**SUPPLEMENTAL MATERIAL**

**Table S1.** Details of environmental variables used in species distribution models. All dynamic variables were extracted for the relevant years (2018-2020) as monthly composites and then averaged per quarter.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Product** | **Spatial res.** | **Temp. range** | **Source** |
| SST | GLOBAL\_REANALYSIS\_PHY\_001\_030 (2018), GLOBAL\_ANALYSIS\_FORECAST\_PHY\_001\_024 (2019-2020) | 0.083° × 0.083° | monthly | <https://resources.marine.copernicus.eu/product-detail/GLOBAL_REANALYSIS_PHY_001_030/INFORMATION>; <https://resources.marine.copernicus.eu/product-detail/GLOBAL_ANALYSIS_FORECAST_PHY_001_024/INFORMATION>  |
| Chlorophyll-a | OCEANCOLOUR\_GLO\_CHL\_L4\_REP\_OBSERVATIONS\_009\_093 | 4 km x 4 km | monthly | <https://resources.marine.copernicus.eu/product-detail/OCEANCOLOUR_GLO_CHL_L4_REP_OBSERVATIONS_009_093/INFORMATION>  |
| Salinity | GLOBAL\_REANALYSIS\_PHY\_001\_030 (2018), GLOBAL\_ANALYSIS\_FORECAST\_PHY\_001\_024 (2019-2020) | 0.083° × 0.083° | monthly | <https://resources.marine.copernicus.eu/product-detail/GLOBAL_REANALYSIS_PHY_001_030/INFORMATION>; <https://resources.marine.copernicus.eu/product-detail/GLOBAL_ANALYSIS_FORECAST_PHY_001_024/INFORMATION>  |
| SSH | GLOBAL\_REANALYSIS\_PHY\_001\_030 (2018), GLOBAL\_ANALYSIS\_FORECAST\_PHY\_001\_024 (2019-2020) | 0.083° × 0.083° | monthly | <https://resources.marine.copernicus.eu/product-detail/GLOBAL_REANALYSIS_PHY_001_030/INFORMATION>; <https://resources.marine.copernicus.eu/product-detail/GLOBAL_ANALYSIS_FORECAST_PHY_001_024/INFORMATION>  |
| Eastern current velocity | GLOBAL\_REANALYSIS\_PHY\_001\_030 (2018), GLOBAL\_ANALYSIS\_FORECAST\_PHY\_001\_024 (2019-2020) | 0.083° × 0.083° | monthly | <https://resources.marine.copernicus.eu/product-detail/GLOBAL_REANALYSIS_PHY_001_030/INFORMATION>; <https://resources.marine.copernicus.eu/product-detail/GLOBAL_ANALYSIS_FORECAST_PHY_001_024/INFORMATION>  |
| Northern current velocity | GLOBAL\_REANALYSIS\_PHY\_001\_030 (2018), GLOBAL\_ANALYSIS\_FORECAST\_PHY\_001\_024 (2019-2020) | 0.083° × 0.083° | monthly | <https://resources.marine.copernicus.eu/product-detail/GLOBAL_REANALYSIS_PHY_001_030/INFORMATION>; <https://resources.marine.copernicus.eu/product-detail/GLOBAL_ANALYSIS_FORECAST_PHY_001_024/INFORMATION> |
| Turbidity | OCEANCOLOUR\_GLO\_OPTICS\_L4\_NRT\_OBSERVATIONS\_009\_083 | 4 km x 4 km | Monthly | <https://resources.marine.copernicus.eu/product-detail/OCEANCOLOUR_GLO_OPTICS_L4_NRT_OBSERVATIONS_009_083/INFORMATION>  |
| Bathymetry | GEBCO\_2020 Grid | 0.004° × 0.004° | -  |  [https://download.gebco.net/](https://download.gebco.net/%20)   |
| Distance to inner shelf |  Continental margins between 140m and 3500m depth (IFREMER - COMARGE, 2009) | -  | -  | <https://www.marineregions.org/sources.php#comarge>  |
| Distance to outer shelf |  Continental margins between 140m and 3500m depth (IFREMER - COMARGE, 2009) | -  | -  | <https://www.marineregions.org/sources.php#comarge>  |

**Table S2.** Spearman correlation coefficients (*r*) between environmental variables used for species distribution models of Salvin’s Albatross and Black Petrel in Peruvian waters. *r* > 0.7 (bold) was considered as highly correlated.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Chlorophyll-a** | **Salinity** | **SSH** | **Eastern current velocity** | **Northern current velocity** | **Turbidity** | **Bathymetry** | **Distance to inner shelf** | **Distance to outer shelf** |
| **SST** | 0.05 | 0.11 | **0.72** | -0.05 | -0.13 | -0.02 | -0.26 | 0.28 | 0.04 |
| **Chlorophyll-a** |  | -0.53 | 0.02 | -0.29 | 0.29 | **0.97** | 0.61 | **-0.80** | -0.33 |
| **Salinity** |  |  | -0.13 | 0.36 | -0.23 | -0.52 | -0.45 | 0.51 | 0.10 |
| **SSH** |  |  |  | -0.25 | 0.10 | 0.00 | -0.12 | 0.21 | 0.11 |
| **Eastern current velocity** |  |  |  |  | -0.33 | -0.30 | -0.16 | 0.23 | 0.04 |
| **Northern current velocity** |  |  |  |  |  | 0.30 | 0.41 | -0.25 | 0.17 |
| **Turbidity** |  |  |  |  |  |  | 0.61 | **-0.80** | -0.34 |
| **Bathymetry** |  |  |  |  |  |  |  | -0.66 | 0.08 |
| **Distance to inner shelf** |  |  |  |  |  |  |  |  | 0.52 |