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Spring bloom onset in the Nordic Seas

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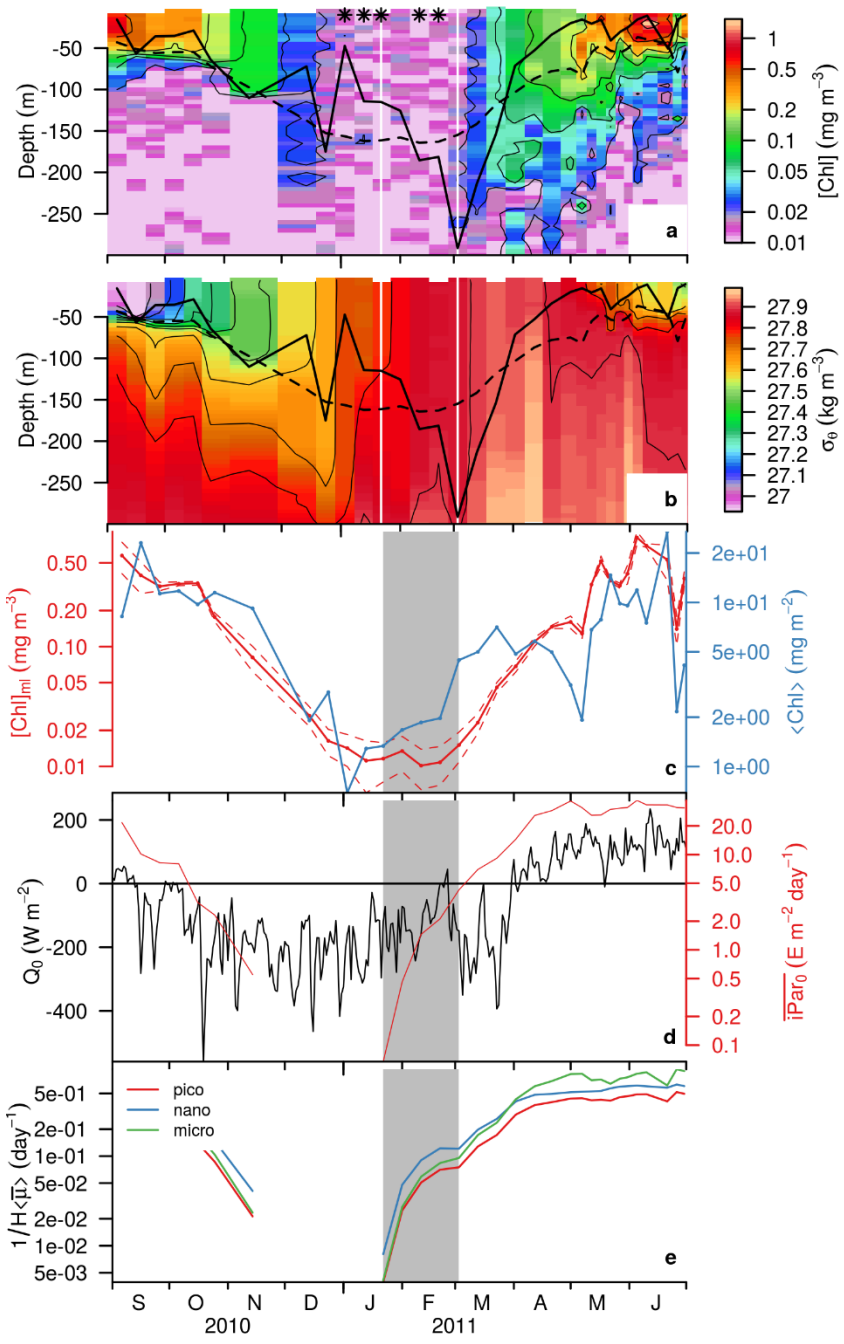

Figure S1. Bloom observed by float IMR1 during the fall-spring 2010-2011. (**a**) Time evolution of the vertical distribution of [Chl *a*]; values lower than 0.01 mg m^{-3} have been set to 0.01 mg m^{-3}. The asterisks symbolize the vertical profiles where the ML fluorescence values are not significantly different from the deep fluorescence values. (**b**) Time evolution of the vertical distribution of potential density σ_θ. The continuous and dashed black lines are the mixed layer and euphotic layer depths, respectively. (**c**) Time series of the vertical integral and the average

concentration of [Chl *a*] in the ML (<Chl>, blue lines and $[Chl]_{ml}$, red line).The dashed lines are the standard deviations around the average cycle of $[Chl]_{ml}$.(**d**) Time series of the daily surface heat flux Q_0 (black line) and the daily average surface PAR corrected for cloud cover, $i\overline{PAR(0)}$ (red line). (**e**) Time series of the class specific division rate (red: pico-, blue: nano-, green: micro-phytoplankton). The two white vertical lines and the gray shading indicate Δt_{onset}; period of time during which bloom onset is possible. The second white vertical line indicates the sampling profile during which the ML fluorescence become significantly different from the deep fluorescence values (i.e., emergence from signal to noise, t_E).

