



## **Precipitation downstream of a mesoscale mountain range – Results from the Reykjanes Experiment (REX)**

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A common problem in many simulations of precipitation in complex terrain is the underestimation of precipitation immediately downstream of mesoscale mountain ranges. In order to develop dynamic guidelines for improving the simulations and developing a conceptual model for the ratio of downslope precipitation, 6 years of data from the Reykjanes peninsula has been investigated. The ratio of precipitation in the mountains and upstream of the mountains to precipitation downstream is compared to the characteristics of the vertical profile of the atmosphere. The results show that relatively high values of precipitation are found downstream where the low level winds are weak, while winds above the mountains may be strong. High precipitation in the mountains and dry downslopes are often found when low level winds are relatively strong. Cases of conditionally unstable airmasses or strong veering in wind direction give great differences in precipitation in the mountains and downstream.