

Fig. S1. Detailed year\*individual (panels in columns and lines, respectively) migration tracks of short-tailed albatrosses of Torishima type. Blue lines indicate migration tracks during March to May (late breeding season), red lines during June to September (nonbreeding season), and green lines during October to February (early breeding season). The star indicates the colony location of Torishima

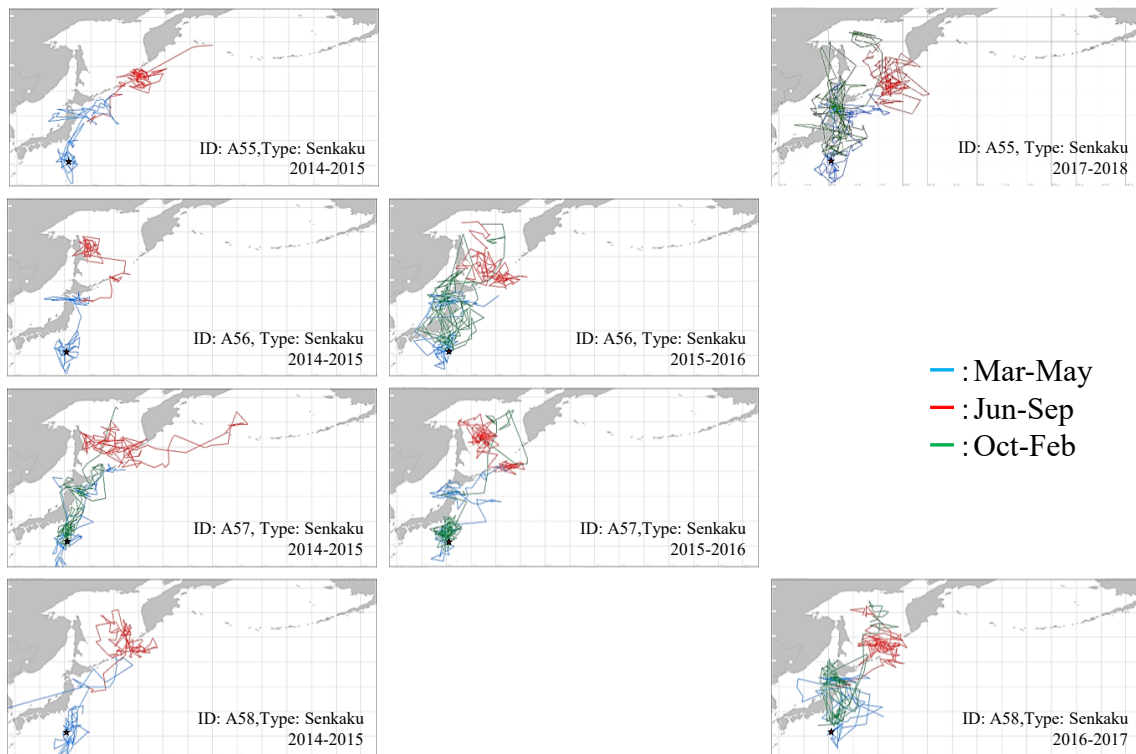


Fig. S2. Detailed year\*individual (panels in columns and lines, respectively) migration tracks of short-tailed albatrosses of Senkaku type. Blue lines indicate migration tracks during March to May (post-breeding season), red lines during June to September (nonbreeding season), and green lines during October to February (pre-breeding to breeding season). The star indicates the colony location of Torishima

