Northward expansion and intensification of phytoplankton growth during the Arctic sea ice decline

Cecile Rousseaux, a research scientist at the Universities Space Research Association and co-first author of the study, said that satellite observations of ocean color – which provide estimates of phytoplankton blooms – have shown a long-term trend of increased productivity.

"We cannot exactly predict how it will evolve, but we're pretty sure there are unexpected effects of sea ice decline," Rousseaux explained. "With less sea ice, the phytoplankton have more area to grow on, but we're not sure how this may also affect them in terms of light and nutrients." 

In the new study, Renaut and her colleagues wanted to see if recent sea ice declines have had any effect on spring phytoplankton blooms. They used satellite observations of ocean color — which provide estimates of phytoplankton blooms — and found the spring blooms are expanding farther north and increasing in number.

"There is no question that sea ice has a large impact on the Arctic," Rousseaux explained. "The phytoplankton are converting sunlight into chemical energy, and we're seeing that this is increasing."

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