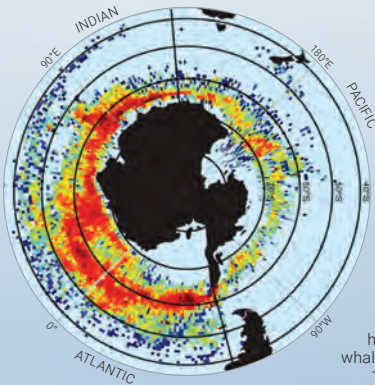
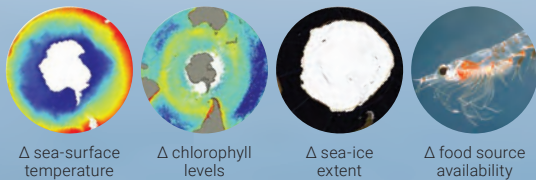


Whales and Climate Change

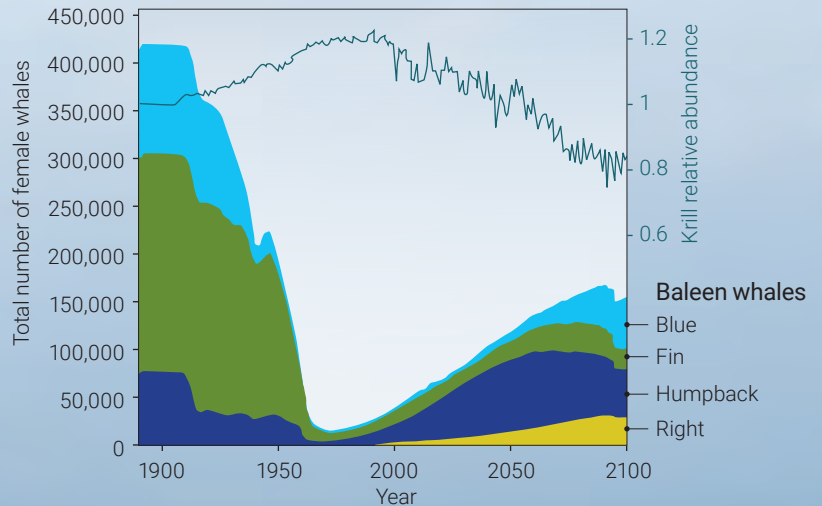
A feature on p. 36 of this issue talks about how subsea optical fiber can monitor variables important to understanding climate change—including the migration of marine mammals. A half a decade ago, however, researchers were already sounding the alarm about climate change’s potential impacts on the delicate recovery of many whale species. Here’s a look at what they found.



1980s: After 200+ years of harvesting brings many whale species close to extinction, a moratorium on whaling by the International Whaling Commission allows depleted populations to slowly recover.



2000s: The changing climate in some polar regions is affecting sea-surface temperature, levels of chlorophyll, the extent of sea ice and availability of food (such as the tiny crustaceans known as krill), pushing changes in whales’ migratory patterns and creating new concerns for their continued recovery.



Future: Despite initial recovery of whale populations from historical hunting, research models predict warming in the Southern Ocean will slow recovery for some southern baleen whale species and possibly drive others toward extinction by the end of this century.

Research models include direct interactions between physical climate drivers (changes in sea ice, chlorophyll and sea-surface temperature) and biological features (phytoplankton, copepods, krill and whales).



Whales play a surprisingly important role in the ocean environment—for example, by acting as carbon sinks and transporting nutrients that benefit ocean food chains.