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Distribution and trends in Arctic sea ice age and implications for the future

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Analysis of a satellite-derived record of sea ice age for 1980 through March 2011 shows continued net decrease in multiyear ice coverage in the Arctic Ocean, with particularly extensive loss of the oldest ice types. These losses now extend into the central Arctic Ocean and adjacent to the Canadian Archipelago; areas where the ice cover was relatively stable prior to 2007 and where long-term survival of sea ice through summer is considered to be most likely. Following record minimum multiyear ice coverage in summer 2008, the total multiyear ice extent has increased to amounts consistent with the negative trend from 2001-2006, with an increasing proportion of older ice types. This implies some ability for the ice pack to recover from extreme conditions. This recovery has been weakest in the Beaufort Sea and Canada Basin though, with more multiyear ice extent now lost in the Pacific sector than elsewhere in the Arctic Ocean.