



## **Atlantic gyres variability during the last millennium**

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We investigate the low frequency variability of the Atlantic subpolar and subtropical gyres over the last millennium. First, a compilation of the several recent proxy reconstructions (e.g. Sicre et al. 2008, Richter et al. 2009 for the subpolar gyre, Mc Gregor et al. 2007 and unpublished data from Sicre et al. in the subtropical gyre) will allow to assess the low frequency hydrographic variability in key areas related to the horizontal circulation in the Atlantic and the upper limb of the Atlantic meridional overturning circulation. Second, we use a simulation of the IPSL model to explore the link between the gyres circulation and the local hydrography. In a simulation reproducing the climate over the last millennium, we assess the low frequency variability of the gyres circulation over this period and the role of the external forcing and low frequency atmospheric variability in the northern North Atlantic. The aim is to help the interpretation of the data cited above at the basin-scale.