**Title**: Temporal variability of Arctic ice-edge blooms in a period of declining ice cover

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**Abstract**:

During the past few decades, the Arctic Ocean has been facing rapid changes at spatial and temporal scales. This fragile environment is increasingly influenced by a warming climate. The loss of the sea-ice cover strongly impacts the dynamic of biological cycles. Studying the response of primary producers, which are key organisms at the base of the food web, is fundamental to a better understanding of their response to this changing environment. Ice-edge blooms are significant spring features that develop rapidly in springtime, during the Arctic melt season. They contribute to a significant part of the total annual primary production. These short-lived blooms are difficult to study in the field given their remote location and the harsh environmental conditions. The use of remote sensing is therefore a very appropriate tool to monitor them. Moreover, satellites provide ocean colour observations on decadal and pan-Arctic scales making them suitable to detect any significant trends in the distribution and phenology of ice-edge blooms occurring in the Arctic Ocean. Here, we report on temporal variability and changing dynamic of Arctic ice-edge blooms over the last decade using satellite ocean colour data from the MODIS sensor. Our results show a northward progression of these blooms.