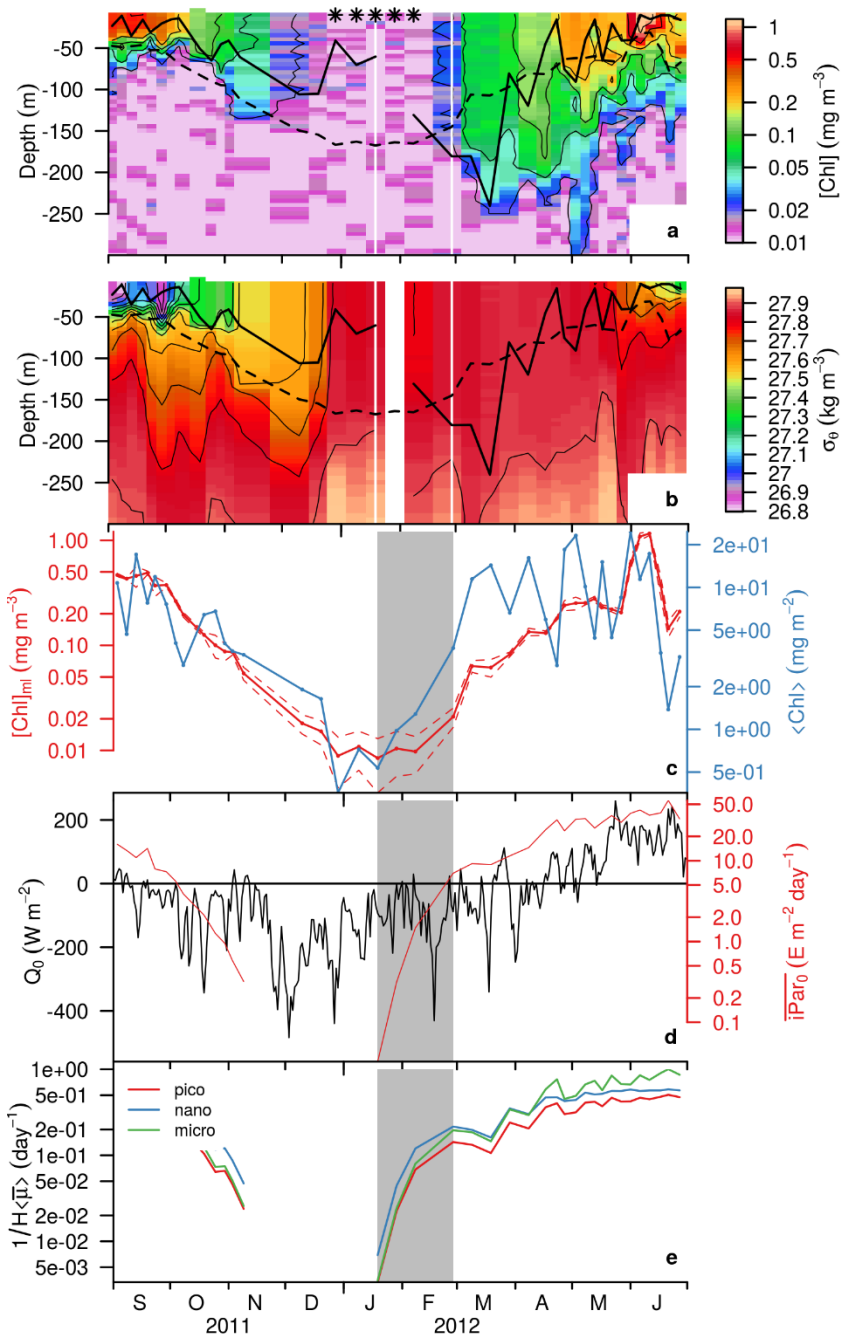

Figure S2. Same as Fig. S1, but for the float IMR 1 during the winter-spring 2011-2012.

