

Table S1. P-values from the pairwise Wilcoxon posthoc test. Mean (Tmean), maximum (Tmax) and minimum (Tmin) air temperatures were compared for the months of May, June, July and August. The sites compared were Ibiza, Spain (Ibi), Palinuro, Italy (Pal), Methoni, Greece (Met), Chania, Greece (Cha), Heraklion, Greece (Her), Mugla, Turkey (Mug), Athalassa, Cyprus (Ath), Nicosia, Cyprus (Nic) and Sirte, Libya (Sirt). Statistically significant differences are indicated at the 0.05(*) and 0.001 (**) levels.

Beaches	Tmean May	Tmax May	Tmin Min	Tmean June	Tmax June	Tmin June	Tmean July	Tmax July	Tmin July	Tmean Aug	Tmax Aug	Tmin Aug	Tmean Sept	Tmax Sept	Tmin Sept
Ibi -Pal	1	0.864	1	0.240	<0.05*	1	<0.05*	<0.05*	0.482	0.210	0.084	1	<0.001**	<0.001**	0.296
Ibi -Met	1	0.864	0.052	1	<0.05*	0.765	<0.001**	<0.001**	0.525	<0.05*	<0.001**	0.128	<0.05*	<0.05*	<0.05*
Ibi -Cha	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	<0.05*	1	1	1	0.128	1	1	1
Ibi -Her	<0.05*	<0.001**	<0.05*	<0.001**	<0.05*	<0.001**	1	0.093	0.054	<0.05*	<0.001**	1	<0.05*	<0.001**	1
Ibi -Mug	1	<0.001**	<0.001**	0.080	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**
Ibi-Ath	<0.001**	<0.001**	0.157	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	1	<0.001**	<0.001**	0.078
Ibi-Nic	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Ibi-Sirt	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	1	1	1	0.058	1	<0.001**	<0.001**	<0.001**
Pal-Met	0.710	1	1	0.720	1	0.165	1	0.088	1	1	1	1	0.058	<0.05*	1
Pal-Cha	<0.05*	<0.001**	0.669	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	0.723	0.100	1	<0.001**	<0.001**	1
Pal-Her	<0.05*	<0.001**	1	<0.001**	<0.001**	<0.001**	<0.05*	1	<0.001**	1	0.419	1	0.077	1	0.856
Pal-Mug	1	<0.001**	<0.001**	<0.05*	<0.001**	7.00E-01	<0.001**	<0.001**	0.727	<0.05*	<0.001**	*	1	<0.001**	<0.001**
Pal-Ath	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Pal-Nic	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Pal-Sirt	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.05*	<0.05*	<0.05*	0.209	0.154	<0.05*	1	<0.001**	<0.001**	<0.001**
Met-Cha	<0.001**	<0.001**	0.241	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	0.204	<0.001**	1	0.287	0.192	0.856
Met-Her	<0.05*	<0.001**	1	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	1	0.115	1	0.413	0.074
Met-Mug	1	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.001**	0.774	<0.001**	<0.001**
Met-Ath	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.174	<0.001**	<0.001**	1
Met-Nic	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Met-Sirt	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.05*	0.055	<0.05*	<0.05*	<0.001**	<0.05*	<0.001**	<0.001**	<0.001**

Cha-Her	0.291	0.130	1	<0.001**	<0.001**	1	<0.05*	<0.001**	1	0.246	<0.001**	0.128	0.542	<0.05*	1
Cha-Mug	<0.001**	0.291	<0.001**	0.080	<0.001**	<0.001**	<0.05*	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.141	<0.001**	<0.001**
Cha-Ath	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	0.103	<0.001**	<0.001**	0.250	<0.001**	<0.001**	1
Cha-Nic	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	0.091	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Cha-Sirt	<0.05*	<0.001**	<0.05*	0.720	1	0.291	1	0.233	1	0.178	0.130	<0.05*	<0.001**	<0.001**	<0.001**
Her-MU	<0.05*	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.986	<0.001**	<0.001**
Her-Ath	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	0.412
Her-Nic	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	1	<0.001**	<0.001**	1
Her-Sirt	<0.001**	<0.001**	<0.001**	<0.05*	<0.001**	0.095	1	<0.05*	1	<0.001**	<0.001**	1	<0.001**	<0.001**	<0.001**
Mug-Ath	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**
Mug-Nic	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**
Mug-Sirt	<0.001**	0.231	<0.001**	0.076	0.052	<0.001**	<0.001**	<0.001**	0.198	0.644	<0.001**	<0.001**	<0.001**	1	<0.001**
Ath-Nic	1	1	1	1	1	1	1	1	1	1	0.841	1	1	1	1
Ath-Sirt	0.481	<0.001**	<0.05*	<0.05*	<0.001**	0.902	<0.001**	<0.001**	1	<0.001**	<0.001**	1	0.542	<0.001**	<0.001**
Nic-Sirt	0.363	0.363	<0.05*	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	1	<0.001**	<0.001**	1	0.542	<0.001**	<0.001**

