Supplement to

**Foraging behaviour and habitat-use drives niche segregation in sibling seabird species**

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Supplementary Tables

**Supplementary Table S1**

Details of 101 giant petrels studied at Marion Island.

We used GPS tracks from 94 individuals. We used δ^{13}C and δ^{15}N values from the blood plasma of 90 individuals. GPS tracking and stable isotope ratio values were coincident in 75 individuals. Sex: F – female; M – male. Where culmen length was not measured, birds were sexed molecularly.

| ID            | Sex | Culmen length (mm) | Deployment date | Deployment duration (days) | Maximum distance (km) | Mean latitude | Long trips? | Short trips? | Stable isotope analyses | C:N ratio |
|---------------|-----|---------------------|-----------------|---------------------------|-----------------------|---------------|-------------|--------------|-------------------------|-----------|
|               |     |                     |                 |                           |                       |               |             |              | δ^{13}C (%) | δ^{15}N (%) | Plasma Delipidated plasma | Plasma Delipidated plasma | Plasma Delipidated plasma |
| **Northern giant petrel** |     |                     |                 |                           |                       |               |             |              | Delta C | Delta N | Plasma Delipidated plasma | Plasma Delipidated plasma | Plasma Delipidated plasma |
| NGP01_092017  | F   | 88.7                | 2017-09-30      | 5.0                       | 660.6                 | -43.378       | Y           | N            | -21.9       | -19.4       | 15.6                  | 15.4                  | 4.74                  | 3.63                  |
| NGP01_26092016| F   | 89.6                | 2016-09-28      | 9.1                       | 1805.0                | -40.528       | Y           | N            | -21.9       | -              | 12.7                  | -                   | 4.80                  | -                    |
| NGP02_26092016| F   | 95.7                | 2016-09-28      | 11.5                      | 1924.3                | -40.572       | Y           | N            | -21.2       | -19.6       | 14.6                  | 14.8                  | 4.88                  | 3.44                  |
| NGP02_KD_SEP_2015 | F | - | - | - | - | - | -20.3 | -18.4 | 14.8 | 15.3 | 4.71 | 3.45 |
| NGP04_26102016 | F | 88.7 | 2016-10-01 | 7.5 | 1724.0 | -42.619 | Y | N | -23.7 | -21.4 | 13.8 | 14.0 | 5.08 | 3.46 |
| NGP06_092017 | F | 87.1 | 2017-10-04 | 5.9 | 631.2 | -43.627 | Y | N | -23.6 | -21.3 | 13.9 | 14.0 | 4.75 | 3.54 |
| NGP06_26102016 | F | 88.5 | 2016-09-28 | 10.9 | 539.0 | -45.558 | Y | N | -24.6 | -21.7 | 13.2 | 13.3 | 5.40 | 3.56 |
| NGP06_KD_SEP_2015 | F | 92.5 | 2015-09-20 | 9.9 | 1817.2 | -41.612 | Y | N | -20.9 | -19.8 | 14.5 | 14.7 | 4.64 | 3.72 |
| NGP07_092017 | F | - | - | - | - | - | -23.7 | -20.6 | 14.0 | 14.1 | 5.22 | 3.50 |
| NGP08_092017 | F | 87.4 | 2017-10-01 | 6.6 | 1665.6 | -39.379 | Y | N | -22.1 | -19.7 | 14.1 | 14.2 | 4.91 | 3.52 |
