



COVER Adélie penguins (*Pygoscelis adeliae*), shown here at a rookery on Torgerson Island near the U.S. Antarctic science base Palmer Station, are a vital link in the Southern Ocean food web. Respiration of carbon dioxide by Antarctic birds and mammals may represent a significant inefficiency in the storage of fixed carbon in the ocean. This phenomenon may affect current models of the global ocean-atmosphere carbon flux. See page 64. [Photograph by David M. Karl]

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