Data inputs for the 2025 CCSBT collaborative seabird risk assessment

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1. Introduction

This documents provides a summary of biological and fishery inputs stored in the sefraData repository. The sefraInputs R-package must be installed on your local machine.

2. Biological Inputs Tables

2.1. Species in risk assessment

Table 1: Species used in the 2025 CCSBT collaborative seabird risk assessment model. Species codes are from the FAO-ASFIS species list where possible (https://www.fao.org/fishery/en/species/search).

Code	Common name	Scientific name
DIW	Gibson's albatross	*Diomedea antipodensis gibsoni*
DQS	Antipodean albatross	*Diomedea antipodensis antipodensis*
DIX	Wandering albatross	*Diomedea exulans*
DBN	Tristan albatross	*Diomedea dabbenena*
DAM	Amsterdam albatross	*Diomedea amsterdamensis*
DIP	Southern royal albatross	*Diomedea epomophora*
DIQ	Northern royal albatross	*Diomedea sanfordi*
DCR	Atlantic yellow-nosed albatross	*Thalassarche chlororhynchos*
TQH	Indian yellow-nosed albatross	*Thalassarche carteri*
DIM	Black-browed albatross	*Thalassarche melanophris*
TQW	Campbell black-browed albatross	*Thalassarche impavida*
DCU	Shy albatross	*Thalassarche cauta*
TWD	New Zealand white-capped albatross	*Thalassarche cauta steadi*
DKS	Salvin's albatross	*Thalassarche salvini*
DER	Chatham Island albatross	*Thalassarche eremita*
DIC	Grey-headed albatross	*Thalassarche chrysostoma*
DSB	Southern Buller's albatross	*Thalassarche bulleri bulleri*
DNB	Northern Buller's albatross	*Thalassarche bulleri platei*
PHU	Sooty albatross	*Phoebetria fusca*
PHE	Light-mantled sooty albatross	*Phoebetria palpebrata*
PCI	Grey petrel	*Procellaria cinerea*
PRK	Black petrel	*Procellaria parkinsoni*
PCW	Westland petrel	*Procellaria westlandica*
PRO	White-chinned petrel	*Procellaria aequinoctialis*
PCN	Spectacled petrel	*Procellaria conspicillata*

2.2. Fixed input covariate probabilities

Table 2: Proportion of breeding adults on nest by month ($P^{nest}_{s,m}$). Darker shaded cells indicate a higher probability.

Common name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gibson's albatross	0.50	0.50	0.50	0.40	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.22
Antipodean albatross	0.40	0.50	0.45	0.45	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.20
Wandering albatross	0.50	0.50	0.40	0.20	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.40
Tristan albatross	0.60	0.50	0.50	0.50	0.30	0.30	0.05	0.05	0.05	0.05	0.05	0.40
Amsterdam albatross	0.05	0.40	0.50	0.50	0.40	0.30	0.05	0.05	0.05	0.05	0.05	0.05
Southern royal albatross	0.50	0.50	0.40	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.40	0.50
Northern royal albatross	0.50	0.40	0.30	0.05	0.05	0.05	0.05	0.05	0.00	0.40	0.50	0.50
Atlantic yellow-nosed albatross	0.30	0.20	0.10	0.05	0.00	0.00	0.00	0.50	0.60	0.50	0.50	0.50
Indian yellow-nosed albatross	0.20	0.10	0.05	0.05	0.00	0.00	0.00	0.10	0.50	0.50	0.40	0.40
Black-browed albatross	0.20	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.40	0.50	0.50	0.40
Campbell black-browed albatross	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.20	0.50	0.50	0.40	0.30
Shy albatross	0.10	0.05	0.05	0.05	0.05	0.05	0.10	0.10	0.50	0.50	0.40	0.40
New Zealand white-capped albatross	0.40	0.10	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.25	0.50	0.50
Salvin's albatross	0.05	0.05	0.05	0.00	0.00	0.00	0.10	0.30	0.50	0.50	0.40	0.10
Chatham Island albatross	0.10	0.05	0.05	0.05	0.00	0.00	0.20	0.40	0.50	0.50	0.40	0.30
Grey-headed albatross	0.30	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.10	0.50	0.50	0.40
Southern Buller's albatross	0.20	0.50	0.45	0.30	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00
Northern Buller's albatross	0.45	0.40	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.40	0.50
Sooty albatross	0.20	0.05	0.05	0.05	0.05	0.00	0.00	0.50	0.70	0.70	0.50	0.50
Light-mantled sooty albatross	0.40	0.10	0.05	0.05	0.05	0.05	0.00	0.00	0.10	0.50	0.50	0.40
Grey petrel	0.00	0.50	0.50	0.50	0.40	0.30	0.05	0.05	0.05	0.05	0.05	0.00
Black petrel	0.50	0.40	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.30	0.50
Westland petrel	0.00	0.15	0.30	0.40	0.50	0.50	0.45	0.40	0.05	0.05	0.05	0.00
White-chinned petrel	0.40	0.30	0.05	0.05	0.00	0.00	0.00	0.00	0.30	0.40	0.50	0.50
Spectacled petrel	0.10	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.40	0.30

Table 3: Proportion of adults in the southern hemisphere by month ($P^{SH}_{s,m}$). Darker shaded cells indicate a higher probability.

Common name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gibson's albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Antipodean albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wandering albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Tristan albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Amsterdam albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Southern royal albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Northern royal albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Atlantic yellow-nosed albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Indian yellow-nosed albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Black-browed albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Campbell black-browed albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Shy albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
New Zealand white-capped albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Salvin's albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Chatham Island albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grey-headed albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Southern Buller's albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Northern Buller's albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sooty albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Light-mantled sooty albatross	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grey petrel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Black petrel	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.80	0.80	1.00	1.00
Westland petrel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
White-chinned petrel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Spectacled petrel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.3. Prior distributions of demographic parameters

Table 4: Prior distributions for numbers of breeding pairs (N_s^{BP}).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	log-normal	4425.00	0.050
Antipodean albatross	log-normal	3383.00	0.050
Wandering albatross	log-normal	10130.00	0.050
Tristan albatross	weibull	9.25	1710
Amsterdam albatross	log-normal	60.00	0.100
Southern royal albatross	log-normal	5814.00	0.070
Northern royal albatross	log-normal	4261.00	0.110
Atlantic yellow-nosed albatross	log-normal	26800.00	0.100
Indian yellow-nosed albatross	log-normal	33988.00	0.100
Black-browed albatross	log-normal	670960.00	0.050
Campbell black-browed albatross	log-normal	14129.00	0.050
Shy albatross	log-normal	15335.00	0.100
New Zealand white-capped albatross	log-normal	85820.00	0.120
Salvin's albatross	log-normal	35242.00	0.050
Chatham Island albatross	log-normal	5294.00	0.010
Grey-headed albatross	log-normal	63055.00	0.050
Southern Buller's albatross	log-normal	13493.00	0.050
Northern Buller's albatross	log-normal	19354.00	0.050
Sooty albatross	weibull	23.20	13660
Light-mantled sooty albatross	log-normal	20927.00	0.100
Grey petrel	log-normal	105617.00	0.150
Black petrel	log-normal	5456.00	0.057
Westland petrel	log-normal	6223.00	0.061
White-chinned petrel	log-normal	1317300.00	0.100
Spectacled petrel	log-normal	42000.00	0.096

Table 5: Prior distributions for proportion of adults breeding (P_s^B).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	beta	0.595	170.00
Antipodean albatross	beta	0.450	91.30
Wandering albatross	logit-normal	0.494	0.05
Tristan albatross	beta	0.349	51.30
Amsterdam albatross	logit-normal	0.600	0.05
Southern royal albatross	beta	0.531	22.20
Northern royal albatross	beta	0.531	22.20
Atlantic yellow-nosed albatross	beta	0.596	4100.00
Indian yellow-nosed albatross	logit-normal	0.596	0.05
Black-browed albatross	beta	0.844	174.00
Campbell black-browed albatross	logit-normal	0.900	0.05
Shy albatross	logit-normal	0.747	0.05
New Zealand white-capped albatross	beta	0.680	63.90
Salvin's albatross	beta	0.821	29.70
Chatham Island albatross	logit-normal	0.773	0.05
Grey-headed albatross	beta	0.406	17.50
Southern Buller's albatross	beta	0.804	34.90
Northern Buller's albatross	logit-normal	0.800	0.05
Sooty albatross	logit-normal	0.730	0.05
Light-mantled sooty albatross	beta	0.730	15.80
Grey petrel	logit-normal	0.900	0.05
Black petrel	beta	0.610	143.00
Westland petrel	beta	0.480	45.40
White-chinned petrel	logit-normal	0.750	0.05
Spectacled petrel	logit-normal	0.797	0.05

Table 6: Prior distributions for current age at first reproduction (A_s^{curr}).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	log-normal	11.90	0.165
Antipodean albatross	log-normal	13.90	0.142
Wandering albatross	log-normal	9.91	0.150
Tristan albatross	log-normal	9.18	0.177
Amsterdam albatross	log-normal	9.91	0.150
Southern royal albatross	log-normal	9.19	0.189
Northern royal albatross	log-normal	8.90	0.023
Atlantic yellow-nosed albatross	log-normal	8.90	0.165
Indian yellow-nosed albatross	log-normal	8.90	0.165
Black-browed albatross	log-normal	9.91	0.150
Campbell black-browed albatross	log-normal	9.19	0.189
Shy albatross	log-normal	8.82	0.206
New Zealand white-capped albatross	log-normal	8.82	0.206
Salvin's albatross	log-normal	11.20	0.145
Chatham Island albatross	log-normal	9.90	0.118
Grey-headed albatross	log-normal	12.90	0.116
Southern Buller's albatross	log-normal	11.90	0.125
Northern Buller's albatross	log-normal	11.90	0.125
Sooty albatross	log-normal	9.20	0.189
Light-mantled sooty albatross	log-normal	9.20	0.189
Grey petrel	log-normal	6.94	0.142
Black petrel	log-normal	7.40	0.031
Westland petrel	log-normal	6.95	0.160
White-chinned petrel	log-normal	6.59	0.178
Spectacled petrel	log-normal	6.59	0.178

Table 7: Prior distributions for optimum age at first reproduction (A_s^{opt}).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	log-normal	11.90	0.165
Antipodean albatross	log-normal	13.90	0.142
Wandering albatross	log-normal	9.91	0.150
Tristan albatross	log-normal	9.18	0.177
Amsterdam albatross	log-normal	9.91	0.150
Southern royal albatross	log-normal	9.19	0.189
Northern royal albatross	log-normal	8.90	0.023
Atlantic yellow-nosed albatross	log-normal	8.90	0.165
Indian yellow-nosed albatross	log-normal	8.90	0.165
Black-browed albatross	log-normal	9.91	0.150
Campbell black-browed albatross	log-normal	9.19	0.189
Shy albatross	log-normal	8.82	0.206
New Zealand white-capped albatross	log-normal	8.82	0.206
Salvin's albatross	log-normal	11.20	0.145
Chatham Island albatross	log-normal	9.90	0.118
Grey-headed albatross	log-normal	12.90	0.116
Southern Buller's albatross	log-normal	11.90	0.125
Northern Buller's albatross	log-normal	11.90	0.125
Sooty albatross	log-normal	9.20	0.189
Light-mantled sooty albatross	log-normal	9.20	0.189
Grey petrel	log-normal	6.94	0.142
Black petrel	log-normal	7.40	0.031
Westland petrel	log-normal	6.95	0.160
White-chinned petrel	log-normal	6.59	0.178
Spectacled petrel	log-normal	6.59	0.178

Table 8: Prior distributions for current adult survival rate (S_s^{curr}).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	beta	0.912	5.99e+01
Antipodean albatross	beta	0.907	1.38e+02
Wandering albatross	beta	0.918	1.59e+02
Tristan albatross	beta	0.948	1.23e+03
Amsterdam albatross	logit-normal	0.971	1.00e-03
Southern royal albatross	beta	0.920	1.38e+02
Northern royal albatross	beta	0.950	2.26e+03
Atlantic yellow-nosed albatross	beta	0.923	1.47e+03
Indian yellow-nosed albatross	logit-normal	0.902	2.00e-02
Black-browed albatross	beta	0.931	1.47e+02
Campbell black-browed albatross	logit-normal	0.945	7.00e-03
Shy albatross	beta	0.961	1.79e+03
New Zealand white-capped albatross	logit-normal	0.920	1.00e-02
Salvin's albatross	beta	0.951	9.00e+00
Chatham Island albatross	logit-normal	0.925	3.00e-02
Grey-headed albatross	beta	0.950	9.64e+01
Southern Buller's albatross	beta	0.891	1.06e+02
Northern Buller's albatross	logit-normal	0.925	2.50e-02
Sooty albatross	logit-normal	0.920	2.50e-02
Light-mantled sooty albatross	beta	0.930	1.03e+04
Grey petrel	logit-normal	0.897	2.50e-02
Black petrel	beta	0.864	2.15e+03
Westland petrel	beta	0.954	1.90e+02
White-chinned petrel	logit-normal	0.874	2.00e-02
Spectacled petrel	logit-normal	0.874	2.50e-02

Table 9: Prior distributions for optimum adult survival rate (S_s^{opt}).

Common name	Distribution	Parameter a	Parameter b
Gibson's albatross	uniform	0.950	0.980
Antipodean albatross	uniform	0.950	0.980
Wandering albatross	uniform	0.950	0.980
Tristan albatross	uniform	0.950	0.980
Amsterdam albatross	uniform	0.950	0.980
Southern royal albatross	uniform	0.950	0.980
Northern royal albatross	uniform	0.950	0.980
Atlantic yellow-nosed albatross	uniform	0.930	0.970
Indian yellow-nosed albatross	uniform	0.930	0.970
Black-browed albatross	uniform	0.930	0.970
Campbell black-browed albatross	uniform	0.930	0.970
Shy albatross	uniform	0.935	0.975
New Zealand white-capped albatross	uniform	0.935	0.975
Salvin's albatross	uniform	0.935	0.975
Chatham Island albatross	uniform	0.935	0.975
Grey-headed albatross	uniform	0.950	0.980
Southern Buller's albatross	uniform	0.930	0.970
Northern Buller's albatross	uniform	0.930	0.970
Sooty albatross	uniform	0.950	0.980
Light-mantled sooty albatross	uniform	0.950	0.980
Grey petrel	uniform	0.920	0.950
Black petrel	uniform	0.920	0.950
Westland petrel	uniform	0.930	0.960
White-chinned petrel	uniform	0.920	0.950
Spectacled petrel	uniform	0.920	0.950

2.4. Summary statistics for prior distributions of demographic parameters

Table 10: Prior values for the annual number of breeding pairs (N_s^{BP}), proportion of adults breeding (P_s^B), age at first reproduction (A_s^{curr}), and optimum survivorship (S_s^{opt}), simulated from distributions listed in Table 4, 5, 6, and 9.

		N_s^{BP}		P_s^B		A_s^{curr}		S_s^{opt}	
Code	Common name	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI
DIW	Gibson's albatross	4 421	4 000-4 864	0.60	0.52-0.67	11.9	8.5-16.1	0.96	0.95-0.98
DQS	Antipodean albatross	3 381	3 065-3 725	0.45	0.35-0.55	13.9	10.5-18.2	0.97	0.95-0.98
DIX	Wandering albatross	10 131	9 175-11 134	0.49	0.40-0.59	9.9	7.3-13.3	0.97	0.95-0.98
DBN	Tristan albatross	1 623	1 146-1 973	0.35	0.23-0.48	9.2	6.5-12.7	0.96	0.95-0.98
DAM	Amsterdam albatross	60	49-73	0.60	0.50-0.69	9.9	7.3-13.2	0.96	0.95-0.98
DIP	Southern royal albatross	5 818	5 043-6 653	0.53	0.33-0.72	9.2	6.2-13.0	0.96	0.95-0.98
DIQ	Northern royal albatross	4 257	3 413-5 239	0.53	0.33-0.73	8.9	8.5-9.3	0.97	0.95-0.98
DCR	Atlantic yellow-nosed albatross	26 808	22 001-32 403	0.60	0.58-0.61	8.9	6.4-12.2	0.95	0.93-0.97
TQH	Indian yellow-nosed albatross	34 002	27 855-41 039	0.60	0.49-0.69	8.9	6.3-12.1	0.95	0.93-0.97
DIM	Black-browed albatross	671 369	607 619-738 568	0.84	0.79-0.89	9.9	7.3-13.1	0.95	0.93-0.97
TQW	Campbell black-browed albatross	14 119	12 768-15 549	0.89	0.75-0.96	9.2	6.2-13.1	0.95	0.93-0.97
DCU	Shy albatross	15 339	12 529-18 518	0.74	0.64-0.83	8.8	5.8-13.0	0.95	0.94-0.97
TWD	New Zealand white-capped albatross	85 808	67 480-107 569	0.68	0.56-0.79	8.8	5.8-13.0	0.95	0.94-0.97
DKS	Salvin's albatross	35 238	31 960-38 794	0.82	0.67-0.94	11.2	8.4-14.7	0.95	0.94-0.97
DER	Chatham Island albatross	5 294	5 188-5 400	0.77	0.66-0.86	9.9	7.8-12.3	0.96	0.94-0.97
DIC	Grey-headed albatross	63 034	57 057-69 504	0.41	0.19-0.63	12.9	10.2-16.1	0.96	0.95-0.98
DSB	Southern Buller's albatross	13 499	12 211-14 878	0.80	0.66-0.92	11.9	9.2-15.1	0.95	0.93-0.97
DNB	Northern Buller's albatross	19 362	17 529-21 341	0.80	0.69-0.88	11.9	9.3-15.1	0.95	0.93-0.97
PHU	Sooty albatross	13 359	11 705-14 451	0.73	0.62-0.82	9.2	6.3-13.1	0.97	0.95-0.98
PHE	Light-mantled sooty albatross	20 905	17 136-25 231	0.73	0.49-0.91	9.2	6.3-13.1	0.97	0.95-0.98
PCI	Grey petrel	105 660	77 870-140 105	0.89	0.75-0.96	6.9	5.2-9.0	0.94	0.92-0.95
PRK	Black petrel	5 458	4 873-6 083	0.61	0.53-0.69	7.4	7.0-7.9	0.93	0.92-0.95
PCW	Westland petrel	6 225	5 514-6 987	0.48	0.34-0.63	7.0	5.0-9.4	0.95	0.93-0.96
PRO	White-chinned petrel	1 316 786	1 074 335-1 593 474	0.75	0.64-0.83	6.6	4.6-9.2	0.93	0.92-0.95
PCN	Spectacled petrel	41 988	34 447-50 333	0.79	0.68-0.88	6.6	4.6-9.1	0.94	0.92-0.95

Table 11: Prior productivity estimates and population size used to estimate PST reference points for each species, assuming $\phi = 0.5$.

		N_s (thousand)		r_s		PST_s	
Code	Common name	Mean	95% CI	Mean	95% CI	Mean	95% CI
DIW	Gibson's albatross	14 909	12 750-17 458	0.04	0.03-0.05	153	109-208
DQS	Antipodean albatross	15 263	11 956-19 727	0.04	0.03-0.05	140	97-198
DIX	Wandering albatross	41 429	33 352-51 892	0.05	0.03-0.06	478	332-668
DBN	Tristan albatross	9 690	5 900-15 107	0.05	0.04-0.06	119	65-198
DAM	Amsterdam albatross	202	156-260	0.05	0.03-0.06	2	2-3
DIP	Southern royal albatross	22 877	15 534-36 179	0.05	0.04-0.07	281	165-477
DIQ	Northern royal albatross	16 704	10 850-27 135	0.05	0.04-0.06	205	126-343
DCR	Atlantic yellow-nosed albatross	89 992	73 818-108 954	0.06	0.04-0.07	1 280	896-1 768
TQH	Indian yellow-nosed albatross	115 030	88 811-147 884	0.06	0.04-0.07	1 643	1 116-2 376
DIM	Black-browed albatross	1 593 207	1 422 033-1 791 582	0.05	0.04-0.07	21 014	15 600-27 531
TQW	Campbell black-browed albatross	31 907	27 687-38 369	0.06	0.04-0.07	446	314-620
DCU	Shy albatross	41 464	32 765-52 255	0.06	0.04-0.08	575	372-846
TWD	New Zealand white-capped albatross	254 551	189 506-338 493	0.06	0.04-0.08	3 529	2 221-5 425
DKS	Salvin's albatross	86 384	72 536-107 411	0.05	0.04-0.06	1 006	720-1 382
DER	Chatham Island albatross	13 835	12 342-16 052	0.05	0.04-0.06	175	131-228
DIC	Grey-headed albatross	340 458	195 740-648 759	0.04	0.03-0.05	3 286	1 758-6 508
DSB	Southern Buller's albatross	33 852	28 455-41 829	0.05	0.04-0.06	391	288-529
DNB	Northern Buller's albatross	48 877	41 987-58 026	0.05	0.04-0.06	564	421-744
PHU	Sooty albatross	36 871	30 880-44 041	0.05	0.04-0.07	450	311-633
PHE	Light-mantled sooty albatross	58 790	42 233-88 017	0.05	0.04-0.07	720	445-1 158
PCI	Grey petrel	238 644	172 197-326 322	0.07	0.06-0.09	4 453	2 955-6 472
PRK	Black petrel	17 981	15 118-21 433	0.07	0.06-0.08	317	258-387
PCW	Westland petrel	26 630	19 309-37 730	0.07	0.05-0.09	467	308-699
PRO	White-chinned petrel	3 543 560	2 799 132-4 491 550	0.08	0.06-0.10	68 954	47 562-96 220
PCN	Spectacled petrel	106 495	84 283-133 438	0.08	0.06-0.10	2 071	1 435-2 901

3. Summaries of biological inputs by species

3.1. Gibson's albatross (*Diomedea antipodensis gibsoni*)

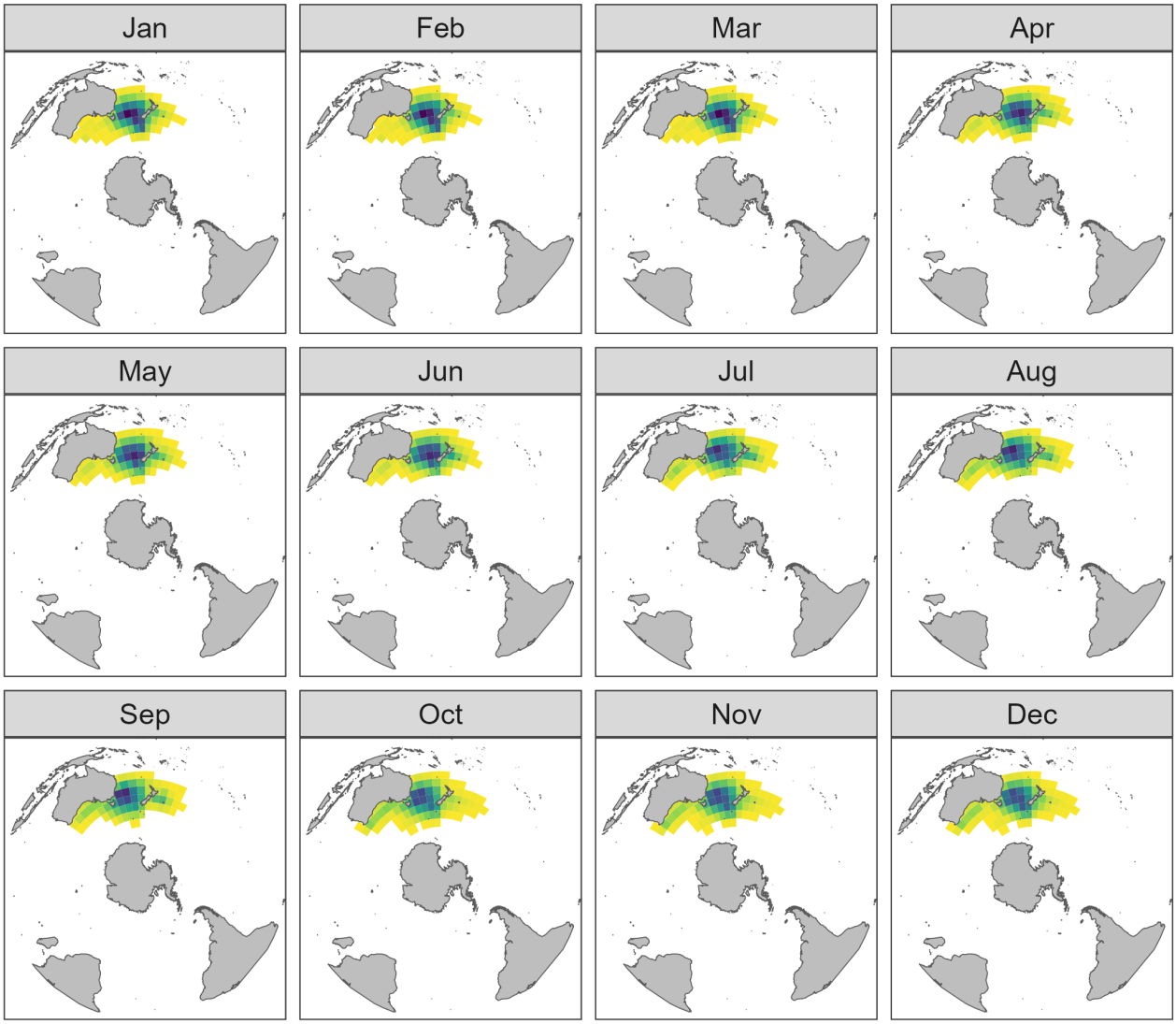

Figure 1: Relative density maps of adult Gibson's albatross (DIW) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 12: Input covariate probabilities for Gibson's albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.50
Feb	1.00	0.50
Mar	1.00	0.50
Apr	1.00	0.40
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.22