| NGP08_KD_SEP_2015 | F | 90.4 | 2015-09-20 | 10.3 | 1750.7 | -41.535 | Y | Y | -21.4 | -19.1 | 14.5 | 15.1 | 5.03 | 3.50 |
| NGP09_092017 | F | 91.7 | 2017-09-30 | 4.5 | 1056.6 | -45.002 | Y | N | -22.9 | -20.8 | 13.7 | 13.9 | 4.87 | 3.53 |
| NGP09_26102016 | F | 90.7 | 2016-09-26 | 9.0 | 1754.3 | -40.286 | Y | N | -23.7 | -20.8 | 14.6 | 14.7 | 5.37 | 3.39 |
| NGP10_092017 | F | 88.9 | 2017-09-28 | 7.3 | 514.5 | -46.469 | Y | Y | -22.0 | -19.9 | 14.5 | 14.6 | 4.85 | 3.80 |
| NGP10_26102016 | F | - | - | - | - | - | -20.6 | -19.0 | 14.8 | 14.8 | 4.56 | 3.47 |
| NGP10_KD_SEP_2015 | F | - | - | - | - | - | -21.2 | -19.2 | 14.6 | 15.1 | 4.62 | 3.52 |
| NGP11_092017 | F | 92.0 | 2017-09-28 | 6.1 | 1413.2 | -39.224 | Y | N | -21.6 | -19.9 | 14.6 | 14.6 | 4.77 | 3.87 |
| NGP12_092017 | F | 85.3 | 2017-10-06 | 13.1 | 1768.6 | -40.748 | Y | N | -21.6 | -19.4 | 15.0 | 15.0 | 4.78 | 3.77 |
| NGP12_26102016 | F | 90.6 | 2016-10-03 | 20.7 | 234.9 | -47.002 | Y | Y | -23.4 | -19.4 | 14.6 | 14.0 | 4.61 | 3.56 |
| NGP13_092017 | F | - | - | - | - | - | -20.8 | -18.9 | 14.5 | 14.8 | 4.71 | 3.61 |
| NGP13_26102016 | F | 93.7 | 2016-09-28 | 9.2 | 1310.8 | -43.143 | Y | N | -22.0 | -19.9 | 14.3 | 14.4 | 4.72 | 3.35 |
| NGP13_KD_SEP_2015 | F | 92.2 | 2015-10-04 | 11.0 | 727.2 | -46.459 | Y | Y | -21.9 | -20.0 | 13.6 | 14.0 | 4.61 | 3.56 |
| NGP14_092017 | F | - | - | - | - | - | -21.2 | -19.5 | 14.1 | 14.0 | 4.44 | 3.54 |
| NGP14_26102016 | F | 92.3 | 2016-10-02 | 7.0 | 1806.1 | -39.720 | Y | N | -21.6 | -20.1 | 15.1 | 12.6 | 4.82 | 3.40 |
| NGP15_092017 | F | 87.4 | 2017-10-06 | 7.3 | 1737.7 | -39.131 | Y | N | -20.0 | -18.0 | 15.0 | 15.1 | 4.70 | 3.50 |
| NGP15_26102016 | F | 87.2 | 2016-09-29 | 8.0 | 1285.5 | -40.679 | Y | Y | -20.5 | -19.4 | 15.9 | 15.1 | 4.62 | 3.34 |
| NGP16_092017 | F | 87.8 | 2017-09-29 | 5.2 | 519.5 | -45.452 | Y | N | -22.2 | -19.9 | 14.3 | 14.5 | 4.77 | 3.69 |
| NGP16_26102016 | F | 93.8 | 2016-09-27 | 10.9 | 1846.6 | -40.813 | Y | N | -21.0 | -14.7 | - | 5.31 | - |
| NGP16_KD_SEP_2015 | F | 92.2 | 2015-10-03 | 9.0 | 1740.0 | -39.754 | Y | N | -20.0 | -18.6 | 14.6 | 14.8 | 4.58 | 3.51 |
| NGP17_092017 | F | 90.2 | 2017-09-27 | 6.8 | 1523.1 | -38.121 | Y | N | -21.6 | -18.7 | 15.2 | 15.3 | 5.20 | 3.72 |
| NGP17_26102016 | F | 93.5 | 2016-09-29 | 7.2 | 1422.3 | -42.382 | Y | N | -23.0 | -20.9 | 14.0 | 14.1 | 5.21 | 3.49 |
| NGP17_KD_SEP_2015 | F | 89.5 | 2015-10-04 | 10.4 | 1802.9 | -44.089 | Y | Y | - | - | - | - | - | - |
| NGP18_KD_SEP_2015 | F  | 92.7 | 2015-10-06 | 5.4  | 96.7 | -47.161 | Y   | N   | -23.6 | -21.5 | 13.2 | 13.7 | 4.65 | 3.50  |
|-------------------|----|------|------------|------|------|----------|-----|-----|-------|-------|------|------|-----|------|
| NGP19_27102016    | F  | 91.3 | 2016-10-05 | 7.3  | 1742.4 | -38.703 | Y   | N   | -20.7 | -18.3 | 14.5 | 14.5 | 4.99 | 3.40  |
| NGP20_092017      | F  | 85.6 | 2017-10-06 | 14.7 | 1763.1 | -42.813 | Y   | N   | -24.9 | -22.7 | 12.8 | 12.9 | 4.77 | 3.60  |
| NGP20_26102016    | F  | 91.3 | 2016-10-02 | 9.3  | 1737.3 | -41.336 | Y   | N   | -20.6 | -18.7 | 15.0 | 15.0 | 4.81 | 3.39  |
