



Ocean Influence of continental rainfall

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Moisture transport integrated over the depth of the atmosphere has been estimated over global oceans using measurements from spacebased microwave scatterometers and radiometers. The divergence of the transport, which is equivalent to ocean-atmosphere water exchange, has been compared with spacebased estimation of evaporation-precipitation, from intraseasonal to interannual time scales. The total moisture transport integrated across the entire coastline of South American was shown to be closely linked to mass change measured by the GRACE and the rainfall measured by TRMM of the South America continent. The high-resolution moisture transport from the Atlantic and the Gulf of Guinea reveals that the difference between their annual cycles is a possible cause of the abrupt change of maximum rainfall from July to September in the Soudano-Sahel region of West Africa, in addition to the prevalent theory based on westward propagation of synoptic mesoscale convective systems over land