Table 13: Prior distributions of demographic parameters for Gibson's albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	4425	0.050
Proportion of adults breeding	beta	0.595	170
Age at first reproduction	log-normal	11.9	0.165
Current adult survival rate	beta	0.912	59.9
Optimal adult survival rate	uniform	0.95	0.98

Table 14: Summary statistics for prior distributions of demographic parameters for Gibson's albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	4 421	4 000-4 864	Pairs
Proportion of adults breeding	0.60	0.52-0.67	Proportion
Age at first reproduction	11.9	8.5-16.1	Years
Current adult survival rate	0.91	0.83-0.97	Proportion
Optimal adult survival rate	0.96	0.95-0.98	Proportion
Population size (adults)	14 909	12 750-17 458	Individuals

3.2. Antipodean albatross (*Diomedea antipodensis antipodensis*)

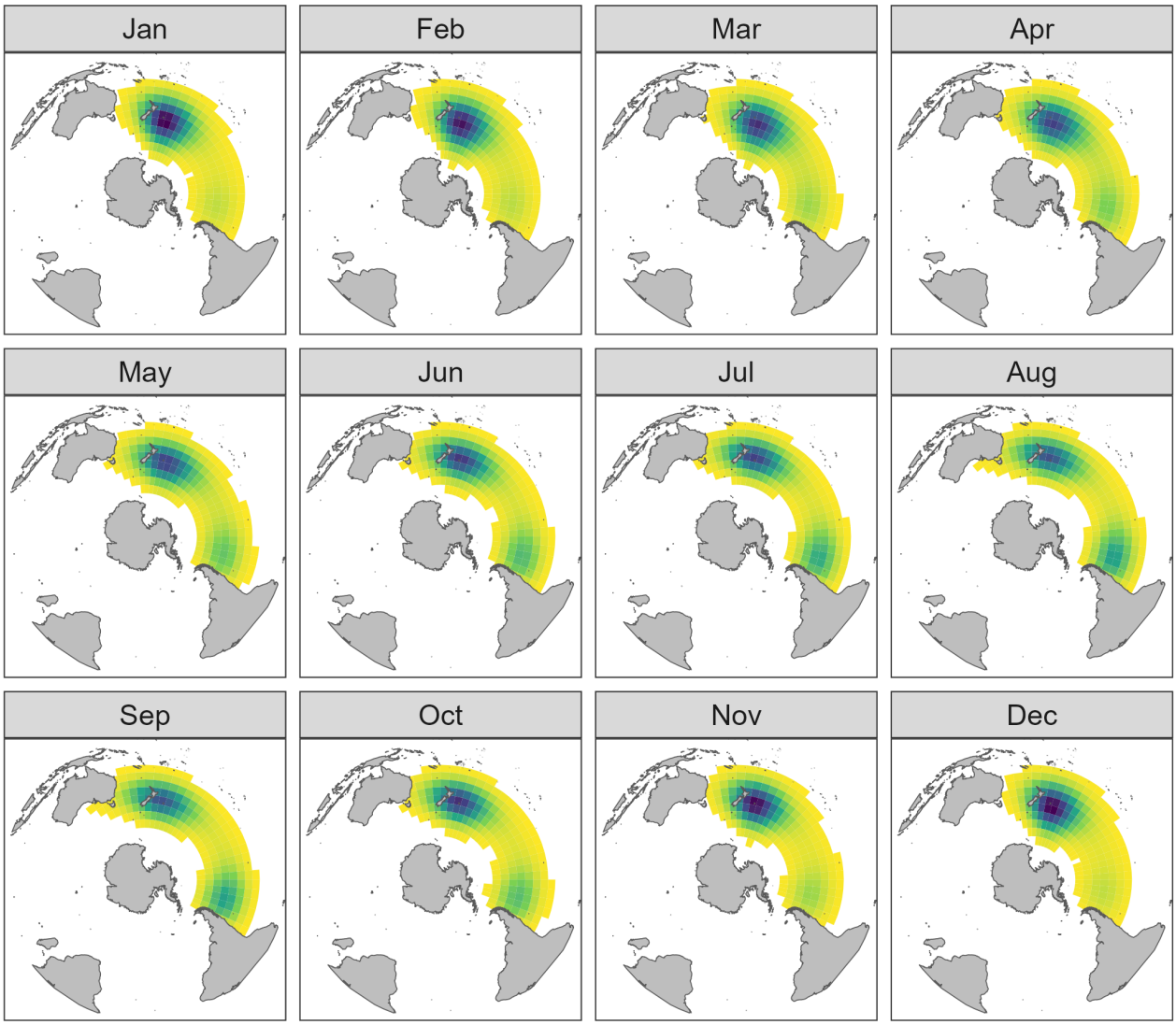

Figure 2: Relative density maps of adult Antipodean albatross (DQS) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 15: Input covariate probabilities for Antipodean albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.40
Feb	1.00	0.50
Mar	1.00	0.45
Apr	1.00	0.45
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.20

Table 16: Prior distributions of demographic parameters for Antipodean albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	3383	0.050
Proportion of adults breeding	beta	0.45	91.3
Age at first reproduction	log-normal	13.9	0.142
Current adult survival rate	beta	0.907	138
Optimal adult survival rate	uniform	0.95	0.98

Table 17: Summary statistics for prior distributions of demographic parameters for Antipodean albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	3 381	3 065-3 725	Pairs
Proportion of adults breeding	0.45	0.35-0.55	Proportion
Age at first reproduction	13.9	10.5-18.2	Years
Current adult survival rate	0.91	0.85-0.95	Proportion
Optimal adult survival rate	0.97	0.95-0.98	Proportion
Population size (adults)	15 263	11 956-19 727	Individuals

3.3. Wandering albatross (*Diomedea exulans*)

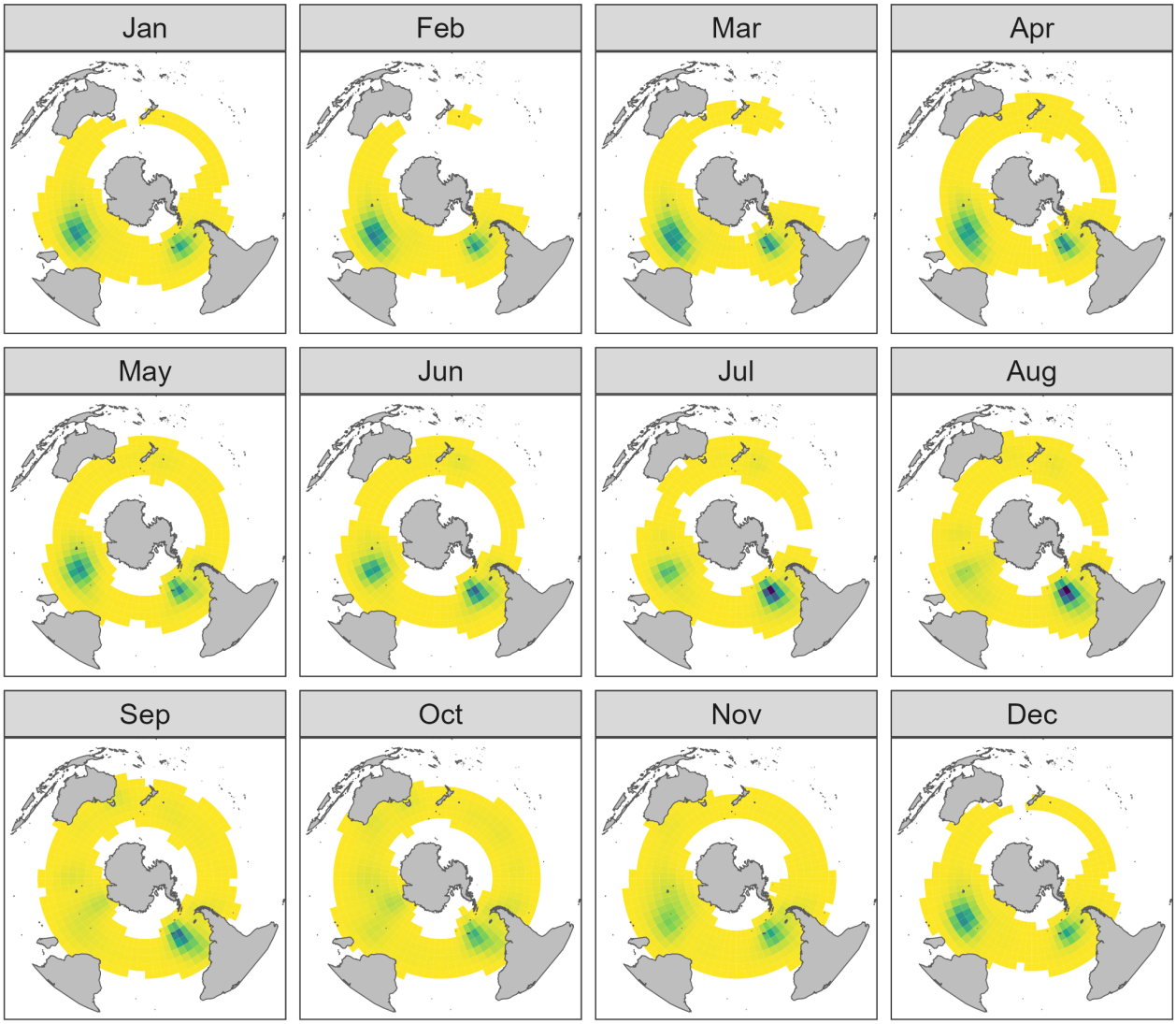

Figure 3: Relative density maps of adult Wandering albatross (DIX) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 18: Input covariate probabilities for Wandering albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.50
Feb	1.00	0.50
Mar	1.00	0.40
Apr	1.00	0.20
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.40

Table 19: Prior distributions of demographic parameters for Wandering albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.013×10^4	0.050
Proportion of adults breeding	logit-normal	0.494	0.05
Age at first reproduction	log-normal	9.91	0.15
Current adult survival rate	beta	0.918	159
Optimal adult survival rate	uniform	0.95	0.98

Table 20: Summary statistics for prior distributions of demographic parameters for Wandering albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	10 131	9 175-11 134	Pairs
Proportion of adults breeding	0.49	0.40-0.59	Proportion
Age at first reproduction	9.9	7.3-13.3	Years
Current adult survival rate	0.92	0.87-0.96	Proportion
Optimal adult survival rate	0.97	0.95-0.98	Proportion
Population size (adults)	41 429	33 352-51 892	Individuals

3.4. Tristan albatross (*Diomedea dabbenena*)

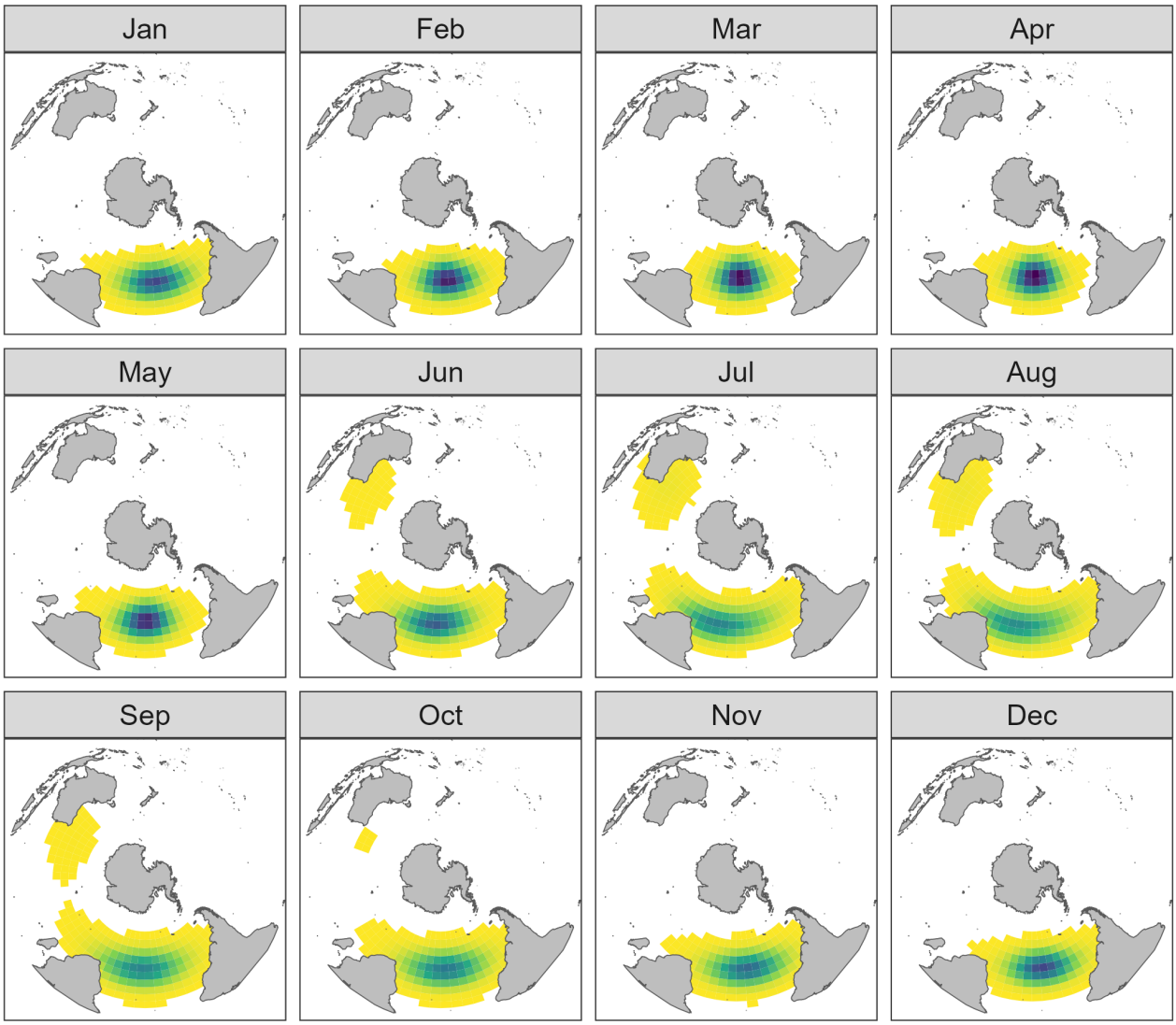

Figure 4: Relative density maps of adult Tristan albatross (DBN) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 21: Input covariate probabilities for Tristan albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.60
Feb	1.00	0.50
Mar	1.00	0.50
Apr	1.00	0.50
May	1.00	0.30
Jun	1.00	0.30
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.40

Table 22: Prior distributions of demographic parameters for Tristan albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	weibull	9.25	1710
Proportion of adults breeding	beta	0.349	51.3
Age at first reproduction	log-normal	9.18	0.177
Current adult survival rate	beta	0.948	1230
Optimal adult survival rate	uniform	0.95	0.98

Table 23: Summary statistics for prior distributions of demographic parameters for Tristan albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	1 623	1 146-1 973	Pairs
Proportion of adults breeding	0.35	0.23-0.48	Proportion
Age at first reproduction	9.2	6.5-12.7	Years
Current adult survival rate	0.95	0.93-0.96	Proportion
Optimal adult survival rate	0.96	0.95-0.98	Proportion
Population size (adults)	9 690	5 900-15 107	Individuals

3.5. Amsterdam albatross (*Diomedea amsterdamensis*)

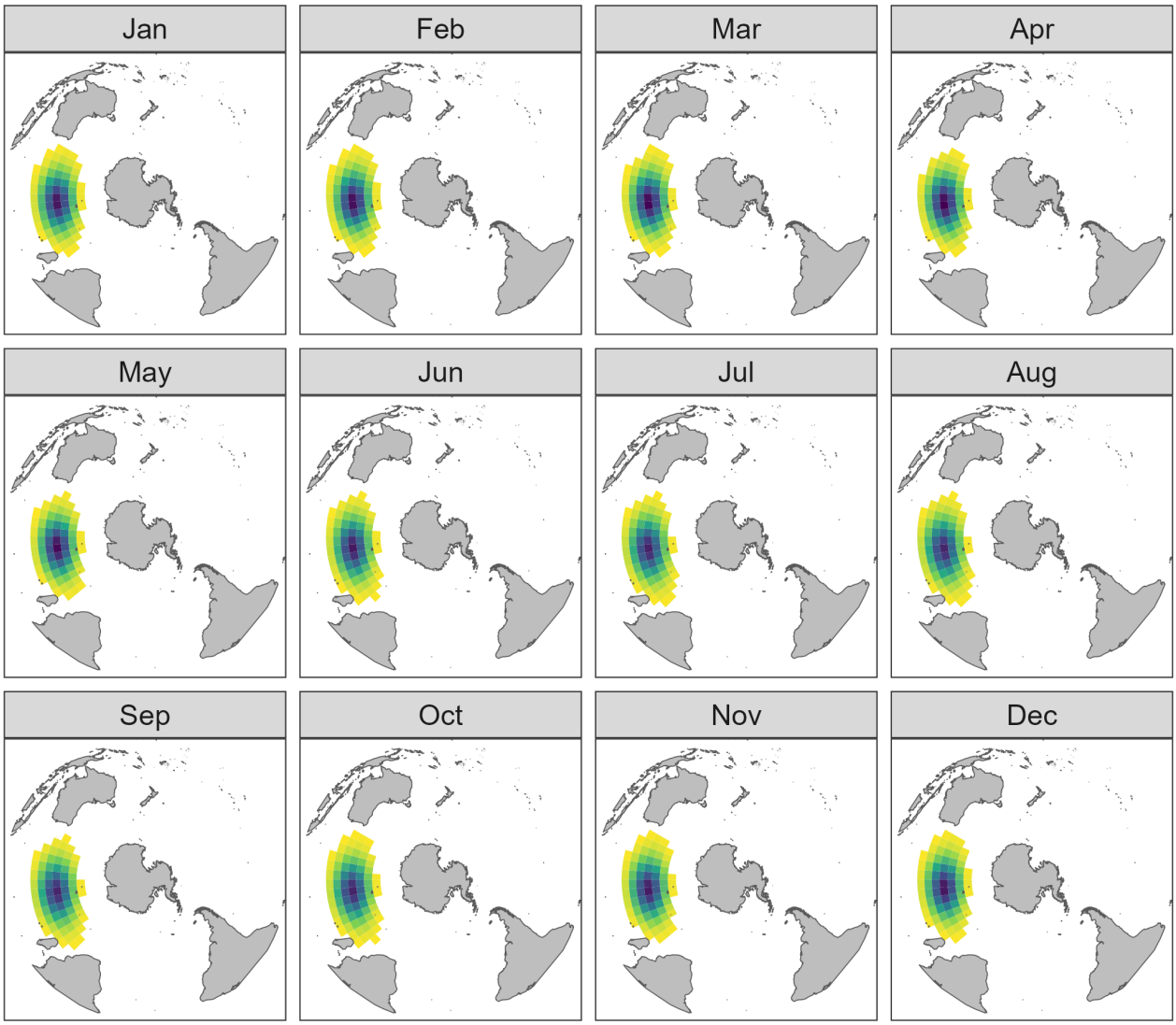

Figure 5: Relative density maps of adult Amsterdam albatross (DAM) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 24: Input covariate probabilities for Amsterdam albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.05
Feb	1.00	0.40
Mar	1.00	0.50
Apr	1.00	0.50
May	1.00	0.40
Jun	1.00	0.30
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.05

Table 25: Prior distributions of demographic parameters for Amsterdam albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	60	0.100
Proportion of adults breeding	logit-normal	0.6	0.05
Age at first reproduction	log-normal	9.91	0.15
Current adult survival rate	logit-normal	0.971	0.001
Optimal adult survival rate	uniform	0.95	0.98

Table 26: Summary statistics for prior distributions of demographic parameters for Amsterdam albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	60	49-73	Pairs
Proportion of adults breeding	0.60	0.50-0.69	Proportion
Age at first reproduction	9.9	7.3-13.2	Years
Current adult survival rate	0.97	0.97-0.97	Proportion
Optimal adult survival rate	0.96	0.95-0.98	Proportion
Population size (adults)	202	156-260	Individuals

3.6. Southern royal albatross (*Diomedea epomophora*)

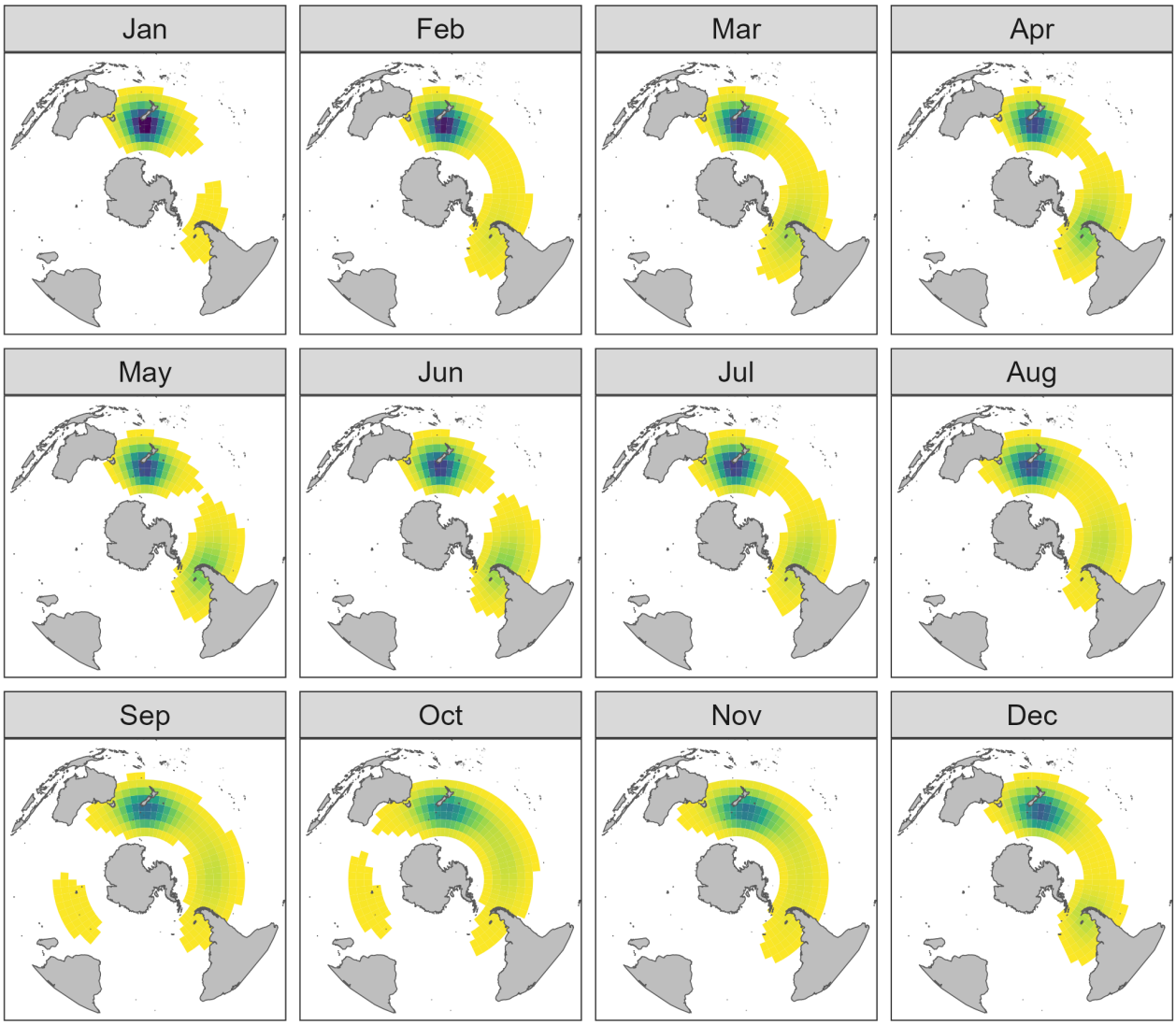

Figure 6: Relative density maps of adult Southern royal albatross (DIP) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 27: Input covariate probabilities for Southern royal albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.50
Feb	1.00	0.50
Mar	1.00	0.40
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.00
Nov	1.00	0.40
Dec	1.00	0.50

Table 28: Prior distributions of demographic parameters for Southern royal albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	5814	0.070
Proportion of adults breeding	beta	0.531	22.2
Age at first reproduction	log-normal	9.19	0.189
Current adult survival rate	beta	0.92	138
Optimal adult survival rate	uniform	0.95	0.98

