

Ecology of the Arctic Tern, a bird linking Arctic and Antarctic

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The Arctic Tern *Sterna paradisaea* is a small seabird, which migrates from the breeding grounds in the Arctic to the wintering site in the Antarctic.

New developments of tracking migratory birds, called geolocation have made it possible to study the migration route and timing. This technique is now used in various populations of Arctic Terns and has revealed population differences. While the Arctic populations from Svalbard and Greenland migrate straight south, the temperate breeding Arctic Terns make the longest migration via Australia to the Antarctic. The comparison of different populations has generated hypothesis about the reasons behind these differences in migration route. The existence of a shallow, isolated water layer on the surface, the timing of migration and the major wind circulation patterns are important elements to explain the migration. The geolocators also provide information on water temperature and the number of dives by the bird.

During the breeding season, nesting Arctic Tern are very much prone to predation. There is an international concern about a population decline. In this presentation, I will also assess recent population trends and data on nesting behavior and food acquisition in the local breeding population in Kongsfjord, Spitsbergen.

Geolocation has been used in many species. For my study area in Ny-Ålesund, Spitsbergen, it is remarkable that bird species which breed close together in Kongsfjord, cover the entire ocean during winter. understanding the special requirements of all these species might help to map ecological hotspots in the ocean.

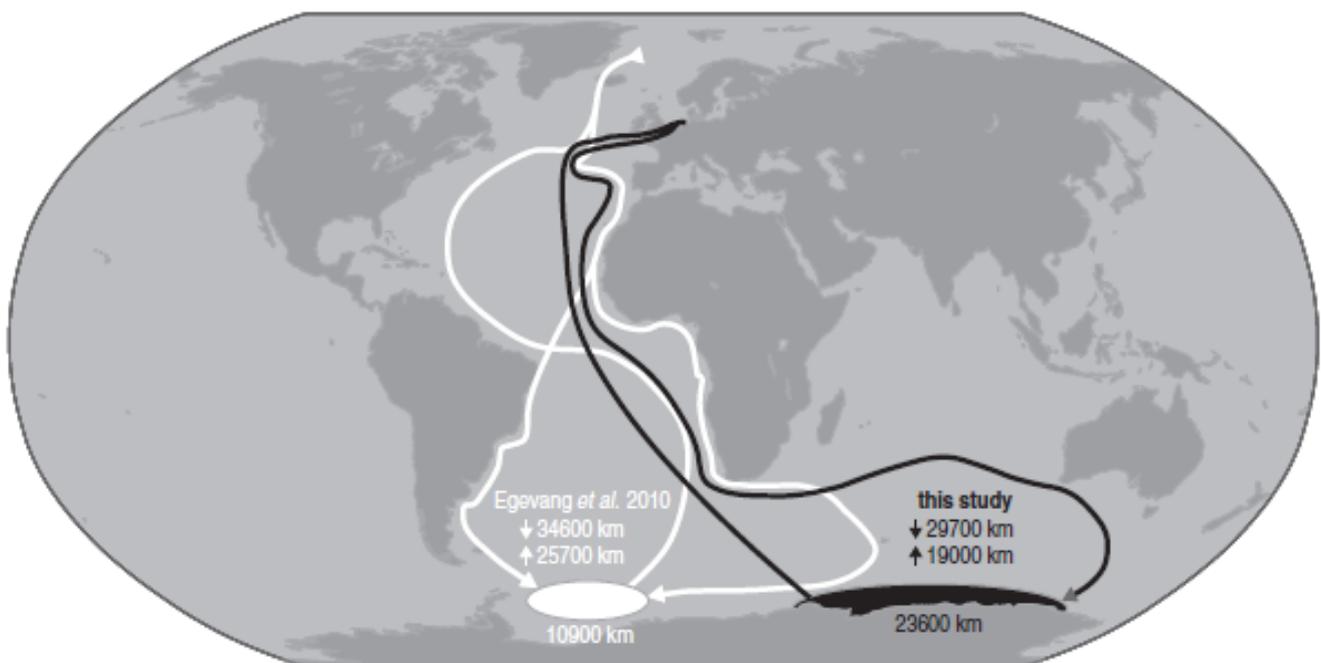


Figure 3. Schematic comparison between the movements of Arctic Terns breeding in The Netherlands (black lines) and Greenland (white lines) during the non-breeding period, including average migration distance. Antarctic non-breeding ranges are depicted in black (terns from The Netherlands) and white (terns from Greenland) with average total movement within these areas.

References

Fijn R.C., Hiemstra D., Philips R.A. and van der Winden J. Arctic Terns *Sterna paradisaea* from the Netherlands migrate record distances across three oceans to Wilkes Land, east Antarctica. *Ardea* 101, 3-12, 2013.