

STEVEN CARL AMSTRUP

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Life Mission: Use scientific knowledge to reconcile the ever-enlarging human footprint on our environment with the needs of other species for that same environment.

Current Strategy: Convey the wisdom I gained from nearly 40 years of arctic research, to inspire societal efforts to halt anthropogenic global warming.

Education:

B. Sc. Forest Resources, University of Washington, Seattle, 1972

M. Sc. Wildlife Mgmt., University of Idaho, 1975

PhD. Wildlife Mgmt., University of Alaska, Fairbanks, 1995.

Work Experience*

August 2010 to Present:

Chief Scientist, *Polar Bears International, Bozeman, Montana.*

2006 to Present:

Adjunct Full Professor, University of Wyoming, Laramie Wyoming

December 1980 to July 2010:

Leader, Ursid and Arctic Marine Research Team, Alaska Science Center, US Geological Survey, Biological Resources Division, (*Formerly: Research Division U. S. Fish and Wildlife Service, Alaska Fish and Wildlife Research Center*).

January 1976--November 1980:

Leader, Sharp-tailed grouse and pronghorn antelope research, *Sheridan Field Station, Denver Wildlife Research Center, US Fish and Wildlife Service.*

July 1975 to January 1976:

Regional Wildlife Biologist, Utah Division of Wildlife Resources, Price, Utah.

Selected Recent Published Work*

* More information can be found here: <https://polarbearsinternational.org/profiles/dr-steven-c-amstrup/>

And a complete list of publications (>150) could be provided upon request.

1. Bruno, J. F. A. E. Bates, C. Cacciapaglia, E. P. Pike, **S. C. Amstrup**, R. van Hooindonk, S. A. Henson, R. B. Aronson. 2018. Climate change threatens the world's marine protected areas. *Nature Climate Change* 8, 499-503
2. **Amstrup, S. C.**, and F. Lehner. 2017. Anthropogenic Ocean Change: The Consummate Threat to Marine Mammal Welfare. Pages 9-26 *In*: A. Butterworth (ed.), *Marine Mammal Welfare*, Animal Welfare 17. Springer International. DOI 10.1007/978-3-319-46994-2_2.

3. Harvey, J.A., D. van den Berg, J. Ellers, R. van Kampen, T. Crowther, P. Roessingh, B. Verheggen, R. J. M. Nuijten, E. Post, S. Lewandowsky, I. Stirling, **S. C. Amstrup**, and M. E. Mann. 2018. Internet blogs, Polar Bears, and Climate-Change Denial by Proxy. *BioScience* 68(4):281-287.
4. Nghikembua, M. T., F. Lehner, W. Ottichilo, L. Marker, **S. C. Amstrup**. 2018. The impact of climate change on the conservation and survival of the Cheetah. Pages 163-171 *In*: L. Marker, L. Boast, and A. Schmidt-Kuntzel, Eds. *Cheetahs Biology and Conservation*. Academic Press. ISBN: 978-0-12-804088-1
5. Atwood, T.C., Marcot, B.G., Douglas, D.C., **Amstrup, S.C.**, Rode, K.D., Durner, G.M., and Bromaghin, J.F., 2015, Evaluating and ranking threats to the long-term persistence of polar bears: U.S. Geological Survey Open-File Report 2014-1254, 114 p., <http://dx.doi.org/10.3133/ofr20141254>
6. Whiteman, J.P., H.J. Harlow, G.M. Durner, R. Anderson-Sprecher, S. E. Albeke, E. V. Regehr, **S. C. Amstrup**, M. Ben-David. 2015. Summer declines in activity and body temperature offer polar bears limited energy savings. *Science* Vol. 349, Issue 6245:295-298.
7. Whiteman, J.P., H. J. Harlow, G. M. Durner, E. V. Regehr, **S. C. Amstrup**, M. Ben-David, 2018. Phenotypic plasticity and climate change: can polar bears respond to longer Arctic summers with an adaptive fast? *Oecologia* 186:369-381. <https://doi.org/10.1007/s00442-017-4023-0>.
8. Durner GM, Douglas DC, Albeke SE, Whiteman JP, Amstrup SC, Richardson E, Wilson RR, Ben-David M. Increased Arctic sea ice drift alters adult female polar bear movements and energetics. *Glob Change Biol.* 2017;23:3460–3473. <https://doi.org/10.1111/gcb.13746>
9. Rode, K. D., C. T. Robbins, L. Nelson, and **S. C. Amstrup**. 2015. Can polar bears use terrestrial foods to offset lost ice-based hunting opportunities? *Front. Ecol. Environ.* 2015: 13(3): 138-145.
10. Bromaghin, J.F., T.L. McDonald, I. Stirling, A. E. Derocher, E.S. Richardson, E.V. Regehr, D. C. Douglas, G.M. Durner, T. Atwood, and **S.C. Amstrup**. 2015. Polar bear population dynamics in the southern Beaufort Sea during a period of sea ice decline. *Ecological Applications*, 25(3), 2015, pp. 634–651.
11. Owen, M.A., R.R. Swaisgood, C. Slocumb, **S.C. Amstrup**, G.M. Durner, K. Simac, and A.P. Pressier. 2014. An experimental investigation of chemical communication in the polar bear. *J. Zoology*. Published online, 3 Nov 2014.
12. Rode, K.D., A.M. Pagano, J.F. Bromaghin, T.C. Atwood, G.M. Durner, K. S. Simac, and **S.C. Amstrup**. 2014. Effects of capturing and collaring on polar bears: findings from long-term research on the southern Beaufort Sea Population. *Wildlife Research*. Published Online 16 Dec 2014.
13. Peacock, E., Sonthsgen, S.A., Obbard, M.E., Boltunov, A., Regehr, E.V., Ovsyanikov, O., Aars, J., Atkinson, S.A., Sage, G.K., Hope, A.G., Zeyl, E., Bachmann, L., Ehrich, D., Scribner, K.T., **Amstrup, S.C.**, Belikov, S., Born, E., Derocher, A.E., Stirling, I., Taylor, M.K., Wiig, Ø., Paetkau, D., and Talbot, S.L., 2015. Implications of the circumpolar genetic structure of polar bears for their ecology, evolution and conservation in a rapidly warming Arctic. *PLoS One*. DOI:10.1371/journal.pone.0112021 January 6, 2015
14. Derocher, A. E., J. Aars, **S. C. Amstrup**, A. Cutting, N. J. Lunn, P. K. Molnár, M. E. Obbard, I. Stirling, G. W. Thiemann, D. Vongraven, Ø. Wiig, and G. York. 2013. Rapid ecosystem change and polar bear conservation. *Conservation Letters*. DOI 10.1111/conl.12009
15. Durner, G. M., K. Simac and **S. C. Amstrup**. 2013. Mapping polar bear maternal denning habitat in the National Petroleum Reserve-Alaska with an IFSAR digital terrain model. *Arctic*. 66(2):197-206.
16. Bromaghin, J. F., T. L. McDonald, and **S. C. Amstrup**. 2013. Plausible combinations: An improved method to evaluate the covariate structure of Cormack-Jolly-Seber mark-recapture models. *Open Journal of Ecology* 3:11-22.
17. Vongraven, D., Aars, J., **Amstrup, S.**, Atkinson, S.N., Belikov, S., Born, E.W., DeBruyn, T.D., Derocher, A.E., Durner, G., Gill, M., Lunn, N., Obbard, M.E., Omelak, J., Ovsyanikov, N., Peacock, E., Richardson, E., Sahanatien, V., Stirling, I., and Wiig, Ø. (2012) A

