



## Lee waves at the island of Tenerife during the tropical storm Delta

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On 28 and 29 November 2005, the tropical storm Delta passed close to the Canary Archipelago causing major damage. One of the most affected places was the Güimar Valley, in the lee side of La Esperanza mountain range. At this location wind gusts of up to 147 km/h were registered on 28 November, 21:30 UTC. The development of lee waves over this point was the cause of such strong wind gusts. We use version 3.7.3 of the non-hydrostatic Penn State University/National Center of Atmospheric Research Mesoscale Model MM5 to perform a 36-h simulation of this event. Three different domains with 3-km, 1.5-km and 0.5-km horizontal grid spacing and 29 vertical sigma levels are defined. The simulation was performed using one-way interactive nesting between the coarse domain and the two smaller domains, and two-way interactive nesting between the second and the third domain. Initial conditions were provided by the NCAR Dataset analysis from 27 November 2005, 12:00 UTC to 30 November 2005, 00:00 UTC, which were improved using local surface and upper-air observations. The numerical simulation used Kain-Fritsch2 cumulus parameterisation, Pleim-Xiu PBL scheme and the RRTM longwave radiation scheme.