

Table S1: Confusion matrix of the presence – absence classification from the two independent operators, showing number and percentage of acoustic files. Classification from operator ‘O’ was used in this study. Operator ‘E’ processed a randomly selected subset representing 20 % of each glider mission, for evaluation purposes. 95 % of the test files were correctly classified.

	O-Absence	O-Presence
E-Absence	3943 – 89 %	163 – 4 %
E-Presence	23 – 1 %	285 – 6 %

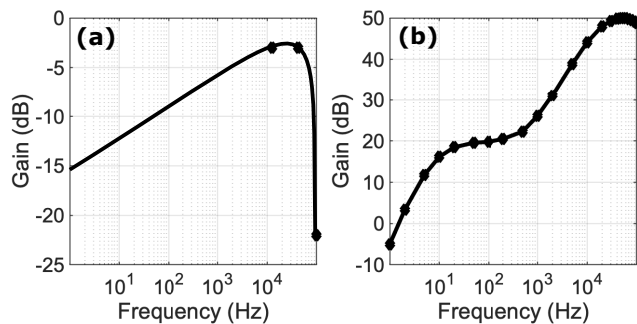


Figure S1: (a) Acousonde pre-amp filter gain as a function of frequency. Data from (Burgess, 2010). (b) WISPR pre-amp filter gain as a function of frequency, approximately equal to the inverse of typical deep-water ambient noise. Data from http://embeddocean.com/wp-content/uploads/2015/03/EOS_HM1_users_guide.pdf (Accessed 26/11/2019).

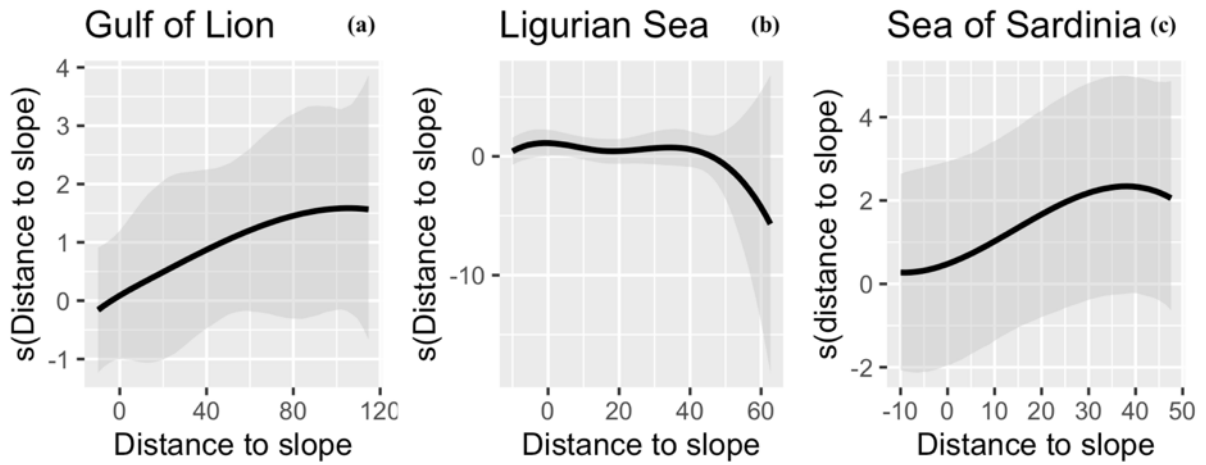


Figure S2: Sperm whale presence modelled as a smooth function of distance to the slope in (a) the Gulf of Lion ($p = 0.18$), (b) the Ligurian Sea ($p = 0.35$) and (c) the Sea of Sardinia ($p = 2.9 \times 10^{-6}$). Shaded areas represent 95 % confidence intervals.

