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# Neural-network based mapping of $O_2$ and $pCO_2$ from simulated float and remote sensing data generated by an eddy-resolving North Atlantic model

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A high resolution coupled-ecosystem model of the North Atlantic is used to simulate the sampling of $O_2$ and $pCO_2$ with floats and the remote sensing of O2 and pCO2 related parameters such as SST, Chlorophyll and mixed layer depth. We examine the quality of Neural-network (Kohonen Feature Maps, KFM) and Multiple Linear Regression (MLR) based mapping of $pCO_2$ and $O_2$ with regard to the number of floats used and the significance of each of the parameters.