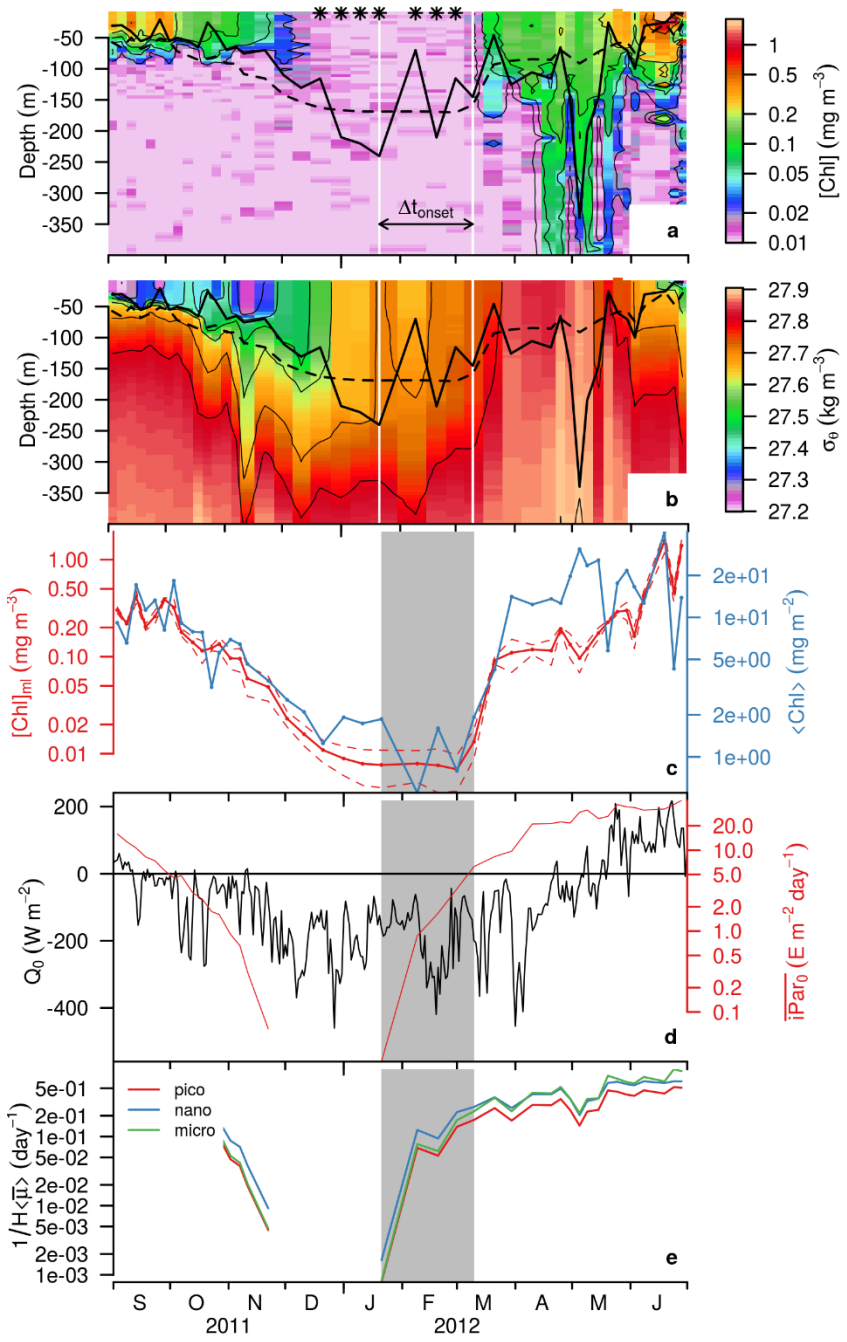

Figure S3. Same as Fig. S1, but for the float IMR 2 during the winter-spring 2011-2012. This figure is equivalent to Fig. 2 in the main paper and it is reproduced here for completeness.

