

Table SI. Temperature, salinity, density, and heat content trends for the áreas: Alboran, Cape Palos, Balearic Islands, and Northern Sector.

Alborán. Temperature trends (°C/100 yr)				
	1900-2020		1945-2020	
0-150	-0.20	[-0.51, 0.12]	-0.67	[-1.49, 0.14]
150-600	0.13	[0.05, 0.20]	0.37	[0.19, 0.55]
600 m-bottom	0.15	[0.11, 0.20]	0.34	[0.27, 0.42]
Total	0.31	[0.01, 0.62]	0.42	[0.00, 0.85]

Alborán. Salinity trends (100 yr) ⁻¹				
	1900-2020		1945-2020	
0-150	0.35	[0.24, 0.46]	0.79	[0.59, 0.99]
150-600	0.08	[0.04, 0.11]	0.23	[0.17, 0.29]
600 m-bottom	0.06	[0.05, 0.07]	0.13	[0.10, 0.15]
Total	0.06	[-0.02, 0.14]	0.33	[0.22, 0.44]

Alborán. Density trends (kg m ⁻³ /100 yr)				
	1900-2020		1945-2020	
0-150	0.29	[0.16, 0.42]	0.73	[0.49, 0.97]
150-600	0.01	[-0.04, 0.05]	0.03	[-0.07, 0.12]
600 m-bottom	0.02	[0.01, 0.02]	0.04	[0.02, 0.05]
Total	-0.07	[-0.23, 0.09]	-0.09	[-0.40, 0.21]

Alborán. Heat content trends (W/m ²)				
	1900-2020		1945-2020	
0-150	-0.02	[-0.06, 0.02]	-0.08	[-0.17, 0.02]
150-600	0.05	[0.01, 0.08]	0.13	[0.07, 0.20]
600 m-bottom	0.06	[0.03, 0.08]	0.14	[0.10, 0.18]
Total	0.07	[0.00, 0.15]	0.19	[0.05, 0.34]

Cape Palos. Temperature trends (°C/100 yr)				
	1900-2020		1945-2020	
0-150	0.34	[-0.28, 0.95]	0.86	[-0.26, 1.97]
150-600	0.05	[-0.02, 0.13]	0.22	[0.06, 0.37]
600 m-bottom	0.12	[0.07, 0.16]	0.25	[0.18, 0.33]
Total	0.41	[0.06, 0.76]	0.72	[0.18, 1.27]

Cape Palos. Salinity trends (100 yr) ⁻¹				
	1900-2020		1945-2020	
0-150	0.09	[0.00, 0.17]	0.17	[0.00, 0.34]
150-600	0.05	[0.02, 0.07]	0.13	[0.08, 0.17]
600 m-bottom	0.05	[0.04, 0.06]	0.11	[0.09, 0.13]
Total	-0.01	[-0.08, 0.07]	0.04	[-0.06, 0.15]

Cape Palos. Density trends (kg m ⁻³ /100 yr)				
	1900-2020		1945-2020	
0-150	-0.07	[-0.29, 0.15]	-0.18	[-0.59, 0.24]
150-600	0.01	[-0.03, 0.04]	0.02	[-0.05, 0.09]
600 m-bottom	0.01	[0.01, 0.02]	0.03	[0.02, 0.04]
Total	-0.13	[-0.28, 0.02]	-0.20	[-0.45, 0.06]

Cape Palos. Heat content trends (W/m ²)				
	1900-2020		1945-2020	
0-150	0.02	[-0.05, 0.10]	0.09	[-0.02, 0.19]
150-600	0.02	[-0.01, 0.06]	0.11	[0.04, 0.17]
600 m-bottom	0.16	[0.06, 0.25]	0.36	[0.20, 0.52]
Total	0.21	[0.07, 0.34]	0.54	[0.27, 0.81]