- circumpolar monitoring framework for polar bears. *Ursus Monograph Series* 5. 66 pp.
18. Pagano, A. M., G. M. Durner, **S. C. Amstrup**, K. S. Simac, and G. S. York. 2012. Long-distance swimming by polar bears (*Ursus maritimus*) of the southern Beaufort Sea during years of extensive open water. *Canadian Journal of Zoology* 90:663-676.
 19. **Amstrup, S. C.** 2012. Polar bears and climate change: certainties, uncertainties, and hope in a warming world. Pages 11-20 in R. T. Watson, T. J. Cade, M. Fuller, G. Hunt, and E. Potapov (Eds.), *Gyrfalcons and Ptarmigan in a Changing World*, Vol. 1. The Peregrine Fund, Boise, Idaho, USA. <http://dx.doi.org/10.4080/gpcw.2011.0100>.
 20. Durner, G., J. Whiteman, H. Harlow, **S. C. Amstrup**, E. Regehr, and M. Ben-David. 2011. Consequences of long-distance swimming and travel over deep-water pack ice for a female polar bear during a year of extreme sea ice retreat. *Polar Biology* 34:975-984.
 21. Stirling, I., T. L. McDonald, E.S. Richardson, E. V. Regehr⁴ and **S. C. Amstrup**. 2011. Polar Bear Population Status in the northern Beaufort Sea, Northwest Territories, Canada 1971-2006. *Ecological Applications* 21(3), 2011, pp. 859-876.
 22. Durner, G.M., Fischbach, A.S., **Amstrup, S.C.**, and Douglas, D.C., 2010, Catalogue of polar bear (*Ursus maritimus*) maternal den locations in the Beaufort Sea and neighboring regions, Alaska, 1910–2010: U.S. Geological Survey Data Series 568, 14 p.
 23. Hunter, C. M., Caswell, H., Runge, M. C., Regehr, E. V., **Amstrup, S. C.**, Stirling, I. Climate change threatens polar bear populations: a stochastic demographic analysis. *Ecol.* 91, 2883-2897 (2010).
 24. **Amstrup, S. C.**, E. DeWeaver, D. C. Douglas, B. G. Marcot, G. M. Durner, C. M. Bitz, D. A. Bailey. 2010. Greenhouse gas mitigation can reduce sea-ice loss and increase polar bear persistence. *Nature*. 468: 955-958.

Honors and Awards

The Wildlife Society, Wildlife Publications Award - Outstanding Publication, 2004: Using satellite radio-telemetry data to delineate and manage wildlife populations (S. C. Amstrup and G. M. Durner, *Wildlife Society Bulletin*).

The Wildlife Society, Wildlife Publications Award – Outstanding Edited Book Category, 2007: Handbook of Capture-Recapture Analysis (S. C. Amstrup, T. L. McDonald, and B. F. J. Manly).

The US Department of Interior "Unit Award for Excellence of Service." on 6 November 2007. Given to recognize my leadership in efforts to inform the Secretary about whether to list polar bears under ESA

Winner, the Indianapolis Prize, 2012. <https://www.indianapoliszoo.com/prize/conservation-heroes/#hero=steven-amstrup>

Winner, Bambi Award, 2012 in the "Our Earth" Category. <http://www.bambi.de/bambi-2012-goldenes-reh-fuer-die-idole-unserer-zeit-2/223481>