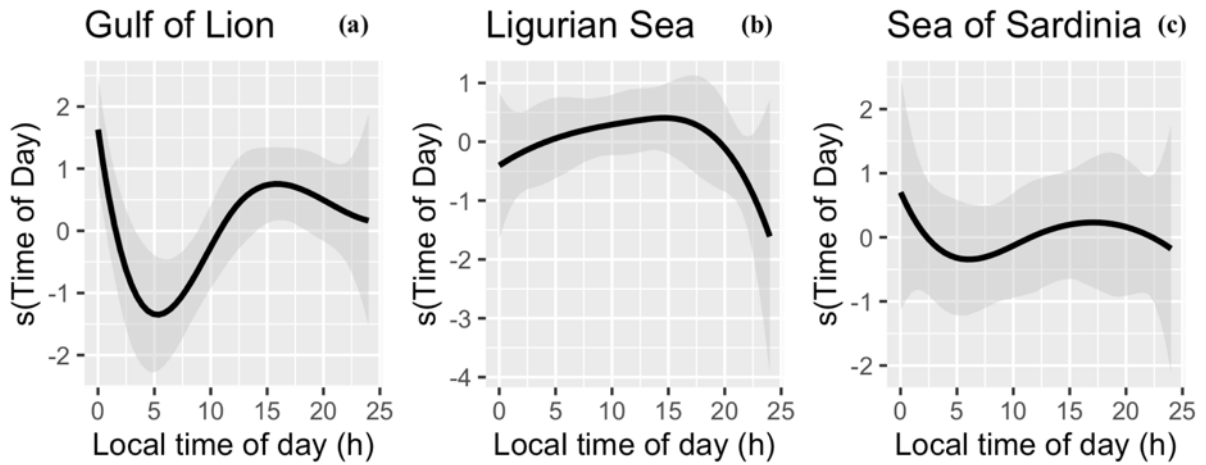


Figure S3: Sperm whale presence modelled as a smooth function of local time of day in (a) the Gulf of Lion ($p = 6.9 \times 10^{-7}$), (b) the Ligurian Sea ($p = 0.22$) and (c) the Sea of Sardinia ($p = 0.89$). Shaded areas represent 95 % confidence intervals.

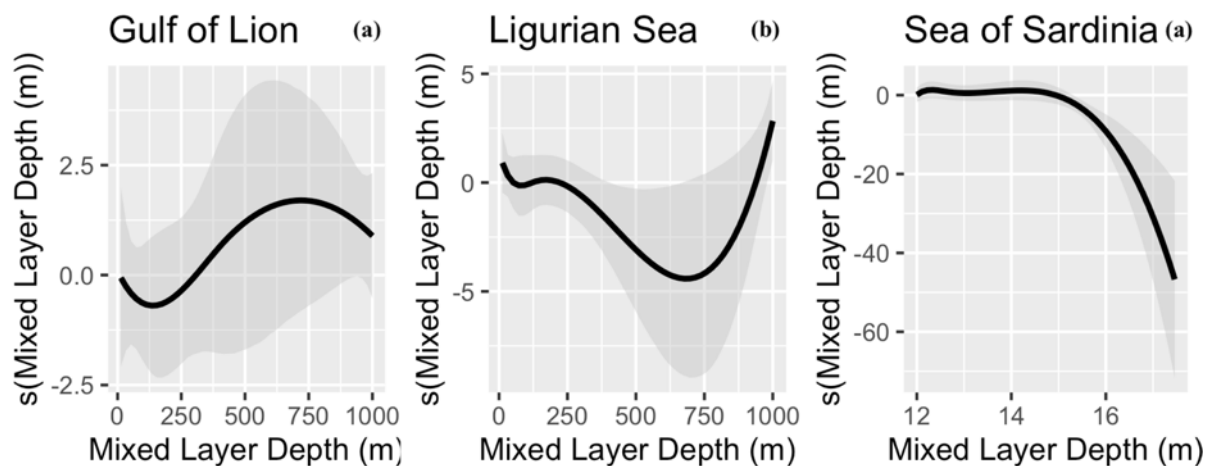


Figure S4: Sperm whale presence modelled as a smooth function of mixed layer depth in (a) the Gulf of Lion ($p = 0.08$), (b) the Ligurian Sea ($p = 0.018$) and (c) the Sea of Sardinia ($p = 2 \times 10^{-16}$). Shaded areas represent 95 % confidence intervals.