.22	0.383	0.228	0.310	0.292	0.354	13.07	22.02	21.21	17.94	35.88	0.0160	0.0220	0.0170	0.0213	0.0347	0.0102	0.0072	0.0156	0.0195	0.0216	33.1	20.2	15.4	30.4	32.4	11.6	7.7	6.3	15.7	16.1	38.8	23.1	25.0	29.6	35.0	13.7	8.1	8.9	10.6	12.4
	2.25	0.82	1.62	2.35	2.00	3.17	0.506	0.204	0.348	0.264	0.427	11.45	20.93	27.22	14.47	34.04	0.0168	0.0212	0.0216	0.0172	0.0336	0.0086	0.0096	0.0160	0.0223	0.0205	42.4	18.9	16.8	28.3	37.6	13.1	8.7	6.5	16.1	17.1	51.3	20.7	27.1	26.8	42.4	18.0	7.3	9.6	9.6	15.0
	2.15	0.78	1.79	1.75	1.99	3.46	0.490	0.226	0.308	0.397	0.414	12.18	23.69	19.82	16.75	37.75	0.0172	0.0243	0.0160	0.0205	0.0370	0.0092	0.0125	0.0127	0.0240	0.0233	42.0	23.1	16.9	36.3	37.2	12.8	11.2	8.2	17.6	17.6	49.6	22.9	21.0	40.2	40.9	17.4	8.0	7.4	14.3	14.4
	Latitude (ºN)																																												
	36.125	0.63	1.25	1.24	0.80	3.74	0.297	0.241	0.294	0.258	0.268	5.93	19.02	10.60	10.82	42.16	0.0091	0.0193	0.0094	0.0135	0.0401	0.0014	0.0051	0.0114	0.0172	0.0233	27.2	20.3	8.2	16.0	19.0	8.5	6.0	7.2	8.3	13.3	30.1	24.4	5.5	26.1	24.1	10.7	8.5	1.9	9.2	8.5
	36.375	0.63	1.81	1.71	2.18	3.60	0.416	0.243	0.258	0.453	0.402	11.01	22.16	18.29	20.56	39.40	0.0143	0.0225	0.0147	0.0248	0.0390	0.0096	0.0102	0.0154	0.0236	0.0239	36.3	25.8	15.5	39.1	37.9	11.7	11.5	8.8	17.7	18.9	42.2	24.7	20.1	45.0	39.5	14.7	8.6	7.1	15.8	13.8
	36.625	0.62	1.86	1.57	2.69	3.85	0.268	0.248	0.280	0.333	0.338	9.93	21.79	17.74	19.94	41.86	0.0122	0.0231	0.0144	0.0225	0.0414	0.0090	0.0077	0.0144	0.0236	0.0245	23.2	25.1	13.8	33.5	35.3	8.5	9.8	8.9	18.4	19.8	27.2	25.2	15.5	32.7	31.7	9.3	8.8	5.5	11.5	11.0
	36.875	0.71	1.84	1.23	2.71	3.75	0.354	0.294	0.249	0.312	0.354	10.79	21.13	15.33	20.06	40.30	0.0145	0.0220	0.0121	0.0219	0.0399	0.0100	0.0083	0.0138	0.0225	0.0243	29.5	27.6	12.3	29.8	35.0	9.2	10.0	8.6	16.5	18.9	35.9	29.9	12.6	31.6	34.3	12.5	10.5	4.5	11.0	12.0
	37.125	0.71	2.06	1.20	2.80	3.85	0.319	0.350	0.283	0.352	0.361	10.38	22.33	15.44	20.23	40.45	0.0129	0.0237	0.0119	0.0219	0.0398	0.0106	0.0092	0.0117	0.0235	0.0259	27.5	33.5	14.7	29.9	35.3	9.7	12.1	7.9	16.7	19.6	32.2	35.5	16.9	35.7	35.0	11.1	12.4	5.9	12.3	12.2
