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Slow changes in heat and freshwater content in the transition region of the North Atlantic subpolar and subtropical gyres

G. Wieczorek (1), K. P. Koltermann (2)

(1,2) Bundesamt für Seeschifffahrt und Hydrographie (gunda.wieczorek@bsh.de)

For the transition region between the two man gyres in the North Atlantic we describe changes of heat and freshwater content with a time resolution of a month between 1997 and 2004 from profiling float data. These are complemented with high-resolution repeat hydrography since 1993 along 48°N (WOCE-A2) and additional information such as the new seasonal WOCE climatology. Changes differ for the areas west and east of the Mid-Atlantic Ridge (MAR). The barotropic circulation crossing the MAR plays a major role in determining these changes.

We discuss the implication on the meridional transports of heat and freshwater and their variability.