



Mediterranean hurricane activity potentially become more hazardous with global warming

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Mediterranean hurricanes (Medicanes) are mesoscale intense cyclones that acquire tropical characteristics. As they are often associated with extreme winds and rainfall, Medicanes pose a serious natural hazard to populated areas along Mediterranean coasts. Understanding how Medicanes will change with global warming remains, however, a challenge, because coarse resolution and the lack of atmosphere-ocean coupling limit the reliability of numerical simulation in global and regional models, respectively. Here we investigate the Medicanes' response to the intermediate 21st century emission scenario RCP4.5 using a recently developed 25-km global coupled climate model which features a realistic representation of Medicanes in present climate conditions. It is found that despite a decrease in the mean number of Medicanes, they potentially become more hazardous in the late century. They tend to last longer and to produce stronger wind, with a more robust hurricane-like structure. These changes are mainly confined to autumn. Increase in Medicanes tropical nature is also accompanied by increasing rainfall. Thus, continued anthropogenic warming will increase the risks associated with Medicanes even in an intermediate scenario, with potential natural and socio-economic consequences.