	37.375	0.75	2.01	1.13	2.92	3.92	0.335	0.282	0.352	0.350	0.365	10.87	22.28	15.89	23.74	41.35	0.0136	0.0224	0.0134	0.0252	0.0407	0.0114	0.0102	0.0117	0.0237	0.0267	29.4	25.4	19.3	27.0	35.9	10.5	9.8	8.1	16.2	20.4	33.9	28.6	23.4	35.5	34.7	11.7	10.0	8.1	12.2	12.0
	37.625	0.69	2.19	1.23	2.81	3.95	0.361	0.270	0.328	0.374	0.367	8.57	22.30	21.70	21.31	41.96	0.0119	0.0221	0.0173	0.0239	0.0410	0.0096	0.0126	0.0120	0.0229	0.0271	30.1	23.1	20.2	35.2	37.3	10.3	10.3	8.3	18.5	21.2	36.6	27.3	24.3	38.0	35.5	12.6	9.5	8.4	13.0	12.2
	37.875	0.72	2.29	1.16	2.97	4.05	0.372	0.374	0.433	0.437	0.434	8.53	24.57	25.12	21.67	40.97	0.0116	0.0264	0.0201	0.0246	0.0407	0.0107	0.0142	0.0135	0.0265	0.0291	32.6	32.3	27.8	42.5	42.0	11.9	13.1	11.1	21.8	22.9	37.8	37.9	31.4	44.3	41.4	13.0	13.1	10.8	15.2	14.2
E section	38.125	0.74	2.27	1.02	2.98	4.19	0.391	0.388	0.410	0.416	0.438	9.36	24.60	23.92	20.07	43.02	0.0119	0.0255	0.0183	0.0232	0.0424	0.0114	0.0176	0.0109	0.0270	0.0303	35.0	31.6	29.4	43.3	44.6	13.2	13.8	11.7	22.7	24.5	39.6	39.4	31.6	42.2	42.2	13.5	13.5	10.9	14.4	14.4
	38.375	0.69	2.52	0.94	3.00	4.17	0.267	0.356	0.480	0.400	0.427	9.77	26.86	20.77	18.62	41.35	0.0112	0.0269	0.0174	0.0224	0.0414	0.0112	0.0254	0.0105	0.0280	0.0318	25.3	33.5	30.8	44.7	45.6	10.2	19.2	11.2	24.4	26.2	27.0	36.1	36.2	40.5	40.5	9.1	12.3	12.5	13.8	13.8
	38.625	0.66	2.51	1.01	3.08	4.29	0.221	0.358	0.487	0.376	0.402	9.61	26.47	20.75	17.22	41.42	0.0112	0.0277	0.0164	0.0214	0.0410	0.0119	0.0213	0.0095	0.0317	0.0329	21.1	33.8	26.6	45.5	44.5	9.3	17.7	11.0	26.3	26.6	22.4	36.3	27.8	38.1	36.1	7.5	12.3	9.5	12.9	12.2
	38.875	0.59	2.70	0.94	3.01	4.15	0.200	0.404	0.345	0.359	0.359	10.91	27.99	17.25	16.84	40.21	0.0128	0.0299	0.0140	0.0202	0.0395	0.0123	0.0186	0.0084	0.0321	0.0322	18.2	37.6	23.4	42.6	40.6	8.1	17.6	10.2	25.2	24.7	20.3	40.9	23.8	36.4	35.0	6.8	13.9	8.0	12.4	11.8
	39.125	0.59	2.53	0.89	3.14	4.18	0.184	0.322	0.528	0.351	0.359	10.54	29.09	19.47	18.59	40.73	0.0120	0.0298	0.0148	0.0217	0.0396	0.0117	0.0211	0.0088	0.0327	0.0331	17.3	35.9	24.0	41.6	38.9	8.2	18.2	10.7	25.2	24.7	18.7	32.7	31.3	35.6	31.9	6.2	11.0	10.7	12.1	10.8