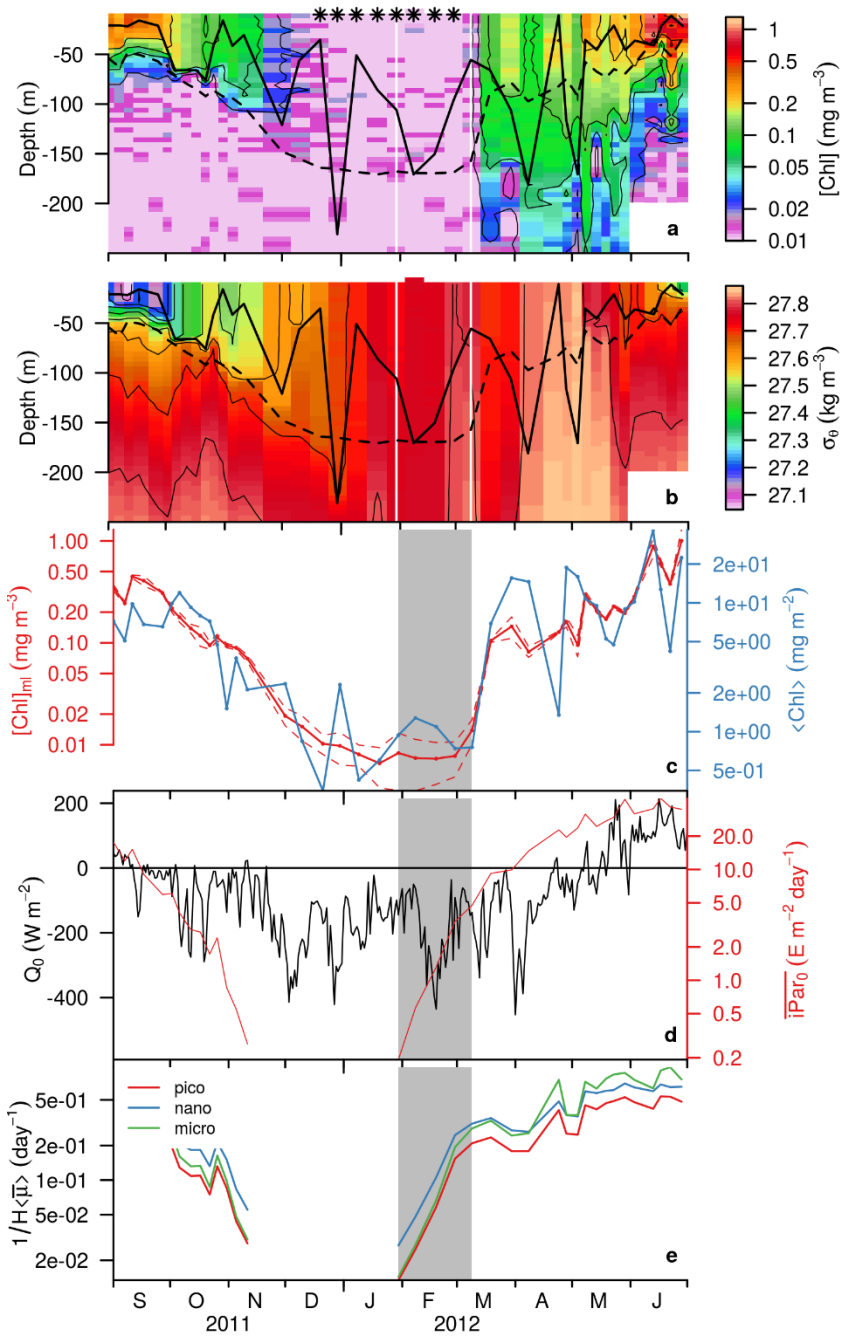

Figure S4. Same as Fig. S1, but for the float IMR3 during the winter-spring 2011-2012.

