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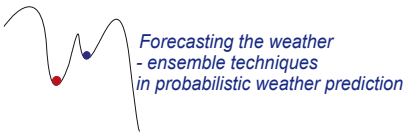

Extreme wind gusts in HARMONIE

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On 10, 12 and 14 July 2010 the Netherlands were hit by severe deep convection accompanied with very strong wind gusts causing significant damage. Especially on 14 July the wind gusts were severe, causing caravans to be blown into a lake and power lines to be brought down in a very small area.

AROME-France, and later sensitivity experiments with AROME, showed robust signals of very strong wind gusts in narrow bands, quite close to where they were observed and where the damage occurred. In this contribution we will look to the cause of these strong winds, how they were represented in the model(s), how robust this signal is and how it depends on the choices that you make in the model, e.g. the size of the domain, the species and characteristics of the species present in the microphysics. This may all have it's effect on the capability of the model representing these phenomena and the probability that the forecast of the strong wind gusts is correct qualitatively.