Table 29: Summary statistics for prior distributions of demographic parameters for Southern royal albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	5 818	5 043-6 653	Pairs
Proportion of adults breeding	0.53	0.33-0.72	Proportion
Age at first reproduction	9.2	6.2-13.0	Years
Current adult survival rate	0.92	0.87-0.96	Proportion
Optimal adult survival rate	0.96	0.95-0.98	Proportion
Population size (adults)	22 877	15 534-36 179	Individuals

3.7. Northern royal albatross (*Diomedea sanfordi*)

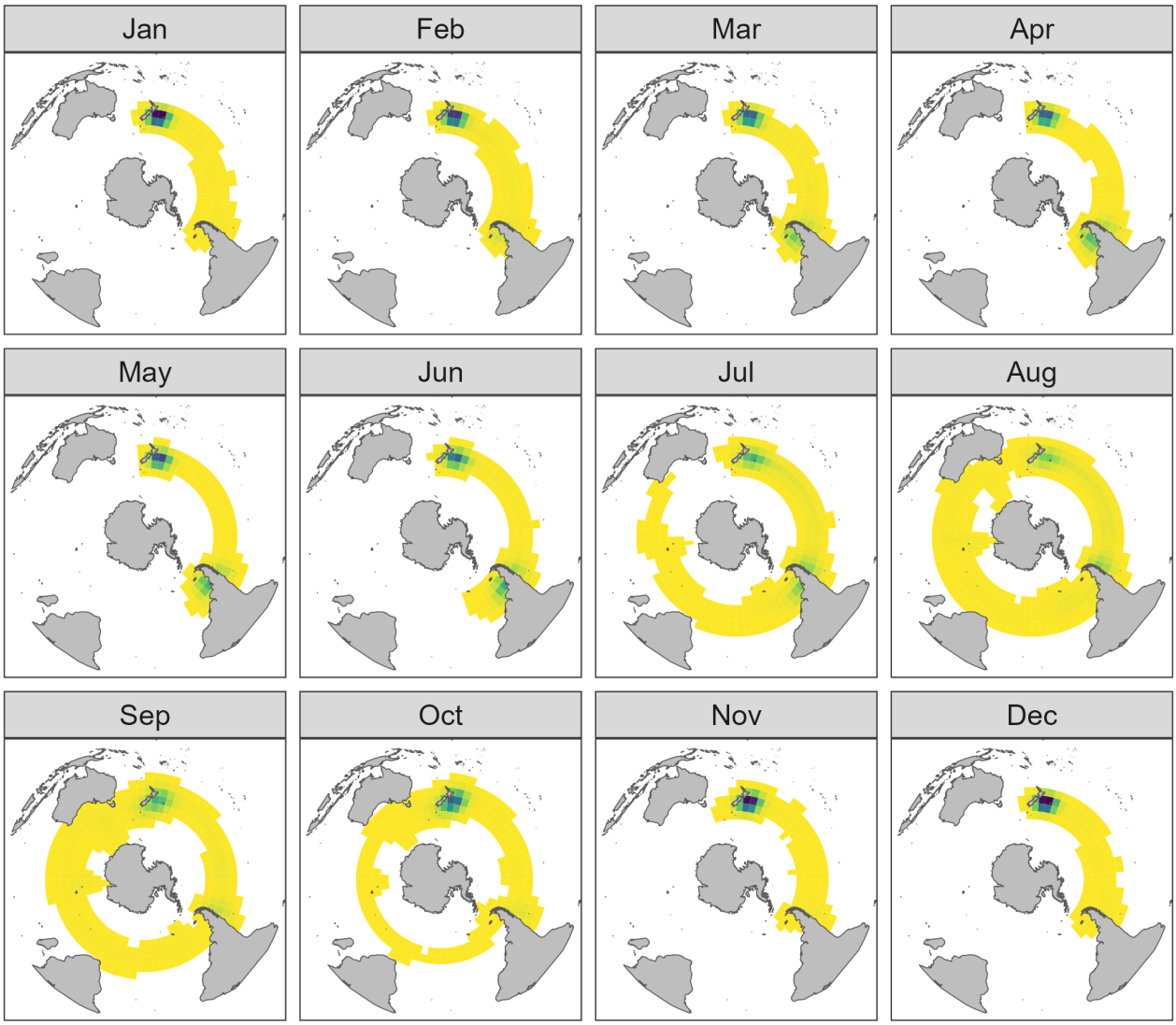

Figure 7: Relative density maps of adult Northern royal albatross (DIQ) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 30: Input covariate probabilities for Northern royal albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.50
Feb	1.00	0.40
Mar	1.00	0.30
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.00
Oct	1.00	0.40
Nov	1.00	0.50
Dec	1.00	0.50

Table 31: Prior distributions of demographic parameters for Northern royal albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	4261	0.110
Proportion of adults breeding	beta	0.531	22.2
Age at first reproduction	log-normal	8.9	0.023
Current adult survival rate	beta	0.95	2260
Optimal adult survival rate	uniform	0.95	0.98

Table 32: Summary statistics for prior distributions of demographic parameters for Northern royal albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	4 257	3 413-5 239	Pairs
Proportion of adults breeding	0.53	0.33-0.73	Proportion
Age at first reproduction	8.9	8.5-9.3	Years
Current adult survival rate	0.95	0.94-0.96	Proportion
Optimal adult survival rate	0.97	0.95-0.98	Proportion
Population size (adults)	16 704	10 850-27 135	Individuals

3.8. Atlantic yellow-nosed albatross (*Thalassarche chlororhynchos*)

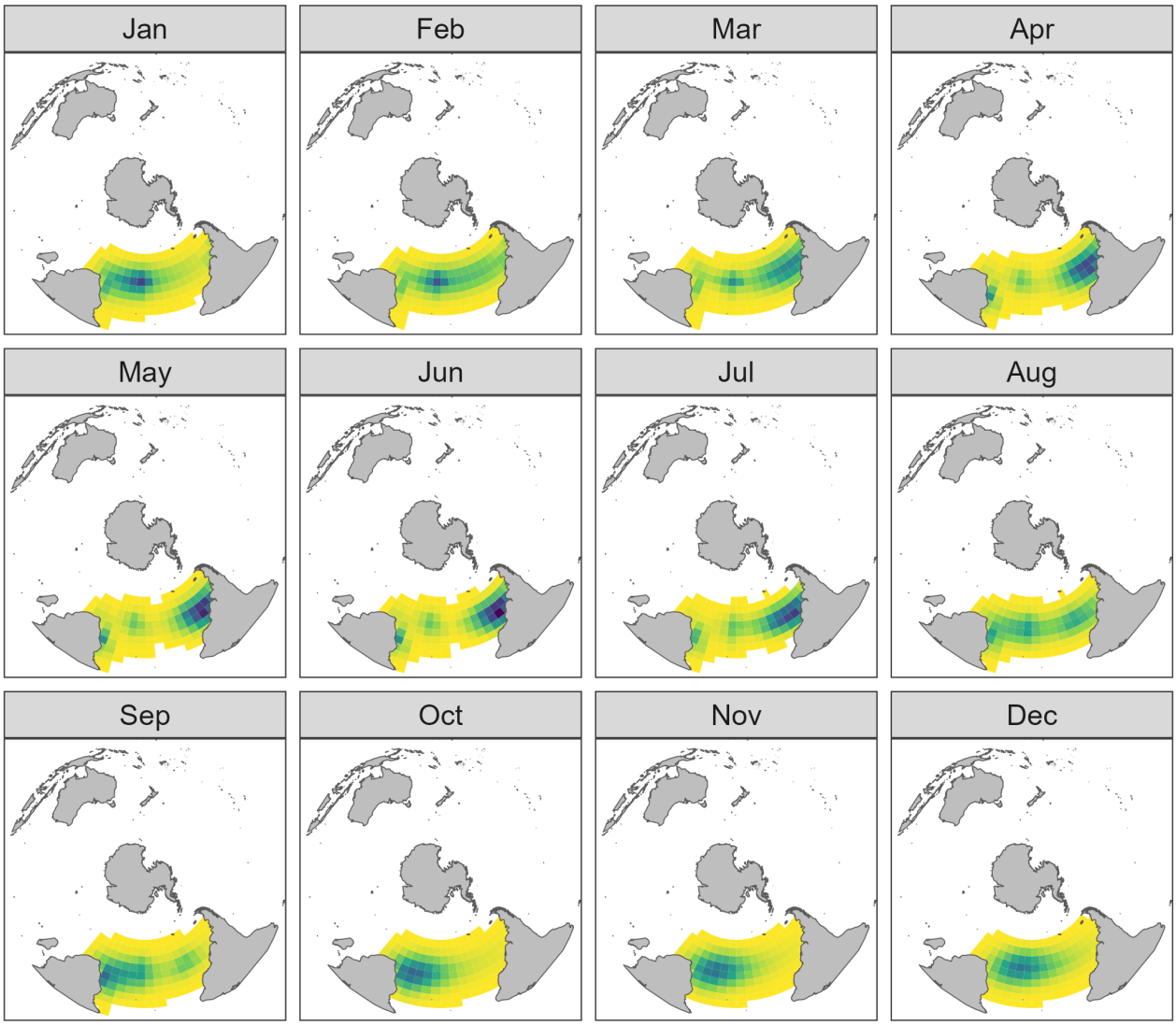

Figure 8: Relative density maps of adult Atlantic yellow-nosed albatross (DCR) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 33: Input covariate probabilities for Atlantic yellow-nosed albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.30
Feb	1.00	0.20
Mar	1.00	0.10
Apr	1.00	0.05
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.50
Sep	1.00	0.60
Oct	1.00	0.50
Nov	1.00	0.50
Dec	1.00	0.50

Table 34: Prior distributions of demographic parameters for Atlantic yellow-nosed albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	2.68×10^4	0.100
Proportion of adults breeding	beta	0.596	4100
Age at first reproduction	log-normal	8.9	0.165
Current adult survival rate	beta	0.923	1470
Optimal adult survival rate	uniform	0.93	0.97

Table 35: Summary statistics for prior distributions of demographic parameters for Atlantic yellow-nosed albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	26 808	22 001-32 403	Pairs
Proportion of adults breeding	0.60	0.58-0.61	Proportion
Age at first reproduction	8.9	6.4-12.2	Years
Current adult survival rate	0.92	0.91-0.94	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	89 992	73 818-108 954	Individuals

3.9. Indian yellow-nosed albatross (*Thalassarche carteri*)

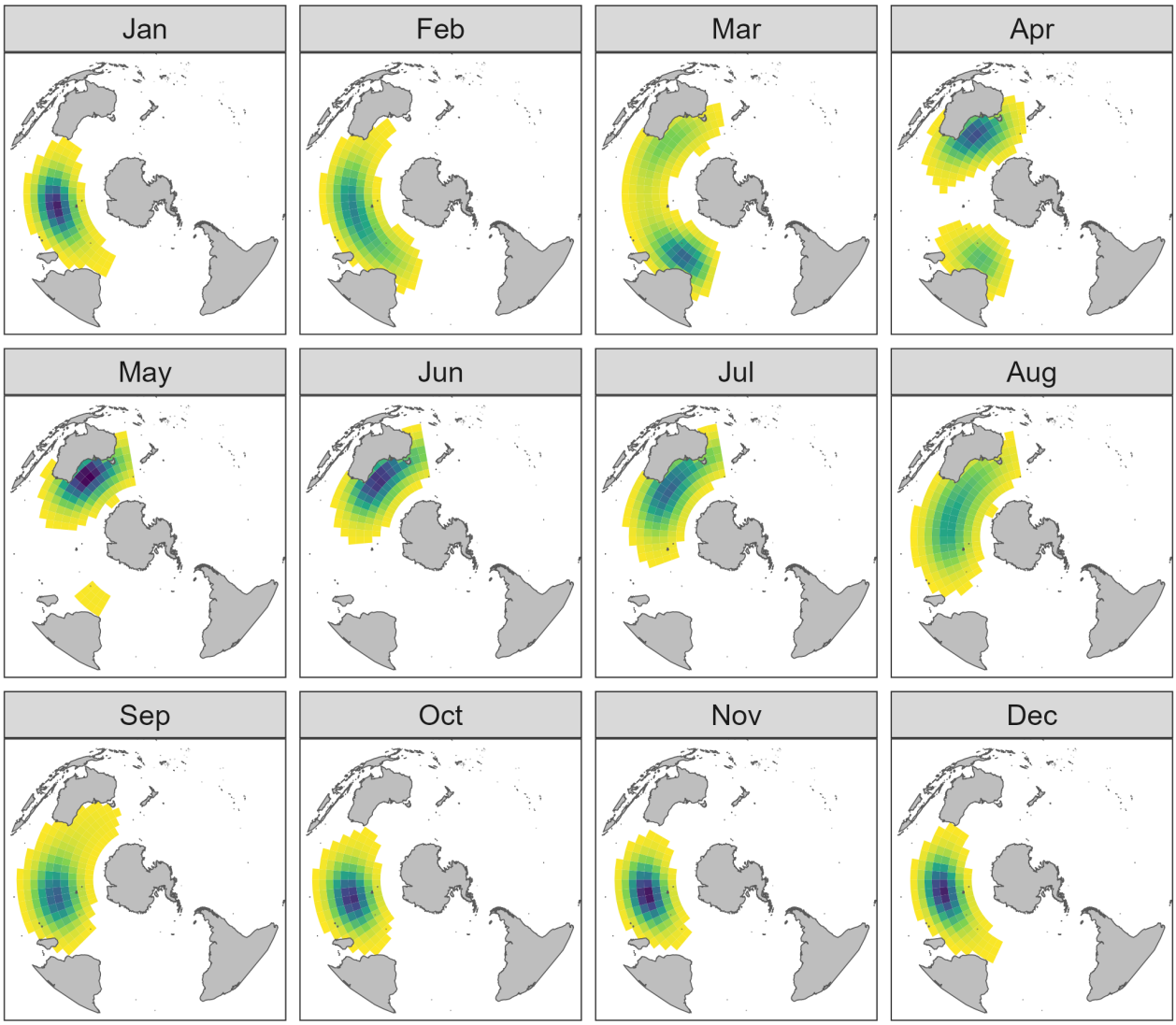

Figure 9: Relative density maps of adult Indian yellow-nosed albatross (TQH) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 36: Input covariate probabilities for Indian yellow-nosed albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.20
Feb	1.00	0.10
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.10
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.40

Table 37: Prior distributions of demographic parameters for Indian yellow-nosed albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	3.3988×10^4	0.100
Proportion of adults breeding	logit-normal	0.596	0.05
Age at first reproduction	log-normal	8.9	0.165
Current adult survival rate	logit-normal	0.902	0.02
Optimal adult survival rate	uniform	0.93	0.97

Table 38: Summary statistics for prior distributions of demographic parameters for Indian yellow-nosed albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	34 002	27 855-41 039	Pairs
Proportion of adults breeding	0.60	0.49-0.69	Proportion
Age at first reproduction	8.9	6.3-12.1	Years
Current adult survival rate	0.90	0.86-0.93	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	115 030	88 811-147 884	Individuals

3.10. Black-browed albatross (*Thalassarche melanophris*)

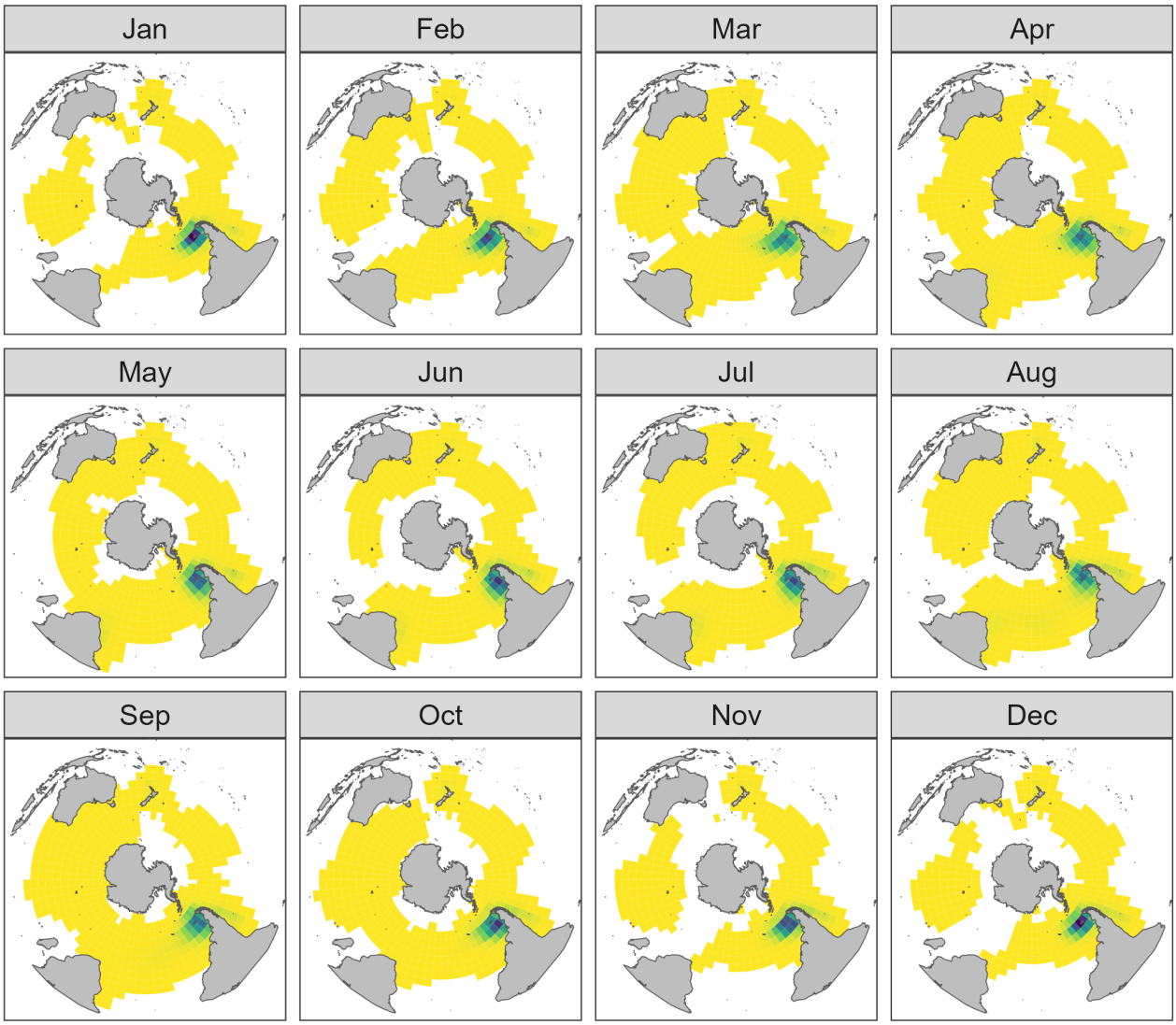

Figure 10: Relative density maps of adult Black-browed albatross (DIM) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 39: Input covariate probabilities for Black-browed albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.20
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.40
Oct	1.00	0.50
Nov	1.00	0.50
Dec	1.00	0.40

Table 40: Prior distributions of demographic parameters for Black-browed albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	6.7096×10^5	0.050
Proportion of adults breeding	beta	0.844	174
Age at first reproduction	log-normal	9.91	0.15
Current adult survival rate	beta	0.931	147
Optimal adult survival rate	uniform	0.93	0.97

Table 41: Summary statistics for prior distributions of demographic parameters for Black-browed albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	671 369	607 619-738 568	Pairs
Proportion of adults breeding	0.84	0.79-0.89	Proportion
Age at first reproduction	9.9	7.3-13.1	Years
Current adult survival rate	0.93	0.88-0.97	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	1 593 207	1 422 033-1 791 582	Individuals

3.11. Campbell black-browed albatross (*Thalassarche impavida*)

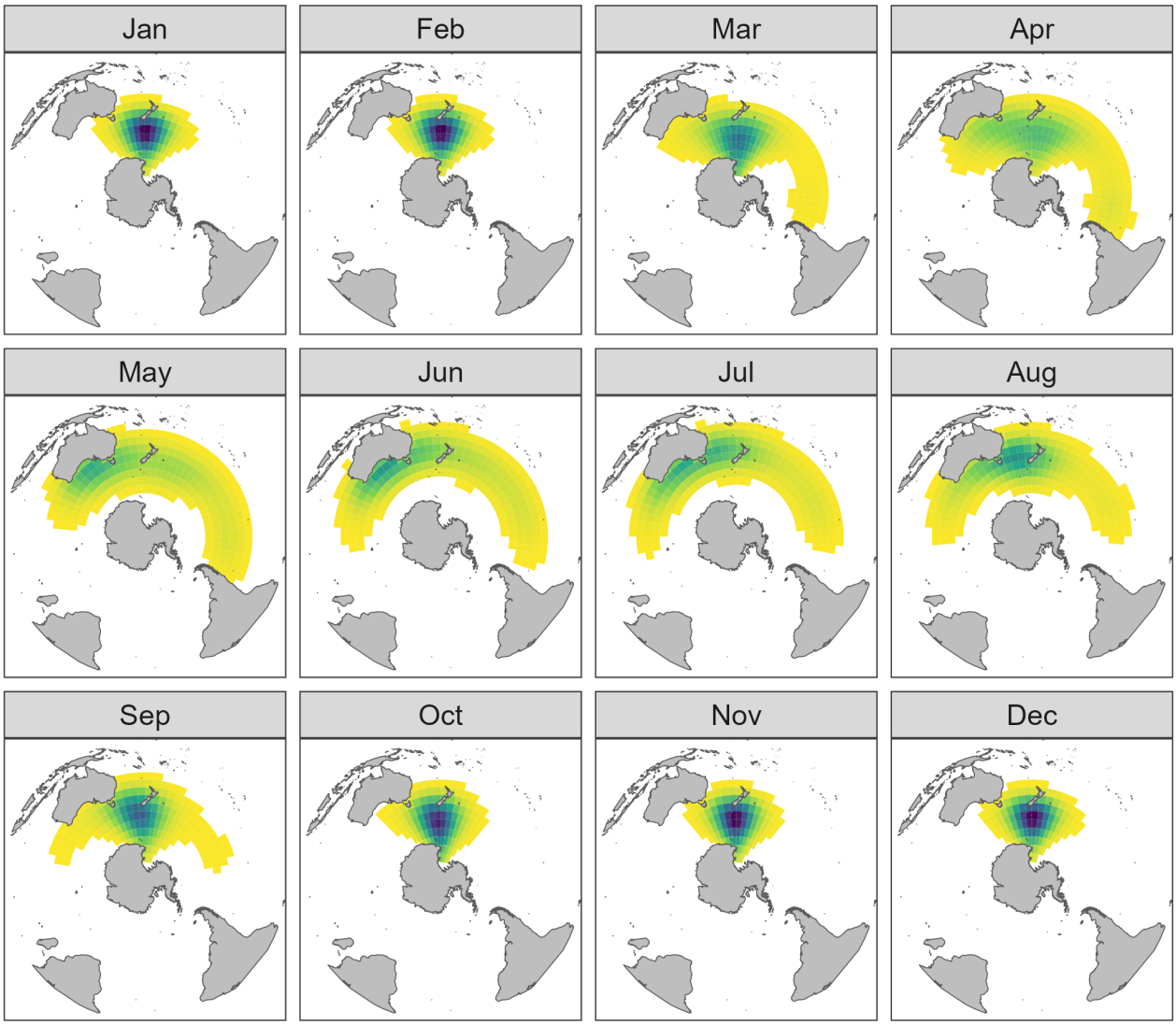

Figure 11: Relative density maps of adult Campbell black-browed albatross (TQW) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 42: Input covariate probabilities for Campbell black-browed albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.05
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.20
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.30

Table 43: Prior distributions of demographic parameters for Campbell black-browed albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.4129×10^4	0.050
Proportion of adults breeding	logit-normal	0.9	0.05
Age at first reproduction	log-normal	9.19	0.189
Current adult survival rate	logit-normal	0.945	0.007
Optimal adult survival rate	uniform	0.93	0.97

Table 44: Summary statistics for prior distributions of demographic parameters for Campbell black-browed albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	14 119	12 768-15 549	Pairs
Proportion of adults breeding	0.89	0.75-0.96	Proportion
Age at first reproduction	9.2	6.2-13.1	Years
Current adult survival rate	0.94	0.93-0.96	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	31 907	27 687-38 369	Individuals

