Supplementary material

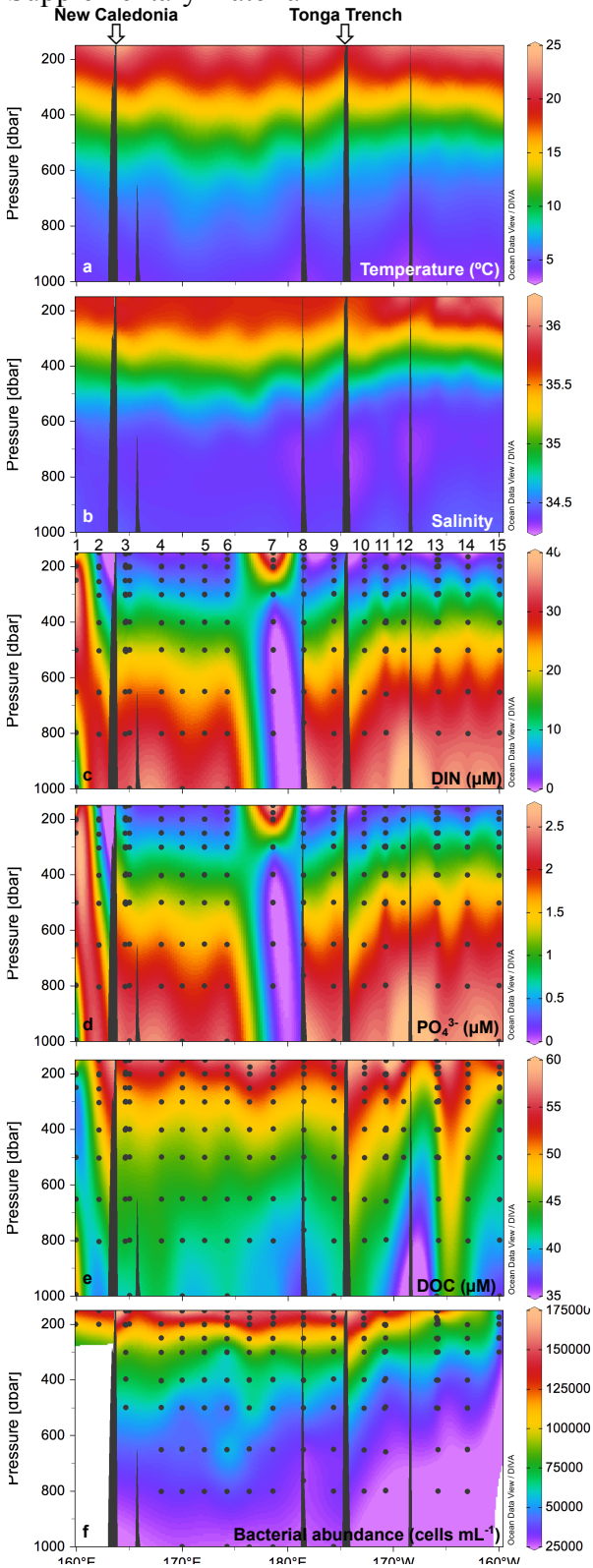

Figure S1: Longitudinal sections of (a) temperature (ºC), (b) salinity, (c) dissolved inorganic nitrogen concentrations (DIN; µM), (d) phosphate concentrations (PO_4^{3-}; µM), (e) dissolved organic carbon concentrations (DOC; µM), and (f) bacterial abundance (cells mL^{-1}). For reference, the station numbers are displayed over panel (c).

Supplementary tables

Table S1: Bonferroni-corrected Spearman correlations between environmental variables (temperature, salinity, oxygen), dissolved inorganic nitrogen (NOx) concentrations, phosphate (PO_4^{3-}) concentrations, N_2 fixation rates, the first and second principal coordinates of dissolved organic matter (DOM, explaining 87and 5 %, respectively), and the principal coordinates of *nifH* operational taxonomic units (OTUs; explaining 22.3, 14.7 and 10.9%, respectively).

Parameter	Spearman correlation	Salinity	Temperature	Oxygen	DOC	NOx	PO_4^{3-}	N_2 fixation	DOM PCo1	DOM PCo2	*nifH* OTU PCo1	*nifH* OTU PCo2	*nifH* OTU PCo3
Salinity	Coefficient	1	0.905**	0.711**	0.725**	-0.683**	-0.699**	0.284*	0.173	-0.203	-0.371	0.195	0.257
	Significance	.	0	0	0	0	0	0.029	0.454	0.434	0.468	0.362	0.623
Temperature	Coefficient		1	0.850**	0.701**	-0.830**	-0.842**	.263*	0.11	-0.279	-0.543	0.175	0.143
	Significance		.	0	0	0	0	0.045	0.634	0.277	0.266	0.414	0.787
Oxygen	Coefficient			1	.622**	-0.773**	-0.853**	0.185	0.188	-0.091	0	0.231	-0.1
	Significance			.	0	0	0	0.173	0.414	0.729	1	0.313	0.873
DOC	Coefficient				1	-0.525**	-0.564**	.269*	-0.078	-0.387	-0.6	0.101	0.371
	Significance				.	0	0	0.042	0.737	0.125	0.208	0.647	0.468
NOx	Coefficient					1	.960**	-0.054	-0.145	0.093	0.657	-0.283	0.657
	Significance					.	0	0.7	0.541	0.762	0.156	0.18	0.156
PO_4^{3-}	Coefficient						1	-0.103	-0.151	0.104	0.657	-0.287	0.657
	Significance						.	0.453	0.524	0.734	0.156	0.175	0.156
N_2 fixation	Coefficient							1	-0.356	0.083	-0.371	-0.199	0.371
	Significance							.	0.113	0.751	0.468	0.364	0.468
DOM PCo1	Coefficient								1	0.385	.	-1.000**	.
	Significance								.	0.217	.	.	.
DOM PCo2	Coefficient									1	.	.	.
	Significance									.	.	.	.
nifH OTU PCo1	Coefficient										1	.	0.6
	Significance												0.4