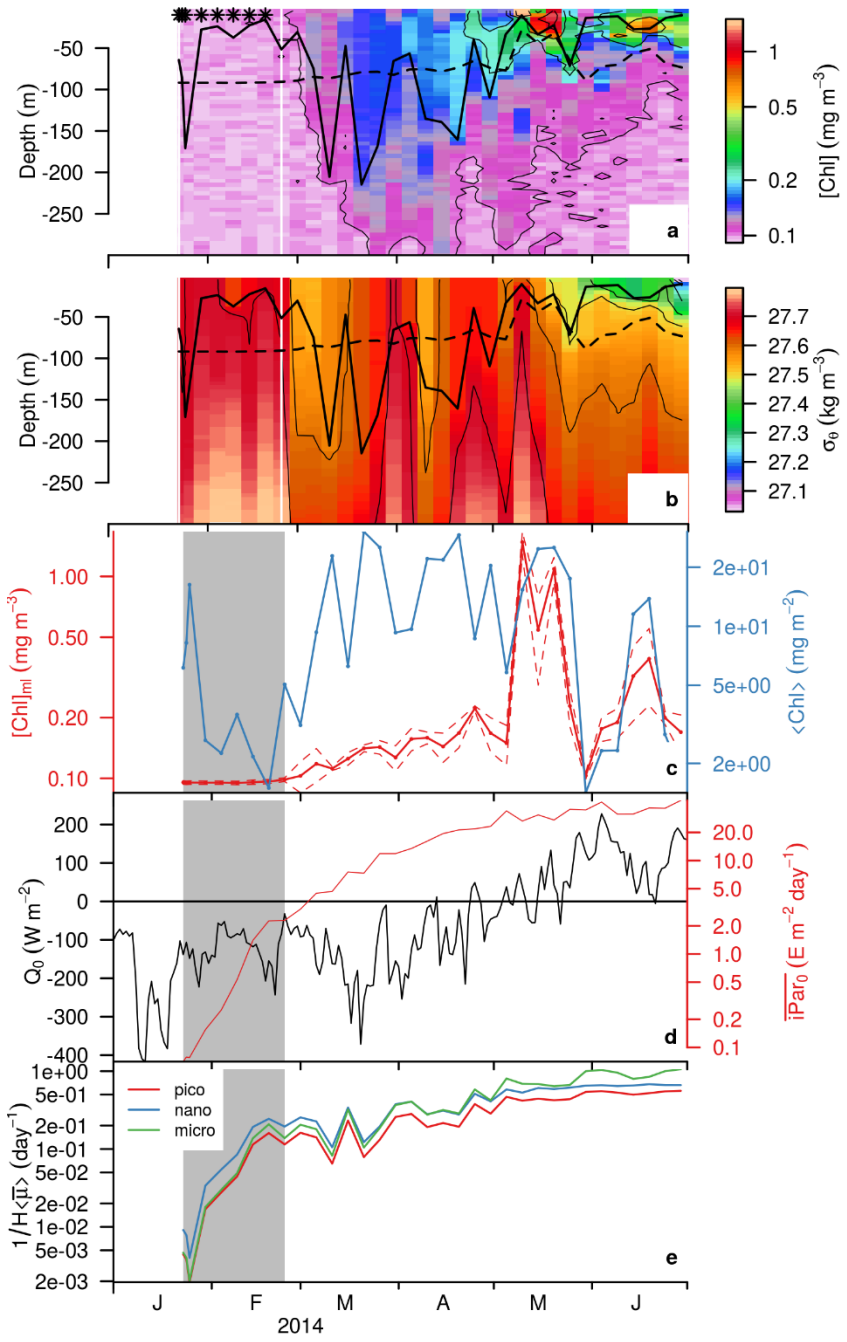

Figure S5. Same as Fig. S1, but for the float IMR4 during the winter-spring 2013-2014.