| NGP21_102017      | F  | -    | -          | -    | -     | -        | -   | -   | -23.4 | -21.3 | 13.0 | 13.1 | 4.79 | 3.79  |
| NGP21_27102016    | F  | 89.6 | 2016-10-05 | 10.8 | 88.0  | -47.007 | Y   | N   | -23.1 | -12.0 | -   | -20.0 | 4.20 | -    |
| NGP01_KD_SEP_2015 | M  | 100.1| 2015-09-17 | 4.6  | 13.2  | -46.961 | N   | Y   | -23.6 | -20.8 | 11.8 | 11.8 | 4.84 | 3.46  |
| NGP02_092017      | M  | 106.1| 2017-09-30 | 4.9  | 42.7  | -46.958 | N   | Y   | -23.3 | -21.0 | 12.9 | 12.9 | 4.63 | 3.51  |
| NGP03_092017      | M  | -    | -          | -    | -     | -        | -   | -   | -24.0 | -21.6 | 12.3 | 12.2 | 4.5  | 3.61  |
| NGP03_26092016    | M  | 102.4| 2016-09-30 | 7.2  | 8.7   | -46.966 | N   | Y   | -24.2 | -21.7 | 11.9 | 12.0 | 4.79 | 3.39  |
| NGP03_KD_SEP_2015 | M  | 102.9| 2015-09-17 | 10.8 | 1221.3| -39.413 | Y   | N   | -21.3 | -18.9 | 15.6 | 16.2 | 5.28 | 3.49  |
| NGP04_092017      | M  | -    | -          | -    | -     | -        | -   | -   | -21.4 | -19.6 | 13.3 | 13.3 | 4.27 | 3.71  |
| NGP04_KD_SEP_2015 | M  | 99.3 | 2015-09-18 | 2.2  | 4.1   | -46.965 | N   | Y   | -     | -     | -   | -    | -    | -    |
| NGP05_092017      | M  | 99.9 | 2017-09-30 | 6.9  | 1137.6| -46.224 | Y   | Y   | -22.9 | -20.4 | 13.6 | 13.7 | 4.78 | 3.73  |
| NGP05_26102016    | M  | 108.1| 2016-09-28 | 7.9  | 231.3 | -45.915 | Y   | N   | -23.3 | -21.2 | 14.0 | 13.9 | 4.60 | 3.40  |
| NGP05_KD_SEP_2015 | M  | 103.9| 2015-09-22 | 8.0  | 1609.7| -42.874 | Y   | N   | -21.9 | -19.6 | 13.9 | 13.9 | 4.98 | 3.53  |
| NGP07_26102016    | M  | 107.6| 2016-09-29 | 7.0  | 8.5   | -46.962 | N   | Y   | -23.7 | -21.4 | 12.4 | 12.4 | 4.60 | 3.45  |
| NGP08_26102016    | M  | 109.7| 2016-09-27 | 15.9 | 615.8 | -47.899 | Y   | Y   | -     | -     | -   | -    | -    | -    |
| NGP09_KD_SEP_2015 | M  | 102.5| 2015-09-24 | 8.4  | 69.2  | -46.961 | Y   | Y   | -     | -     | -   | -    | -    | -    |
| NGP11_26102016    | M  | 113.9| 2016-09-30 | 11.8 | 9.3   | -46.955 | N   | Y   | -22.4 | -18.5 | 12.6 | 15.8 | 5.04 | 3.44  |
| NGP11_KD_SEP_2015 | M  | 107.7| 2015-10-07 | 7.0  | 984.8 | -43.375 | Y   | N   | -22.0 | -20.1 | 14.1 | 14.0 | 4.74 | 3.47  |
| NGP14_KD_SEP_2015 | M  | 110.0| 2015-10-04 | 6.2  | 1424.2| -49.894 | Y   | N   | -24.3 | -21.7 | 11.8 | 12.3 | 4.62 | 3.32  |
| NGP15_KD_SEP_2015 | M  | 105.4| 2015-10-03 | 7.6  | 25.6  | -46.930 | N   | Y   | -22.6 | -20.4 | 13.0 | 13.2 | 5.00 | 3.61  |
| NGP19_092017      | M  | -    | -          | -    | -     | -        | -   | -   | -24.0 | -21.2 | 12.9 | 13.0 | 4.76 | 3.50  |
| NGP19_KD_SEP_2015 | M  | -    | 2015-10-03 | 5.9  | 42.8  | -46.965 | N   | Y   | -23.5 | -21.4 | 11.9 | 12.2 | 4.68 | 3.52  |
| NGP20_KD_SEP_2015 | M  | 104.2| 2015-10-04 | 8.8  | 26.6  | -46.935 | N   | Y   | -     | -     | -   | -    | -    | -    |
| NGP22_102017      | M  | 107.0| 2017-10-19 | 5.9  | 49.9  | -46.951 | N   | Y   | -23.4 | -21.6 | 11.7 | 11.6 | 4.45 | 3.50  |
| NGP23_102017      | M  | -    | -          | -    | -     | -        | -   | -   | -23.3 | -21.4 | 11.6 | 11.5 | 4.40 | 3.52  |

