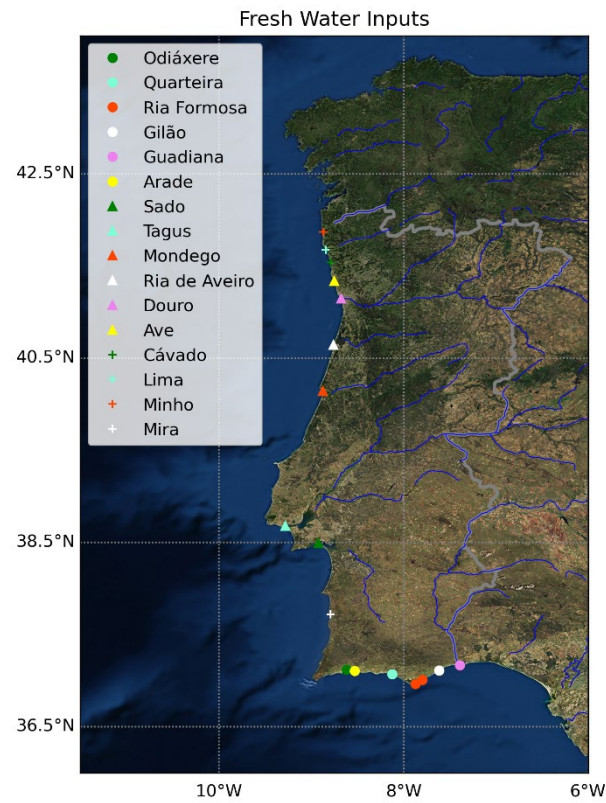


## Supplementary Materials



**Figure S1.** Rivers considered in the analysis.

**Table S1.** Coefficient of determination ( $R^2$ ) obtained by comparing the data from the different parameters with the concomitant salinity error (satellite-in situ). N corresponds to the number of matchups considered.

Parameters	Statistic	Region A	Region B	Region C	Region D	Region E	Autumn 2018	Spring 2019	Autumn 2019	All
Temperature	$R^2$	0.245	0.111	0.071	0.034	0.365	0.047	0.393	0.000	0.001
	N	138	170	38	14	226	193	184	209	586
Turbidity	$R^2$	0.093	0.152	0.175	0.012	0.029	0.004	0.03	0.097	0.056
	N	126	153	37	13	112	137	142	162	441
$PO_4$	$R^2$	0.000	0.000	0.001	0.009	0.046	0.039	0.009	0.031	0.014
	N	124	151	37	13	112	136	141	161	437
$NO_x$	$R^2$	0.032	0.003	0.109	0.003	0.040	0.002	0.007	0.030	0.001
	N	124	151	37	13	112	136	141	160	437
$SiO_2$	$R^2$	0.044	0.041	0.001	0.018	0.020	0.008	0.038	0.022	0.038
	N	126	151	37	13	112	136	162	141	439
Chlorophyll- <i>a</i>	$R^2$	0.203	0.032	0.099	0.039	0.023	0.031	0.159	0.003	0.157
	N	126	153	37	12	111	135	142	162	439
Distance to the coast	$R^2$	0.001	0.002	0.000	0.000	0.095	0.028	0.010	0.130	0.004
	N	138	170	38	14	226	193	184	195	586
Distance to the closest rivers	$R^2$	0.003	0.001	0.048	0.032	0.010	0.086	0.034	0.006	0.000
	N	138	170	38	14	226	193	184	209	586
Sea Surface Temperature error	$R^2$	0.314	0.024	0.427	0.007	0.061	0.011	0.492	0.012	0.175
	N	138	170	38	14	226	193	184	209	586