



Upwelling rates at the Tropical Atlantic inferred from helium isotope and wind-stress data

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Upwelling is one of the key processes controlling biological primary production and is maintaining the equatorial cold tongue, influencing the West African Monsoon. Upwelling speeds are small and it is not possible to measure them directly. Here we use helium isotope and hydrographic data recorded during Le Suroit Cruise EGEE2 in September 2005, L'Atalante Cruise EGEE3 in June 2006 and Meteor Cruise M68/2 in June 2006 in the eastern Tropical and Equatorial Atlantic region to calculate upwelling velocities at 10°W. The results are compared to upwelling rates obtained by using the QuikSCAT reanalysis wind-stress data.