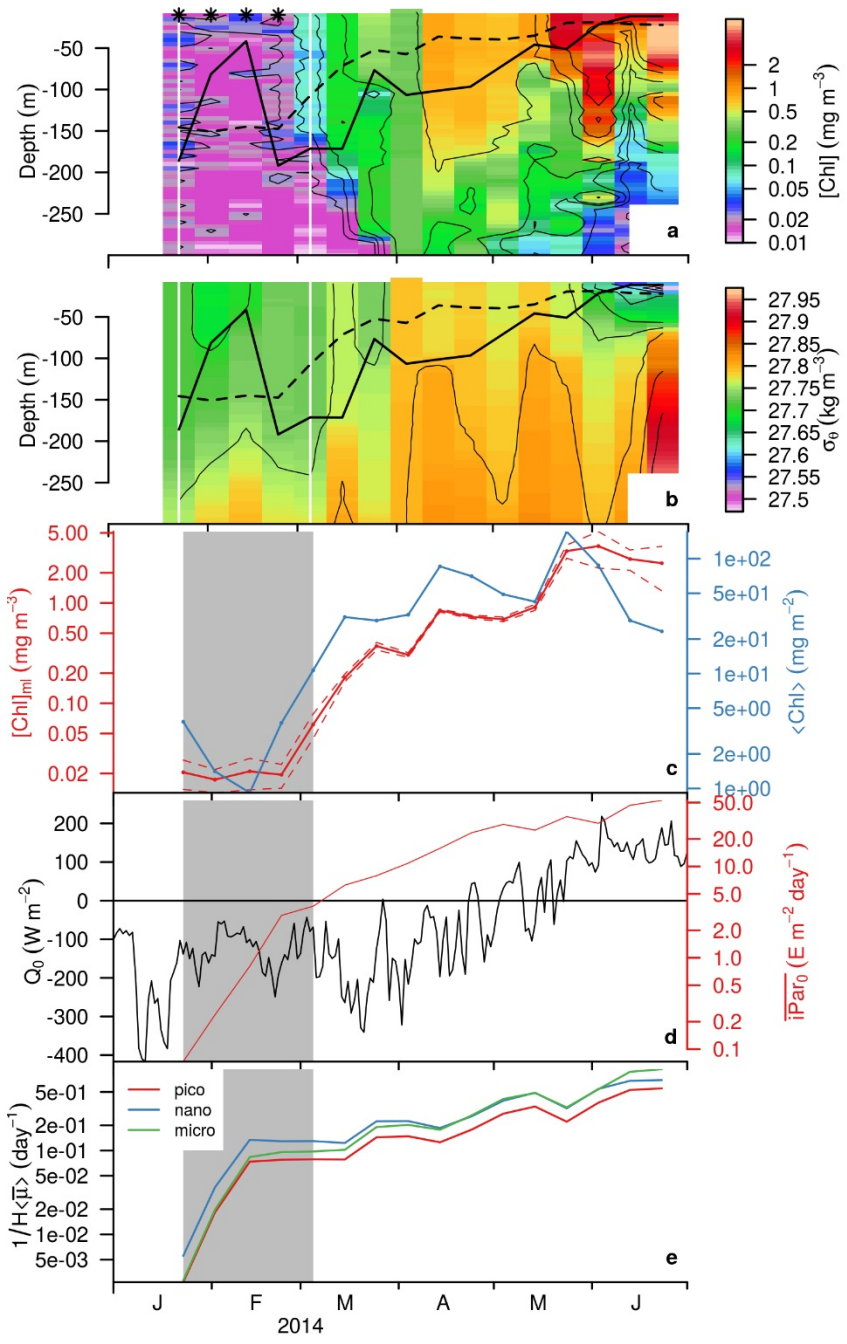

Figure S6. Same as Fig. S1, but for the float IMR6 during the winter-spring 2013-2014.