Fig. S1. Maximum, minimum and mean air temperatures (°C) recorded at the Balearic Islands between the 1970s and 2020 during the summer months (June, July and August). Data are represented as 10-year moving averages.

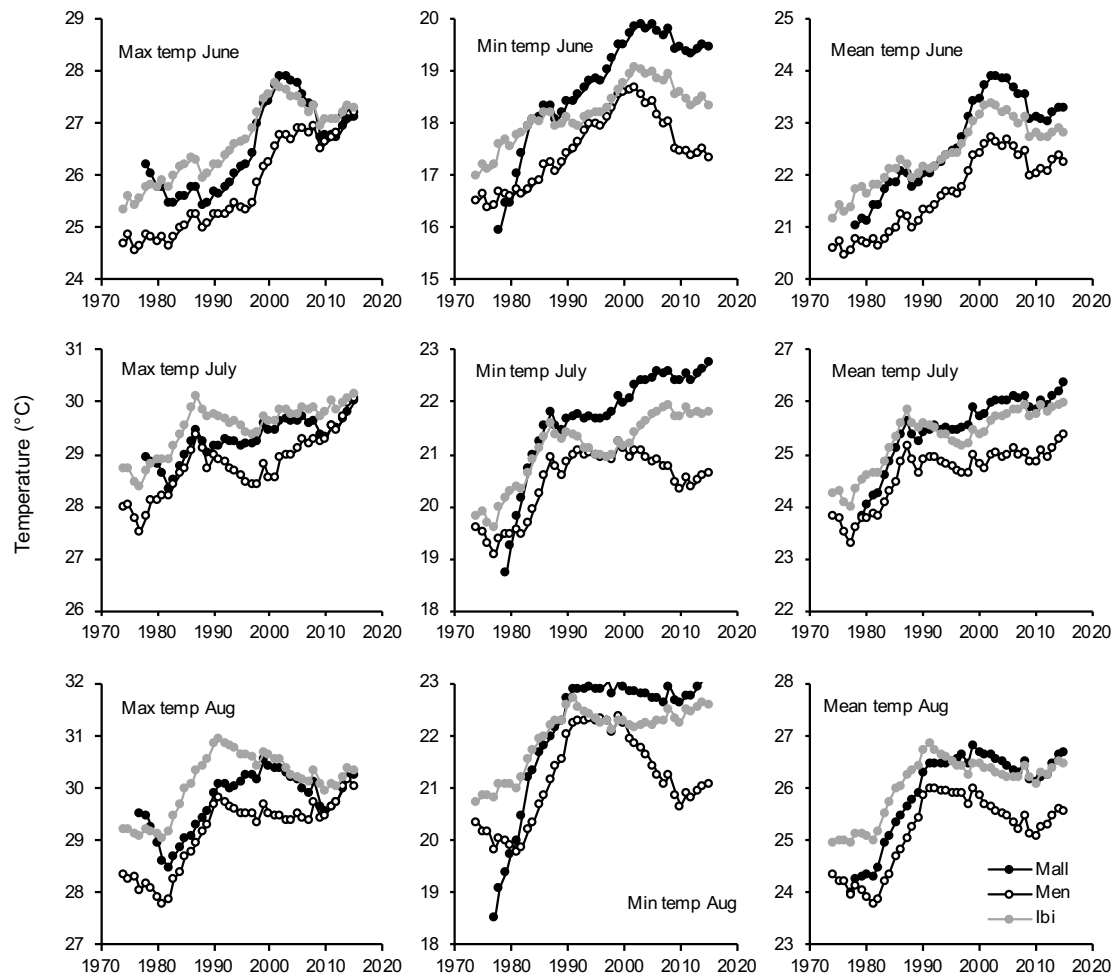


Fig. S2. Boxplot showing Sea Surface Temperatures (°C) in winter, spring, summer and fall between 1854 and 2020 around areas where loggerhead turtles have nested in Spain (SP), Italy (IT), Zakynthos/Kyparissia, Greece (GR), Crete, Greece (CR), Turkey (TU), Cyprus (CY) and Sirte, Libya (SI).

