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TITLE: Are phytoplankton blooms occurring earlier in the Arctic?

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ABSTRACT:

Global Change BiologyVolume 17, Issue 4 p. 1733-1739 Are phytoplankton blooms occurring earlier in the Arctic? M. KAHRU, M. KAHRU Scripps Institution of Oceanography, University of California San Diego, La Jolla, California, USASearch for more papers by this authorV. BROTAS, V. BROTAS Centre of Oceanography, Faculdade de Ciências da Universidade de Lisboa, Lisboa, PortugalSearch for more papers by this authorM. MANZANO-SARABIA, M. MANZANO-SARABIA Facultad de Ciencias del Mar, Universidad Autónoma de Sinaloa, Mazatlán, Sinaloa, MéxicoSearch for more papers by this authorB. G. MITCHELL, B. G. MITCHELL Scripps Institution of Oceanography, University of California San Diego, La Jolla, California, USASearch for more papers by this author M. KAHRU, M. KAHRU Scripps Institution of Oceanography, University of California San Diego, La Jolla, California, USASearch for more papers by this authorV. BROTAS, V. BROTAS Centre of Oceanography, Faculdade de Ciências da Universidade de Lisboa, Lisboa, PortugalSearch for more papers by this authorM. MANZANO-SARABIA, M. MANZANO-SARABIA Facultad de Ciencias del Mar, Universidad Autónoma de Sinaloa, Mazatlán, Sinaloa, MéxicoSearch for more papers by this authorB. G. MITCHELL, B. G. MITCHELL Scripps Institution of Oceanography, University of California San Diego, La Jolla, California, USASearch for more papers by this author First published: 12 August 2010 https://doi.org/10.1111/j.1365-2486.2010.02312.xCitations: 224 M. Kahru, Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA, USA, tel. +1 858 534 8947, fax +1 858 822 0562, e-mail: mkahru@ucsd.edu Read the full textAboutPDF ToolsRequest permissionExport citationAdd to favoritesTrack citation ShareShare Give accessShare full text accessShare full-text accessPlease review our Terms and Conditions of Use and check box below to share full-text version of article.I have read and accept the Wiley Online Library Terms and Conditions of UseShareable LinkUse the link below to share a full-text version of this article with your friends and colleagues. Learn more.Copy URL Share a linkShare onFacebookTwitterLinked InRedditWechat Abstract Time series of satellite-derived surface chlorophyll-a concentration (Chl) in 1997?2009 were used to examine for trends in the timing of the annual phytoplankton bloom maximum. Significant trends towards earlier phytoplankton blooms were detected in about 11% of the area of the Arctic Ocean with valid Chl data, e.g. in the Hudson Bay, Foxe Basin, Baffin Sea, off the coasts of Greenland, in the Kara Sea and around Novaya Zemlya. These areas roughly coincide with areas where ice concentration has decreased in early summer (June), thus making the earlier blooms possible. In the selected areas, the annual phytoplankton bloom maximum has advanced by up to 50 days which may have consequences for the Arctic food chain and carbon cycling. Outside the Arctic, the annual Chl maximum has become earlier in boreal North Pacific but later in the North Atlantic. Citing Literature Volume17, Issue4April 2011Pages 1733-1739 RelatedInformation

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