



A revisited statistical analysis of the recent SST trend in the Tropical Atlantic

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A positive SST trend has been recently evidenced since the mid-1960 in the tropical Atlantic Ocean (Servain et al., 2014). The domain mean yearly anomalies present year to year fluctuations up to 0.5°C but on average over the whole 50 years period, the SST series presents an obvious increase of 0.7°C (i.e. a rate of 0.15°C per decade). This data set has been further investigated by using several complementary statistical tools. We find that the main SST warming trend that could be evidenced at a first glance is in fact affected by two breaks: the most significant occurs in 1994 and the second one in 1978, so that during the periods 1964-1977 and 1977-1993, the SST time series present a plateau with no further significant trend. The consequence is that, since 1994 to present, the tropical Atlantic SSTs experienced a more severe positive warming trend, with a rate up to 0.25°C per decade. This trend has never been evidenced before. When regionalized, the warming is more severe in the north-western tropical Atlantic basin, with change values up to 1.6°C .