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Satellite-derived long-term variability of sea surface temperature in the Mediterranean Sea

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Twenty four years of AVHRR-derived sea surface temperature (SST) daily data (1985-2008) are used to investigate the long-term variability of this parameter in the Mediterranean Sea. Results indicate a strong eastward increasing sea surface warming trend with a mean annual warming rate of about 0.035 °C/yr for the western sub-basin and of about 0.055 °C/yr for the eastern sub-basin. The warming rate has increased considerably since the mid-nineties in both sub-basins. Empirical Orthogonal Function (EOF) analysis of the monthly composite anomaly time-series showed that the two sub-basins are relatively decoupled in terms of decadal scale variability patterns. The West Mediterranean basin-averaged SST anomalies are significantly correlated with the North Atlantic Oscillation (NAO) index variations, whereas the East Mediterranean basin-averaged SST anomalies are significantly correlated with the Indian Monsoon Index (IMI) variations during the 1985-2008 period.