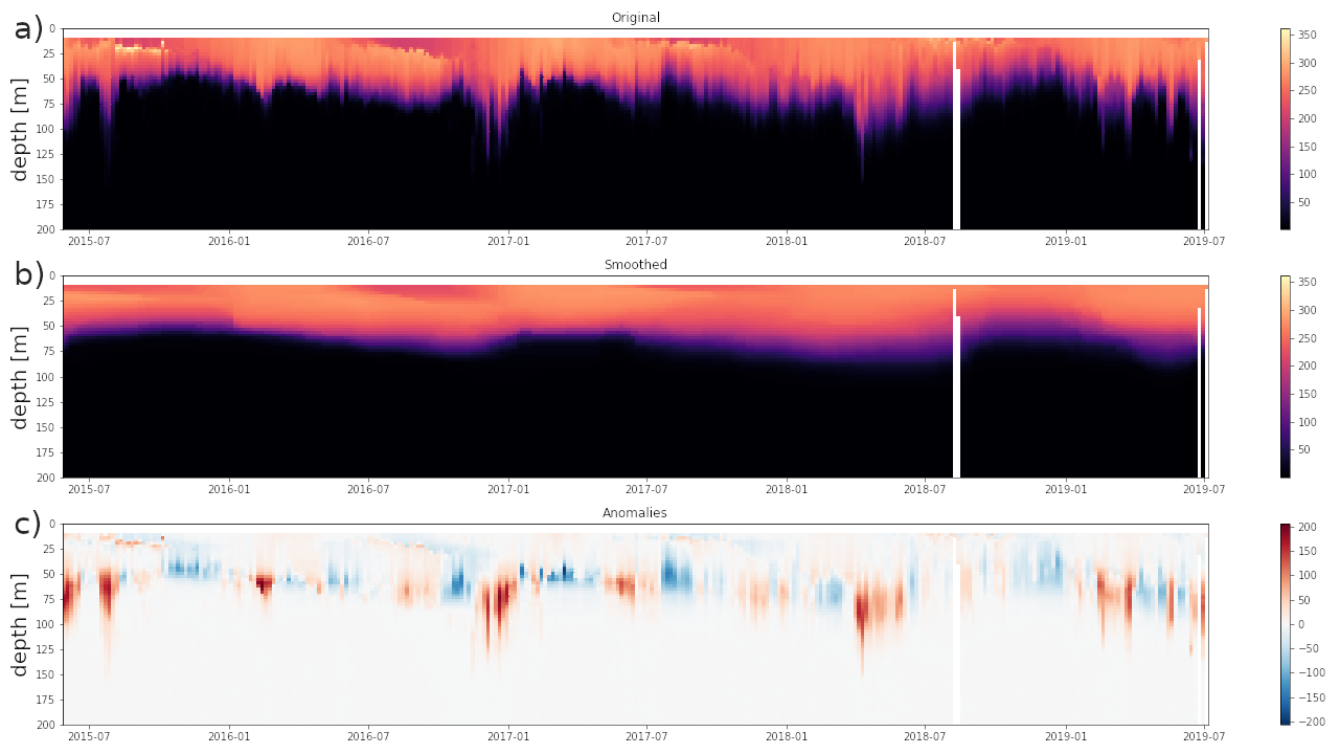# *Supplementary Material*

Figure S1 illustrates the extraction of anomaly values out of BGC-Argo profile data, following the procedure described in Sect. 2.4 of the main manuscript.



**Figure S1.** Example of computation for oxygen anomaly profiles. (a) the original oxygen time series of a BGC-Argo float (WMO 6901866). Original data are binned into regular depth intervals of 3 m (from 10 to 500 m) to facilitate further analyses. (b) The smoothed time series is obtained by applying a rolling mean using a 6-month rectangular window on the original time series, for each depth independently. (c) The anomalies obtained as the difference between the original and smoothed time-series.