



Oxygen measurements on Argo floats

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The Argo fleet of robotic floats (<http://www.argo.ucsd.edu/>) provides measurements of temperature, salinity and velocity in the top 2000 m of the ice-free world ocean. The unprecedented spatial coverage of the Argo array of over 2200 drifting floats offers the opportunity to measure other oceanographic parameters for which reliable sensors with low power requirements can be mounted on the floats. In 2004, Canada deployed four APEX floats equipped with Aanderaa's optode oxygen sensor: one in the north-west Atlantic Slope Water, one in the Labrador Sea, and two in the Gulf of Alaska. We will report on nearly two years of oxygen data from these floats, discussing issues of calibration accuracy and drift. We will also describe the annual cycle of oxygen for two floats that remained in fairly homogeneous water masses throughout the year: one in the oxygen-rich Labrador Sea, and a second one in the oxygen minimum zone of the Gulf of Alaska. Comparisons of Argo/Optode oxygen measurements with Winkler titrations for the first profile of the Gulf of Alaska float near station PAPA are very encouraging, with an average absolute difference as small as $6.2 \mu\text{mol kg}^{-1}$ (within manufacturer's specifications). The oxygen sensor also appears to have a remarkably stable calibration.