Study cases of downslope windstorms in Northwestern Greece

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This study describes the leeside wind events of 25-26 March 1998 and 16-17 March 2003, the most intense wind events of the last decade at the region of Ioannina city, in Northwestern Greece. The waves that developed over the lake of Ioannina produced flooding in the areas around the lake coast. The topography that surrounds the city of Ioannina and particularly the mountain Mitsikeli seems to play an important role in the modification of the wind field during these wind events; however this modification can hardly be defined due to the lack of several observing stations at the area. For this reason, a non-hydrostatic model (MM5) is used in order to identify the regions over Ioannina basin where the wind reaches its maximum intensity, and to assess the influence of mountain Mitsikeli on the wind field, using high resolution simulations at 2 Km grid increment. Moreover, the aim of this study is to determine whether the model can successfully simulate strong downslope winds in the lee of the mountain Mitsikeli.