**Supplementary file 3.** Best GAM model results produced for cetacean species: a) *D. delphis,* b) *S. frontalis,* c) *S. coeruleoalba,* d) *Globicephala* sp., e) *P. macrocephalus* and f) *B. acutorostrata*. res – residuals from GAM model distance to coast ~ depth. Results extracted from R studio.

***D. delphis***:

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(day, k = 4) + s(wind, k = 4) + s(depth, k = 4) + s(slope, k
= 4) + s(res, k = 4) + s(dist_sm, k = 4) + s(sst_4km_8d, k = 4) +
s(chl_9km_m, k = 4) + s(msla_8d,k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) -4.70645    0.09223  -51.03   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
                edf Ref.df Chi.sq  p-value
s(day)        2.816  2.977  25.84 8.74e-06 ***
s(wind)       2.862  2.985  54.95 8.84e-12 ***
s(depth)      2.011  2.401 156.60 < 2e-16 ***
s(slope)      2.949  2.998  14.47 0.002004 **
s(res)        2.938  2.997  27.57 3.16e-06 ***
s(dist_sm)    2.815  2.975  16.59 0.002279 **
s(sst_4km_8d) 2.798  2.971  48.99 1.37e-10 ***
s(chl_9km_m)  1.871  2.053  33.10 4.52e-07 ***
s(msla_8d)    2.934  2.996  16.98 0.000538 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.0827   Deviance explained = 20.2%
UBRE = -0.82968  Scale est. = 1         n = 19798
```

***S. frontalis***:

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(day, k = 4) + s(lat, k = 4) + s(sea, k = 4) + s(depth, k =
4) + s(slope, k = 4) + s(dist_sm, k = 4) + s(sst_4km_8d, k = 4) +
chl_4km_m + s(msla_8d, k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept)  -4.4645     0.1143  -39.07   <2e-16 ***
CHL_4km_mo   -0.5666     0.3113   -1.82   0.0687 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Approximate significance of smooth terms:
                edf Ref.df Chi.sq  p-value
s(day)        2.545  2.877 12.410  0.00910 **
s(lat)        1.036  1.070  7.086  0.00996 **
s(sea)        2.950  2.998 25.455  1.23e-05 ***
s(depth)      2.702  2.934 31.861  6.43e-07 ***
s(slope)      2.843  2.980 11.662  0.01413 *
s(dist_sm)    2.612  2.886 19.656  0.00016 ***
s(sst_4km_8d) 2.389  2.732 35.570  6.60e-08 ***
s(msla_8d)    2.828  2.978  7.800  0.03814 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-sq.(adj) =  0.0137   Deviance explained = 7.45%
UBRE = -0.84701  Scale est. = 1         n = 19589
```

***S. coeruleoalba***:

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(day, k = 4) + s(lat, k = 4) + wind + s(vis, k = 4) + slope
+ s(dist_sm, k = 4) + s(sst_4km_m, k = 4) + chl_4km_8d + s(msla_m, k =
4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) -3.56027    0.26256 -13.560  < 2e-16 ***
wind        -0.43665    0.07726  -5.652  1.59e-08 ***
slope        0.04164    0.01746   2.384  0.01712 *
chl_4km_8d  -1.62099    0.62668  -2.587  0.00969 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Approximate significance of smooth terms:
                edf Ref.df Chi.sq  p-value
s(day)        2.280  2.643  5.980 0.074361 .
s(lat)        2.220  2.611  7.541 0.059456 .
s(vis)        2.974  2.999 39.950 1.16e-08 ***
s(dist_sm)    2.838  2.979 37.375 4.38e-08 ***
s(sst_4km_m)  2.415  2.769  5.660 0.080420 .
s(msla_m)     2.815  2.973 18.818 0.000298 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-sq.(adj) =  0.0177   Deviance explained = 10.1%
UBRE = -0.88912  Scale est. = 1         n = 17790
```

***T. truncatus***:

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(lat, k = 4) + s(wind, k = 4) + s(depth, k = 4) + s(dist_sm,
k = 4) + chl_4km_m + s(msla_m, k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept)  -5.7526     0.1427  -40.32   <2e-16 ***
chl_4km_m    -0.2204     0.1198   -1.84   0.0658 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Approximate significance of smooth terms:
                edf Ref.df Chi.sq  p-value
s(lat)        2.964  2.999  23.51 2.59e-05 ***
s(wind)       2.942  2.997  52.97 1.89e-11 ***
s(depth)      2.914  2.994  73.87 6.92e-16 ***
s(dist_sm)    2.918  2.995  14.55  0.00197 **
s(msla_m)     2.565  2.874  15.51  0.00117 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-sq.(adj) =  0.0157   Deviance explained = 12.1%
UBRE = -0.93665  Scale est. = 1         n = 22423
```