	39.375	0.81	2.42	0.99	2.93	4.30	0.221	0.269	0.423	0.228	0.278	18.33	31.18	23.39	19.42	41.65	0.0185	0.0292	0.0169	0.0200	0.0395	0.0197	0.0278	0.0105	0.0380	0.0376	26.5	40.6	29.5	36.3	39.0	14.2	23.9	13.1	26.5	27.0	22.3	27.3	35.9	23.1	26.6	7.5	9.2	12.3	7.8	9.0
	39.625	0.75	2.57	1.09	3.07	4.30	0.172	0.236	0.251	0.252	0.243	14.32	32.41	22.68	19.35	41.69	0.0151	0.0302	0.0172	0.0222	0.0401	0.0165	0.0255	0.0096	0.0320	0.0342	16.8	34.4	23.7	37.2	37.2	10.3	21.1	10.3	24.5	25.3	17.3	23.9	25.4	25.5	24.6	5.7	8.1	8.5	8.6	8.3
	39.875	0.71	2.62	1.20	2.92	4.32	0.198	0.250	0.157	0.175	0.205	12.97	31.30	23.38	19.45	43.12	0.0138	0.0295	0.0185	0.0210	0.0407	0.0148	0.0260	0.0084	0.0295	0.0336	16.8	35.4	16.8	29.3	31.4	9.1	21.4	7.9	21.1	23.1	19.4	25.3	15.9	17.7	20.6	6.5	8.6	5.3	5.9	6.9
	40.125	0.87	2.63	1.17	2.84	4.24	0.285	0.391	0.142	0.219	0.286	15.55	29.10	22.94	17.81	43.63	0.0163	0.0263	0.0181	0.0196	0.0406	0.0149	0.0266	0.0096	0.0268	0.0320	25.0	41.6	15.6	29.1	31.5	11.2	22.8	8.3	19.5	21.4	28.9	34.8	14.3	21.7	27.2	9.7	12.0	4.8	7.3	9.3

40.375	0.75	2.73	1.29	2.78	4.30	0.298	0.188	0.114	0.230	0.230	14.40	30.49	25.93	17.34	43.93	0.0138	0.0292	0.0209	0.0198	0.0413	0.0159	0.0196	0.0108	0.0266	0.0322	31.4	26.0	14.9	29.6	31.4	14.6	15.8	8.9	19.7	22.2	30.2	19.0	11.5	21.8	22.9	10.2	6.4	3.9	7.3	7.7
40.625	0.70	2.73	1.28	2.76	4.33	0.192	0.271	0.121	0.241	0.228	7.86	32.97	26.59	17.62	43.59	0.0078	0.0308	0.0213	0.0199	0.0409	0.0119	0.0205	0.0108	0.0282	0.0328	21.6	32.8	14.4	30.3	32.9	10.7	18.4	8.6	20.2	23.2	19.5	27.5	12.3	24.1	23.0	6.5	9.4	4.1	8.1	7.7
40.875	0.83	2.49	1.25	2.43	3.86	0.193	0.229	0.110	0.296	0.265	11.86	30.49	24.02	12.65	35.52	0.0118	0.0286	0.0199	0.0139	0.0335	0.0166	0.0192	0.0123	0.0281	0.0318	23.1	27.7	14.0	24.6	29.5	13.0	16.1	9.2	16.1	20.6	19.6	23.2	11.1	29.1	26.4	6.5	7.9	3.7	9.8	8.9
41.125	0.58	2.41	1.03	3.29	3.72	0.213	0.109	0.133	0.209	0.209	8.02	32.17	19.30	13.61	23.38	0.0103	0.0307	0.0165	0.0162	0.0242	0.0078	0.0144	0.0053	0.0376	0.0361	17.4	14.2	12.4	40.5	35.5	6.7	10.0	5.2	28.4	25.7	21.5	10.5	13.5	21.0	21.0	7.2	3.5	4.5	7.0	7.0

Table S3. Standard errors of $dfCO_2^{SST}$, $dfCO_2^{SSS}$, $dfCO_2^{AT}$, $dfCO_2^{CT}$, $\frac{df CO_{2,sw}}{dt}$ (sum) and $\frac{df CO_{2,sw}}{dt}$ (obs) for each year (2019-2023) at S1-S5 and E1-E6.