3.12. Shy albatross (*Thalassarche cauta*)

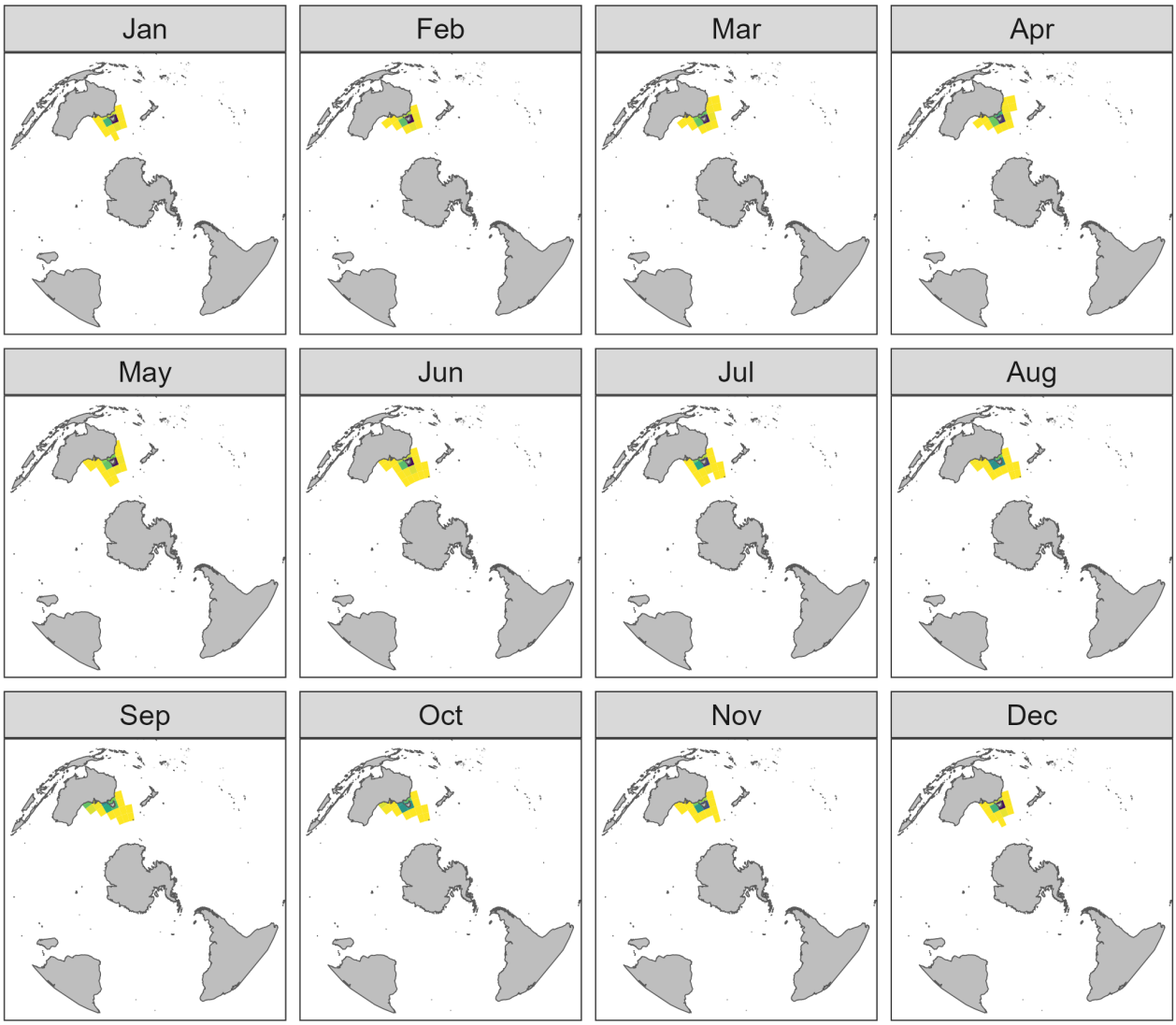

Figure 12: Relative density maps of adult Shy albatross (DCU) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 45: Input covariate probabilities for Shy albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.10
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.10
Aug	1.00	0.10
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.40

Table 46: Prior distributions of demographic parameters for Shy albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.5335×10^4	0.100
Proportion of adults breeding	logit-normal	0.747	0.05
Age at first reproduction	log-normal	8.82	0.206
Current adult survival rate	beta	0.961	1790
Optimal adult survival rate	uniform	0.935	0.975

Table 47: Summary statistics for prior distributions of demographic parameters for Shy albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	15 339	12 529-18 518	Pairs
Proportion of adults breeding	0.74	0.64-0.83	Proportion
Age at first reproduction	8.8	5.8-13.0	Years
Current adult survival rate	0.96	0.95-0.97	Proportion
Optimal adult survival rate	0.95	0.94-0.97	Proportion
Population size (adults)	41 464	32 765-52 255	Individuals

3.13. New Zealand white-capped albatross (*Thalassarche cauta steadi*)

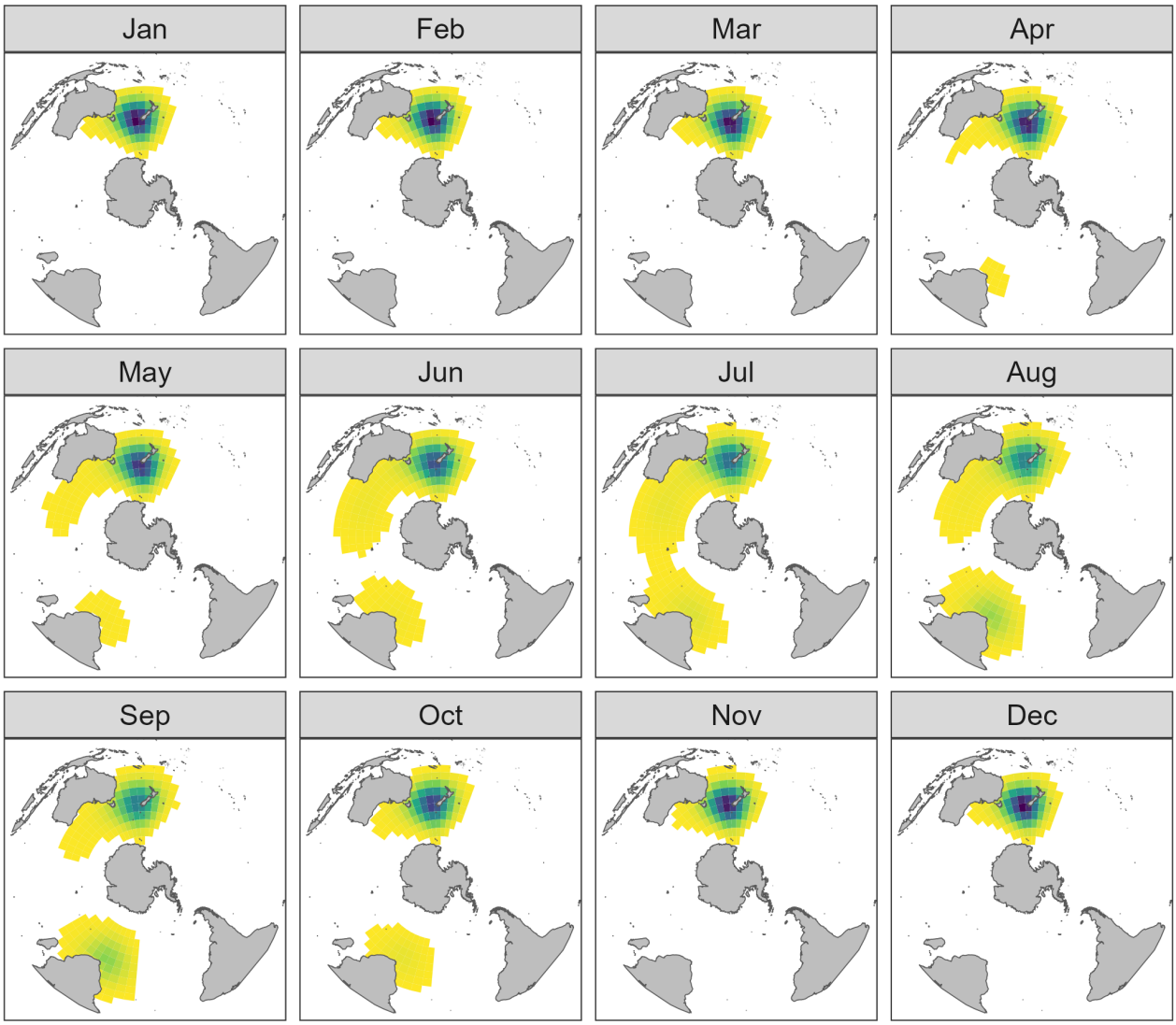

Figure 13: Relative density maps of adult New Zealand white-capped albatross (TWD) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 48: Input covariate probabilities for New Zealand white-capped albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.40
Feb	1.00	0.10
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.00
Sep	1.00	0.00
Oct	1.00	0.25
Nov	1.00	0.50
Dec	1.00	0.50

Table 49: Prior distributions of demographic parameters for New Zealand white-capped albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	8.582×10^4	0.120
Proportion of adults breeding	beta	0.68	63.9
Age at first reproduction	log-normal	8.82	0.206
Current adult survival rate	logit-normal	0.92	0.01
Optimal adult survival rate	uniform	0.935	0.975

Table 50: Summary statistics for prior distributions of demographic parameters for New Zealand white-capped albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	85 808	67 480-107 569	Pairs
Proportion of adults breeding	0.68	0.56-0.79	Proportion
Age at first reproduction	8.8	5.8-13.0	Years
Current adult survival rate	0.92	0.90-0.94	Proportion
Optimal adult survival rate	0.95	0.94-0.97	Proportion
Population size (adults)	254 551	189 506-338 493	Individuals

3.14. Salvin's albatross (*Thalassarche salvini*)

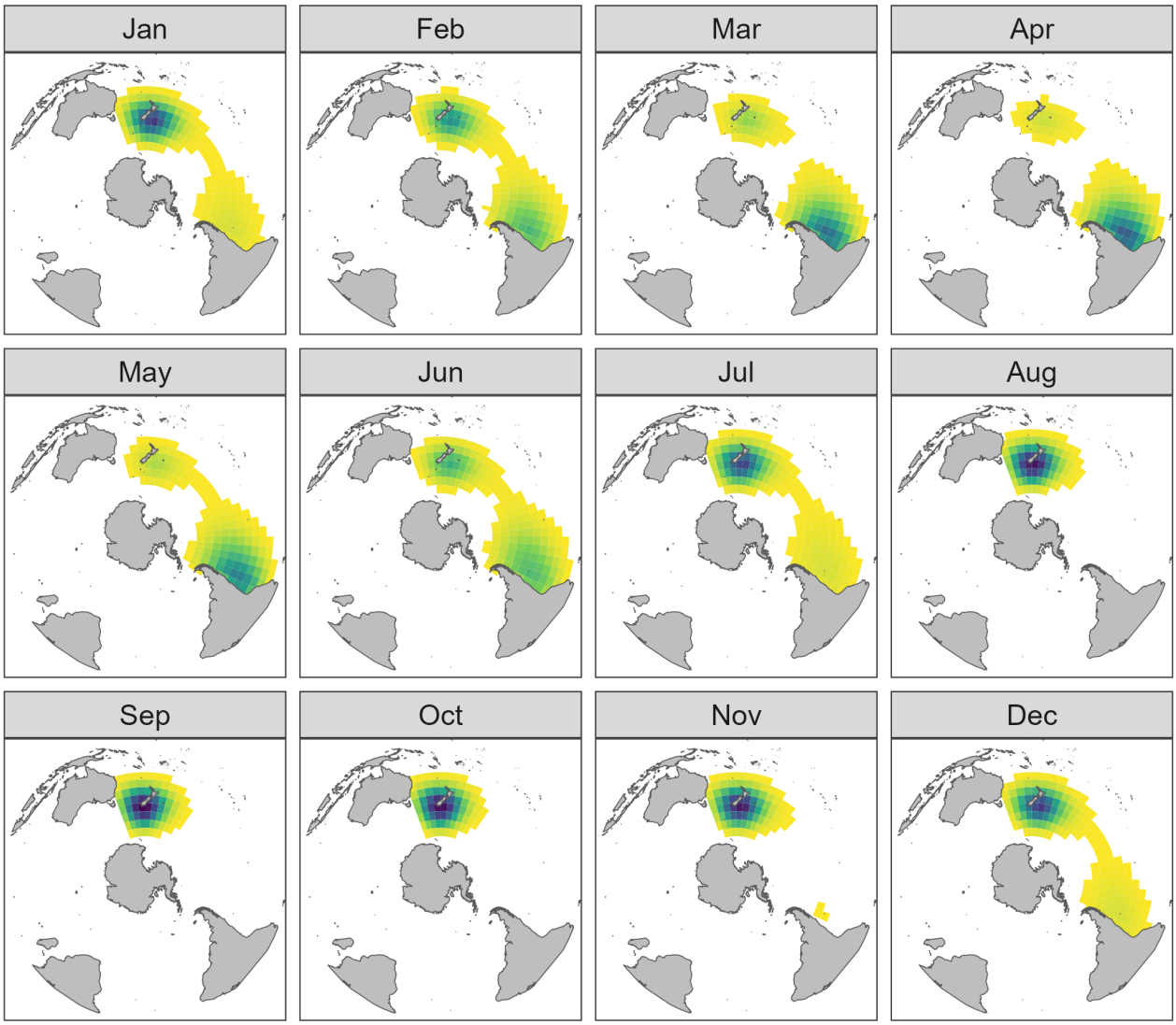

Figure 14: Relative density maps of adult Salvin's albatross (DKS) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 51: Input covariate probabilities for Salvin's albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.05
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.00
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.10
Aug	1.00	0.30
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.10

Table 52: Prior distributions of demographic parameters for Salvin's albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	3.5242×10^4	0.050
Proportion of adults breeding	beta	0.821	29.7
Age at first reproduction	log-normal	11.2	0.145
Current adult survival rate	beta	0.951	9
Optimal adult survival rate	uniform	0.935	0.975

Table 53: Summary statistics for prior distributions of demographic parameters for Salvin's albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	35 238	31 960-38 794	Pairs
Proportion of adults breeding	0.82	0.67-0.94	Proportion
Age at first reproduction	11.2	8.4-14.7	Years
Current adult survival rate	0.95	0.76-1.00	Proportion
Optimal adult survival rate	0.95	0.94-0.97	Proportion
Population size (adults)	86 384	72 536-107 411	Individuals

3.15. Chatham Island albatross (*Thalassarche eremita*)

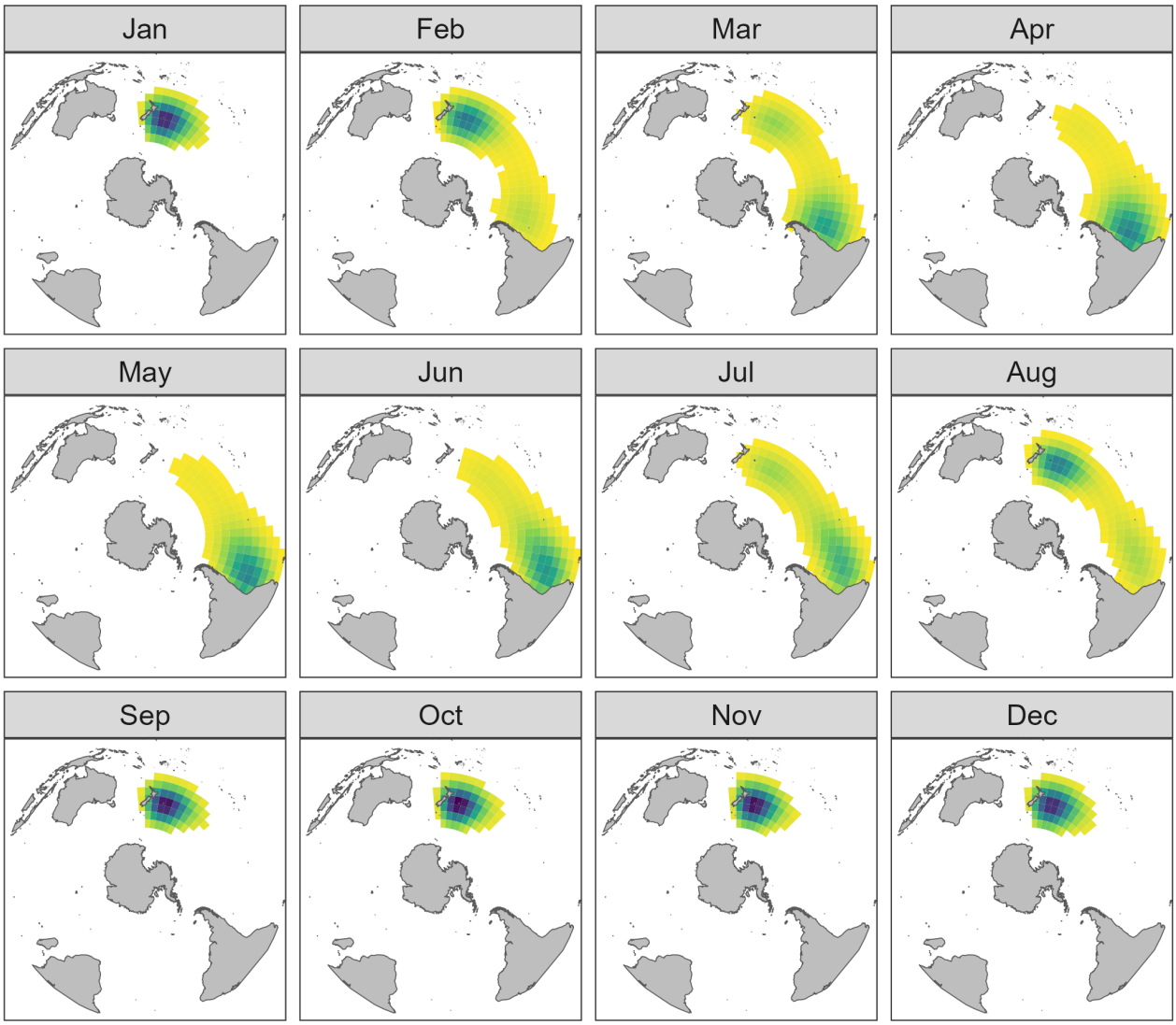

Figure 15: Relative density maps of adult Chatham Island albatross (DER) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 54: Input covariate probabilities for Chatham Island albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.10
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.20
Aug	1.00	0.40
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.30

Table 55: Prior distributions of demographic parameters for Chatham Island albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	5294	0.010
Proportion of adults breeding	logit-normal	0.773	0.05
Age at first reproduction	log-normal	9.9	0.118
Current adult survival rate	logit-normal	0.925	0.03
Optimal adult survival rate	uniform	0.935	0.975

Table 56: Summary statistics for prior distributions of demographic parameters for Chatham Island albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	5 294	5 188-5 400	Pairs
Proportion of adults breeding	0.77	0.66-0.86	Proportion
Age at first reproduction	9.9	7.8-12.3	Years
Current adult survival rate	0.92	0.84-0.97	Proportion
Optimal adult survival rate	0.96	0.94-0.97	Proportion
Population size (adults)	13 835	12 342-16 052	Individuals

3.16. Grey-headed albatross (*Thalassarche chrysostoma*)

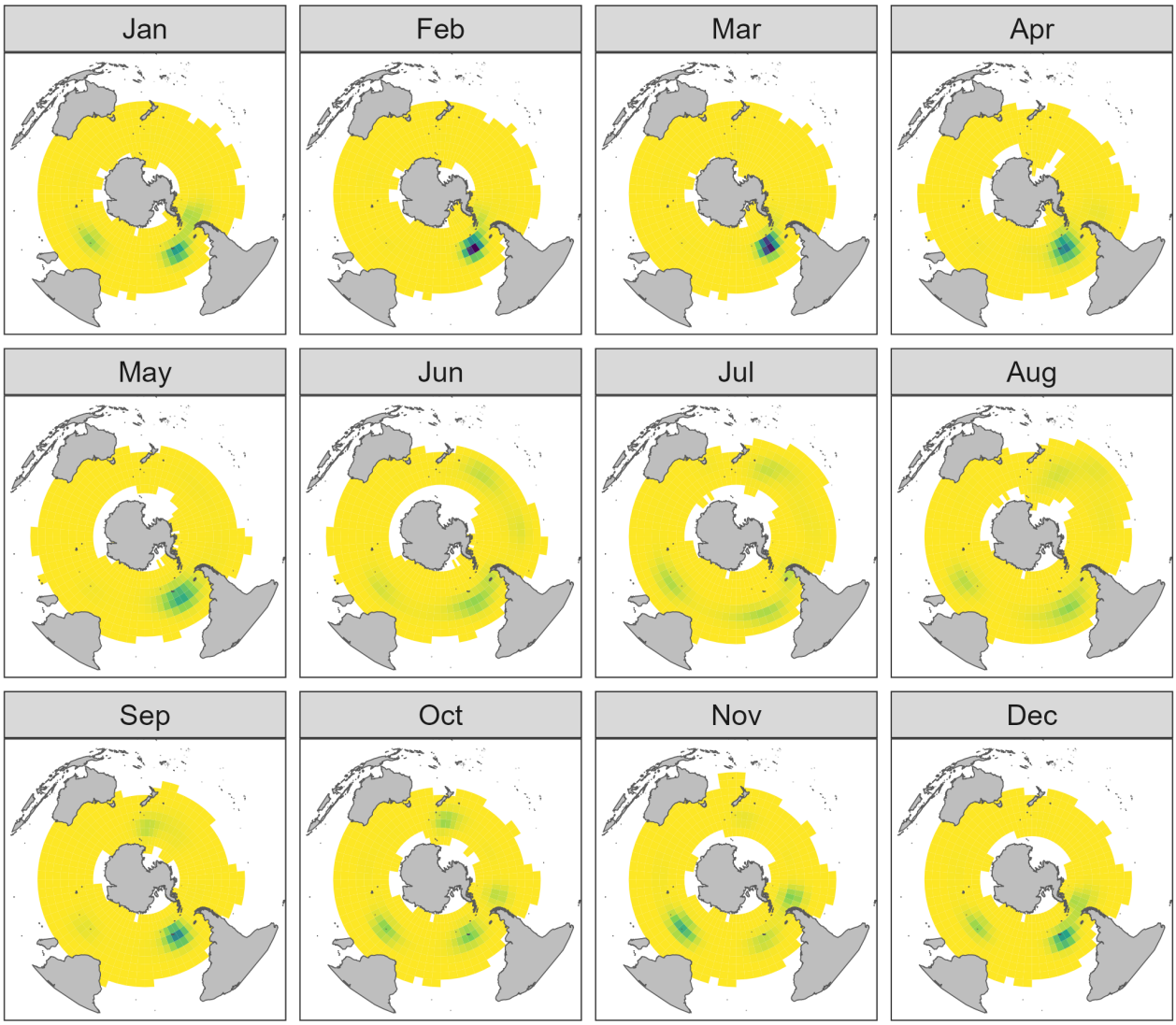

Figure 16: Relative density maps of adult Grey-headed albatross (DIC) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 57: Input covariate probabilities for Grey-headed albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.30
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.10
Oct	1.00	0.50
Nov	1.00	0.50
Dec	1.00	0.40

Table 58: Prior distributions of demographic parameters for Grey-headed albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	6.3055×10^4	0.050
Proportion of adults breeding	beta	0.406	17.5
Age at first reproduction	log-normal	12.9	0.116
Current adult survival rate	beta	0.95	96.4
Optimal adult survival rate	uniform	0.95	0.98

Table 59: Summary statistics for prior distributions of demographic parameters for Grey-headed albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	63 034	57 057-69 504	Pairs
Proportion of adults breeding	0.41	0.19-0.63	Proportion
Age at first reproduction	12.9	10.2-16.1	Years
Current adult survival rate	0.95	0.90-0.98	Proportion
Optimal adult survival rate	0.96	0.95-0.98	Proportion
Population size (adults)	340 458	195 740-648 759	Individuals