*Southern giant petrel*
| SGP01_03102016 | F  | 92.4 | 2016-10-03 | 24.3 | 1341.3 | -50.189 | Y   | N   | -24.3 | -22.5 | 12.7 | 12.8 | 4.72 | 3.52 |
| SGP01_102017   | F  | 89.2 | 2017-10-05 | 2.4  | 643.3  | -49.427 | Y   | N   | -25.2 | -23.2 | 12.6 | 12.6 | 4.72 | 3.60 |
| SGP02_03102016 | F  | -    | -         | -    | -      | - -    | -   | -   | -25.5 | -23.3 | 12.6 | 12.7 | 4.59 | 3.42 |
| SGP03_03102016 | F  | -    | -         | -    | -      | - -    | -   | -   | -25.2 | -23.1 | 12.4 | 12.4 | 4.57 | 3.41 |
| SGP04_102017   | F  | 87.9 | 2017-10-04 | 6.7  | 1245.8 | -49.900 | Y   | N   | -24.9 | -22.6 | 13.4 | 13.4 | 4.99 | 3.53 |
| SGP04_KD_SEP_2015 | F | 92.3 | 2015-09-28 | 7.6  | 1389.5 | -52.161 | Y   | N   | -    | -     | -    | -    | -    | -    |
| SGP05_102017   | F  | 84.9 | 2017-10-03 | 12.1 | 1524.6 | -53.521 | Y   | N   | -25.1 | -23.1 | 12.6 | 12.6 | 4.96 | 3.57 |
| SGP05_KD_SEP_2015 | F | 88.0 | 2015-10-01 | 16.6 | 1909.5 | -52.419 | Y   | Y   | -25.4 | -23.0 | 12.7 | 12.7 | 4.68 | 3.52 |
| SGP06_03102016 | F  | 93.4 | 2016-10-08 | 10.8 | 1215.5 | -51.097 | Y   | N   | -24.2 | -22.2 | 12.4 | 12.6 | 4.56 | 3.44 |
| SGP07_03102016 | F  | 93.3 | 2016-10-05 | 7.5  | 1676.0 | -46.723 | Y   | N   | -24.1 | -22.2 | 13.2 | 13.2 | 4.71 | 3.42 |
| SGP07_102017   | F  | 88.7 | 2017-10-09 | 9.7  | 1245.3 | -47.503 | Y   | N   | -24.7 | -     | 13.4 | -    | 5.17 | -    |
| SGP07_KD_SEP_2015 | F | 85.3 | 2015-09-25 | 6.9  | 904.0  | -49.377 | Y   | Y   | -    | -     | -    | -    | -    | -    |
| SGP08_03102016 | F  | 90.1 | 2016-10-04 | 10.6 | 846.8  | -50.451 | Y   | N   | -24.9 | -22.3 | 12.8 | 12.8 | 4.72 | 3.40 |
| SGP08_102017   | F  | 89.5 | 2017-10-09 | 13.0 | 1305.6 | -50.330 | Y   | N   | -24.8 | -22.9 | 13.0 | 13.1 | 4.97 | 3.63 |
| SGP09_03102016 | F  | 94.0 | 2016-10-09 | 13.1 | 992.7  | -46.377 | Y   | N   | -24.1 | -21.8 | 13.3 | 13.4 | 4.72 | 3.46 |
| SGP10_03102016 | F  | 91.8 | 2016-10-12 | 16.4 | 1756.7 | -53.214 | Y   | N   | -25.6 | -23.6 | 12.3 | 12.6 | 4.80 | 3.57 |
| SGP11_102017   | F  | 88.9 | 2017-10-04 | 22.0 | 2031.4 | -49.128 | Y   | Y   | -24.1 | -22.1 | 11.6 | 11.8 | 4.78 | 3.69 |
