

Supplement Note 1 Temperature-correction procedure for oxygen microelectrode data

The O₂ microelectrode OX-50 was calibrated at one specific temperature. However, the water temperature within the test tubes during oxygen readings might be different from that calibration temperature. Therefore, the O₂ data had to be temperature-corrected. This was done by recording the temperature-dependent signal of the O₂ sensor (in mV), which is related to the temperature-dependent O₂ saturation of the sea water.

The sensor-specific O₂-temperature curve was recorded using the Logger software from SensorTraceSuite (Unisense, Denmark). The OX-50 and TP-200 electrodes were submerged in chilled, air-saturated seawater that was constantly warmed up to room temperature. From the linear fit of the O₂-temperature curve the slope was used for following calculations: (1) For each test tube, the difference between the mean in situ temperature, as retrieved from temperature measurements in the surrounding water bath during experimental O₂ readings, and the temperature from the calibration was calculated, i.e. ΔT . (2) ΔT was multiplied with the slope from the O₂-temperature curve yielding ΔO_2 (in mV). (3) This ΔO_2 value was added to the initial mean mV signal obtained from the O₂ measurement in the test tube. (4) This corrected mV signal was converted into $\mu\text{mol O}_2 \text{ L}^{-1}$ using the original calibration equation.