



Dusty air masses transport between Amazon Basin and Caribbean Islands

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Depend on the month, African desert dust affect different parts of the North Atlantic Ocean.

From December to April, Saharan dust outbreaks are often reported over the amazon basin and from May to November over the Caribbean islands and the southern regions of USA. This annual oscillation of Saharan dust presence, related to the ITCZ position, is perturbed some time, during March. Indeed, over Guadeloupe, the air quality network observed between 2007 and 2012 several dust events during March. In this paper, using HISPLIT back trajectories, we analyzed air masses trajectories for March dust events observed in Guadeloupe, from 2007 to 2012. We observed that the high pressure positions over the Atlantic Ocean allow the transport of dusty air masses from southern region of West Africa to the Caribbean Sea with a path crossing close to coastal region of French Guyana. Complementary investigations including the relationship between PM10 concentrations recorded in two sites Pointe-a-Pitre in the Caribbean, and Cayenne in French Guyana, have been done. Moreover we focus on the mean delay observed between the times arrival. All the results show a link between pathway of dusty air masses present over amazon basin and over the Caribbean region during several event of March. The next step will be the comparison of mineral dust composition for this particular month.