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# Climate change detection over the Mediterranean area

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Detection is the process of demonstrating that an observed change is significantly different than can be explained by natural internal variability. We give a first assessment of the detection of a signal of temperature change over the Mediterranean domain, using the HadCRUT3v observation dataset and multimodel outputs from the CMIP3 database.

Two methodologies are used, based on formal statistical tests developed within the context of the CIRCE project in order to improve the ability to detect a climate change signal at the regional scale. The methods are based, respectively, on spatial or smooth temporal patterns derived from model simulations. In the second case, the spatial pattern of climate change is inferred from the detection test.

Results over the Mediterranean area are detailed for annual, summer and winter mean temperature. Most of the temporal patterns are detected in each case, whereas the results given by spatial patterns show more discrepancies, especially for seasonal patterns. These results extend previous ones obtained by the application of formal detection procedures to so-called “Southern Europe” domains.