

Penguin chicks huddle up for heat, protection

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Location and environmental conditions may influence when gentoo chicks huddle in cold, wet Antarctic conditions, according to a study published February 3, 2016 in the open-access journal *PLOS ONE* by Caitlin Black from the University of Oxford, and colleagues.

Many penguin species form aggregations for conserving heat, providing protection, and other purposes. Scientists have observed gentoo penguins aggregating during the post-guard period, a period when the parents leave the chicks without waterproof feathers daily to go find fish, but these aggregations have never been studied over a large spatial range in the Antarctic. The authors of this study observed the gentoo penguin aggregation behavior across four study sites along a latitudinal gradient. To examine the adaptive benefit of aggregations, they observed each [colony](#) during the post-guarding period of the 2012-2013 breeding season using time-lapse cameras.

The authors found that gentoo chick aggregations help individual chicks save energy during wet, cold conditions. However, they also found significant differences in aggregation behavior between colonies. Chicks form aggregations more often and in a larger size at the northern-most colony studied on the island of South Georgia than at the southern study sites on the Antarctic Peninsula, suggesting this behavior may be colony specific. Since not all post-guarding periods occurred during the same time period at each study site, the differences in [environmental conditions](#) and post-guard period timing may have also played a role. The authors suggest their results highlight the need for studies to evaluate multiple seabird colonies within one species before generalizing

behaviors based on one location.

Caitlin Black notes, "Behaviors, such as chick aggregations, influence whether a chick will survive and therefore may greatly impact the success of a colony. The results show why we must evaluate behaviors at multiple locations, as these behaviors are often colony specific and cannot be generalized from one year at one location."

More information: Black C, Collen B, Johnston D, Hart T (2016) Why Huddle? Ecological Drivers of Chick Aggregations in Gentoo Penguins, *Pygoscelis papua*, across Latitudes. *PLoS ONE* 11(1): e0145676. [DOI: 10.1371/journal.pone.0145676](https://doi.org/10.1371/journal.pone.0145676)

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