

Animal movement analysis through residence in space and time, Torres et al.

S2 Appendix: Temporal sub-sampling of gray-headed albatross GPS tracks using Residence in Space and Time (RST) method.

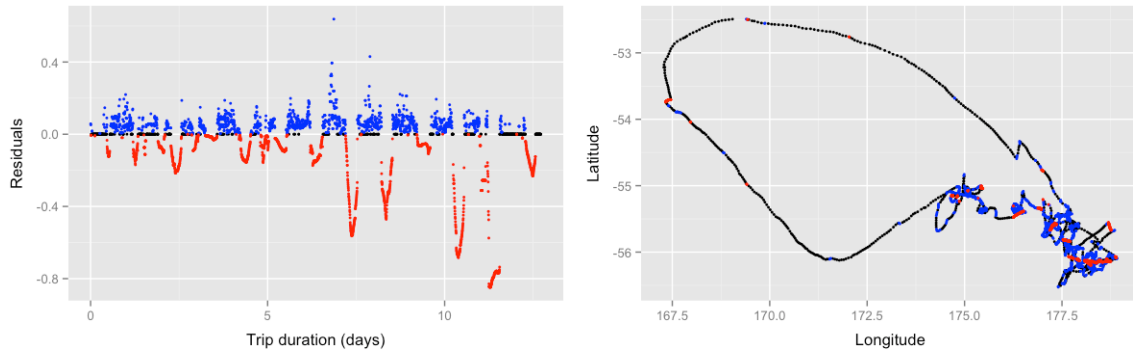
Because the GPS loggers did not acquire a fix every 5 min (5.63 ± 0.59 min, $n=24$), tracks were linearly interpolated between short gaps greater than 8 minutes to aid in temporal subsampling. We chose this option to retain the original GPS data points. Regardless, intervals are not exact but approximate.

Table 1. Sample intervals \pm SD and radii \pm SD applied in the Residence in Space and Time (RST) method of all albatross tracks using the dynamic scaling approach for subsampled tracks.

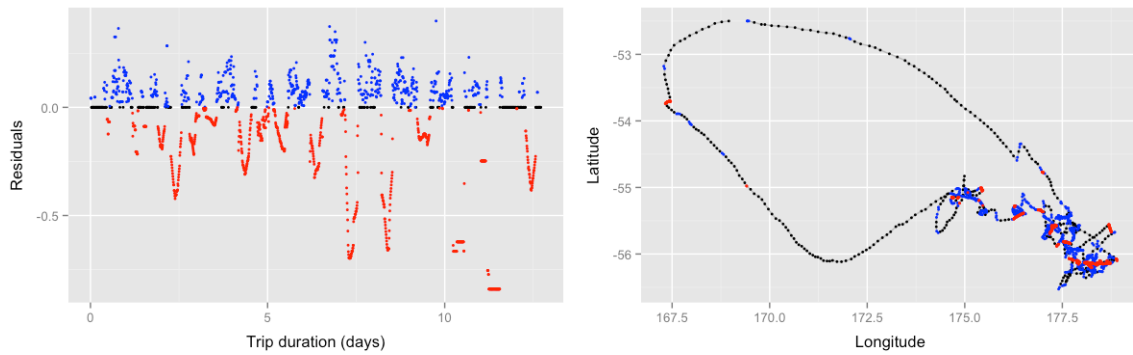
Sample Interval (min)	Radius (km)
5.29 ± 0.43	2.40 ± 0.36
10.58 ± 0.85	4.47 ± 0.72
21.16 ± 1.71	8.43 ± 1.70
31.75 ± 2.56	13.23 ± 2.79
63.50 ± 5.13	23.04 ± 5.33
127.01 ± 10.26	41.52 ± 11.43
190.5 ± 15.39	60.43 ± 20.28

Figure 1. Comparison between one grey-headed albatross GPS track (Bird 23059) at (A) the 5 min interval resolution (lineally interpolated across short gaps, 4.96 ± 0.48 min) and subsamples (B) 10 min (9.91 ± 0.87 min), (C) 20 min (19.83 ± 1.49 min), (D) 30 min (29.75 ± 2.03), (E) 60 min (59.49 ± 3.49 min), (F) 120 min (118.99 ± 5.45), and (G) 180 min (178.48 ± 6.78).

