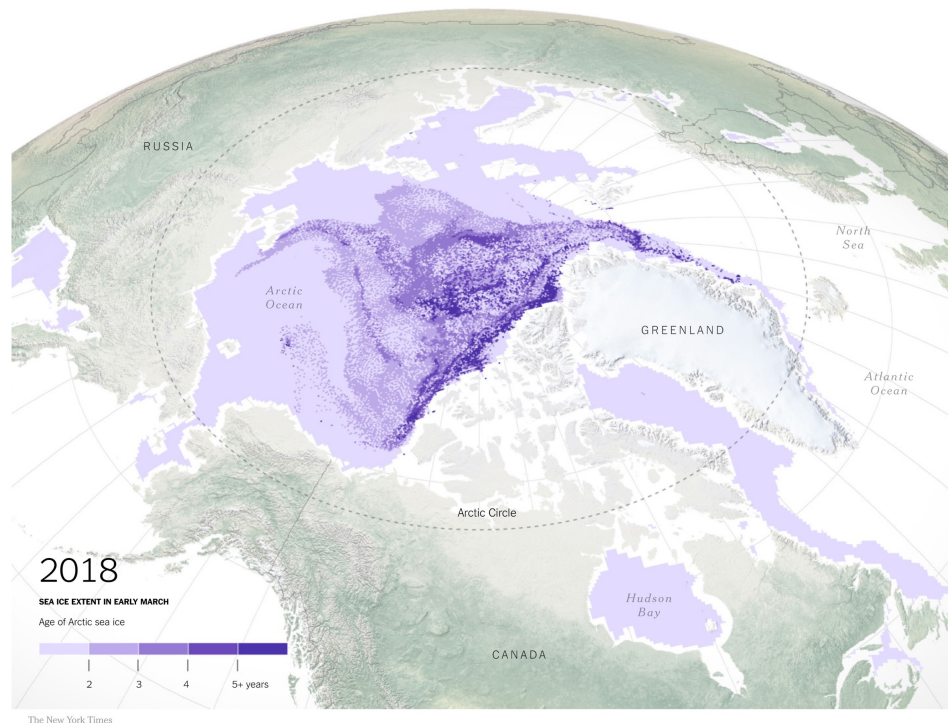
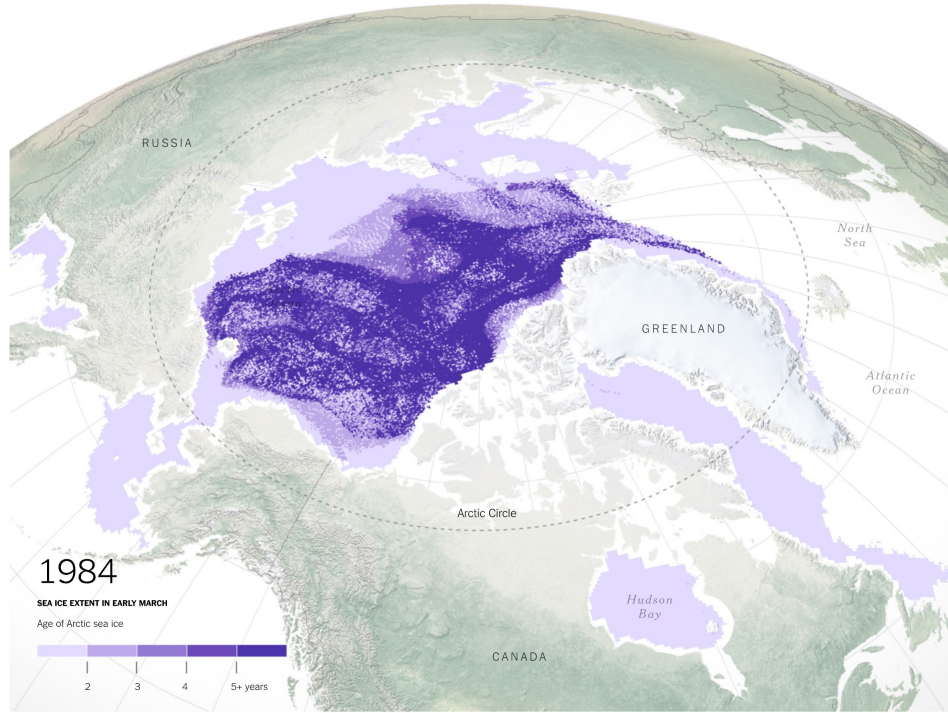