***Z. cavirostris***:

```
Family: binomial
Link function: logit

Formula:
```

```
data$PA ~ s(day, k = 4) + s(lat, k = 4) + wind + s(depth, k = 4) +
sst_9km_8d + s(msla_m, k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) -10.2708    2.4018  -4.276 1.90e-05 ***
Wind        -0.7624     0.1072  -7.115 1.12e-12 ***
sst_9km_8d   0.2599     0.1041   2.498   0.0125 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
               edf Ref.df Chi.sq  p-value
s(day)        1.855  2.276 17.430 0.000899 ***
s(lat)        2.946  2.997 16.923 0.000721 ***
s(depth)      1.296  1.523  6.466 0.026855 *
s(msla_m)     2.724  2.945 24.884  1.6e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.0162   Deviance explained = 13.9%
UBRE = -0.94585  Scale est. = 1         n = 21143
```

***Globicephala* sp.:**

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(lat, k = 4) + wind + s(depth, k = 4) + s(sst_4km_m, k = 4)
+ s(chl_4km_8d, k = 4) + s(msla_8d, k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept)  -6.0895     0.5535 -11.001  < 2e-16 ***
Wind         -0.7167     0.1516  -4.727 2.27e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
               edf Ref.df Chi.sq  p-value
s(lat)        1.885  2.280 47.164 5.57e-10 ***
s(depth)      2.807  2.971 23.779 2.63e-05 ***
s(sst_4km_m)  2.817  2.966 19.655 0.000189 ***
s(chl_4km_8d) 2.845  2.976  9.405 0.032921 *
s(msla_8d)    2.618  2.896  8.780 0.034038 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.0461   Deviance explained = 26.8%
UBRE = -0.96708  Scale est. = 1         n = 17737
```

***P. macrocephalus*:**

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(lat, k = 4) + s(wind, k = 4) + vis + s(res, k = 4) +
s(dist_sm, k = 4) + s(sst_4km_m, k = 4) + s(chl_9km_8d, k = 4) +
s(msla_8d, k = 4)

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) -7.19381    0.77912  -9.233   <2e-16 ***
Vis          0.21747    0.09304   2.337   0.0194 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Approximate significance of smooth terms:
```

```
                edf Ref.df Chi.sq  p-value
s(lat)        2.870  2.985  81.45  < 2e-16 ***
s(wind)       1.723  2.072  46.24 1.43e-10 ***
s(res)        1.637  2.009  14.36 0.000774 ***
s(dist_sm)    2.921  2.994  59.77 9.59e-13 ***
s(sst_4km_m)  2.725  2.948  23.59 0.000143 ***
s(chl_9km_8d) 2.940  2.996  26.42 7.83e-06 ***
s(msla_8d)    2.698  2.933  14.29 0.003125 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

R-sq.(adj) =  0.093   Deviance explained = 17.8%
UBRE = -0.90779  Scale est. = 1         n = 18893
```

***B. acutorostrata***:

```
Family: binomial
Link function: logit

Formula:
data$PA ~ s(day, k = 4) + s(wind, k = 4) + s(vis, k = 4) + s(depth, k =
4) + dist_sm + s(msla_8d, k = 4)

Parametric coefficients:
              Estimate Std. Error z value Pr(>|z|)
(Intercept) -5.7948083  0.1923604  -30.12   <2e-16 ***
dist_sm     -0.0020430  0.0008108   -2.52   0.0117 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
                edf Ref.df Chi.sq  p-value
s(day)        2.880  2.984 11.352  0.00909 **
s(wind)       2.734  2.949 25.679 1.21e-05 ***
s(vis)        2.435  2.773  7.642  0.02985 *
s(depth_m)    2.641  2.900 11.487  0.00861 **
s(msla_8d)    2.134  2.547  9.530  0.01425 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.00623   Deviance explained = 7.48%
UBRE = -0.94701  Scale est. = 1         n = 23494
```