| SGP11_KD_SEP_2015 | F | 91.5 | 2015-10-07 | 10.4 | 1021.0 | -49.530 | Y   | N   | -23.8 | -     | 12.9 | -    | 4.64 | -    |
| SGP12_03102016 | F  | 92.0 | 2016-10-14 | 14.9 | 1817.5 | -55.898 | Y   | N   | -    | -     | -    | -    | -    | -    |
| SGP13_03102016 | F  | 91.6 | 2016-10-03 | 20.8 | 1572.8 | -50.516 | Y   | N   | -    | -     | -    | -    | -    | -    |
| SGP14_03102016 | F  | 90.6 | 2016-10-11 | 17.5 | 2343.5 | -51.459 | Y   | N   | -24.0 | -22.1 | 12.9 | 12.9 | 4.49 | 3.37 |
| SGP14_KD_SEP_2015 | F | 89.9 | 2015-10-05 | 9.2  | 1089.0 | -48.474 | Y   | N   | -24.0 | -22.4 | 12.5 | 12.5 | 4.28 | 3.47 |
| SGP15_102017   | F  | 90.2 | 2017-10-05 | 10.1 | 1095.3 | -49.481 | Y   | N   | -24.9 | -23.3 | 12.8 | 13.0 | 4.86 | 3.72 |
| SGP16_03102016 | F  | 83.0 | 2017-10-17 | 16.0 | 1090.7 | -48.732 | Y   | Y   | -25.0 | -23.0 | 12.6 | 12.7 | 5.18 | 3.74 |
| SGP16_KD_SEP_2015 | F | 89.8 | 2015-10-08 | 11.9 | 1669.3 | -53.441 | Y   | N   | -24.7 | -22.9 | 12.3 | 12.5 | 4.52 | 3.45 |
| SGP17_102017   | F  | 88.2 | 2017-10-05 | 12.9 | 1716.9 | -49.722 | Y   | N   | -25.1 | -23.1 | 13.1 | 13.1 | 4.71 | 3.53 |
| SGP18_102017   | F  | 89.0 | 2017-10-13 | 8.0  | 847.8  | -48.910 | Y   | N   | -24.0 | -22.5 | 12.3 | 12.4 | 4.50 | 3.74 |
| SGP18_KD_SEP_2015 | F | 87.9 | 2015-10-06 | 10.4 | 1573.7 | -50.133 | Y   | N   | -25.1 | -     | 12.5 | -    | 5.08 | -    |
| SGP20_102017   | F  | 87.1 | 2017-10-06 | 3.6  | 379.7  | -48.843 | Y   | N   | -24.7 | -22.9 | 12.6 | 12.7 | 4.64 | 3.67 |
| ID       | Sex | Date     | BMI | Height | Weight | Fat | Lean | Age   | Maturity  | Testosterone | SHBG | E2 | PRL | LH | FSH | TSH |
|----------|-----|----------|-----|--------|--------|-----|------|-------|-----------|--------------|------|----|-----|----|-----|-----|
| SGP22_102017 | F   | 2017-10-19 | 4.9 | 583.8  | -47.916 | Y   | N    | -24.9 | -23.0     | 13.0         | 13.0 | 5.00 | 3.70 |
| SGP01_KD_SEP_2015 | M   | 2015-09-30 | 4.0 | 12.6   | -46.964 | N   | Y    | -     | -         | -            | -    | -   | -   |
| SGP02_102017   | M   | 2017-10-07 | 4.9 | 1480.4 | -54.205 | Y   | N    | -25.6 | -23.6     | 12.1         | 12.3 | 4.85 | 3.72 |
| SGP02_KD_SEP_2015 | M   | 2015-09-26 | 11.5| 21.2   | -46.964 | N   | Y    | -23.2 | -21.7     | 11.9         | 12.1 | 4.63 | 3.65 |
