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Analysis of a large collection of cases of high-resolution simulations of precipitation

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The PSU/NCAR MM5 weather model has been used to downscale 15 years of the ERA-40 dataset to a gridsize of 8 km over Iceland. This database has primarily been used for hydrological purposes.

The simulated precipitation has been shown to be in reasonable agreement with climatology on time scales of months to years. However, an extensive study of individual cases shows that this is parly so due to compensating errors. There is sometimes a shift in time and space of weather systems and some weather systems are reproduced by the model, while others are not. A classification of such systems is attempted in order to develop a usful tool for short- to medium-range weather forecasting.