		$dfCO_2^{SST}$	$dfCO_2^{SSS}$	$dfCO_2^{AT}$	$dfCO_2^{CT}$	$dfCO_2/dt$ (sum)	$dfCO_2/dt$ (obs)
S1	2019	0.25	0.25	1.11	0.81	1.42	1.15
	2020	1.90	0.57	2.79	1.71	3.83	1.74
	2021	4.29	0.30	1.52	2.08	5.02	3.00
	2022	0.97	0.17	0.93	0.71	1.47	0.36
	2023	6.44	0.84	4.53	2.83	8.42	2.29
S2	2019	1.23	0.03	0.28	1.31	1.82	0.82
	2020	4.77	0.15	1.59	1.73	5.32	3.97
	2021	2.90	0.08	0.99	2.66	4.06	2.70
	2022	1.50	0.04	0.45	1.28	2.02	1.32
	2023	3.96	0.48	5.60	2.44	7.30	3.75
S3	2019	2.36	0.17	2.15	2.16	3.86	2.68
	2020	3.67	0.14	1.91	1.59	4.43	3.50
	2021	3.89	0.16	2.00	2.08	4.84	3.22
	2022	1.28	0.13	1.34	1.22	2.21	0.99
	2023	4.66	0.64	5.06	3.34	7.67	3.75
S4	2019	1.34	0.02	2.05	1.99	3.15	2.11
	2020	6.38	0.02	4.24	2.49	8.05	5.21
	2021	4.77	0.01	2.46	1.93	5.70	4.08
	2022	2.12	0.01	1.73	1.27	2.99	1.85
	2023	6.84	0.21	6.73	5.30	10.96	6.80
S5	2019	1.81	0.07	1.09	1.80	2.78	2.93
	2020	3.66	0.08	4.74	2.41	6.46	3.03
	2021	2.85	0.05	3.41	2.61	5.16	1.06
	2022	2.35	0.06	1.93	1.03	3.21	2.00
	2023	8.10	0.25	8.46	4.76	12.65	4.15
E1	2019	1.77	0.02	2.34	1.53	3.30	3.20
	2020	3.43	0.04	1.48	2.19	4.33	2.87
	2021	2.59	0.12	2.25	2.77	4.41	1.38
	2022	2.25	0.07	1.06	2.11	3.26	2.36
	2023	7.62	0.50	7.22	3.37	11.04	5.56

E2	2019	1.56	0.62	3.05	1.64	3.85	3.19
	2020	3.43	0.43	2.31	1.82	4.54	4.17
	2021	2.74	0.55	3.19	3.03	5.22	1.77
	2022	2.28	0.09	0.70	2.41	3.39	2.44
	2023	4.19	0.70	8.43	3.77	10.16	3.71
E3	2019	2.16	0.35	2.14	2.39	3.88	3.93
	2020	3.29	0.40	4.12	3.35	6.26	4.39
	2021	3.16	0.26	4.14	3.49	6.28	1.92
	2022	2.44	0.03	0.64	2.61	3.63	2.65
	2023	5.58	0.44	8.29	4.37	10.92	4.05
E4	2019	2.47	0.29	2.20	1.66	3.71	3.90
	2020	3.41	0.61	3.71	2.67	5.73	5.02
	2021	2.32	0.76	4.43	3.63	6.23	1.55
	2022	2.55	0.26	1.57	2.49	3.90	2.57
	2023	3.60	1.15	8.55	2.98	9.81	3.07
E5	2019	2.50	0.14	0.86	1.47	3.03	3.47
	2020	3.09	0.32	1.77	1.96	4.08	3.24
	2021	2.55	0.35	1.95	2.70	4.21	1.05
	2022	2.54	0.15	1.00	2.60	3.78	2.82
	2023	4.74	0.88	8.40	2.79	10.08	3.45
E6	2019	2.76	0.60	1.60	1.65	3.64	1.65
	2020	4.63	0.64	1.93	1.84	5.37	4.36
	2021	2.11	0.93	3.26	2.50	4.71	1.78
	2022	2.59	0.07	0.34	1.68	3.11	2.51
	2023	2.83	0.21	2.06	2.50	4.30	1.87

Table S4. Standard deviation of CO_2f, ΔfCO_2 and wind speed calculated on a seasonal and annual basis for each year (2019-2023) at S1-S5 and E1-E6. Means are represented in Figures 7, S5 and S6.

