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Observational evidence for turbulent effects on total suspended matter
within the Pearl River plume

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Abstract

We observed the structure of the Pearl River plume and its turbulent characteristics, and investigated the turbulent effect on total suspended matter (TSM) within its “far-field” region, based on *in situ* and satellite data collected in June 2015. A significant northeastward plume was created under southern monsoonal conditions. The *in situ* data provided the width, depth, and velocity of the plume, as inferred by salinity. Weaker turbulence occurred at the front surface position than in the plume zone. Stronger turbulence induced greater turbidity in the bottom boundary layer; however, the surface mixed layer differed. By estimating the turbidity budget, we found the lateral fluxes term was the largest term in the plume, turbulent fluxes

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