3.17. Southern Buller's albatross (*Thalassarche bulleri bulleri*)

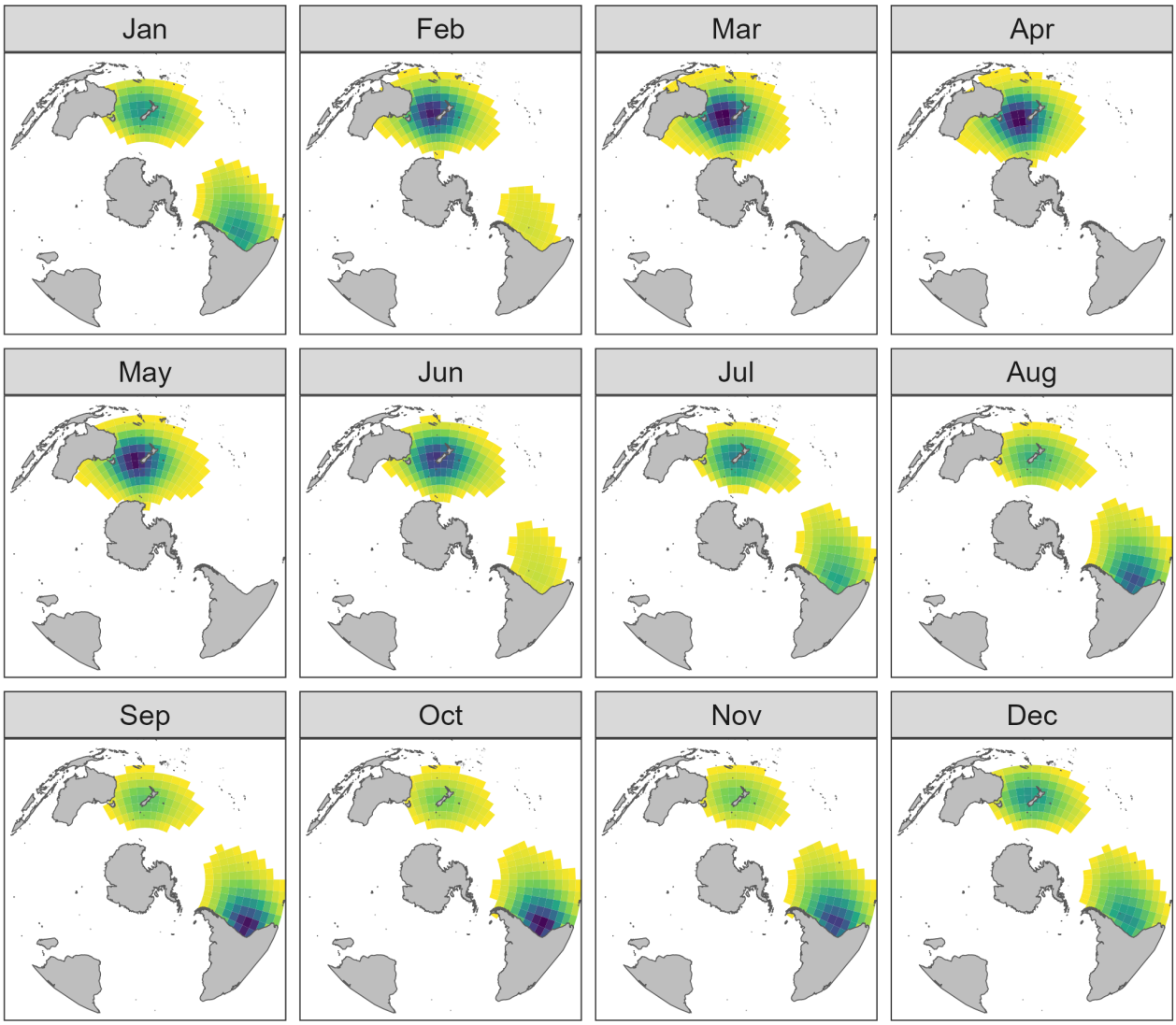

Figure 17: Relative density maps of adult Southern Buller's albatross (DSB) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 60: Input covariate probabilities for Southern Buller's albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.20
Feb	1.00	0.50
Mar	1.00	0.45
Apr	1.00	0.30
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.05
Aug	1.00	0.00
Sep	1.00	0.00
Oct	1.00	0.00
Nov	1.00	0.00
Dec	1.00	0.00

Table 61: Prior distributions of demographic parameters for Southern Buller's albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.3493×10^4	0.050
Proportion of adults breeding	beta	0.804	34.9
Age at first reproduction	log-normal	11.9	0.125
Current adult survival rate	beta	0.891	106
Optimal adult survival rate	uniform	0.93	0.97

Table 62: Summary statistics for prior distributions of demographic parameters for Southern Buller's albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	13 499	12 211-14 878	Pairs
Proportion of adults breeding	0.80	0.66-0.92	Proportion
Age at first reproduction	11.9	9.2-15.1	Years
Current adult survival rate	0.89	0.83-0.94	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	33 852	28 455-41 829	Individuals

3.18. Northern Buller's albatross (*Thalassarche bulleri platei*)

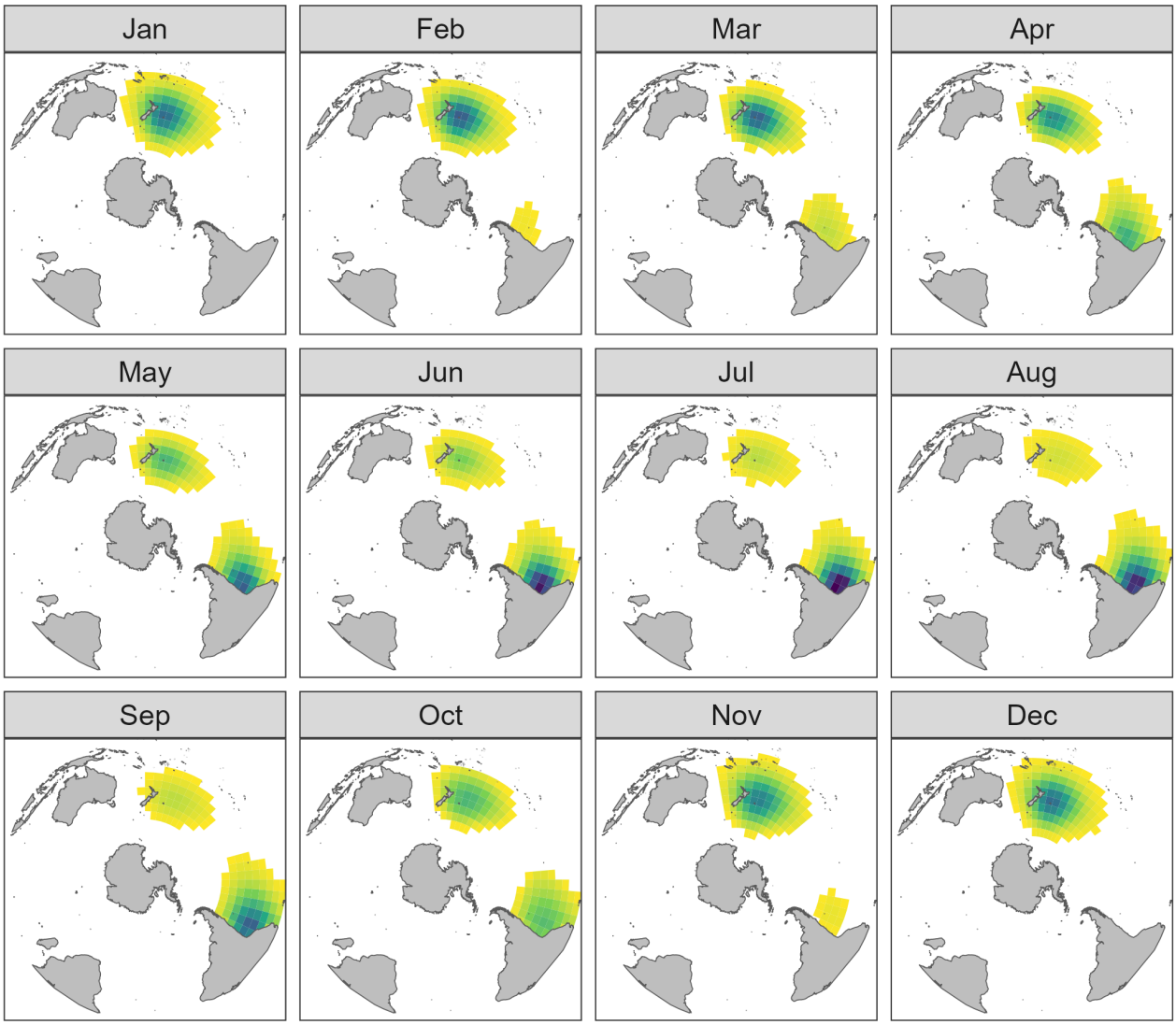

Figure 18: Relative density maps of adult Northern Buller's albatross (DNB) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 63: Input covariate probabilities for Northern Buller's albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.45
Feb	1.00	0.40
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.00
Oct	1.00	0.00
Nov	1.00	0.40
Dec	1.00	0.50

Table 64: Prior distributions of demographic parameters for Northern Buller's albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.9354×10^4	0.050
Proportion of adults breeding	logit-normal	0.8	0.05
Age at first reproduction	log-normal	11.9	0.125
Current adult survival rate	logit-normal	0.925	0.025
Optimal adult survival rate	uniform	0.93	0.97

Table 65: Summary statistics for prior distributions of demographic parameters for Northern Buller's albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	19 362	17 529-21 341	Pairs
Proportion of adults breeding	0.80	0.69-0.88	Proportion
Age at first reproduction	11.9	9.3-15.1	Years
Current adult survival rate	0.92	0.86-0.96	Proportion
Optimal adult survival rate	0.95	0.93-0.97	Proportion
Population size (adults)	48 877	41 987-58 026	Individuals

3.19. Sooty albatross (*Phoebetria fusca*)

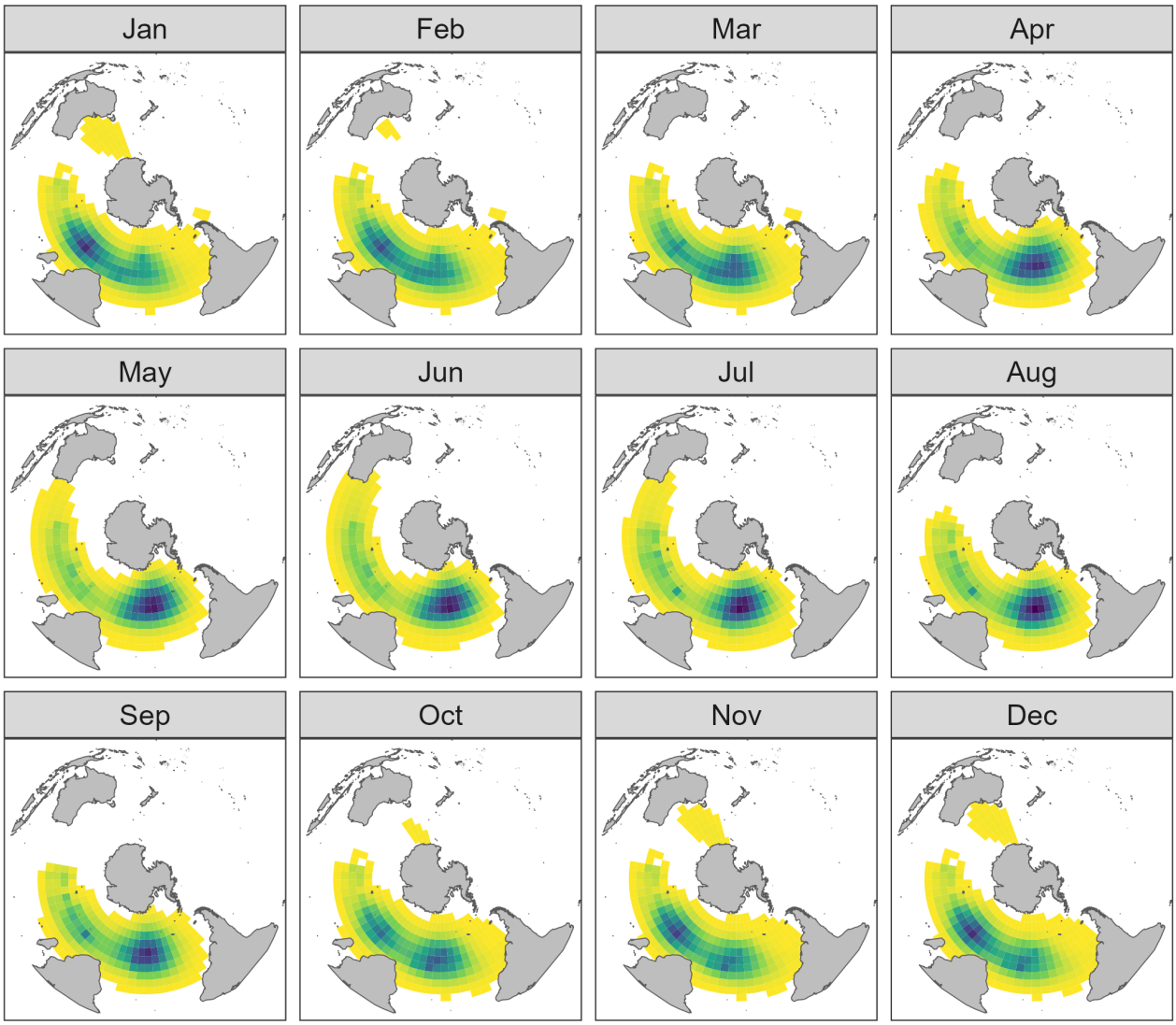

Figure 19: Relative density maps of adult Sooty albatross (PHU) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 66: Input covariate probabilities for Sooty albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.20
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.50
Sep	1.00	0.70
Oct	1.00	0.70
Nov	1.00	0.50
Dec	1.00	0.50

Table 67: Prior distributions of demographic parameters for Sooty albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	weibull	23.2	13660
Proportion of adults breeding	logit-normal	0.73	0.05
Age at first reproduction	log-normal	9.2	0.189
Current adult survival rate	logit-normal	0.92	0.025
Optimal adult survival rate	uniform	0.95	0.98

Table 68: Summary statistics for prior distributions of demographic parameters for Sooty albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	13 359	11 705-14 451	Pairs
Proportion of adults breeding	0.73	0.62-0.82	Proportion
Age at first reproduction	9.2	6.3-13.1	Years
Current adult survival rate	0.92	0.85-0.96	Proportion
Optimal adult survival rate	0.97	0.95-0.98	Proportion
Population size (adults)	36 871	30 880-44 041	Individuals

3.20. Light-mantled sooty albatross (*Phoebetria palpebrata*)

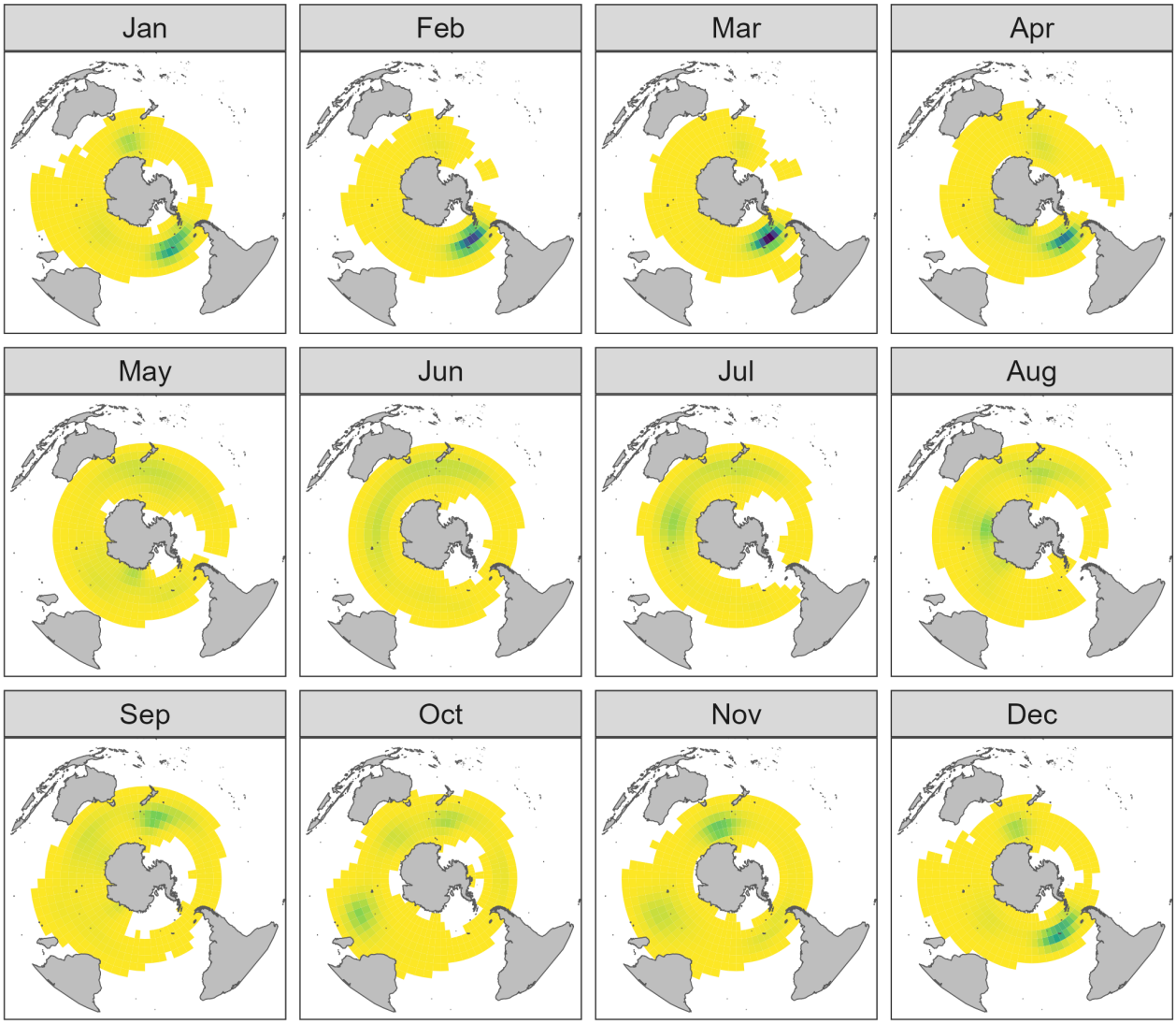

Figure 20: Relative density maps of adult Light-mantled sooty albatross (PHE) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 69: Input covariate probabilities for Light-mantled sooty albatross: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.40
Feb	1.00	0.10
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	1.00	0.05
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.10
Oct	1.00	0.50
Nov	1.00	0.50
Dec	1.00	0.40

Table 70: Prior distributions of demographic parameters for Light-mantled sooty albatross.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	2.0927×10^4	0.100
Proportion of adults breeding	beta	0.73	15.8
Age at first reproduction	log-normal	9.2	0.189
Current adult survival rate	beta	0.93	1.03×10^4
Optimal adult survival rate	uniform	0.95	0.98

Table 71: Summary statistics for prior distributions of demographic parameters for Light-mantled sooty albatross.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	20 905	17 136-25 231	Pairs
Proportion of adults breeding	0.73	0.49-0.91	Proportion
Age at first reproduction	9.2	6.3-13.1	Years
Current adult survival rate	0.93	0.92-0.93	Proportion
Optimal adult survival rate	0.97	0.95-0.98	Proportion
Population size (adults)	58 790	42 233-88 017	Individuals

3.21. Grey petrel (*Procellaria cinerea*)

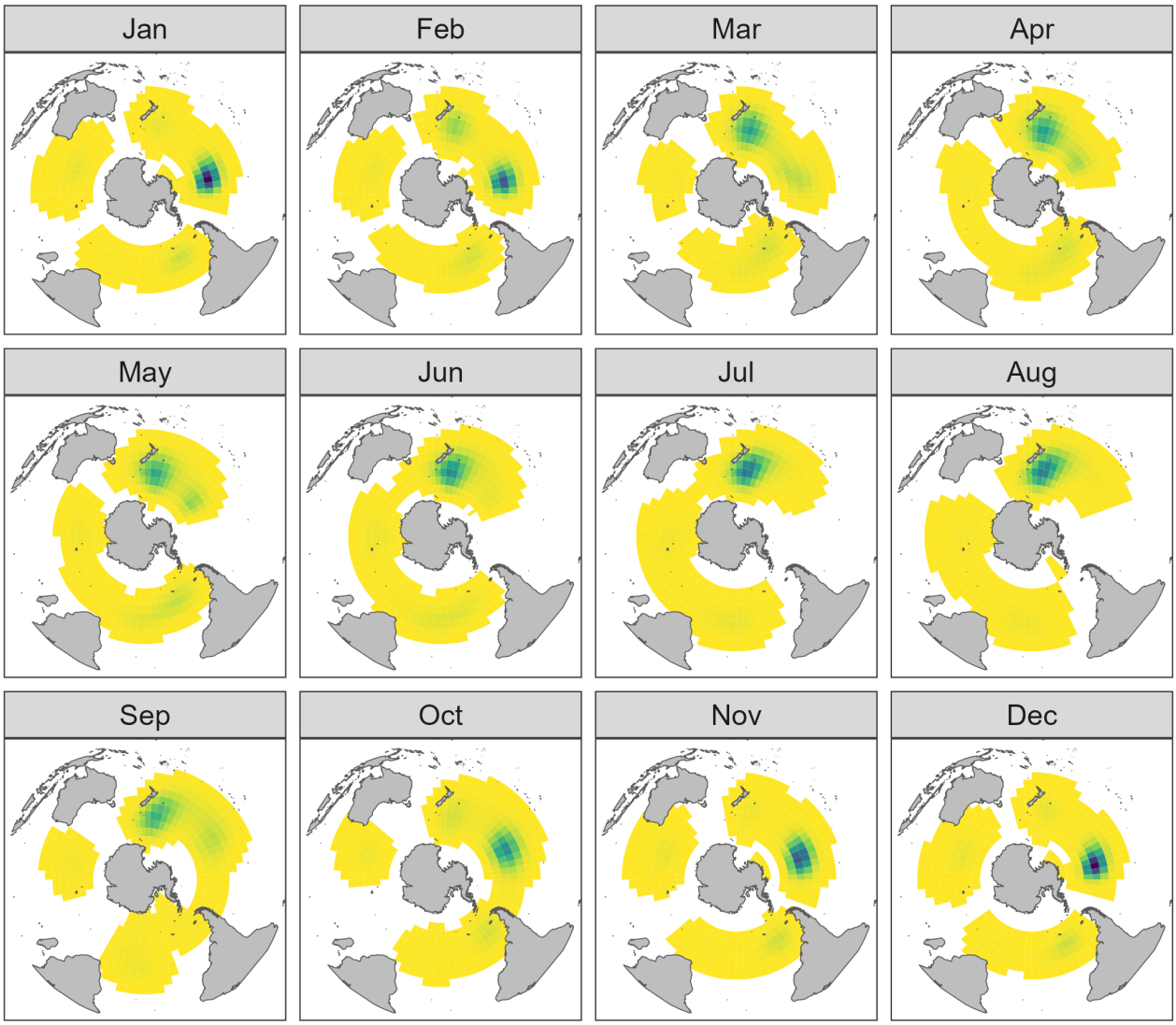

Figure 21: Relative density maps of adult Grey petrel (PCI) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 72: Input covariate probabilities for Grey petrel: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.00
Feb	1.00	0.50
Mar	1.00	0.50
Apr	1.00	0.50
May	1.00	0.40
Jun	1.00	0.30
Jul	1.00	0.05
Aug	1.00	0.05
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.00

Table 73: Prior distributions of demographic parameters for Grey petrel.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.05617×10^5	0.150
Proportion of adults breeding	logit-normal	0.9	0.05
Age at first reproduction	log-normal	6.94	0.142
Current adult survival rate	logit-normal	0.897	0.025
Optimal adult survival rate	uniform	0.92	0.95

Table 74: Summary statistics for prior distributions of demographic parameters for Grey petrel.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	105 660	77 870-140 105	Pairs
Proportion of adults breeding	0.89	0.75-0.96	Proportion
Age at first reproduction	6.9	5.2-9.0	Years
Current adult survival rate	0.89	0.84-0.94	Proportion
Optimal adult survival rate	0.94	0.92-0.95	Proportion
Population size (adults)	238 644	172 197-326 322	Individuals

3.22. Black petrel (*Procellaria parkinsoni*)

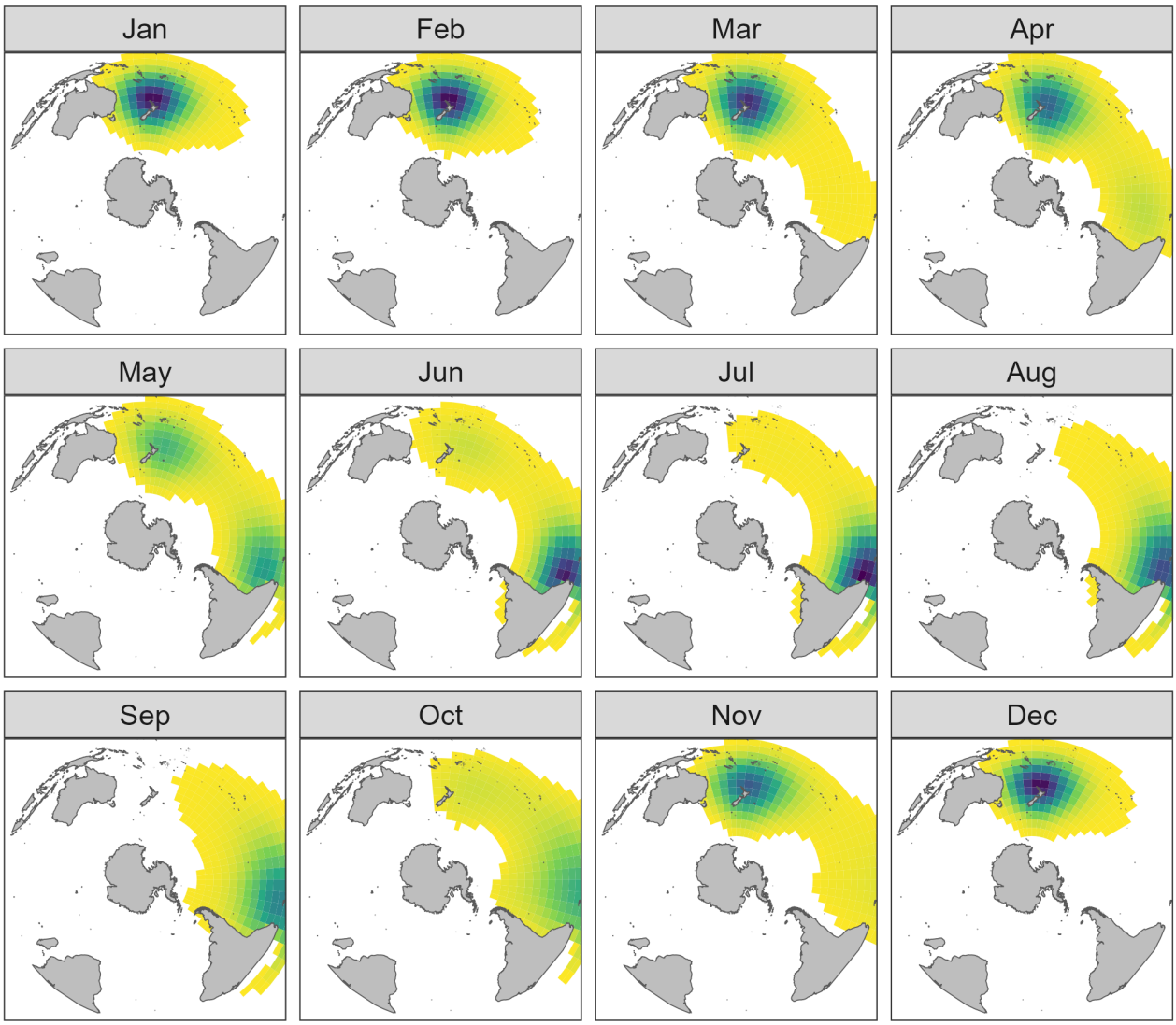

Figure 22: Relative density maps of adult Black petrel (PRK) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 75: Input covariate probabilities for Black petrel: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.50
Feb	1.00	0.40
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.05
Jun	0.80	0.05
Jul	0.80	0.00
Aug	0.80	0.00
Sep	0.80	0.00
Oct	0.80	0.05
Nov	1.00	0.30
Dec	1.00	0.50