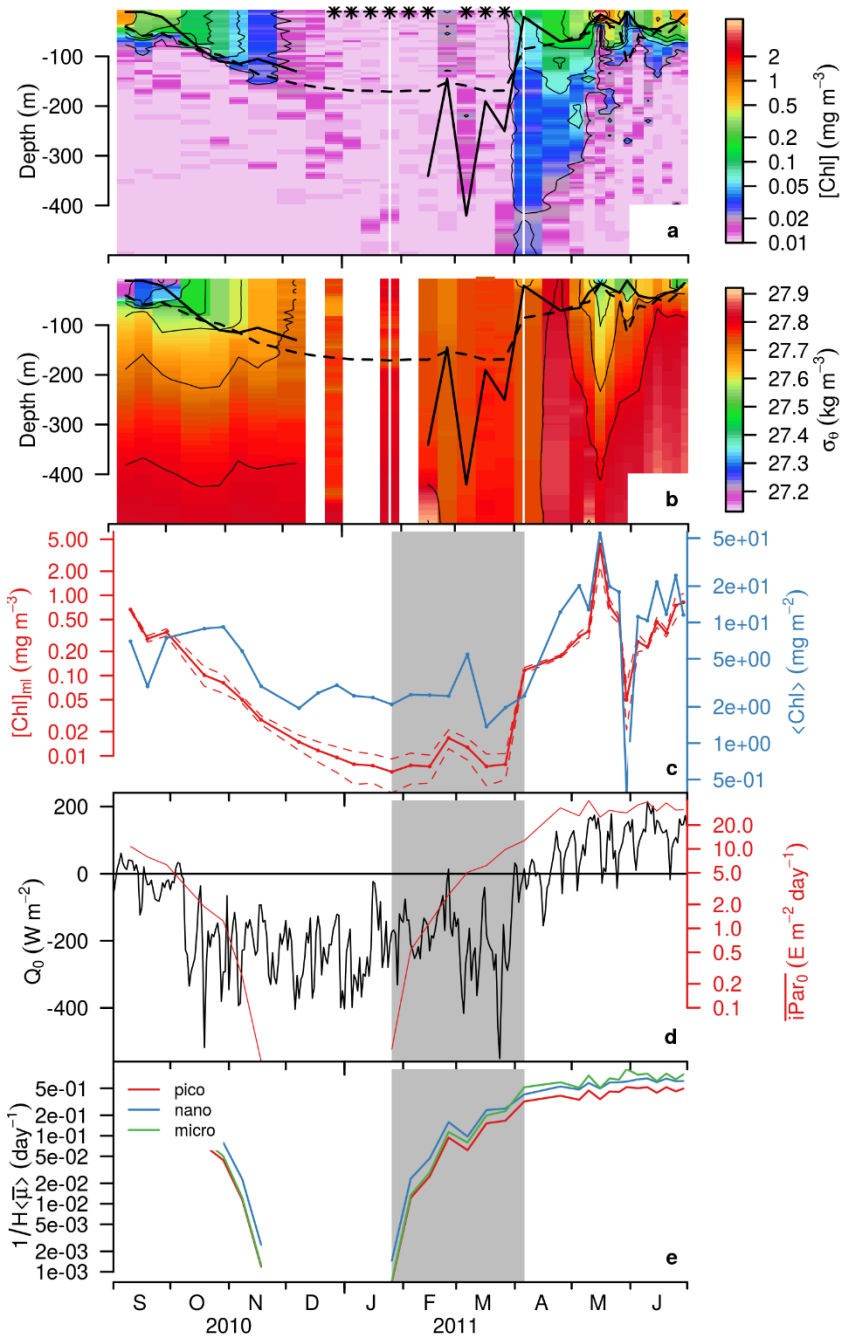

Figure S7. Same as Fig. S1, but for the float IMR2 during the winter-spring 2010-2011.

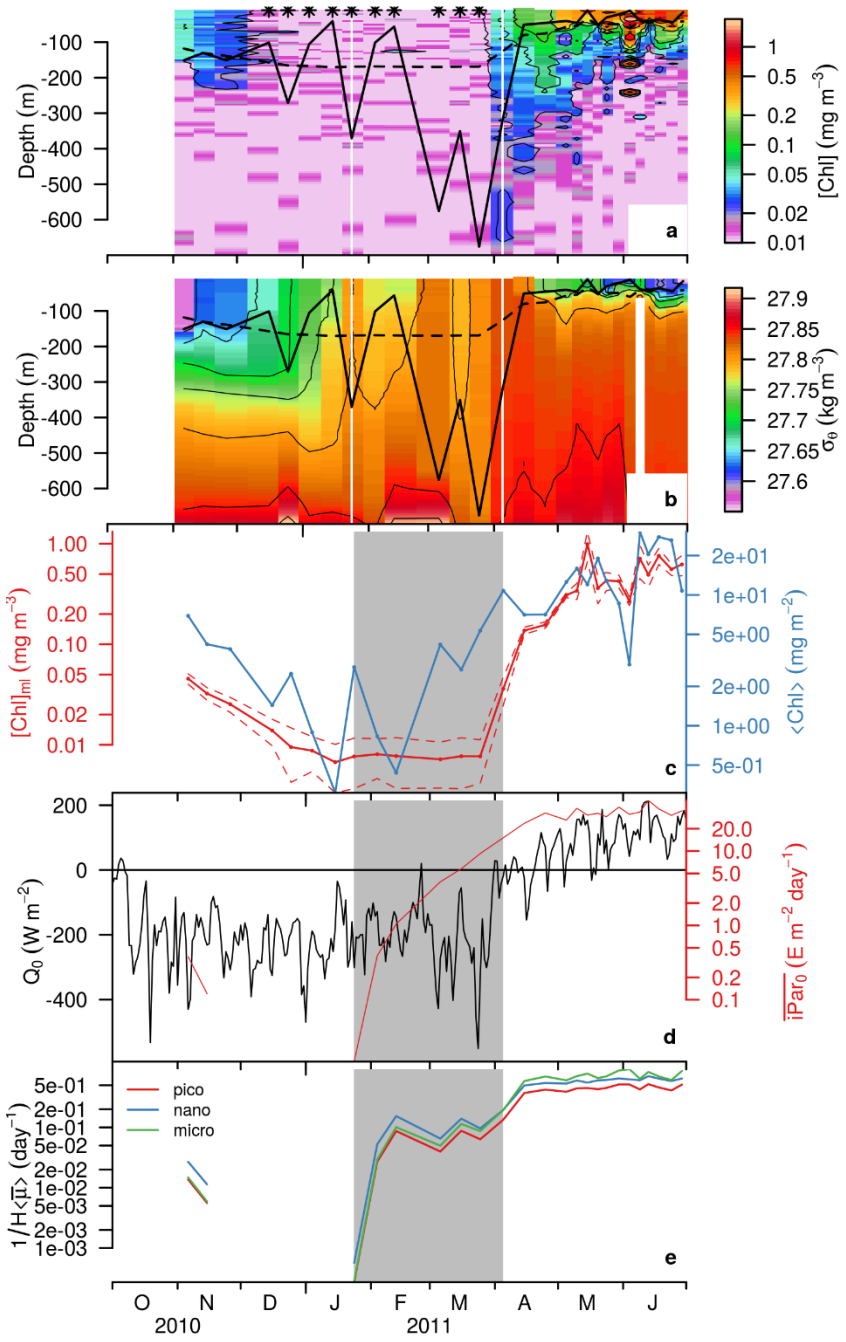

Figure S8. Same as Fig. S1, but for the float IMR3 during the winter-spring 2010-2011.