| SGP03_KD_SEP_2015 | M   | 2015-09-30 | 3.1 | 10.2   | -46.962 | N   | Y    | -23.1 | -22.3     | 12.1         | 12.1 | 4.23 | 3.76 |
| SGP06_102017   | M   | 2017-10-06 | 4.9 | 9.6    | -46.966 | N   | Y    | -24.6 | -22.6     | 11.9         | 12.0 | 4.92 | 3.61 |
| SGP06_KD_SEP_2015 | M   | 2015-10-01 | 3.6 | 13.2   | -46.965 | N   | Y    | -23.5 | -22.1     | 11.8         | 12.0 | 4.63 | 3.59 |
| SGP08_KD_SEP_2015 | M   | 2015-09-28 | 10.1| 9.7    | -46.965 | N   | Y    | -23.0 | -21.3     | 11.2         | 11.2 | 4.43 | 3.40 |
| SGP09_102017   | M   | 2017-10-20 | 1.4 | 9.5    | -46.952 | N   | Y    | -25.1 | -22.6     | 11.9         | 11.9 | 5.09 | 3.61 |
| SGP09_KD_SEP_2015 | M   | 2015-10-05 | 3.3 | 9.7    | -46.965 | N   | Y    | -23.8 | -21.8     | 11.8         | 11.8 | 4.78 | 3.56 |
| SGP10_KD_SEP_2015 | M   | 2015-09-28 | 12.1| 14.9   | -46.962 | N   | Y    | -23.4 | -21.8     | 12.1         | 12.2 | 4.50 | 3.70 |
| SGP12_102017   | M   | 2017-10-08 | 4.3 | 49.7   | -46.964 | N   | Y    | -25.1 | -22.3     | 12.6         | 12.4 | 4.98 | 2.70 |
| SGP12_KD_SEP_2015 | M   | 2015-10-06 | 4.1 | 9.5    | -46.965 | N   | Y    | -     | -         | -            | -    | -   | -   |
| SGP13_102017   | M   | 2017-10-11 | 18.1| 1468.9 | -51.865 | Y   | N    | -25.2 | -22.9     | 12.7         | 12.8 | 4.77 | 3.49 |
| SGP15_KD_SEP_2015 | M   | -        | -   | -      | -      | -   | -    | -24.0 | -22.0     | 11.8         | 11.8 | 4.58 | 3.40 |
| SGP17_03102016 | M   | 2016-10-07 | 4.5 | 9.5    | -46.964 | N   | Y    | -23.1 | -21.3     | 12.0         | 12.0 | 4.33 | 3.43 |
| SGP17_KD_SEP_2015 | M   | 2015-10-06 | 13.9| 1735.9 | -53.658 | Y   | N    | -     | -         | -            | -    | -   | -   |
| SGP18_03102016 | M   | 2016-10-12 | 4.6 | 9.6    | -46.968 | N   | Y    | -23.7 | -21.9     | 11.6         | 11.6 | 4.37 | 3.43 |
| SGP19_03102016 | M   | -        | -   | -      | -      | -   | -    | -24.2 | -21.9     | 12.2         | 12.2 | 4.62 | 3.44 |
| SGP19_KD_SEP_2015 | M   | 2015-10-06 | 3.3 | 9.8    | -46.965 | N   | Y    | -23.6 | -21.9     | 11.9         | 11.9 | 4.56 | 3.58 |
### Supplementary Table S2