Table 76: Prior distributions of demographic parameters for Black petrel.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	5456	0.057
Proportion of adults breeding	beta	0.61	143
Age at first reproduction	log-normal	7.4	0.031
Current adult survival rate	beta	0.864	2150
Optimal adult survival rate	uniform	0.92	0.95

Table 77: Summary statistics for prior distributions of demographic parameters for Black petrel.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	5 458	4 873-6 083	Pairs
Proportion of adults breeding	0.61	0.53-0.69	Proportion
Age at first reproduction	7.4	7.0-7.9	Years
Current adult survival rate	0.86	0.85-0.88	Proportion
Optimal adult survival rate	0.93	0.92-0.95	Proportion
Population size (adults)	17 981	15 118-21 433	Individuals

3.23. Westland petrel (*Procellaria westlandica*)

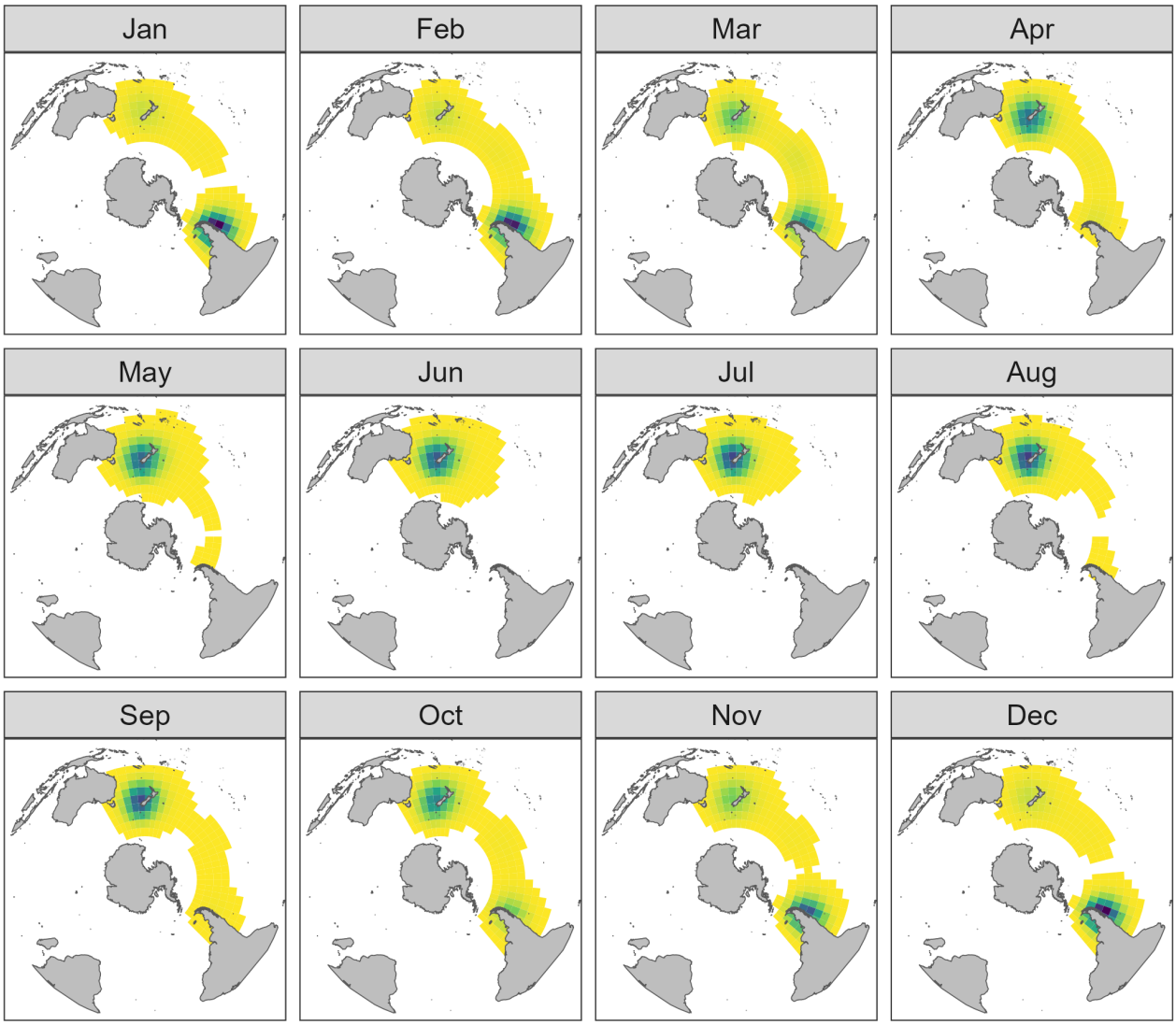

Figure 23: Relative density maps of adult Westland petrel (PCW) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 78: Input covariate probabilities for Westland petrel: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.00
Feb	1.00	0.15
Mar	1.00	0.30
Apr	1.00	0.40
May	1.00	0.50
Jun	1.00	0.50
Jul	1.00	0.45
Aug	1.00	0.40
Sep	1.00	0.05
Oct	1.00	0.05
Nov	1.00	0.05
Dec	1.00	0.00

Table 79: Prior distributions of demographic parameters for Westland petrel.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	6223	0.061
Proportion of adults breeding	beta	0.48	45.4
Age at first reproduction	log-normal	6.95	0.16
Current adult survival rate	beta	0.954	190
Optimal adult survival rate	uniform	0.93	0.96

Table 80: Summary statistics for prior distributions of demographic parameters for Westland petrel.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	6 225	5 514-6 987	Pairs
Proportion of adults breeding	0.48	0.34-0.63	Proportion
Age at first reproduction	7.0	5.0-9.4	Years
Current adult survival rate	0.95	0.92-0.98	Proportion
Optimal adult survival rate	0.95	0.93-0.96	Proportion
Population size (adults)	26 630	19 309-37 730	Individuals

3.24. White-chinned petrel (*Procellaria aequinoctialis*)

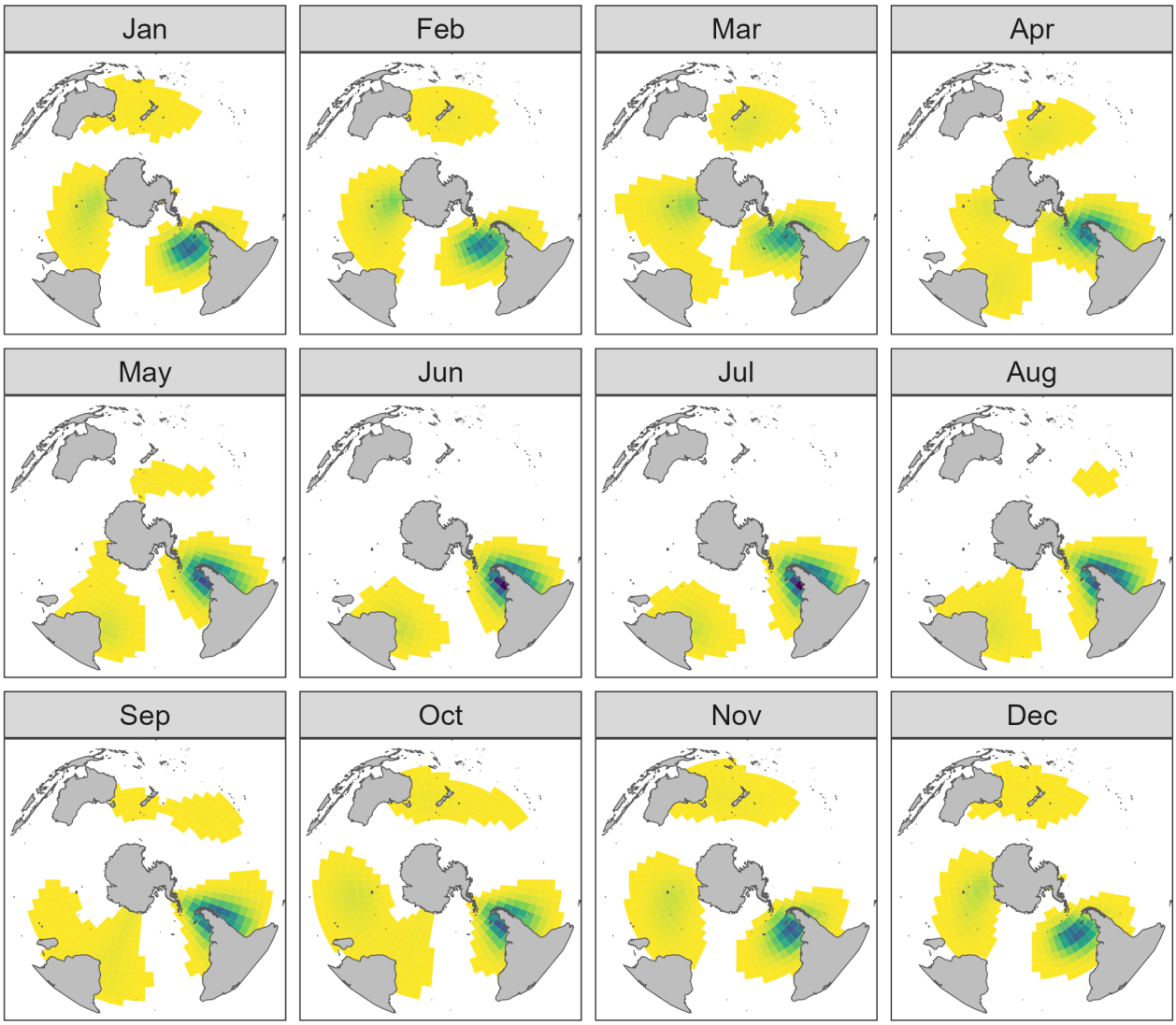

Figure 24: Relative density maps of adult White-chinned petrel (PRO) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 81: Input covariate probabilities for White-chinned petrel: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.40
Feb	1.00	0.30
Mar	1.00	0.05
Apr	1.00	0.05
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.30
Oct	1.00	0.40
Nov	1.00	0.50
Dec	1.00	0.50

Table 82: Prior distributions of demographic parameters for White-chinned petrel.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	1.3173×10^6	0.100
Proportion of adults breeding	logit-normal	0.75	0.05
Age at first reproduction	log-normal	6.59	0.178
Current adult survival rate	logit-normal	0.874	0.02
Optimal adult survival rate	uniform	0.92	0.95

Table 83: Summary statistics for prior distributions of demographic parameters for White-chinned petrel.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	1 316 786	1 074 335-1 593 474	Pairs
Proportion of adults breeding	0.75	0.64-0.83	Proportion
Age at first reproduction	6.6	4.6-9.2	Years
Current adult survival rate	0.87	0.83-0.91	Proportion
Optimal adult survival rate	0.93	0.92-0.95	Proportion
Population size (adults)	3 543 560	2 799 132-4 491 550	Individuals

3.25. Spectacled petrel (*Procellaria conspicillata*)

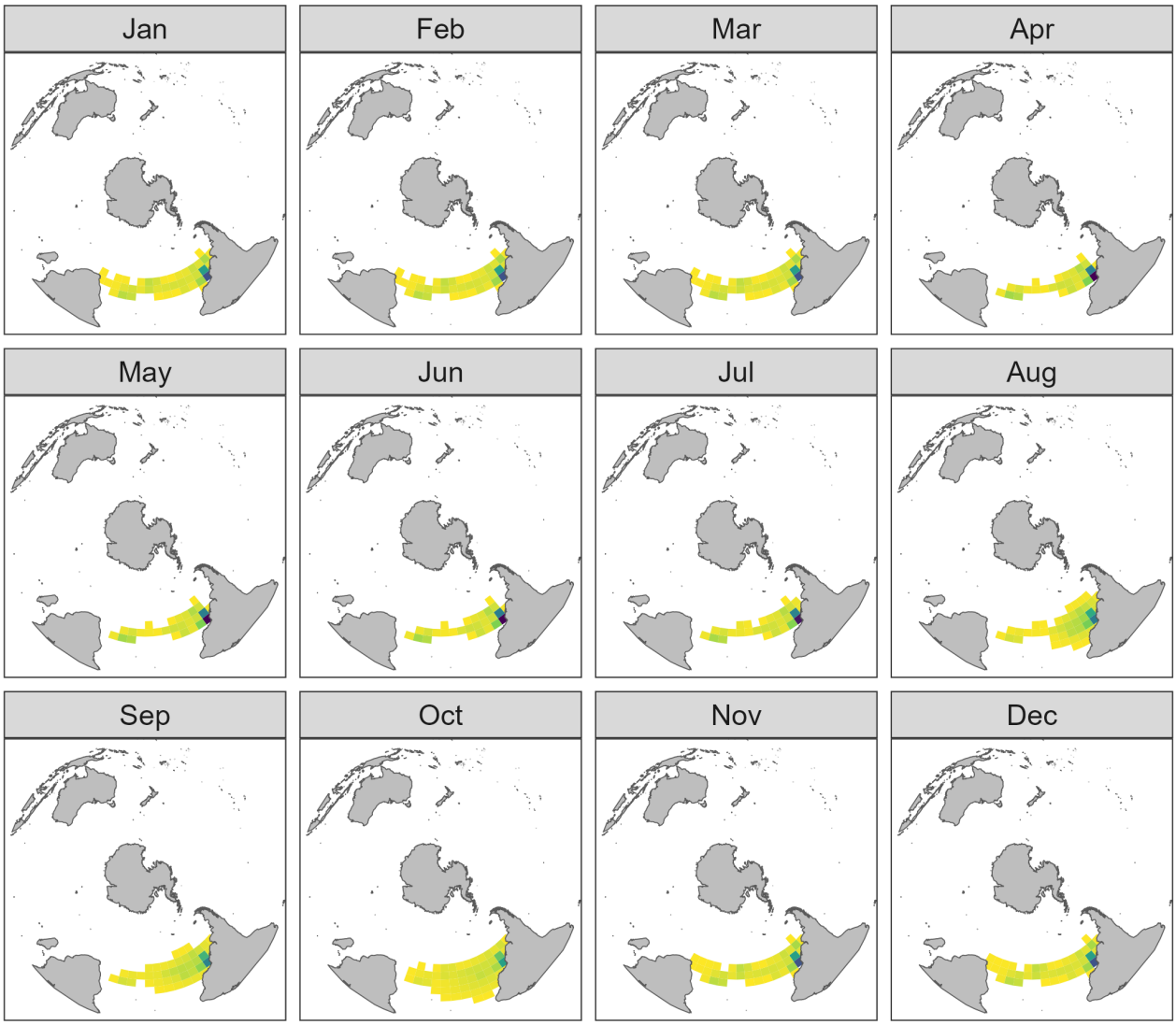

Figure 25: Relative density maps of adult Spectacled petrel (PCN) by month (proportion of individuals per square kilometre) (Edwards et al. 2023).

Table 84: Input covariate probabilities for Spectacled petrel: probabilities of being in the southern hemisphere (P_s^{SH}), and of a breeding adult being on nest (P_s^{nest}).

Month	Probability in SH	Probability on nest
Jan	1.00	0.10
Feb	1.00	0.05
Mar	1.00	0.05
Apr	1.00	0.00
May	1.00	0.00
Jun	1.00	0.00
Jul	1.00	0.00
Aug	1.00	0.00
Sep	1.00	0.50
Oct	1.00	0.50
Nov	1.00	0.40
Dec	1.00	0.30

Table 85: Prior distributions of demographic parameters for Spectacled petrel.

Parameter	Distribution	Parameter *a*	Parameter *b*
Annual breeding pairs	log-normal	4.2×10^4	0.096
Proportion of adults breeding	logit-normal	0.797	0.05
Age at first reproduction	log-normal	6.59	0.178
Current adult survival rate	logit-normal	0.874	0.025
Optimal adult survival rate	uniform	0.92	0.95

Table 86: Summary statistics for prior distributions of demographic parameters for Spectacled petrel.

Parameter	Mean	95% CI	Unit
Annual breeding pairs	41 988	34 447-50 333	Pairs
Proportion of adults breeding	0.79	0.68-0.88	Proportion
Age at first reproduction	6.6	4.6-9.1	Years
Current adult survival rate	0.87	0.82-0.92	Proportion
Optimal adult survival rate	0.94	0.92-0.95	Proportion
Population size (adults)	106 495	84 283-133 438	Individuals

4. Sources for prior distributions for demographic parameters

Table 87: Sources of species' values of annual breeding pairs (N_s^{BP}).

Species	Source(s)
Gibson's Albatross	Baker & Jensz (2014), Elliott et al. (2024)
Antipodean Albatross	Parker et al. (2023), Rexer-Huber et al. (2024)
Wandering Albatross	ACAP (2024), Mackley et al. (2024), Ryan et al. (2009), Weimerskirch et al. (2018)
Tristan Albatross	Carneiro et al. (2020), Oppel et al. (2022)
Amsterdam Albatross	Heerah et al. (2019), Weimerskirch et al. (2018)
Southern Royal Albatross	Mischler & Wickes (2023), Mischler et al. (2024)
Northern Royal Albatross	Frost et al. (2023), Richard et al. (2015)
Atlantic Yellow-nosed Albatross	Birdlife International (2024), Cuthbert et al. (2014), Ryan et al. (2011)
Indian Yellow-nosed Albatross	Ryan et al. (2009), Weimerskirch et al. (2018)
Black-browed Albatross	ACAP (2010, 2024), Brothers & Ledingham (2008), Cleeland et al. (2021), Mackley et al. (2024), Robertson et al. (2014, 2017), Weimerskirch et al. (2018), Wolfaardt (2013)
Campbell Albatross	Mischler et al. (2024)
Shy Albatross	NRE Tas unpub. data
White-capped Albatross	Baker et al. (2023), Walker et al. (2020), Fischer et al. unpub
Salvin's Albatross	Baker & Jensz (2019), Sagar et al. (2014)
Chatham Albatross	Bell et al. (2017)
Grey-headed Albatross	ACAP (2024), Mackley et al. (2024), Mischler et al. (2024), Robertson et al. (2007, 2017), Ryan et al. (2009), Stevens et al. (2024), Weimerskirch et al. (2018), NRE Tas unpub. data
Southern Buller's Albatross	Frost et al. (2024), Thompson & Sagar (2020)
Northern Buller's Albatross	Bell et al. (2017, 2018), Bell (2023)
Sooty Albatross	ACAP (2010), Cuthbert et al. (2014), Ryan et al. (2009), Schoombie et al. (2017), Weimerskirch et al. (2018)
Light-mantled Sooty Albatross	ACAP (2010), Cleeland et al. (2021), Schoombie et al. (2016), Weimerskirch et al. (2018)
Southern Giant Petrel	ACAP (2010, 2024), Marin (2018), Poncet et al. (2020), Ryan et al. (2009)
Northern Giant Petrel	ACAP (2010, 2024), Frost (2021), Parker et al. (2020), Patterson et al. (2008), Poncet et al. (2020), Rexer-Huber et al. (2020a), Ryan et al. (2009), Walker & Elliott (2022)
Grey Petrel	ACAP (2024), Barbraud et al. (2009), Bird et al. (2022), Carneiro et al. (2020), Parker et al. (2017), Thompson (2019)
Black Petrel	Bell et al. (2016, 2022)
Westland Petrel	Waugh et al. (2020)
White-chinned Petrel	ACAP (2024), Barbraud et al. (2009), Carneiro et al. (2020), Rexer-Huber et al. (2017), Rexer-Huber (2017), Rexer-Huber et al. (2020b, 2023), Ryan et al. (2012)
Spectacled Petrel	Ryan et al. (2019)

Table 88: Sources of species' values of adult annual probability of breeding (P_s^B).

Species	Source(s)
Gibson's Albatross	Elliott et al. (2024), JF unpub.
Antipodean Albatross	Rexer-Huber et al. (2024), JF unpub.
Wandering Albatross	Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017)
Tristan Albatross	Carneiro et al. (2020), Oppel et al. (2022)
Amsterdam Albatross	Carneiro et al. (2020)
Southern Royal Albatross	
Northern Royal Albatross	Carneiro et al. (2020)
Atlantic Yellow-nosed Albatross	Bratt (2023)
Indian Yellow-nosed Albatross	
Black-browed Albatross	Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017), Ventura et al. (2023)
Campbell Albatross	Frost (2020), Rexer-Huber et al. (2020a), DT & PS unpub.
Shy Albatross	Thomson et al. (2015)
White-capped Albatross	Carneiro et al. (2020), Francis (2012)
Salvin's Albatross	Sagar et al. (2011)
Chatham Albatross	Carneiro et al. (2020)
Grey-headed Albatross	Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017), Waugh et al. (1999)
Southern Buller's Albatross	Fu & Sagar (2016)
Northern Buller's Albatross	Carneiro et al. (2020)
Sooty Albatross	
Light-mantled Sooty Albatross	Cleeland et al. (2020)
Southern Giant Petrel	Carneiro et al. (2020), Hunter (1984)
Northern Giant Petrel	Carneiro et al. (2020), Hunter (1984)
Grey Petrel	Carneiro et al. (2020), Chastel (1995), JB unpub., SO unpub.
Black Petrel	Zhang et al. (2020), EB unpub.
Westland Petrel	Waugh et al. (2020)
White-chinned Petrel	Carneiro et al. (2020), Dasnon et al. (2022)
Spectacled Petrel	

Table 89: Sources of species' values of current age at first breeding (A_s^{curr}).

Species	Source(s)
Gibson's Albatross	Francis et al. (2015)
Antipodean Albatross	Richard (2021)
Wandering Albatross	Fay et al. (2015), Nel et al. (2003), Weimerskirch et al. (1997), Weimerskirch (2018)
Tristan Albatross	Oppel et al. (2022), SO unpub.
Amsterdam Albatross	Carneiro et al. (2020)
Southern Royal Albatross	
Northern Royal Albatross	Richard et al. (2015)
Atlantic Yellow-nosed Albatross	Bratt (2023), SO unpub.
Indian Yellow-nosed Albatross	Bratt (2023)
Black-browed Albatross	Pardo et al. (2017), Ventura et al. (2023)
Campbell Albatross	Waugh et al. (1999)
Shy Albatross	Thomson et al. (2015)
White-capped Albatross	Carneiro et al. (2020)
Salvin's Albatross	Carneiro et al. (2020)
Chatham Albatross	Robertson et al. (2003)
Grey-headed Albatross	Pardo et al. (2017), Waugh et al. (1999)
Southern Buller's Albatross	Fu & Sagar (2016)
Northern Buller's Albatross	
Sooty Albatross	Carneiro et al. (2020)
Light-mantled Sooty Albatross	Carneiro et al. (2020)
Southern Giant Petrel	ACAP (2010), Carneiro et al. (2020), Hunter (1984), SO unpub.
Northern Giant Petrel	ACAP (2010), Carneiro et al. (2020), Hunter (1984), Voisin (1988)
Grey Petrel	Carneiro et al. (2020)
Black Petrel	Zhang et al. (2020)
Westland Petrel	Waugh et al. (2015)
White-chinned Petrel	Barbraud et al. (2008), Dasnon et al. (2022)
Spectacled Petrel	

Table 90: Sources of species' values of current annual survival probability (S_s^{curr}).