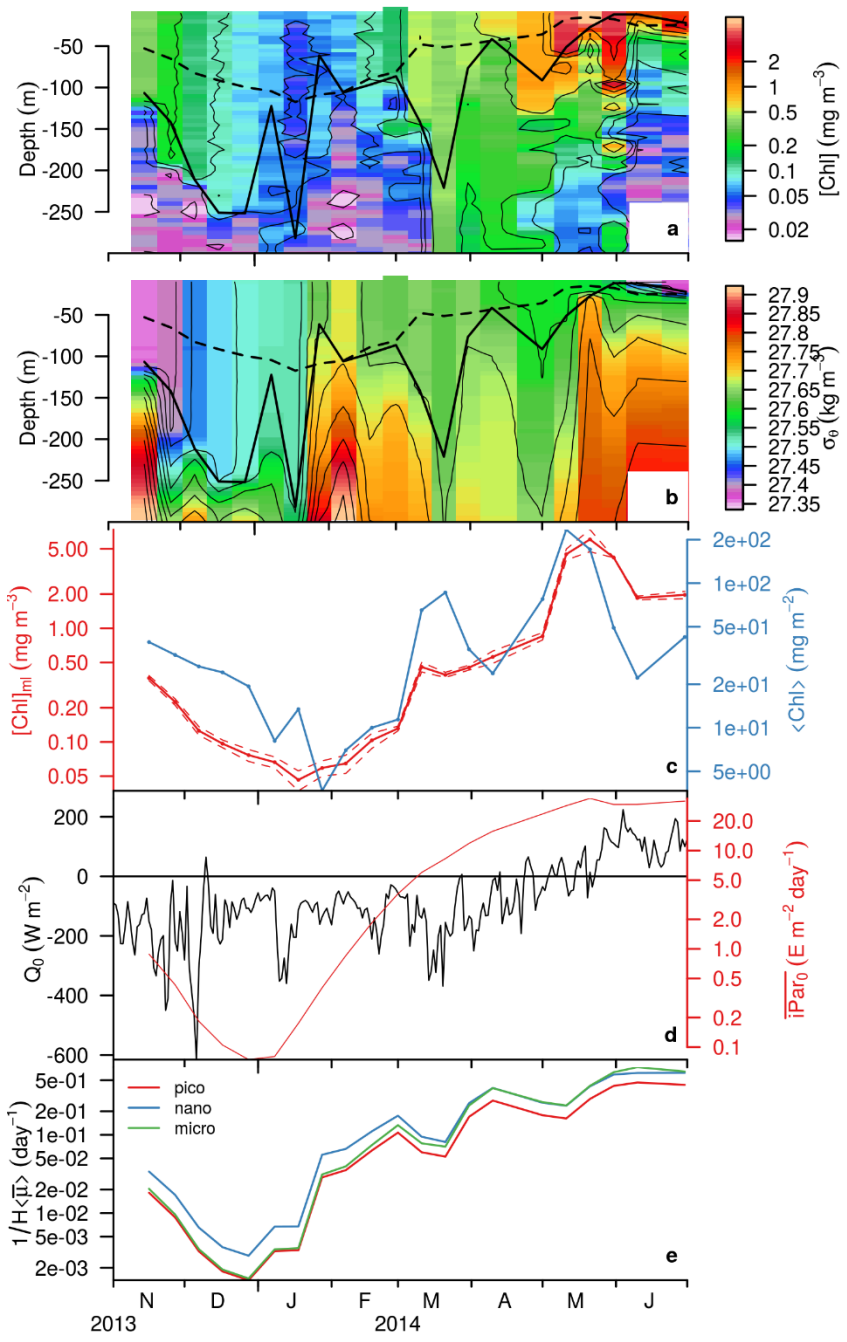

Figure S9. Same as Fig. S1, but for the float IMR5 during the winter-spring 2013-2014.