



Transatlantic transport and deposition of Saharan dust and its effects on the marine environment

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Massive amounts of Northwest African dust are transported westward over the Atlantic Ocean towards the Americas each year. These dust particles are thought to feed back on climate through a number of mechanisms including reflection of solar energy at the top of the atmosphere, absorption of energy that was reflected at the Earth's surface in the lower atmosphere, changes of the Earth's albedo, and fertilisation of both terrestrial and marine ecosystems.

We are monitoring Saharan dust transport and deposition using an array of instruments that was deployed along a transect between Northwest Africa and the Caribbean at 12°N. In October 2012, we deployed five moorings along this transect between 23°W and 57°W with sediment traps that collect all material settling down through the water column on a temporal resolution of about two weeks. In November 2013, we added three dust-collecting buoys to the transect. The instruments on these buoys filter air to collect the dust particles that are suspended in the air just above sea level. In this presentation, we will introduce the projects in the framework of which this study is carried out, and present preliminary data on grain-size trends as well as marine-environmental observations.