Species	Source(s)
Gibson's Albatross	Walker et al. (2023)
Antipodean Albatross	Parker et al. (2023), Richard (2021)
Wandering Albatross	Barbraud & Weimerskirch (2012), Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017)
Tristan Albatross	Oppel et al. (2022)
Amsterdam Albatross	Carneiro et al. (2020)
Southern Royal Albatross	
Northern Royal Albatross	Richard et al. (2015)
Atlantic Yellow-nosed Albatross	Bratt (2023)
Indian Yellow-nosed Albatross	Carneiro et al. (2020)
Black-browed Albatross	Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017), Ventura et al. (2023)
Campbell Albatross	Waugh et al. (1999)
Shy Albatross	Alderman et al. (2011), Thomson et al. (2015)
White-capped Albatross	Elliott et al. (2023), Parker et al. (2022)
Salvin's Albatross	Sagar et al. (2014)
Chatham Albatross	Carneiro et al. (2020)
Grey-headed Albatross	Carneiro et al. (2020), Cleeland et al. (2021), Pardo et al. (2017), Waugh et al. (1999)
Southern Buller's Albatross	Thompson & Sagar (2023)
Northern Buller's Albatross	
Sooty Albatross	SO unpub.
Light-mantled Sooty Albatross	Cleeland et al. (2021)
Southern Giant Petrel	Carneiro et al. (2020), SO unpub.
Northern Giant Petrel	Carneiro et al. (2020)
Grey Petrel	
Black Petrel	Zhang et al. (2020)
Westland Petrel	Waugh et al. (2015)
White-chinned Petrel	Barbraud et al. (2008), Carneiro et al. (2020), Dasnon et al. (2022), Thompson (2019)
Spectacled Petrel	

5. Review of biological inputs in 2024

An expert review of biological inputs to CCSBT's 2024 collaborative seabird risk assessment was undertaken last year. This included collation of the latest information on key demographic variables for the taxa covered by the risk assessment, a preliminary review of the density maps, and recommended biological inputs to the risk assessment model. The review was coordinated by Johannes Fischer (Department of Conservation), and described more fully in Edwards et al. (in prep.). This Section provides a summary of the colony-specific demographic information collated during the review. This Section also summaries other ouputs of the review process, including recommended prior distributions for relevant demographic variables. The tables also include updated information for breeding pairs (Gibson's, Antipodean, wandering, Southern Royal, black-browed, Campbell, shy, white-capped, Salvin's, grey-headed and southern Buller's albatrosses) and probability of breeding (Gibson's and Antipodean albatrosses) provided for the 2025 risk assessment.

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable.

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
Gibson's Albatross	Disappointment	244	6	2014	Baker & Jensz (2014), Elliott et al. (2024)		
	Adams	4,181	94	2024	Elliott et al. (2024)		
	Total	4,425				Log-norm (4425, 0.05)	GE, KRH
Antipodean Albatross	Moutere Mahue / Antipodes	3,383	100	2024	Parker et al. (2023), Rexer-Huber et al. (2024)	Log-norm (3383, 0.05)	GE, KRH
Wandering Albatross	S. Georgia (Islas Georgias del Sur)	1,278	12	2024	Mackley et al. (2024)		
	Prince Edward	1,600	16	2008	Ryan et al. (2009), ACAP (2024)		
	Marion	2,668	26	2023	ACAP (2024)		
	Crozet	2,324	23	2017	Weimerskirch et al. (2018)		
	Kerguelen	2,252	22	2017	Weimerskirch et al. (2018)		
	Macquarie	8 (3-15)	< 1	2023	ACAP (2024)		
	Total	10,130		2008-24		Log-norm (10130, 0.05)	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross	Gough	1,650 (1,106-1,921)	100	2004-21	Carneiro et al. (2020), Oppel et al. (2022)	Fit log-norm that most closely mirrors reported mean and 95% CIs	BC, PR, RW, SO
Amsterdam Albatross	Amsterdam	60	100	2021	Weimerskirch et al. (2018), Heerah et al. (2019)	Log-norm (60, 0.100)	MW
Southern Royal Albatross	Enderby	47	1	2022	Mischler & Wickes (2023)		
	Motu Ihupuku / Campbell	5,767	99	2024	Mischler et al. (2024)		
	Total	5,814		2022-2024		Log-norm (5814, 0.05)	KRH, PM

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
Northern Royal Albatross	Taiaroa Head	33 (28-38)	1	2018-23	Richard et al. (2015)		
	Chatham Islands	4,228 (3,301-5,156)	99	2016-21	Frost et al. (2023)		
	Total	4,261 (3,329-5,194)		2012-21		Fit log-norm that most closely mirrors reported mean and 95% CIs	PF, MW
Atlantic Yellow-nosed Albatross	Tristan da Cunha	15,250	57	2015	Birdlife International (2024)		
	Inaccessible	2,000	7	-			
	Nightingale	4,000	15	2007	Birdlife International (2024)		
	Gough	5,300 (4,600-6,000)	20	2011	Cuthbert et al. (2014)		
	Middle & Stoltenhoff	250	1	2009-10	Ryan et al. (2011)		
	Total	26,800		2001-15		Log-norm (26,800, 0.100)	AC, BC, MW, SC, SO
Indian Yellow-nosed Albatross	Prince Edward	7,000	21	2008	Ryan et al. (2009)		
	Crozet	4,212	12	2014	Weimerskirch et al. (2018),		
	Kerguelen	23	< 1	2016	Weimerskirch et al. (2018)		
	Amsterdam	22,753	67	2015	Weimerskirch et al. (2018)		
	Total	33,988		2008-16		Log-norm (33,988, 0.100)	AM, MW
Black-browed Albatross	Falklands (Islas Malvinas)	474,219	71	2011	Wolfaardt (2013), ACAP (2024)		
	S. Georgia (Islas Georgias del Sur)	55,119	8	2024	Mackley et al. (2024)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Islas Diego de Almagro	15,594	2	2002	ACAP (2010)		
	Islotes Evangelistas	4,818	< 1	2014	Robertson et al. (2017)		
	Islas Diego Ramirez	61,749	9	2003-15	Robertson et al. (2017), ACAP (2024)		
	Islas Ildefonso	54,284	8	2014	Robertson et al. (2017)		
	Islote Albatross	104	< 1	2012	Robertson et al. (2014)		
	Islote Leonard	545	< 1	2014	Robertson et al. (2017)		
	Crozet	710	< 1	1982-2016	Weimerskirch et al. (2018)		
	Kerguelen	2,880	< 1	2014-18	Weimerskirch et al. (2018), ACAP (2024)		
	Heard	600	< 1	2001	ACAP (2010)		
	Macquarie, Bishop & Clerk	192	< 1	1993-2014	Brothers & Ledingham (2008), Cleeland et al. (2021), ACAP (2024)		
	New Zealand Subantarctic	146	< 1	1995-96	ACAP (2024)		
	Total	670,960		1982-2024		Log-norm (670960, 0.05)	AC, GT, JM, MW, TC
Campbell Albatross	Motu Ihupuku / Campbell	14,129	100	2024	Mischler et al. (2024)	Log-norm (14129, 0.05)	DT, GT, PS
Shy Albatross	Albatross Island	5,585 (4,905-5,961)	36	2017-22	NRE Tas unpub. data		
	Pedra Branca	90	< 1	2017-22	NRE Tas unpub. data		
	Mewstone	9,660	63	2022	NRE Tas unpub. data		
	Total	15,335		2017-22		Log-norm (15,335, 0.100)	JM, SH
White-capped Albatross	Maukahuka / Auckland	85,820 (66,385-106,530)	100	2015-16	Walker et al. (2020), Baker et al. (2023), Fischer et al. unpub	Log-norm that approximates the updated CIs provided	BB, GT, KRH
Salvin's Albatross	Western Chain	1,213	2	2014	Sagar et al. (2014)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Hauriri / Bounties	34,029	98	2024	Baker & Jensz (2019)		
	Total	35,242		2014-24		Log-norm (35242, 0.05)	BB, DT, KRH, PS
Chatham Albatross	Tarakoikoia / Pyramid	5,294 (5,194-5,407)	100	2017	Bell et al. (2017)	Fit log-norm that most closely mirrors reported mean and 95% CIs	GT, MW
Grey-headed Albatross	S. Georgia (Islas Georgias del Sur)	18,475	29	2024	Mackley et al. (2024)		
	Islas Diego Ramirez	18,358	29	2003-14	Robertson et al. (2007, 2017)		
	Prince Edward	1,506	2	2008	Ryan et al. (2009)		
	Marion	8,180	13	2021	Stevens et al. (2024)		
	Crozet	6,319	10	1982-2016	Weimerskirch et al. (2018), ACAP (2024)		
	Kerguelen	6,445	10	2014	Weimerskirch et al. (2018)		
	Macquarie	100	< 1	2022	NRE Tas unpub. data		
	Campbell	3,672	6	2024	Mischler et al. (2024)		
	Total	63,055		1982-2024		Log-norm (63055, 0.05)	GT, JM, MW, SH, TC
Southern Buller's Albatross	Hautere / Solander	4,793 (4,213-5,373)	36	2024	Frost et al. (2024)		
	Tini Heke / Snares	8,700	61	2020	Thompson & Sagar (2020)		
	Total	14,320		2016-20		Log-norm (13493, 0.05)	PS, SW
Northern Buller's Albatross	Motuhara / Forty-fours	16,081	83	2016-22	Bell et al. (2017), Bell (2023)		
	Rangitatahi / Sisters	3,273	17	2017	Bell et al. (2018)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Total	19,354		2016-22		Log-norm (19,354, 0.05)	-
Sooty Albatross	Gough	3,750 (2,500-5,000)	28	2011	Cuthbert et al. (2014)		
	Inaccessible	500	4	2000	ACAP (2010)		
	Nightingale	150 (100-200)	1	1974	ACAP (2010)		
	Stoltenhoff	37 (25-50)	< 1	1974	ACAP (2010)		
	Tristan	2,675	20	-	Schoombie et al. (2017)		
	Prince Edward	1,500	11	2008	Ryan et al. (2009), Schoombie et al. (2017)		
	Marion	2,000	15	2019	Ryan et al. (2009), Schoombie et al. (2017)		
	Crozet	2,144 (2,144-2,224)	16	1976-2017	ACAP (2010), Weimerskirch et al. (2018)		
	Amsterdam	394	3	2012	Weimerskirch et al. (2018)		
	Total	13,150 (11,738-14,563)		1976-2019		Log-norm (13,150, 0.100) or beta (85,7)*13,150	BC, MW, RP, RW, SO, SS
Light-mantled Sooty Albatross	S. Georgia (Islas Georgias del Sur)	5,000	24	1983	ACAP (2010)		
	Prince Edward	150	1	2002	ACAP (2010)		
	Marion	268 (184-352)	< 1	2012-14	ACAP (2010), Schoombie et al. (2016)		
	Crozet	2,159	10	1984-2017	ACAP (2010), Weimerskirch et al. (2018)		
	Kerguelen	4,000 (3,000-5,000)	19	1987	ACAP (2010)		
	Heard	350 (200-500)	2	1954	ACAP (2010)		
	Macquarie	2,150 (1,850-2,450)	10	2014	Cleeland et al. (2021)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Maukahuka / Auckland	5,000	24	1972	ACAP (2010)		
	Motu Ihupuku / Campbell	1,600	8	1995	ACAP (2010)		
	Moutere Mahue / Antipodes	250	1	1995	ACAP (2010)		
	Total	20,927 (19,393-22,461)		1983-2017		Log-norm (20,927, 0.100)	BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	Falklands (Islas Malvinas)	19,529	36	2005	ACAP (2010)		
	S. Georgia (Islas Georgias del Sur)	8,803	16	2005-07	Poncet et al. (2020)		
	South Orkney	3,350	6	2006	ACAP (2010)		
	South Shetland	5,400	10	2005-07	ACAP (2010)		
	Islas Sandwich del Sur / South Sandwich	1,882	3	2011	ACAP (2024)		
	Antarctic Peninsula	1,190	2	2005	ACAP (2010)		
	Antarctic Continent	300	< 1	2001	ACAP (2010)		
	South America	2,831	5	2004-05	ACAP (2010)		
	Islas Diego Ramirez & Noir	1,847	3	1984-2014	Marin (2018)		
	Gough	348	< 1	2002	ACAP (2024)		
	Prince Edwards	2,156	4	2006-08	Ryan et al. (2009)		
	Crozet	1,141	2	1976-2008	ACAP (2010)		
	Heard	3,500	6	2004	ACAP (2010)		
	Macquarie	2,125	4	2007	ACAP (2010)		
	Total	54,402		1984-2022		Log-norm (54,402, 0.100)	BC, BW, MW, RP, RW, JM, SO
Northern Giant Petrel	S. Georgia (Islas Georgias del Sur)	15,398	67	2005-07	Poncet et al. (2020)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Prince Edward & Marion	713	3	-	Ryan et al. (2009), ACAP (2024)		
	Crozet	1,238 (1,213-1,263)	5	1976-2007	ACAP (2010)		
	Kerguelen	1,400	6	1995	Patterson et al. (2008)		
	Macquarie	1,487	7	2013-14	ACAP (2024)		
	Maukahuka / Aucklands	340 (210-390)	2	2015	Parker et al. (2020)		
	Motu Ihupuku / Campbell	150 (134-173)	1	2019	Rexer-Huber et al. (2020a)		
	Moutere Mahue / Antipodes	300 (295-304)	1	2020-21	Walker & Elliott (2022)		
	Rēkohu / Wharekauri / Chathams	2,050 (1,799-2,251)	9	2020	Frost (2021)		
	Total	23,051 (22,649-23,379)		1976-2021		Log-norm (23,051, 0.100)	GT, JM, KRH, MW, RP
Grey Petrel	Gough	17,500 (10,000-25,000)	17	2001	Carneiro et al. (2020), ACAP (2024)		
	Prince Edward & Marion	5,000	5	-	Carneiro et al. (2020)		
	Crozet	5,500 (2,000-9,000)	5	1984			
	Kerguelen	3,400 (1,900-5,600)	3	2004-2006	Barbraud et al. (2009)		
	Amsterdam	7 (5-10)	< 1	1980			
	Macquarie	252 (227-302)	< 1	2017-2018	Bird et al. (2022)		
	Motu Ihupuku / Campbell	98 (83-109)	< 1	2015	Parker et al. (2017)		
	Moutere Mahue / Antipodes	73,860 (40,076-107,644)	70	2008-10	Thompson (2019)		
	Total	105,617 (59,291-152,665)		1984-2018		Log-norm (105,617, 0.150)	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS
Black Petrel	Hauturu-o-Toi / Little Barrier	620	11	2015	Bell et al. (2016)		

Table 91: Suggested updates to prior distributions of number of breeding pairs (N_s^{BP}). Reported 95% CIs are provided in parentheses where available. Percentages of breeding pairs (% column) from each colony were used to calculate weighted averages for demographic parameters where applicable. ***(continued)***

Species	Island(s)	Breeding pairs	%	Time period	References	Suggested prior distribution	Feedback provided
	Aotea / Great Barrier	4,836 (4,270-5,493)	89	2018-21	Bell et al. (2022)		
	Total	5,456 (4,890-6,112)		2015-19		Fit log-norm that most closely mirrors reported mean and 95% CIs	EB, GT, RP
Westland Petrel	Punakaiki	6,223 (5,478-6,967)	100	2019-20	Waugh et al. (2020)	Fit log-norm that most closely mirrors reported mean and 95% CIs	BB, GT, KS, SW
White-chinned Petrel	S. Georgia (Islas Georgias del Sur)	773,150	59	2007	Carneiro et al. (2020)		
	Prince Edward	12,000 (9,000-15,000)	1	2008	Ryan et al. (2012)		
	Marion	24,000 (20,000-28,000)	2	2009	Ryan et al. (2012)		
	Crozet	44,428 (34,614-54,241)	3	1984-2004	ACAP (2024)		
	Kerguelen	234,000 (186,000-297,000)	18	2004-06	Barbraud et al. (2009)		
	Disappointment	153,000 (119,700-195,700)	12	2015	Rexer-Huber et al. (2017)		
	Adams	28,300 (10,400-44,800)	2	2013-17	Rexer-Huber et al. (2020b)		
	Motu Ihupuku / Campbell	22,000	2	2014-15	Rexer-Huber (2017)		
	Moutere Mahue / Antipodes	26,400 (22,200-31,600)	2	2022-23	Rexer-Huber et al. (2023)		
	Total	1,317,278 (1,197,064-1,461,491)		2004-23		Log-norm (1,317,278, 0.100)	KRH, MW, TC
Spectacled Petrel	Inaccessible	42,000 (34,000-50,000)	100	2018	Ryan et al. (2019)	Fit log-norm that most closely mirrors reported mean and 95% CIs	BC, PR, RW, SO

Table 92: Suggested updates to prior distributions of breeding probability (P_s^B). Reported 95% CIs are provided in parentheses, where available.

Species	Island(s)	Breeding probability	Time period	References	Suggested prior distribution	Feedback provided
Gibson's Albatross	Adams	0.595 (0.527-0.674)	2014-24	Elliott et al. (2024), JF unpub.	Fit beta dist that most closely mirrors reported mean and 95% CIs	GE, KRH
Antipodean Albatross	Moutere Mahue / Antipodes	0.450 (0.363-0.565)	2014-24	Rexer-Huber et al. (2024), JF unpub.	Fit beta dist that most closely mirrors reported mean and 95% CIs	GE, KRH
Wandering Albatross	S. Georgia (Islas Georgias del Sur) Kerguelen Macquarie Weighted mean	0.356 0.566 0.738 (0.738-0.814) 0.494	1980-2019 - 1995-2014	Pardo et al. (2017), Carneiro et al. (2020), Carneiro et al. (2020), Cleeland et al. (2021)	Logit-norm (0.494, 0.05)	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross	Gough	0.349 (0.227-0.484)	2004-21	Carneiro et al. (2020), Oppel et al. (2022)	Fit beta dist (perhaps, 35, 70) that most closely mirrors reported mean and 95% CIs	BC, PR, RW, SO
Amsterdam Albatross	Amsterdam	0.600	-	Carneiro et al. (2020)	Logit-norm (0.600, 0.05)	MW
Southern Royal Albatross	-	–	-		Fit beta dist that most closely mirrors a mean of 0.582 (Northern Royal Albatross) and 95% CIs of 0.300-0.700	KRH, PM
Northern Royal Albatross	Rēkohu / Wharekauri / Chathams	0.582	-	Carneiro et al. (2020)		
Atlantic Yellow-nosed Albatross	Gough	0.596 (0.579-0.609)	1985-2020	Bratt (2023)	Norm (0.596, 0.005)	AC, BC, MW, SC, SO

Table 92: Suggested updates to prior distributions of breeding probability (P_s^B). Reported 95% CIs are provided in parentheses, where available. ***(continued)***

Species	Island(s)	Breeding probability	Time period	References	Suggested prior distribution	Feedback provided
Indian Yellow-nosed Albatross	-	–	-		Use Atlantic yellow-nosed albatross mean estimate to inform prior. Logit-norm (0.596, 0.05)	AM, MW
Black-browed Albatross	Falklands (Islas Malvinas)	0.880 (0.870-0.890)	2003-21	Ventura et al. (2023)		
	S. Georgia (Islas Georgias del Sur)	0.586 (0.228-0.980)	1980-2019	Pardo et al. (2017), Carneiro et al. (2020)		
	Macquarie	0.748 (0.725-0.772)	1995-2014	Cleeland et al. (2021)		
	Weighted mean	0.844 (0.792-0.901)			Fit beta dist that most closely mirrors reported weighted mean and 95% CIs?	AC, GT, JM, MW, TC
Campbell Albatross	Motu Ihupuku / Campbell	0.820	2017	Frost (2020), Rexer-Huber et al. (2020a), DT & PS unpub.	Logit-norm (0.900, 0.05). High prior distribution retained due to comments received on high (unpublished) breeding probability.	DT, GT, PS
Shy Albatross	Albatross	0.950	2000-10	Thomson et al. (2015)	Return rates interpreted as breeding probability, so prior distribution adjusted to accommodate for this. Logit-norm (0.747, 0.05)	JM, SH
White-capped Albatross	Maukahuka / Auckland (Southwest Cape)	0.680 (0.580-0.810)	2005-10	Francis (2012), Carneiro et al. (2020)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, GT, KRH

Table 92: Suggested updates to prior distributions of breeding probability (P_s^B). Reported 95% CIs are provided in parentheses, where available. ***(continued)***

Species	Island(s)	Breeding probability	Time period	References	Suggested prior distribution	Feedback provided
Salvin's Albatross	Western Chain	0.865	1995, 2008-10	Sagar et al. (2011)	Fit beta dist that most closely mirrors reported mean and 95% CIs of 0.650-0.900	BB, DT, KRH, PS
Chatham Albatross	Tarakoikoia / Pyramid	0.773	-	Carneiro et al. (2020)	Logit-norm (0.773, 0.05)	GT, MW
Grey-headed Albatross	S. Georgia (Islas Georgias del Sur) Macquarie Campbell Weighted mean	0.368 (0.154-0.673) 0.951 (0.935-0.967) 0.601 0.406 (0.227-0.662)	1980-2019 1995-2014 1945-96	Pardo et al. (2017), Carneiro et al. (2020) Cleeland et al. (2021) Waugh et al. (1999)	Fit beta dist that most closely mirrors reported weighted mean and 95% CIs	GT, JM, MW, SH, TC
Southern Buller's Albatross	Tini Heke / Snares	0.826	1994-2014	Fu & Sagar (2016)	Fit beta dist that most closely mirrors reported mean and 95% CIs of 0.650-0.900	PS, SW
Northern Buller's Albatross	Rēkohu / Wharekauri / Chathams	0.800	-	Carneiro et al. (2020)	Logit-norm (0.800, 0.05)	-
Sooty Albatross	-	–	-		Use distribution for light-mantled Sooty-albatross estimates	BC, MW, RP, RW, SO, SS
Light-mantled Sooty Albatross	Macquarie	0.730 (0.514-0.946)	2004-15	Cleeland et al. (2020)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	S. Georgia (Islas Georgias del Sur)	0.730	1978-81	Hunter (1984), Carneiro et al. (2020)	Logit-norm (0.730, 0.05)	BC, BW, MW, RP, RW, JM, SO

Table 92: Suggested updates to prior distributions of breeding probability (P_s^B). Reported 95% CIs are provided in parentheses, where available. *(continued)*

Species	Island(s)	Breeding probability	Time period	References	Suggested prior distribution	Feedback provided
Northern Giant Petrel	S. Georgia (Islas Georgias del Sur)	0.730	1978-81	Hunter (1984), Carneiro et al. (2020)	Logit-norm (0.730, 0.05)	GT, JM, KRH, MW, RP
Grey Petrel	Kerguelen & Crozet	0.900	-	Chastel (1995), Carneiro et al. (2020), JB unpub., SO unpub.	Logit-norm (0.900, 0.05). High prior distribution retained due to comments received on high (unpublished) breeding probability.	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS
Black Petrel	Aotea / Great Barrier	0.610 (0.540-0.700)	1996-2017	Zhang et al. (2020), EB unpub.	Fit beta dist that most closely mirrors reported mean and 95% CIs	EB, GT, RP
Westland Petrel	Punakaiki	0.480 (0.337-0.623)	2007-19	Waugh et al. (2020)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, GT, KS, SW
White-chinned Petrel	-	0.750	-	Carneiro et al. (2020), Dasnon et al. (2022)	Logit-norm (0.750, 0.05)	KRH, MW, TC
Spectacled Petrel	-	–	-		Logit-norm (0.797, 0.05). Mean *Procellaria* estimate used to inform prior in absence of data.	BC, PR, RW, SO

Table 93: Proportion of adults on nests (conditional on breeding probability, i.e., only applicable to breeding birds) as influenced by the breeding phenology. Darker colours represent a higher proportion on nests. CS = courtship period, IN = incubation period, CR = chick-rearing period, while the chick is being guarded, PG = post-guard chick-rearing period, NB = non-breeding period.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	References	Feedback provided
Gibson's Albatross	0.5 IN	0.5 IN	0.5 IN	0.4 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.22 CS	ACAP (2010)	GE, KRH
Antipodean Albatross	0.4 IN	0.5 IN	0.45 IN	0.45 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.2 CS	ACAP (2010)	GE, KRH
Wandering Albatross	0.5 IN	0.5 IN	0.4 IN	0.2 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.4 CS/IN	Berrow & Croxall (2001), ACAP (2010), Jones et al. (2017)	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross	0.6 IN	0.5 IN	0.5 IN	0.5 IN	0.3 CR	0.3 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.4 CS	ACAP (2010)	BC, PR, RW, SO
Amsterdam Albatross	0.05 PG	0.4 CS/IN	0.5 IN	0.5 IN	0.4 CR	0.3 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	ACAP (2010)	MW
Southern Royal Albatross	0.5 IN	0.5 IN	0.4 IN/CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0.4 CS	0.5 IN	ACAP (2010)	KRH, PM
Northern Royal Albatross	0.5 IN	0.4 IN	0.3 IN/CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0.4 CS	0.5 IN	0.5 IN	ACAP (2010)	PF, MW
Atlantic Yellow-nosed Albatross	0.3 PG	0.2 PG	0.1 PG	0.05 PG	0 NB	0 NB	0 NB	0.5 CS	0.6 IN	0.5 IN	0.5 IN	0.5 CR	ACAP (2010)	AC, BC, MW, SC, SO
Indian Yellow-nosed Albatross	0.2 CR	0.1 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.1 CS	0.5 CS/IN	0.5 IN	0.4 IN	0.4 IN	ACAP (2010)	AM, MW
Black-browed Albatross	0.2 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.4 CS	0.5 IN	0.5 IN	0.4 IN/CR	ACAP (2010)	AC, GT, JM, MW, TC
Campbell Albatross	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.2 CS	0.5 IN	0.5 IN	0.4 IN	0.3 IN/CR	ACAP (2010)	DT, GT, PS
Shy Albatross	0.1 CR	0.05 PG	0.05 PG	0.05 PG	0.05 NB	0.05 NB	0.1 NB/CS	0.1 CS	0.5 IN	0.5 IN	0.4 IN	0.4 IN/CR	ACAP (2010), Hedd & Gales (2005)	JM, SH
White-capped Albatross	0.4 CR	0.1 CR/PC	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0.25 CS	0.5 IN	0.5 IN	ACAP (2010), Walker et al. (2020)	BB, GT, KRH
Salvin's Albatross	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.1 CS	0.3 CS/IN	0.5 IN	0.5 IN	0.4 IN/C	0.1 C	ACAP (2010), Rexer-Huber et al. (2021)	BB, DT, KRH, PS