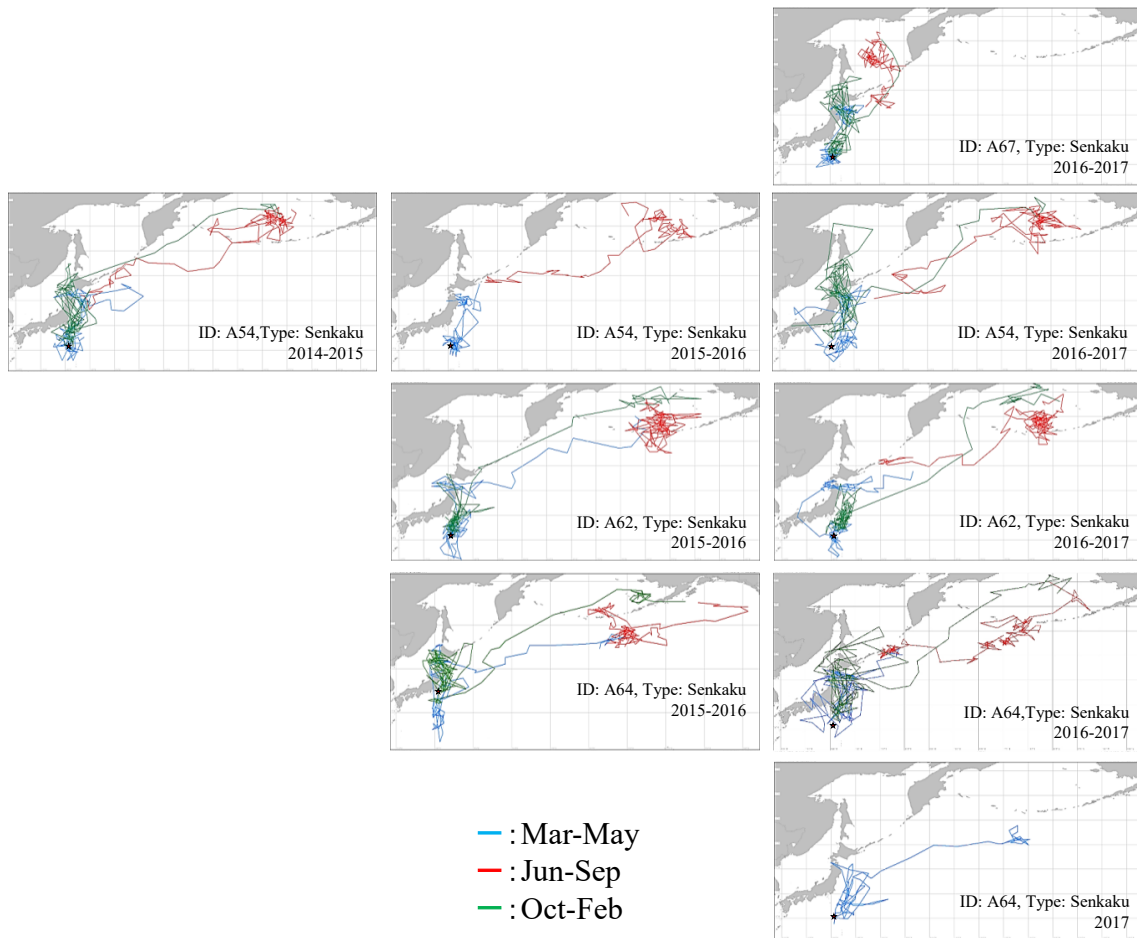


Fig. S2. (continued)

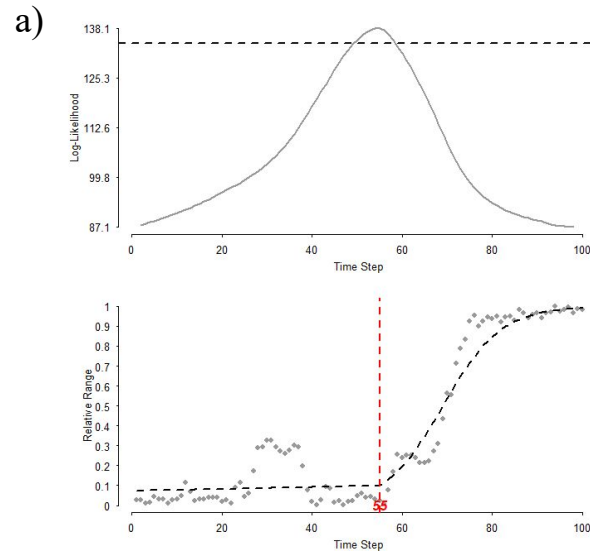


Fig. S3. Examples of a significant changepoint detected in the albatrosses' at-sea movements away and towards the colony in Torishima. Upper panel: log-likelihood for the existence of a change point (solid line), with the length of its section reaching above the threshold (dashed line) providing the 95% confidence interval of the test. Lower panel: relative distance of each daily location from the colony (grey diamonds), with beta regression fitted (dashed black curve) and the change-point inferred (time step highlighted with a vertical red dashed line) (a) bird A61 (2014 track), showing a first changepoint at time step 55 when the bird was estimated to leave its colony area (95% confidence interval = 11 time steps), i.e. on 6 April 2014  $\pm$  5.5 d

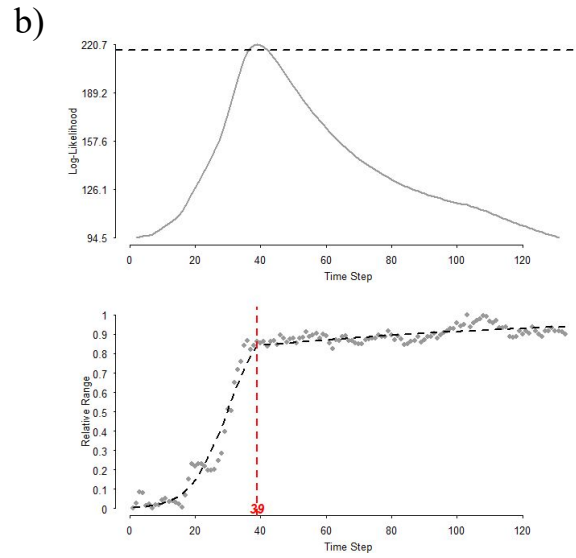


Fig. S3. (continued)

(b) bird A61 (2014 track), showing a second changepoint at time step 39 when the bird was estimated to arrive at its main non-breeding area (95% confidence interval = 7 time steps), i.e. on 29 May 2014  $\pm$  3.5 d

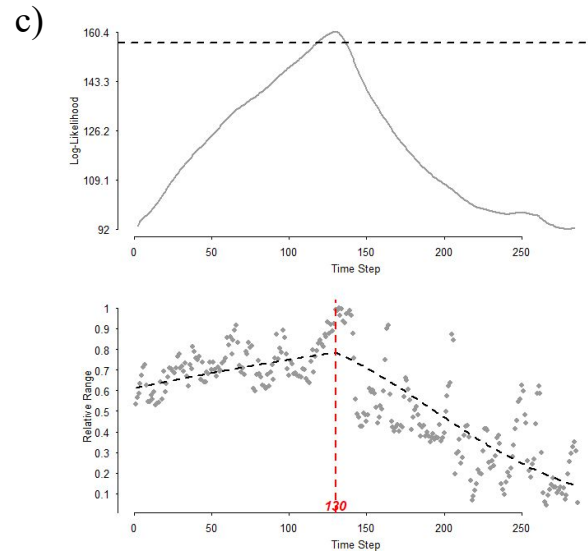


Fig. S3. (continued)

(c) bird A55 (2017 track), showing a changepoint at time step 130 when the bird was estimated to leave its main non-breeding area (95% confidence interval = 21 time steps), i.e. on 14 October 2017  $\pm$  10.5 d