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## On the relationship of orography with extreme dry spells in Greece

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**Abstract.** The objective of this study is to investigate the relationship of orography over Greece with prolonged dry spells, as represented by the maximum number consecutive dry days (CDD index) during an extremely dry summer. For this purpose a simulation experiment was conducted with the aid of the regional climate model RegCM3.1 using a spatial resolution of 10 km. It was shown that a significant precipitation regime formed over the mountainous areas of continental Greece and Crete during this dry summer, due to orographically forced precipitation, consequently influencing the length of dry spells. Furthermore, the CDD appears spatial variations over the maritime areas, despite the zero or insignificant precipitation. The sensitivity test that was performed with the elimination of orography demonstrated the important role that orography plays in the distribution of CDD, since significant lengthening of extreme dry spells was found over the mountainous areas.

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