Supplement: Additional data and results on individual parameters (Figure S1-S2), on phenology between sex for each winter destinations (Figure S3), on birds tracked during two different non-breeding seasons (Figure S4).
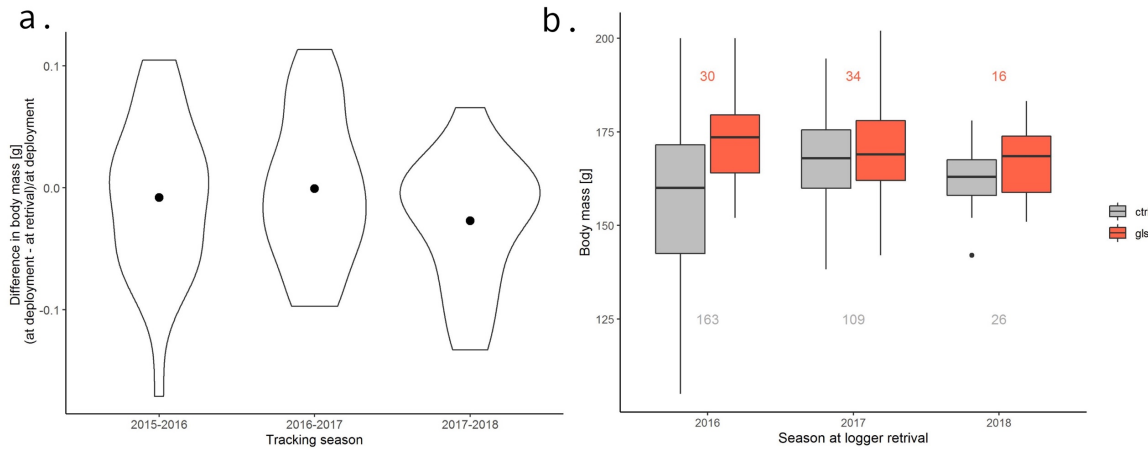

Figure S1. Body mass comparisons for the different breeding seasons between (a) individuals at logger deployment and retrieval, (b) tracked individuals at logger retrieval and control individuals. Number of weighted birds are indicated in orange for GLS-equipped birds and in grey for control individuals. Boxplots show the median (band inside the box), the first (25%) and third (75%) quartile (box), the lowest and the highest values within 1.5 interquartile range (whiskers) and outliers (dots).
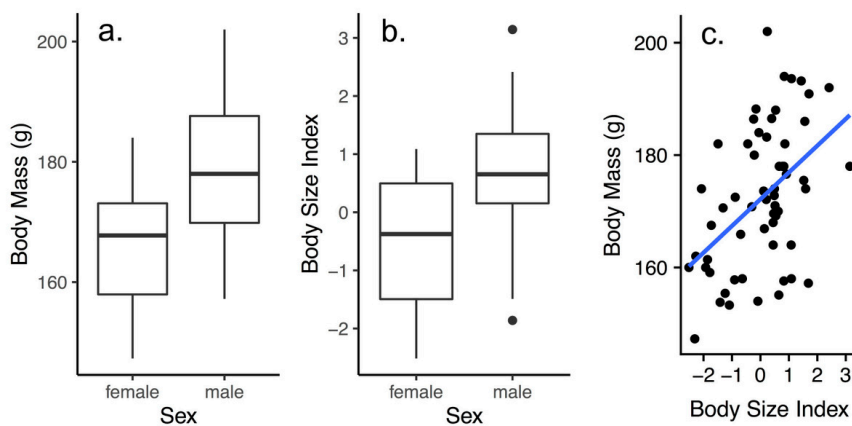

Figure S2. Boxplot and plots of correlations between body size index, body mass and sex variables. The blue line in (c) represents the regression line for a significant relationship ($R^2 = 0.65$). Boxplots show the median (band inside the box), the first (25%) and third (75%) quartile (box), the lowest and the highest values within 1.5 interquartile range (whiskers) and outliers (dots).