		FCO_2 (mol m^{-2} yr^{-1})											ΔfCO_2 (µatm)											Wind speed (m s^{-1})										
		S1	S2	S3	S4	S5	E1	E2	E3	E4	E5	E6	S1	S2	S3	S4	S5	E1	E2	E3	E4	E5	E6	S1	S2	S3	S4	S5	E1	E2	E3	E4	E5	E6
2019	Annual	0.20	0.48	0.38	0.76	0.82	0.90	1.02	1.04	0.88	0.85	0.92	9.04	17.63	14.24	36.27	31.95	49.01	55.87	61.14	59.62	57.64	65.01	0.9	1.0	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.8	1.2
	Winter	0.02	0.32	0.29	0.26	0.30	0.14	0.10	0.14	0.12	0.19	0.35	5.25	4.42	3.25	0.27	4.41	3.32	7.34	0.55	1.20	4.49	0.66	0.7	0.9	0.7	0.7	0.7	0.5	0.3	0.3	0.4	0.3	0.6
	Spring	0.16	0.47	0.43	0.61	0.79	0.76	0.67	0.81	0.61	0.69	0.35	1.24	10.97	8.69	20.34	25.08	31.22	31.34	40.03	34.95	39.39	34.59	0.6	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.1
	Summer	0.09	0.17	0.24	0.31	0.54	0.58	0.47	0.57	0.40	0.44	0.32	3.36	0.49	1.36	9.22	10.73	13.53	13.43	17.49	15.27	15.17	17.86	0.5	0.6	0.7	0.5	0.6	0.4	0.4	0.4	0.5	0.5	0.7
	Autumn	0.06	0.04	0.10	0.22	0.15	0.20	0.42	0.31	0.35	0.25	0.58	8.88	10.05	8.27	22.44	12.28	26.11	34.04	31.51	35.19	28.60	41.73	0.6	0.7	0.7	0.6	0.7	0.5	0.4	0.4	0.5	0.5	0.4
2020	Annual	0.51	0.71	0.68	0.83	0.82	0.91	0.97	0.96	0.82	0.81	0.81	12.58	26.47	24.14	32.35	33.20	46.51	50.07	52.61	50.25	51.42	55.46	1.0	1.1	0.9	0.8	0.8	0.9	0.7	0.7	0.8	0.8	0.9
	Winter	0.24	0.36	0.29	0.40	0.20	0.12	0.04	0.05	0.08	0.10	0.18	3.05	4.48	3.39	5.03	2.08	2.63	2.60	1.20	2.24	2.80	5.30	0.5	0.6	0.4	0.7	0.5	0.5	0.3	0.3	0.4	0.3	0.4
	Spring	0.47	0.67	0.59	0.76	0.73	0.76	0.75	0.73	0.62	0.65	0.39	9.40	19.92	16.48	23.43	23.61	30.91	33.47	36.37	33.74	37.20	36.61	0.5	0.7	0.6	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.3
	Summer	0.17	0.24	0.17	0.33	0.40	0.46	0.45	0.45	0.37	0.38	0.21	1.97	6.17	3.95	9.93	9.63	14.61	16.75	19.00	16.81	18.39	16.62	0.4	0.5	0.3	0.2	0.3	0.4	0.3	0.3	0.4	0.4	0.3
	Autumn	0.09	0.11	0.19	0.14	0.20	0.25	0.34	0.34	0.29	0.26	0.52	5.58	11.66	12.68	14.01	15.50	22.93	24.04	23.74	24.01	22.02	27.49	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.7
2021	Annual	0.71	0.92	0.94	0.95	0.95	1.12	1.05	0.99	0.89	0.91	0.77	16.09	29.13	24.95	30.03	36.24	46.39	48.87	48.56	48.21	49.29	52.72	1.0	1.0	0.9	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.7
	Winter	0.19	0.33	0.21	0.34	0.12	0.17	0.11	0.10	0.06	0.07	0.07	4.09	6.94	3.65	4.18	3.04	2.34	1.35	2.17	2.30	1.67	4.74	0.2	0.2	0.1	0.7	0.1	0.2	0.3	0.3	0.2	0.1	0.2
