**Supplementary Material**

Albatrosses bathe before departing on a foraging trip: implications for risk assessments and marine spatial planning

JOSÉ P. GRANADEIRO, LETIZIA CAMPIONI and PAULO CATRY

We tested whether the interval between GPS fixes was likely to affect the key parameters calculated in this study, namely the distance to the first landing after departure of BBA from the colony. This distance was further used to determine the proportion of birds engaging in a bath before the start of a foraging trip, calculated as the number of birds landing within 5 km from the colony expressed as a proportion of all trips.

To test the effect of GPS sampling rate on the distance to first landing, we selected all trips with GPS intervals < 12 minutes (*n* = 91), and then interpolated the position at intervals of 24, 36, 40 and 60 minute intervals. For each interpolation we recalculated the distance of first landing of each trip at these intervals. We found a significant increase in the estimated distance for sampling intervals larger than 12 minutes (GLM Poisson with log link function, effect of interval = 0.03, z = 14.0, *P* < 0.001) with intervals of 60 minutes overestimating the true value by a factor of c.4.2 x (Fig. S1). We therefore corrected all estimates of distance by dividing the calculated value by the correction factor calculated from the GLM (see Fig. S1).

We also found a small, yet significant, influence of GPS interval on the estimates of distance to last landing, but the effect was very small (GLM Poisson with log link function, effect of interval = 0.0008, z = 1.98, *P =* 0.05) and the correction factor for 60 intervals was c.1.04x. As such, we did not correct this statistics.



Figure S1. Relationship between the estimated distance of first landing and GPS tagging interval, using a set of 91 GPS programmed at higher rate (< 12 minutes, black points) and interpolated at higher intervals (grey points). All estimated calculated at intervals larger than 12 minutes were divided by a correction factor, calculated from the Poisson GLM (red line and right axis).