Details of the 8 environmental covariates used to characterize the habitat of giant petrels GPS-tracked from Marion Island. Distance (DIST) was not considered in the random forest models.

| Abbreviation | Description | Unit | Spatial resolution | Temporal resolution | Source/Reference |
|--------------|-------------|------|--------------------|---------------------|------------------|
| CHL          | Chlorophyll-a concentration | mg/m³ | 9 km               | Monthly             | NASA Goddard Space Flight Center, Ocean Ecology Laboratory, Ocean Biology Processing Group. Sea-viewing Wide Field-of-view Sensor (SeaWiFS) Chlorophyll Data; 2014 Reprocessing. NASA OB.DAAC, Greenbelt, MD, USA. doi: 10.5067/ORBVIEW-2/SEAWIFS/L3M/CHL/2014. |
| DEPTH        | Ocean depth | m    | 15 arc seconds     | NA                  | General Bathymetric Chart of the Oceans (GEBCO) https://www.gebco.net/data_and_products/gridded_bathymetry_data/gebco_2019/gebco_2019_info.html |
| DIST         | Distance from deployment location | km   | NA                 | NA                  | NA               |
| EKE          | Eddy kinetic energy | cm²/s² | Daily             | Altimeter products were produced by Ssalto/Duacs and distributed by Aviso, with support from CNES (http://www.aviso.altimetry.fr/duacs/) |
| SSHA         | Sea surface height anomaly | m    | 0.12°              | Daily              | Ssalto/Duacs altimeter products produced and distributed by the Copernicus Marine and Environment Monitoring Service (CMEMS) (http://www.marine.copernicus.eu) |
| Code | Description                  | Unit | Resolution | Frequency | Source                                                                                     |
|------|------------------------------|------|------------|-----------|---------------------------------------------------------------------------------------------|
| SST  | Sea surface temperature     | °C   | 0.01°      | Daily     | JPL MUR MEaSUREs Project, 2015. GHRSST Level 4 MUR Global Foundation Sea Surface Temperature Analysis (v4.1). PO.DAAC, CA, USA. [https://doi.org/10.5067/GHGMR-4FJ04](https://doi.org/10.5067/GHGMR-4FJ04) |
| WINDU| Horizontal (zonal) wind      | m/s  | 1.9°       | Daily     | NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, [http://www.esrl.noaa.gov/psd/](http://www.esrl.noaa.gov/psd/) |
| WINDV| Vertical (meridional) wind   | m/s  | 1.9°       | Daily     | NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, [http://www.esrl.noaa.gov/psd/](http://www.esrl.noaa.gov/psd/) |
Supplementary Figures

**Supplementary Figure S1**

Plot showing the overlapping tracking periods (horizontal lines) of 94 giant petrel individuals tracked in three years. Birds were tracked for 7.8 – 31.0 days (mean = 16.6 days). After trimming the tracks to exclude locations on the nest (shown in this figure), tracks were 1.4 – 24.3 days long, with a mean of 9.1 days.
Supplementary Figure S2

Bill dimensions of 91 individuals (49 northern giant petrels [NGP] and 42 southern giant petrels [SGP]) tracked from Marion Island. The sex of 22 individuals (with bill measurements) that were sexed molecularly is indicated by different shapes. Additionally, four individuals with no bill measurements were sexed molecularly. The vertical grey line shows the 97 mm culmen length threshold that we used to distinguish putative females (< 93 mm) and putative males (> 99 mm).
Supplementary Figure S3

Plots showing the displacement (distance from nest) against time for giant petrel individuals which made: a) distant trips (> 50 km maximum distance; 59 trips by females and 11 trips by males); and b) only nearby trips (< 50 km maximum distance; 11 trips by females and 28 trips by males). Multiple trips are defined per individual, so some individuals fall in both categories and numbers in each category do not sum to the total number of individuals (94).