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## Perfluorooctanesulfonate and Related Fluorochemicals in Albatrosses, Elephant Seals, Penguins, and Polar Skuas from the Southern Ocean

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Perfluorinated chemicals (PFCs) are widespread environmental pollutants. Studies of the geographical distribution of PFCs focused primarily on the Northern Hemisphere (NH), while little attention was paid to the Southern Hemisphere (SH).

Various biota samples (albatrosses, elephant seals, skuas, and penguins) were collected from the Southern Oceans and the Antarctic regions. In addition, Laysan albatrosses from the North Pacific Ocean (NP) were collected for comparison. PFCs were detected in liver, blood, and egg samples with HPLC-ESI-MS/MS.

For biota samples from SH, Perfluorooctanesulfonate (PFOS) was the dominant compound followed by perfluorooctanoic acid (PFOA). Other PFCs were not detected. For albatross from NP, PFOS was still the dominant compound. Several other PFCs were also detected. The long-chain PFCAs (C9-C12) were found at concentrations similar to those of PFOS and PFOA. The mean concentration of PFOS in livers of Laysan albatrosses from NP (5.1 ng/g, wet wt) was higher than that in several species of albatrosses from SH (2.2 ng/g, wet wt). Species-specific differences in the concentrations of PFOS were noted among albatrosses from SH and NP.

Our study documents the existence of low but detectable levels of PFOS and PFOA in SH fauna, suggesting distribution of these compounds on a global scale.