**Supplementary Figures & Tables:**

**Table S1 |** Bivariate Pearson’s correlation coefficients (*r*) between all variables considered for modeling for the entire ROI. \*Variables with |*r*|> 0.8 were considered collinear and therefore not used in the same candidate models.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Slope | Distance from shore | Rugosity | Sky view factor | *C. ursinus* proximity | *P. vitulina* proximity |
| Elevation | 0.15 | 0.17 | -0.11 | 0.09 | 0.76 | 0.73 |
| Slope |  | -0.37 | 0.35 | -0.82\* | 0.29 | 0.16 |
| Distance from shore |  |  | -0.22 | 0.41 | -0.03 | 0.34 |
| Rugosity |  |  |  | -0.46 | 0.10 | -0.01 |
| Sky view factor |  |  |  |  | -0.27 | -0.06 |
| *C. ursinus* proximity |  |  |  |  |  | 0.63 |



**Figure S1 |** Variogram of residuals from a GAM generated to predict ‘Probability of *C. ursinus* occurrence’ using only terrain characteristics. A fit spherical model of semivariance (blue line) indicates spatial autocorrelation of model results over close distances (0–56.2 m), which corresponded to a Moran’s statistic standard deviate of 15.89 (*p* < 0.001).



**Figure S2 |** Variogram of residuals from a GAM generated to predict ‘Probability of *p. Vitulina* occurrence’ using only terrain characteristics. A fit spherical model of semivariance (blue line) indicates spatial autocorrelation of model results over close distances (0–82.4 m), which corresponded to a Moran’s statistic standard deviate of 8.26 (*p* < 0.001).