In the Arctic, the Old Ice Is Disappearing

By JEREMY WHITE and KENDRA PIERRE-LOUIS



Sea Ice Extent and Age in Early March

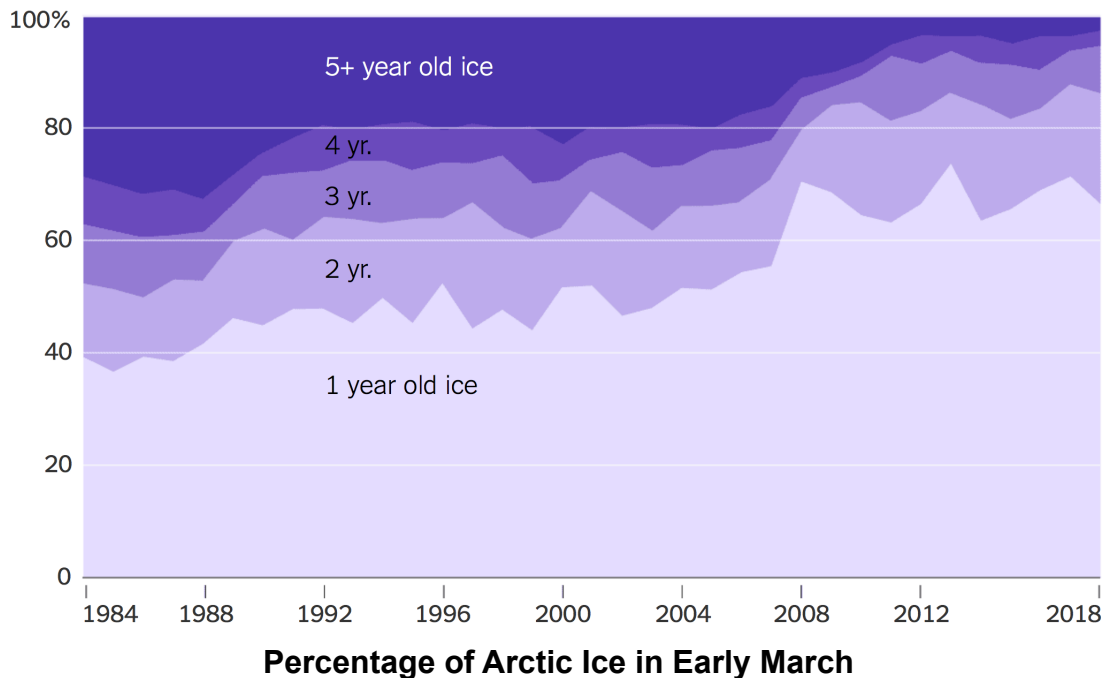
In the Arctic Ocean, some ice stays frozen year-round, lasting for many years before melting. But this winter, the region hit a record low for ice older than five years.

This, along with [a near-record low for sea ice over all](#), supports predictions that by midcentury there will be no more ice in the Arctic Ocean in summer.

As darker, heat-absorbing water replaces reflective ice, it hastens warming in the region. Older ice is generally thicker than newer ice and thus more resilient to heat. But as the old ice disappears, the newer ice left behind is more vulnerable to rising temperatures.

“First-year ice grows through winter and then to up to a maximum, which is usually around in March,” said Mark A. Tschudi, a research associate at the Colorado Center for Astrodynamic Research at the University of Colorado, Boulder. “As summer onsets, the ice starts to melt back.”

Some of the new ice melts each summer, but some of it lingers to grow thicker over the following winter, forming second-year ice. The next summer, some of that second-year ice survives, then grows even thicker and more resilient the next winter, creating what is known as multiyear ice. Some ice used to last more than a decade.



Today, Arctic sea ice is mostly first-year ice. While the oldest ice has always melted when currents pushed it south into warmer waters, now more of the multiyear ice is melting within the Arctic Ocean, leaving more open water in its wake.

This is especially bad for animals like [narwhals](#), the so-called unicorns of the sea, that use sea ice to avoid predators like killer whales. As the sea ice disappears, killer whales spend more time in narwhal waters, eating the narwhals and driving them from the richest feeding grounds.

“I’ve been on record saying that it may be 2030 that we could see a seasonally ice-free Arctic Ocean,” said Mark Serreze, director of the National Snow and Ice Data Center. “Some people have said that that’s too aggressive, that we’re looking at maybe sometime in the 2040s. But we are definitely on track to lose that summer sea ice cover. Honestly, I don’t think there’s any going back at this point.”

Sources: National Snow and Ice Data Center and the Colorado Center for Astrodynamic Research. Note: Early March is defined as the ninth week of each year, which is a commonly used yearly interval for evaluating Arctic ice attributes.