



## **Assessing the impact of SSTs on a simulated medicane using ensemble simulations**

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We investigate the sensitivity of the October 1996 medicane in the western Mediterranean basin to sea surface temperatures (SSTs). For this purpose, we compute an ensemble of regional climate model simulations of this event, changing observed SSTs uniformly in a range of -4 K to +6 K, with a 1 K step. The model employed is COSMO-CLM, which is a non-hydrostatic, convection permitting RCM. A 24 member ensemble is created for each temperature shift, applying the domain-shift method in the first of two downscaling steps, with a final resolution of  $0.0625^\circ$ . The original boundary conditions are derived from ERA-interim reanalysis. It is found that the SST state has a strong influence on the share of cyclones undergoing tropical transition, and on the intensities, while it is of minor influence on the tracks.