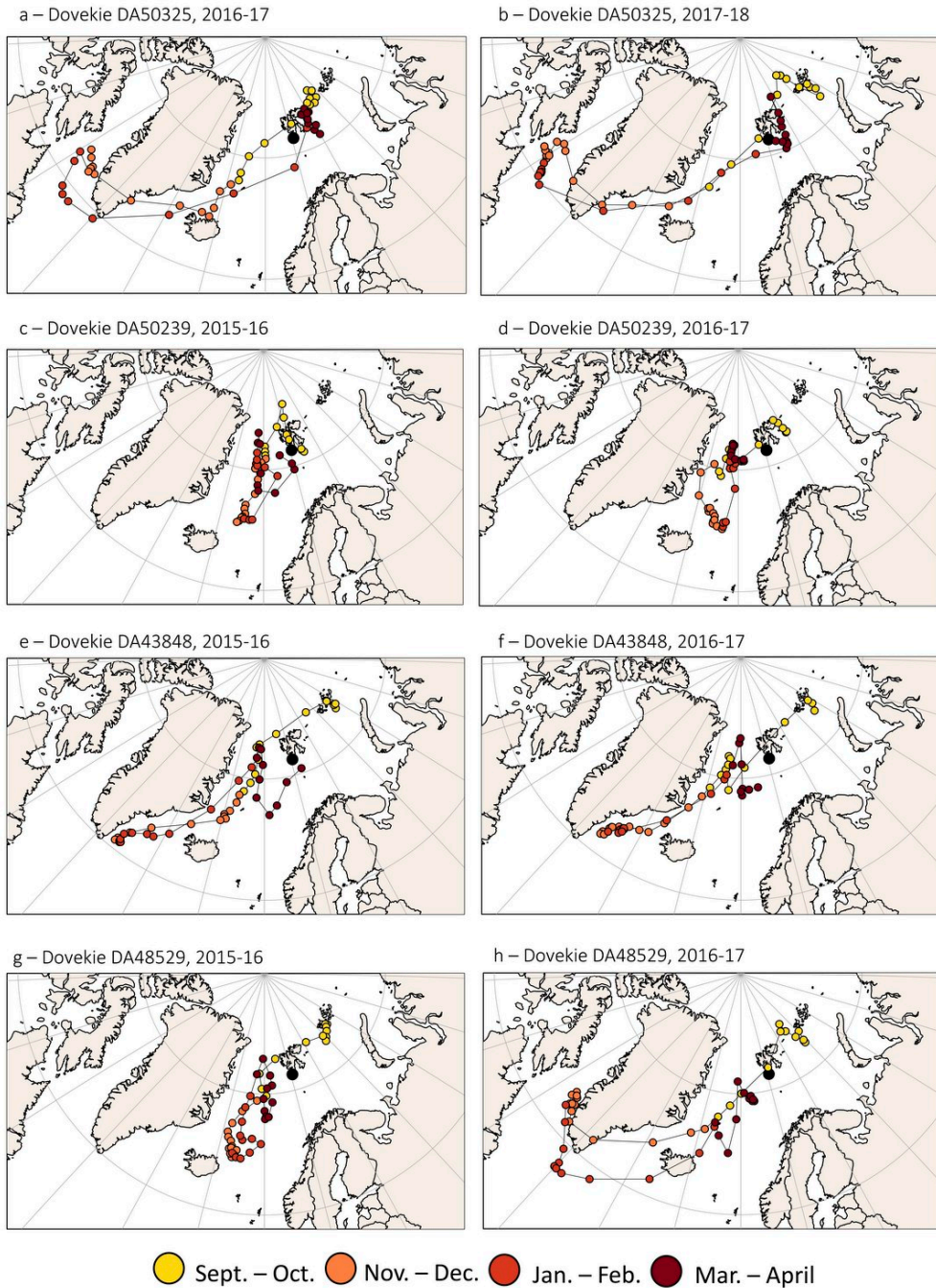
Figure S3. Three examples of spatial and temporal route fidelity (a-b, c-d, e-f) and one switch (g-h) of GLS-logger equipped little auks during migration during two different non-breeding seasons. The Hornsund colony is marked with a black dot. Each coloured point is a 5-days average position and each colour represents a different period. We found that out of 11 birds tracked over two years, three birds switched between routes (two birds switched from ICE to GRE and one from GRE to ICE). Increasing this number of individuals tracked over several years not would be needed to better understand how these two strategies are maintained over time. It should be noted that it is very unlikely that the birds will fly over southern Greenland (i.e. above land; in a, b and g). Therefore, since the distance travelled was calculated from averaged positions per 10-day period, it is thus likely that we underestimated it for some individuals.
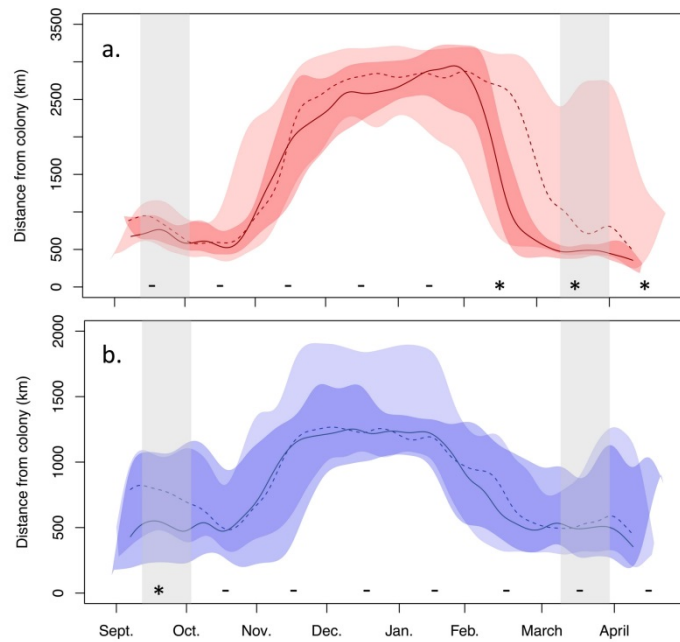
Figure S4. Distance from the breeding colony in Hornsund for GLS-logger equipped little auks spending winter close to Greenland (GRE) (a) and Iceland (ICE) (b) during the non-breeding period. Plain (male) and dashed (female) lines represent the median of each category. In each case, the darker color represent male distributions. Upper and lower limits indicate 5 and 95% percentiles. Grey shaded areas indicate equinox periods. Significant differences between sexes are noted with asterix for each month, the significance for equinox months need to be regarded with caution. In spring (February – April), the distance from the colony differed significantly between the two groups (*t-test*: t = –2.88, df = 67, p <0.001; on average 958 km versus 568 km for GRE and ICE birds, respectively) and also within strategy between sexes, with GRE females located farther from the colony during the first days of April compared to males (*t-test*: t = 2.66, df = 25, p = 0.01).