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Transports across the north-west European shelf edge

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The project FASTNEt – Fluxes across sloping topography of the North East Atlantic – has made a variety of measurements in three contrasted areas around the edge of the Celtic Sea, Malin-Hebrides shelf and West Shetland shelf. Modelling is under way to diagnose and estimate the contribution of various processes to cross-slope transports and exchange.

This presentation aims to describe estimates obtained so far; overall transport estimates from drifters and moored current meters; effective "diffusivity" from drifter dispersion and salinity surveys; other estimates of velocity variance contributing to exchange. Possible process contributions which may be estimated include internal waves and their Stokes drift, tidal pumping, lenses, eddies and Ekman transports, in a wind-driven surface layer and in a bottom layer below along-slope flow.