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A comparison study on glider and satellite data from the eastern North Atlantic

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Sea-surface temperature (SST) and chlorophyll-a (SCHL-a) data from two missions of an autonomous underwater vehicle glider in the eastern North Atlantic is compared with satellite data products. The physical forcing is very different during the missions: One mission (December 2005 to March 2006) is a record during intense mixed layer deepening in winter while the other (June 2006 to August 2006) is a record during a period of strong and rather shallow stratification in summer. The winter satellite SST and in particular SCHL-a suffer from cloud coverage and low sunlight conditions. A systematic difference between glider and satellite data can be identified and is apparently related to the mixed layer deepening. The summer satellite SST and SCHL-a compare well with the glider data in respect to along-track variability. However, the subsurface chlorophyll-a maximum is "invisible" for the satellite.