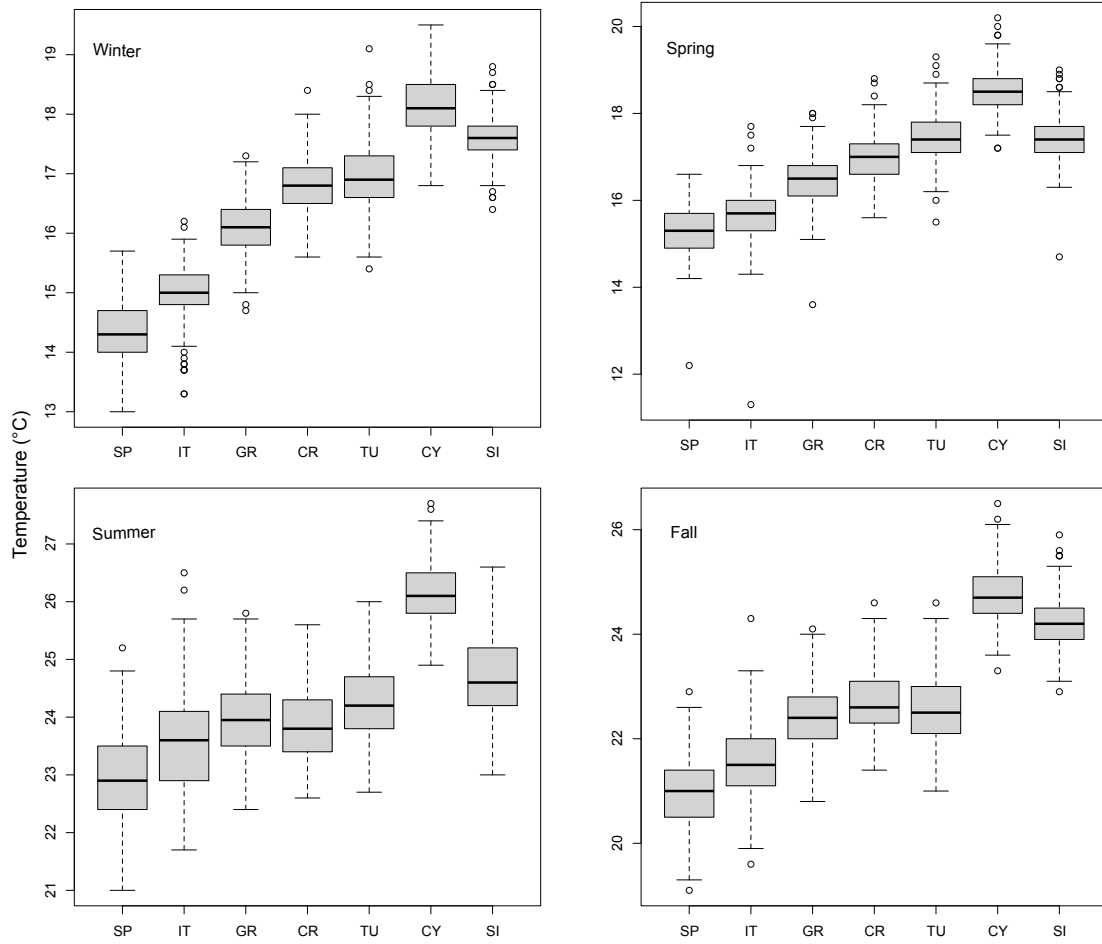


Fig. S3. Boxplot showing mean, maximum and minimum air temperatures (°C) in May, June, July, August and September from different weather stations across the Mediterranean. Stations were located at Mallorca (MA), Menorca (ME) and Ibiza (IBI), Spain, Palinuro (PA), Italy, Methoni (MET), Chania (CHA) and Heraklion (HER), Greece, Mugla (MUG), Turkey, Athalassa (ATH) and Nicosia (NIC), Cyprus and Sirte (SIR), Libya.