Balearic Islands. Temperature trends (°C/100 yr)				
	1900-2020		1945-2020	
0-150	0.17	[-0.26, 0.59]	0.22	[-0.69, 1.13]
150-600	0.07	[-0.02, 0.17]	0.23	[0.08, 0.39]
600 m-bottom	0.14	[0.09, 0.18]	0.29	[0.21, 0.37]
Total	0.18	[0.05, 0.32]	0.28	[0.04, 0.52]

Balearic Islands. Salinity trends (100 yr) ⁻¹				
	1900-2020		1945-2020	
0-150	0.08	[0.02, 0.14]	0.22	[0.09, 0.35]
150-600	0.03	[0.01, 0.05]	0.08	[0.03, 0.13]
600 m-bottom	0.05	[0.04, 0.07]	0.12	[0.10, 0.13]
Total	0.05	[0.03, 0.07]	0.12	[0.10, 0.15]

Balearic Islands. Density trends (kg m ⁻³ /100 yr)				
	1900-2020		1945-2020	
0-150	0.01	[-0.11, 0.13]	0.12	[-0.12, 0.36]
150-600	0.02	[0.00, 0.03]	0.04	[0.01, 0.07]
600 m-bottom	0.01	[0.01, 0.02]	0.03	[0.02, 0.04]
Total	-0.01	[-0.05, 0.03]	0.02	[-0.06, 0.09]

Balearic Islands. Heat content trends (W/m ²)				
	1900-2020		1945-2020	
0-150	0.03	[-0.03, 0.09]	0.02	[-0.13, 0.16]
150-600	0.03	[-0.01, 0.07]	0.09	[0.02, 0.17]
600 m-bottom	0.16	[0.09, 0.23]	0.36	[0.26, 0.45]
Total	0.21	[0.06, 0.36]	0.47	[0.20, 0.73]

Northern Sector. Temperature trends (°C/100 yr)				
	1900-2020		1945-2020	
0-150	0.85	[-0.02, 1.71]	1.53	[-0.30, 3.37]
150-600	0.13	[0.04, 0.22]	0.35	[0.18, 0.51]
600 m-bottom	0.11	[0.05, 0.17]	0.27	[0.16, 0.39]
Total	0.43	[0.08, 0.78]	1.01	[0.27, 1.75]

Northern Sector. Salinity trends (100 yr) ⁻¹				
	1900-2020		1945-2020	
0-150	-0.01	[-0.06, 0.03]	-0.03	[-0.13, 0.06]
150-600	0.02	[-0.02, 0.05]	0.04	[-0.03, 0.11]
600 m-bottom	0.05	[0.03, 0.07]	0.12	[0.08, 0.15]
Total	0.03	[0.00, 0.05]	0.07	[0.02, 0.11]

Northern Sector. Density trends (kg m ⁻³ /100 yr)				
	1900-2020		1945-2020	
0-150	-0.22	[-0.46, 0.02]	-0.46	[-0.95, 0.04]
150-600	-0.01	[-0.02, 0.01]	-0.02	[-0.05, 0.02]
600 m-bottom	0.01	[0.01, 0.02]	0.03	[0.02, 0.04]
Total	-0.10	[-0.21, 0.00]	-0.23	[-0.47, 0.00]

Northern Sector. Heat content trends (W/m ²)				
	1900-2020		1945-2020	
0-150	0.07	[-0.03, 0.18]	0.16	[-0.06, 0.38]
150-600	0.06	[0.01, 0.11]	0.16	[0.08, 0.25]
600 m-bottom	0.15	[0.02, 0.27]	0.36	[0.12, 0.60]
Total	0.27	[0.05, 0.50]	0.71	[0.25, 1.16]

Figure S1. Monthly time series of sea level (black line) and reconstruction by linear forward step regression on atmospheric pressure, zonal and meridional components of the wind, and thermosteric and halosteric contrinbutions to sea level (red lines). Upper plot corresponds to L'Estartit where the linear model chose all the potential predictors. Lower plot corresponds to Alicante, where the linear model only selected the atmospheric variables as potential predictors and the thermosteric and halosteric contributions were not statistically correlated to sea level.