	Spring	0.54	0.80	0.71	0.80	0.70	0.78	0.76	0.67	0.62	0.64	0.46	10.66	23.46	19.14	20.44	25.99	31.39	33.45	32.80	33.39	35.46	36.84	0.7	0.7	0.6	0.7	0.6	0.8	0.8	0.8	0.7	0.6	0.3
	Summer	0.11	0.26	0.16	0.21	0.25	0.29	0.30	0.27	0.29	0.29	0.17	3.41	9.98	7.22	8.67	11.30	15.19	17.22	17.53	19.10	19.61	17.77	0.2	0.2	0.2	0.1	0.3	0.3	0.4	0.4	0.4	0.3	0.1
	Autumn	0.30	0.26	0.42	0.30	0.43	0.54	0.48	0.50	0.42	0.41	0.46	7.80	10.03	10.33	14.28	16.31	22.17	22.51	22.44	20.80	20.34	23.78	0.5	0.5	0.5	0.1	0.3	0.3	0.1	0.1	0.2	0.2	0.5
2022	Annual	0.54	0.81	0.74	0.78	0.92	1.04	1.01	0.98	0.85	0.81	0.74	15.01	28.97	24.78	30.99	38.74	47.99	50.06	51.40	49.93	49.75	51.78	0.6	0.6	0.6	0.4	0.6	0.5	0.5	0.4	0.4	0.4	0.6
	Winter	0.10	0.23	0.16	0.19	0.11	0.13	0.14	0.13	0.08	0.05	0.12	1.24	3.82	2.71	1.81	3.84	4.84	5.08	4.07	2.38	1.31	1.74	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.3
	Spring	0.33	0.64	0.54	0.67	0.66	0.67	0.62	0.61	0.54	0.56	0.41	7.72	20.59	17.34	22.46	28.74	30.13	31.38	33.46	32.92	34.98	34.88	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
	Summer	0.04	0.14	0.11	0.27	0.22	0.26	0.25	0.25	0.24	0.25	0.20	3.56	6.30	4.94	10.30	11.03	13.45	14.20	15.86	15.98	17.58	15.92	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2
	Autumn	0.31	0.30	0.33	0.20	0.41	0.53	0.54	0.52	0.43	0.38	0.43	9.95	13.41	11.81	13.15	16.36	25.39	26.37	25.54	24.22	21.72	24.73	0.4	0.2	0.3	0.1	0.4	0.3	0.2	0.2	0.2	0.2	0.4
2023	Annual	0.60	0.88	0.83	0.82	0.97	1.20	1.03	1.05	0.93	0.85	0.72	17.78	33.27	31.95	38.29	45.98	50.05	48.52	51.81	50.67	48.40	48.59	1.0	0.9	0.9	0.6	0.9	0.9	0.8	0.8	0.7	0.7	0.7
	Winter	0.18	0.12	0.18	0.14	0.17	0.23	0.23	0.24	0.16	0.16	0.04	1.39	4.46	3.28	3.96	8.00	6.14	6.44	6.32	3.85	4.33	2.20	0.5	0.4	0.4	0.3	0.7	0.5	0.4	0.4	0.4	0.3	0.3
	Spring	0.22	0.58	0.50	0.70	0.60	0.67	0.53	0.54	0.54	0.50	0.46	10.05	24.36	24.13	31.68	37.60	30.12	29.08	32.10	34.22	32.93	31.66	0.3	0.4	0.3	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.5
	Summer	0.16	0.12	0.06	0.42	0.13	0.22	0.15	0.16	0.19	0.18	0.18	3.57	8.76	10.34	21.65	16.83	13.81	12.69	14.95	17.76	18.65	16.01	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3

Autumn	0.47	0.48	0.49	0.19	0.57	0.75	0.69	0.70	0.56	0.49	0.39	11.27	14.99	13.28	9.49	15.75	27.82	27.33	27.70	23.57	21.32	24.11	0.8	0.5	0.6	0.4	0.8	0.5	0.5	0.4	0.4	0.4	0.2