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Offshore transport of organic matter during storms

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Storms play a critical and often unpredictable role in the dispersal, distribution and cycling of organic matter in the continental margin. The key to understand the effect of storms in the seaward transport of organic matter is to have appropriate baseline data prior, during, and after the event. On December 26, 2008 a huge storm afforded us this opportunity, as impacted violently an area of the Catalan coast (Western Mediterranean) covered by a dense network of monitoring devices including sediment traps and currentmeters. The storm, with measured wind gusts of more than 70 km h-1 and associated storm surge reaching 8 m, caused severe damage along the northern Catalan coast such as loss of beaches and seafront engineering structures. We have combined meteorological, hydrological and oceanographic information with geochemical analyses (organic carbon content and its isotopic signature) of sediment trap samples to determine the impact of such storm on organic matter redistribution along the Catalan margin.