Table 93: Proportion of adults on nests (conditional on breeding probability, i.e., only applicable to breeding birds) as influenced by the breeding phenology. Darker colours represent a higher proportion on nests. CS = courtship period, IN = incubation period, CR = chick-rearing period, while the chick is being guarded, PG = post-guard chick-rearing period, NB = non-breeding period. ***(continued)***

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	References	Feedback provided
Chatham Albatross	0.1 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0.2 CS	0.4 CS/IN	0.5 IN	0.5 IN	0.4 IN/CR	0.3 CR	ACAP (2010)	GT, MW
Grey-headed Albatross	0.3 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.1 CS	0.5 IN	0.5 IN	0.4 IN	ACAP (2010)	GT, JM, MW, SH, TC
Southern Buller's Albatross	0.2 NB/CS	0.5 IN	0.45 IN	0.3 IN/CR	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0 NB	0 NB	ACAP (2010), Fischer et al. (2023)	PS, SW
Northern Buller's Albatross	0.45 IN	0.4 IN/CR	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0 NB	0 NB	0.4 CS/IN	0.5 IN	ACAP (2010), Fischer et al. (2023)	
Sooty Albatross	0.2 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0.5 CS	0.7 IN	0.7 IN	0.5 IN	0.5 IN/CR	ACAP (2010)	BC, MW, RP, RW, SO, SS
Light-mantled Sooty Albatross	0.4 IN/CR	0.1 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0.1 CS	0.5 CS/IN	0.5 IN	0.4 IN	ACAP (2010)	BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	0.3 CR	0.25 CR/PC	0.25 PG	0.25 PG	0.1 PG	0.1 NB	0.1 NB	0.1 NB	0.25 CS/IN	0.5 IN	0.5 IN	0.5 IN/CR	ACAP (2010), Otovic et al. (2018), Ryan & Oppel (2022)	BC, BW, MW, RP, RW, JM, SO
Northern Giant Petrel	0.1 PG	0.05 PG	0.05 PG	0.05 PG	0.05 NB	0.05 NB	0.1 NB/CS	0.5 IN	0.5 IN	0.5 IN	0.4 IN/CR	0.2 CR	ACAP (2010)	GT, JM, KRH, MW, RP
Grey Petrel	0 NB	0.5 CS	0.5 IN	0.5 IN	0.4 IN/CR	0.3 CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	ACAP (2010), Dilley et al. (2019)	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS
Black Petrel	0.5 IN	0.4 IN/CR	0.05 PG	0.05 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0.05 CS	0.3 CS/IN	0.5 IN	ACAP (2010)	EB, GT, RP
Westland Petrel	0 NB	0.15 CS	0.3 CS	0.4 CS/IN	0.5 IN	0.5 IN	0.45 CR	0.4 CR	0.05 PG	0.05 PG	0.05 PG	0 NB	ACAP (2010)	BB, GT, KS, SW
White-chinned Petrel	0.4 CR	0.3 CR/PC	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0 NB	0.3 CS	0.4 CS/IN	0.5 IN	0.5 IN	ACAP (2010)	KRH, MW, TC
Spectacled Petrel	0.1 PG	0.05 PG	0.05 PG	0 NB	0 NB	0 NB	0 NB	0 NB	0.5 CS	0.5 IN	0.4 IN	0.3 CR	ACAP (2010), Ryan et al. (2006), Hernandez et al. (2019)	BC, PR, RW, SO

Table 94: Suggested updates to prior distributions of current age at first breeding (A_s^{curr}). Age at first breeding provides reported modes and ranges.

Species	Island(s)	Age at first breeding	Time period	References	Suggested prior distribution	Feedback provided
Gibson's Albatross	Adams	12 (8-18)	1991-2011	Francis et al. (2015)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	GE, KRH
Antipodean Albatross	Moutere Mahue / Antipodes	14 (7-21)	1994-2021	Richard (2021)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	GE, KRH
Wandering Albatross	S. Georgia (Islas Georgias del Sur), Marion, Crozet, Kerguelen	10 (6-20)	1965-2018	Nel et al. (2003), Weimerskirch et al. (1997), Fay et al. (2015), Weimerskirch (2018)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross	Gough	8 (4-25)	2004-2021	Oppel et al. (2022), SO unpub.	Gamma prior (perhaps (10, 1)) mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BC, PR, RW, SO
Amsterdam Albatross	Amsterdam	10 (6-15)	-	Carneiro et al. (2020)	Range informed by Wandering Albatross. Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	MW
Southern Royal Albatross	-	9 (6-18)	-		Use distribution for northern royal albatross	KRH, PM
Northern Royal Albatross	Taiaroa Head	9 (6-18)	1989-2012	Richard et al. (2015)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	PF, MW
Atlantic Yellow-nosed Albatross	Gough	9 (7-15)	1985-2020	Bratt (2023), SO unpub.	Gamma prior (perhaps (8, 0.9)) mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	AC, BC, MW, SC, SO

Table 94: Suggested updates to prior distributions of current age at first breeding (A_s^{curr}). Age at first breeding provides reported modes and ranges. *(continued)*

Species	Island(s)	Age at first breeding	Time period	References	Suggested prior distribution	Feedback provided
Indian Yellow-nosed Albatross	-	9 (7-15)	-	Bratt (2023)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	AM, MW
Black-browed Albatross	S. Georgia (Islas Georgias del Sur), Falklands (Islas Malvinas)	10 (6-15)	1980-2021	Pardo et al. (2017), Ventura et al. (2023)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	AC, GT, JM, MW, TC
Campbell Albatross	Motu Ihupuku / Campbell	9 (6-13)	1942-1996	Waugh et al. (1999)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	DT, GT, PS
Shy Albatross		8 (5-16)	1981-2011	Thomson et al. (2015)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	JM, SH
White-capped Albatross	-	9 (7-16)	-	Carneiro et al. (2020)	Informed by estimates for shy albatross. Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BB, GT, KRH
Salvin's Albatross	-	10 (6-15)	-	Carneiro et al. (2020)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BB, DT, KRH, PS
Chatham Albatross	Tarakoikoia / Pyramid	8 (6-16)	-	Robertson et al. (2003)	Range based on *Thalassarche* mean range. Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	GT, MW

Table 94: Suggested updates to prior distributions of current age at first breeding (A_s^{curr}). Age at first breeding provides reported modes and ranges. ***(continued)***

Species	Island(s)	Age at first breeding	Time period	References	Suggested prior distribution	Feedback provided
Grey-headed Albatross	S. Georgia (Islas Georgias del Sur), Motu Ihupuku / Campbell	13 (6-20)	1980-2012	Waugh et al. (1999), Pardo et al. (2017)		
Southern Buller's Albatross	Tini Heke / Snares	12 (6-15)	1994-2014	Fu & Sagar (2016)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	PS, SW
Northern Buller's Albatross	-	12 (6-15)	-		Use distribution for southern Buller's albatross	-
Sooty Albatross	-	9 (6-16)	-	Carneiro et al. (2020)	Gamma prior (perhaps (9, 0.9)) mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BC, MW, RP, RW, SO, SS
Light-mantled Sooty Albatross	-	9 (9-16)	-	Carneiro et al. (2020)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	Gough	8 (6-11)	2010-23	Hunter (1984), ACAP (2010), Carneiro et al. (2020), SO unpub.	Gamma prior (perhaps (12, 1.5)) mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BC, BW, MW, RP, RW, JM, SO
Northern Giant Petrel	-	9 (5-12)	-	Hunter (1984), Voisin (1988), ACAP (2010), Carneiro et al. (2020)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	GT, JM, KRH, MW, RP
Grey Petrel	-	7 (4-11)	-	Carneiro et al. (2020)	Range based on *Procellaria* mean range. Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS

Table 94: Suggested updates to prior distributions of current age at first breeding (A_s^{curr}). Age at first breeding provides reported modes and ranges. ***(continued)***

Species	Island(s)	Age at first breeding	Time period	References	Suggested prior distribution	Feedback provided
Black Petrel	Aotea / Great Barrier	8 (4-12)	1996-2017	Zhang et al. (2020)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	EB, GT, RP
Westland Petrel	Punakaiki	8 (4-12)	1977-2012	Waugh et al. (2015)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	BB, GT, KS, SW
White-chinned Petrel	Crozet	7 (4-10)	1986-2017	Barbraud et al. (2008), Dasnon et al. (2022)	Gamma prior mirroring the reported mode and range (treated as an absolute range, not 95% CIs)	KRH, MW, TC
Spectacled Petrel	-	7 (4-10)	-		Use distribution for white-chinned petrel	BC, PR, RW, SO

Table 95: Suggested updates to prior distributions of current adult survival (S_s^{curr}). Reported 95% CIs are provided in parentheses, where available.

Species	Island(s)	Adult survival	Time period	References	Suggested prior distribution	Feedback provided
Gibson's Albatross	Adams	0.912 (0.837-0.987)	2008-21	Walker et al. (2023)	Fit beta dist that most closely mirrors reported mean and 95% CIs	GE, KRH
Antipodean Albatross	Moutere Mahue / Antipodes	0.907 (0.855-0.952)	2005-21	Richard (2021), Parker et al. (2023)	Fit beta dist that most closely mirrors reported mean and 95% CIs	GE, KRH
Wandering Albatross	S. Georgia (Islas Georgias del Sur)	0.879 (0.850-0.908)	1980-2019	Pardo et al. (2017)		
	Crozet	0.939 (0.888-0.989)	1966-2006	Barbraud & Weimerskirch (2012), Carneiro et al. (2020)		
	Macquarie	0.939 (0.912-0.966)	1995-2014	Cleeland et al. (2021)		
	Weighted mean	0.918 (0.875-0.962)	1966-2019		Fit beta dist that most closely mirrors reported weighted mean and 95% CIs	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross	Gough	0.948 (0.936-0.961)	2004-2021	Oppel et al. (2022)	Fit beta dist perhaps ((99, 5)) that most closely mirrors reported mean and 95% CIs	BC, PR, RW, SO
Amsterdam Albatross	Amsterdam	0.971		Carneiro et al. (2020)	Logit-norm (0.971, 0.01)	MW
Southern Royal Albatross		–			Mean estimate for northern royal albatross used to inform prior. Fit a beta dist with a mean of 0.950 and 95% CI's ranging 0.87-0.96 to mirror uncertainty and recent declines	KRH, PM
Northern Royal Albatross	Taiaroa Head	0.950 (0.941-0.959)	1989-2012	Richard et al. (2015)	Fit beta dist that most closely mirrors reported mean and 95% CIs	PF, MW

Table 95: Suggested updates to prior distributions of current adult survival (S_s^{curr}). Reported 95% CIs are provided in parentheses, where available. *(continued)*

Species	Island(s)	Adult survival	Time period	References	Suggested prior distribution	Feedback provided
Atlantic Yellow-nosed Albatross	Gough	0.923 (0.908-0.935)	1985-2020	Bratt (2023)	Fit beta dist that most closely mirrors reported mean and 95% CIs	AC, BC, MW, SC, SO
Indian Yellow-nosed Albatross	Amsterdam	0.902		Carneiro et al. (2020)	Logit-norm (0.902, 0.02)	AM, MW
Black-browed Albatross	Falklands (Islas Malvinas)	0.933 (0.892-0.974)	2003-21	Ventura et al. (2023)		
	S. Georgia (Islas Georgias del Sur)	0.924 (0.879-0.969)	1980-2019	Pardo et al. (2017), Carneiro et al. (2020)		
	Macquarie	0.914 (0.900-0.928)	1995-2014	Cleeland et al. (2021)		
	Weighted mean	0.931 (0.889-0.973)			Fit beta dist that most closely mirrors reported weighted mean and 95% CIs	AC, GT, JM, MW, TC
Campbell Albatross	Motu Ihupuku / Campbell	0.945	1945-96	Waugh et al. (1999)	Logit-norm (0.945, 0.007)	DT, GT, PS
Shy Albatross	Albatross	0.961 (0.952-0.970)	1981-2010	Alderman et al. (2011), Thomson et al. (2015)	Fit beta dist that most closely mirrors reported mean and 95% CIs	JM, SH
White-capped Albatross	Disappointment	0.920 (0.900-0.930)	2015-23	Parker et al. (2022), Elliott et al. (2023)	Due to differing estimates, a prior with a wider uncertainty range than the reported range is used here. Logit-norm (0.920, 0.01)	BB, GT, KRH
Salvin's Albatross	Western Chain	0.951 (0.754-0.992)	1995, 2008-10	Sagar et al. (2014)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, DT, KRH, PS

Table 95: Suggested updates to prior distributions of current adult survival (S_s^{curr}). Reported 95% CIs are provided in parentheses, where available. ***(continued)***

Species	Island(s)	Adult survival	Time period	References	Suggested prior distribution	Feedback provided
Chatham Albatross	Tarakoikoia / Pyramid	0.887		Carneiro et al. (2020)	Literature conflates adult and juvenile survival rates, so average *Thalassarche* estimate used here instead. Logit-norm (0.925, 0.03)	GT, MW
Grey-headed Albatross	S. Georgia (Islas Georgias del Sur)	0.952 (0.890-0.990)	1980-2019	Pardo et al. (2017), Carneiro et al. (2020)		
	Macquarie	0.933 (0.925-0.941)	1995-2014	Cleeland et al. (2021)		
	Campbell	0.941	1945-96	Waugh et al. (1999)		
	Weighted mean	0.950 (0.898-0.982)			Fit beta dist that most closely mirrors reported weighted mean and 95% CIs	GT, JM, MW, SH, TC
Southern Buller's Albatross	Tini Heke / Snares	0.891 (0.830-0.950)	2017-23	Thompson & Sagar (2023)	Fit beta dist that most closely mirrors reported mean and 95% CIs	PS, SW
Northern Buller's Albatross	Rēkohu / Wharekauri / Chathams	–			Average *Thalassarche* estimate used in the absence of a direct estimate. Logit-norm (0.925, 0.025)	-
Sooty Albatross		0.895 (0.831-0.941)		SO unpub.	The unpublished analysis likely an underestimate, so the mean for light-mantled Sooty Albatross used, with additional uncertainty. Logit-norm (0.920, 0.025)	BC, MW, RP, RW, SO, SS

Table 95: Suggested updates to prior distributions of current adult survival (S_s^{curr}). Reported 95% CIs are provided in parentheses, where available. *(continued)*

Species	Island(s)	Adult survival	Time period	References	Suggested prior distribution	Feedback provided
Light-mantled Sooty Albatross	Macquarie	0.924 (0.924-0.928)	1995-2014	Cleeland et al. (2021)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	S. Georgia (Islas Georgias del Sur)	0.920		Carneiro et al. (2020)		
	Gough	0.928 (0.899-0.950)		SO unpub.		
	Prince Edwards	0.890		Carneiro et al. (2020)		
	Weighted mean	0.917			Norm (0.915, 0.100)	BC, BW, MW, RP, RW, JM, SO
Northern Giant Petrel	S. Georgia (Islas Georgias del Sur)	0.910		Carneiro et al. (2020)		
	Prince Edwards	0.890		Carneiro et al. (2020)		
	Weighted mean	0.909			Logit-norm (0.909, 0.025)	GT, JM, KRH, MW, RP
Grey Petrel		–			Average *Procellaria* estimate used in the absence of a direct estimate. Logit-norm (0.897, 0.025)	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS
Black Petrel	Aotea / Great Barrier	0.864 (0.864-0.879)	1996-2017	Zhang et al. (2020)	Fit beta dist that most closely mirrors reported mean and 95% CIs	EB, GT, RP
Westland Petrel	Punakaiki	0.954 (0.918-0.975)	1977-2012	Waugh et al. (2015)	Fit beta dist that most closely mirrors reported mean and 95% CIs	BB, GT, KS, SW
White-chinned Petrel	S. Georgia (Islas Georgias del Sur)	0.875		Carneiro et al. (2020)		
	Crozet	0.877	1986-2017	Barbraud et al. (2008), Dasnon et al. (2022)		
	Antipodes	0.825 (0.720-0.895)	2006-10	Thompson (2019)		

Table 95: Suggested updates to prior distributions of current adult survival (S_s^{curr}). Reported 95% CIs are provided in parentheses, where available. ***(continued)***

Species	Island(s)	Adult survival	Time period	References	Suggested prior distribution	Feedback provided
	Weighted mean	0.874			Logit-norm (0.874, 0.02)	KRH, MW, TC
Spectacled Petrel		–			Use white-chinned petrel distribution with increased variance in absence of direct estimate	BC, PR, RW, SO

Table 96: A preliminary review of the seabird distribution maps from Devine et al. (In press).

Species	Comments	Coverage of tracking data	References	Feedback provided
Gibson's Albatross	Additional tracking to that which was used in the modelling of this distribution are now available. Future work should prioritise a revision of this distribution map and tracking of Disappointment Island population (8%).	Additional data required		GE, KRH
Antipodean Albatross		-		GE, KRH
Wandering Albatross	Additional tracking to that which was used in the modelling of this distribution are now available. Current distribution is heavily weighted towards Atlantic and S. Georgia which represent 11% of the world population. Future work should prioritise a revision of this distribution map, additional tracking work, and weighting available tracking data by population size, tracking duration, and timing.	Additional data required	Carneiro et al. (2020)	AM, JM, MC, MW, PR, RP, SH, TC
Tristan Albatross		-		BC, PR, RW, SO
Amsterdam Albatross	Future work should prioritise a revision of this distribution map to consider spatial differences between age classes.	-	Delord et al. (2022)	MW
Southern Royal Albatross	Additional tracking to that which was used in the modelling of this distribution will be available in 2025. Future work should prioritise a revision of this distribution map to take into account the additional tracking.	Additional data required		KRH, PM
Northern Royal Albatross	Additional tracking is required for this species before a revision of the distribution map is undertaken.	-		PF, MW
Atlantic Yellow-nosed Albatross	Additional tracking is potentially required for this species. If additional tracking is not undertaken, future work revising this distribution map should utilise additional data sources to take into account known foraging areas such as the Benguela Upwelling zone.	Additional data required	ACAP (2010)	AC, BC, MW, SC, SO

Table 96: A preliminary review of the seabird distribution maps from Devine et al. (In press). *(continued)*

Species	Comments	Coverage of tracking data	References	Feedback provided
Indian Yellow-nosed Albatross		-		AM, MW
Black-browed Albatross	Additional tracking is potentially required for this species in the Falkland Islands. Current distribution is heavily weighted towards areas such as the Australian Bight. Future work should prioritise a revision of this distribution map, and additional tracking.	Additional data required		AC, GT, JM, MW, TC
Campbell Albatross	Additional tracking to that which was used in the modelling of this distribution are now available. Known foraging areas in Western Australia and Chile are currently absent from the distribution, potentially due to the short duration of tracking studies on the species to date.	Additional data required	Thompson et al. (2021)	DT, GT, PS
Shy Albatross	Additional tracking to that which was used in the modelling of this distribution are now available. Known foraging areas in the Indian Ocean to the east coast of South Africa are currently absent from the distribution. Future work should prioritise a revision of this distribution map to ensure that tracking is representative of the total population, as tracks from Mewstone Island (63% of the world population) are currently not utilised.	Additional data required	Alderman et al. (2011), Thomson et al. (2015), Mason et al. (2018, 2023)	JM, SH
White-capped Albatross		-		BB, GT, KRH
Salvin's Albatross		-		BB, DT, KRH, PS
Chatham Albatross		-		GT, MW

Table 96: A preliminary review of the seabird distribution maps from Devine et al. (In press). *(continued)*

Species	Comments	Coverage of tracking data	References	Feedback provided
Grey-headed Albatross	Additional tracking is required for this species before a revision of the distribution map is undertaken. Known foraging areas in the Indian Ocean are currently absent from the distribution, potentially due to tracking data from colonies in the Indian Ocean not being available.	Missing colonies in the Indian Ocean (Crozet 8%, Kerguelen, 8%) and additional data required.		GT, JM, MW, SH, TC
Southern Buller's Albatross	Additional tracking to that which was used in the modelling of this distribution are now available. Future work should prioritise a revision of this distribution map.	Additional data required	Fischer et al. (2023)	PS, SW
Northern Buller's Albatross	The distribution is a direct copy of Southern Buller's Albatross. However, the two taxa are temporally separated, and a short-term fix would be to offset the current maps following the phenological separation of the two species. See Fischer et al. (2023) for more details. Additional tracking to that which was used in the modelling of this distribution are now available. Future work should prioritise a revision of this distribution map.	Additional data required	Fischer et al. (2023)	-
Sooty Albatross	Additional tracking is required for this species before a revision of the distribution map is undertaken. There is also a potentially a track included erroneously in this distribution from the light-mantled sooty albatross. Future work should prioritise a revision of this distribution map.	Additional data required		BC, MW, RP, RW, SO, SS
Light-mantled Sooty Albatross	Additional tracking to that which was used in the modelling of this distribution will be available in 2025 for Pacific colonies. Additional tracking is required for this species before a revision of the distribution map is undertaken given the lack of tracks from several major colonies in the Pacific and the Atlantic, representing $>$ 50% of the world population.	Missing colonies in the Pacific (Maukahuka/Auckland Islands, 24%, Motu Ihupuku/Campbell 8%, and S. Georgia (Islas Georgia del Sur), 24%)		BB, GT, JM, MW, RW, SH, SS, TC
Southern Giant Petrel	Additional tracking is required for this species before a revision of the distribution map is undertaken given the lack of tracks from the Falklands (36% of the world population), South Shetland (10%), South Orkney Islands (Islas Sandwich del Sur) (3%), Antarctica (3%), Diego Ramirez (3%), Prince Edwards (4%), Crozet (2%), Heard (6%), and Macquarie (4%).	Additional data required. Tracking data represents less than 30% of the world population.		BC, BW, MW, RP, RW, JM, SO

Table 96: A preliminary review of the seabird distribution maps from Devine et al. (In press). *(continued)*

Species	Comments	Coverage of tracking data	References	Feedback provided
Northern Giant Petrel	Additional tracking is required for this species before a revision of the distribution map is undertaken given the lack of tracks from the Pacific (Macquarie, Maukahuka/Auckland Islands, Motu Ihupuku/Campbell, Moutere Mahue/Antipodes, and Rēkohu/Wharekauri/Chatham Islands).	Additional data required. Missing colonies in the Pacific representing $>$ 20%.		GT, JM, KRH, MW, RP
Grey Petrel	Additional tracking to that which was used in the modelling of this distribution are now available. Tracking is required for a fully representative distribution given the lack of tracks from major colonies (Prince Edwards & Marion, 5%, Crozet, 5%, and Kerguelen, 3%). There is also the potential that tracks have been erroneously weighted as it is stated that the New Zealand population represent 6.9% of the world population, whereas the true proportion is 70%.	Additional data required. Indian Ocean populations (13%) not being represented and inaccurate population multipliers.	Thompson (2019)	BC, BD, EB, JB, JM, KRH, MW, PR, SO, SS
Black Petrel	Future work should prioritise a revision of this distribution map as this species should no longer be present in New Zealand waters in July-September. Additional grooming of GLS positions also required as maps suggest and the presence of this species in the Caribbean.	-		EB, GT, RP
Westland Petrel	Additional tracking to that which was used in the modelling of this distribution are now available. Future work should prioritise a revision of this distribution map to include these new data and ensure that the species is not shown to be present in New Zealand waters in January-March.	Additional data required	Simister et al. (2023)	BB, GT, KS, SW
White-chinned Petrel	Additional tracking to that which was used in the modelling of this distribution are now available. Known foraging areas such as the Benguela Upwelling zone not present in the current distibution.	-		KRH, MW, TC
Spectacled Petrel	Additional tracking is required for this species before a revision of the distribution map is undertaken.	-		BC, PR, RW, SO

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