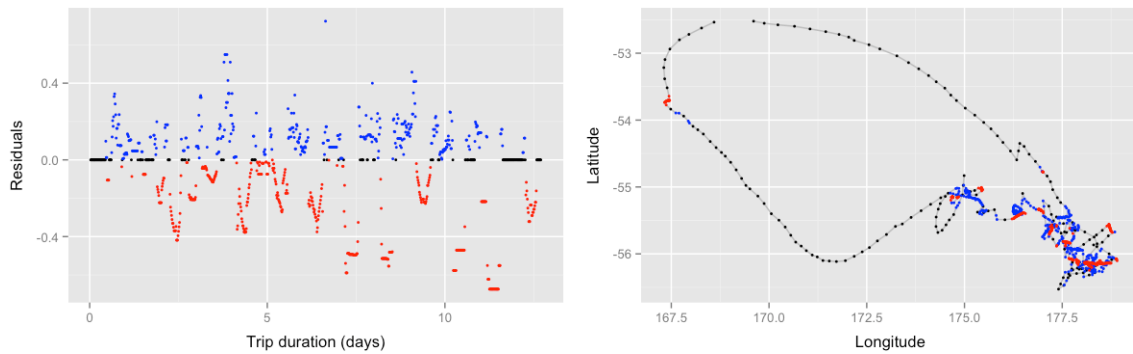
A) 5 min



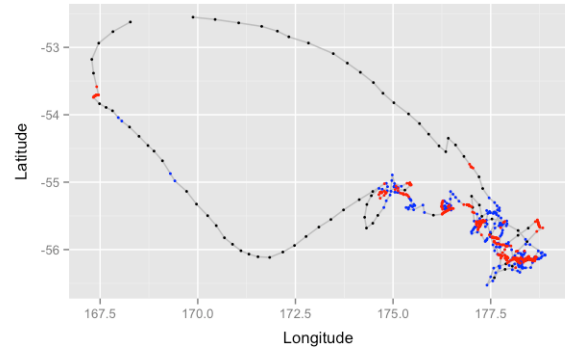
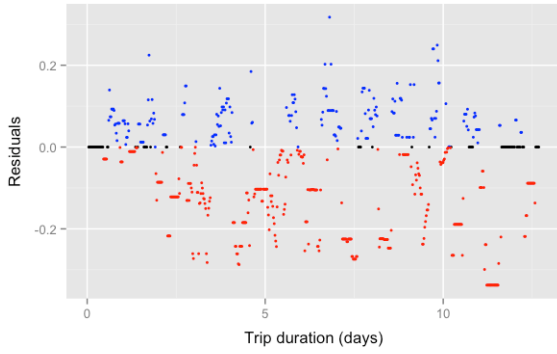
B) 10 min



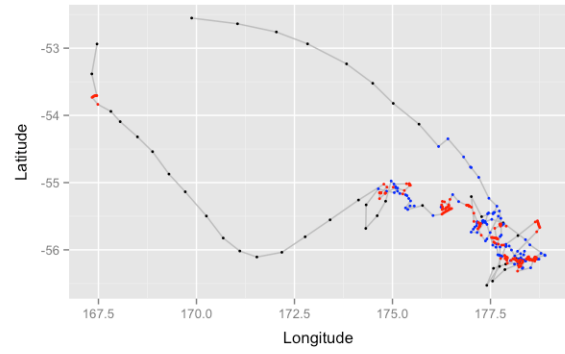
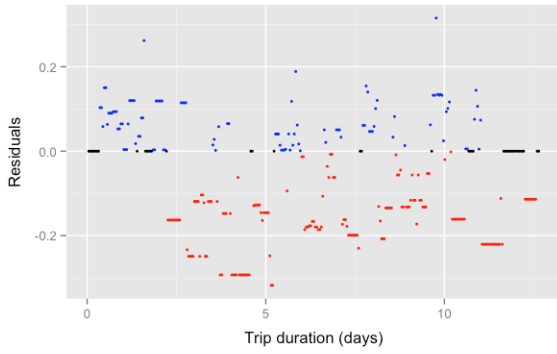
C) 20 min



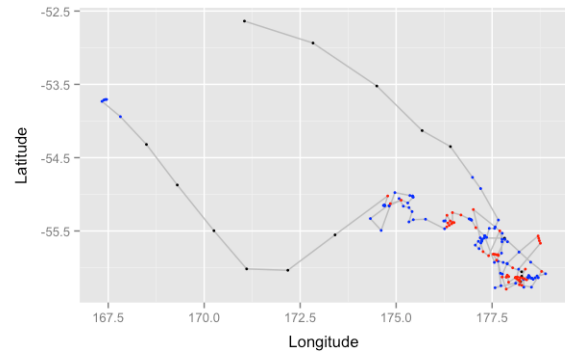
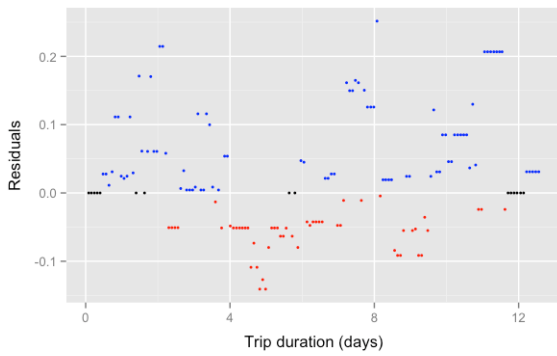
D) 30 min



E) 60 min



F) 120 min



G) 180 min

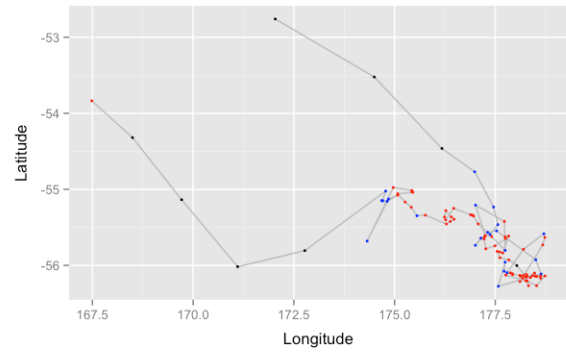
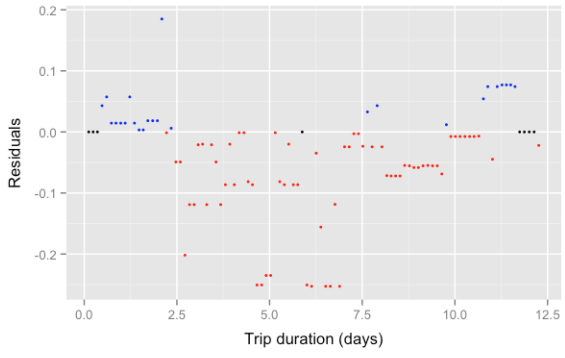


Figure 2. Original 5 min grey-headed albatross track (Bird 23059; lineally interpolated across short gaps) compared to three examples of simulated satellite telemetry data by stochastically sampling 1/3 of locations along the 60 min interval track (see Figure 1E).

