Biogeosciences Discuss., 12, C7656–C7657, 2015
www.biogeosciences-discuss.net/12/C7656/2015/

Biogeosciences Discussions

Interactive comment on "Differential responses of seabirds to inter-annual environmental change in the continental shelf and oceanic habitats of southeastern Bering Sea" *by* T. Yamamoto et al.

Anonymous Referee #1

Received and published: 12 November 2015

The authors provide a description of the behaviour of two species (RLKI + TBMU) in two different years (2013 and 2014). For RLKI, foraging location and CORT did not vary between the two years although fledgling success was much lower in 2013. For TBMU, foraging location and CORT varied in synchrony across the two years (2014 being a warmer, 'better' year) although fledging success did not vary.

It would seem that in the poor, cold year, that RLKIs maintained their own condition and did not increase foraging effort, passing on the cost of poorer environmental conditions to their offspring. In contrast, TBMUs reduced their own condition and increased foraging effort, so that the adults experienced the cost of the poor conditions and did not

pass those costs onto the chicks. Perhaps RLKIs are already at the limit and have no more scope to increase foraging effort?

The main drawback of the study is (1) the short duration and (2) the small sample sizes meaning low statistical power. With only two years' data, it is hard to make robust conclusions, and many of the purported explanations come across as 'just so' stories.

p 17697 There is abundant information that devices can impact seabird behaviour, even if they are less than 5% of body mass. I am surprised the authors do not at least acknowledge this issue.

p 17698 Ground speed during flight will be strongly impacted by wind speed. Given that you have GPS data and the availability of wind speed (e.g. from MoveBank or elsewhere), why not calculate airspeed, which would reduce the error associated with separating flight from non flight? i.e. some movement >3 m/s will be surface movement and some movement <3 m/s will be flight.

p 17703 L 27. Why are there no confidence intervals on fledging success? Are the values significantly different from one another? This difference in reproductive success should be mentioned in the Introduction to set up robust predictions.

It would be worthwhile noting that the opposite trends (cold vs warm) are observed in seabirds farther north (Divoky, G. J., Lukacs, P. M., & Druckenmiller, M. L. (2015). Effects of recent decreases in arctic sea ice on an ice-associated marine bird. Progress in Oceanography.).

Fig. 5. Suggest deleting this figure as I don't see what it adds. OK, the d13C is different, but so what? Nothing is made of these data.

Interactive comment on Biogeosciences Discuss., 12, 17693, 2015.