



Gravity wave analysis in Mendoza (Argentina), from GPS radio occultation data and MM5 simulations

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The Mendoza region (Argentina) is particularly attractive for gravity wave (GW) analysis, as far as mayor sources of atmospheric GWs develop and compite there: orographic forcing, deep convection and geostrophic adjustment. From GPS radio occultation (RO) T data retrieved with CHAMP satellite during two high wave activity cases near to the Andes Mountains, a comparison with MM5 simulations is performed. A good agreement is found, considering the oblique line of RO tangent points (LTP) for each retrieval. The simulated wave structures detected at different pressure levels through wavelet analysis explains the particular intensity observed during the RO events. Different band-pass filters are applied, in order to understand main patterns that are clearly observed. One of these is of orographic origin. A second one, with longer horizontal wavelength, may be orographically forced as well as gerated by adjustment processes at jet heights, after a perturbation induced by the systematic presence of mountain waves during both events. From wave phase displacements observed at different latitudes and altitudes during the simulations, vertical wavelengths may be inferred, besides the identification of the horizontal structures.