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Eddy-driven dispersion in the Tropical and North Atlantic

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Drifter observations are used to quantify the distribution of effective diffusivity in spatial and outcropping isothermal coordinates. In most subregions of the tropical and North Atlantic, drifter observations are sufficient for a Davis-type decomposition in which Lagrangian scales dsecribe the long-term dispersion. Exceptions occur where long time scales are evident from the Lagrangian velocity spectra, such as in the tropical South Equatorial Current region. Effective diffusion in isothermal coordinates indicates how lateral fluxes may alter water mass formation rates diagnosed from air-sea heat exchanges.