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Ensemble based seven day high impact weather outlook

Wednesday, 5 June 2019 10:00 (30 minutes)

DWD is planning to launch a new product which provides warning information summarized in a graphical seven day outlook for high impact weather in Germany. The outlook comprises daily charts for the various hazard types –e.g. severe rainfall, wind gusts or snow fall. In the initial phase, forecasters will generate these maps by hand with the meteorological workstation system NinJo. In parallel an automatic product –the Daily Model Guidance (DMG) - is being developed that is supposed to support forecasters generating the charts or even to automate parts of the process. In the initial phase this is based on the ICON-EU ensemble as well as the IFS ensemble. This work shows how the DMG charts are generated automatically and how the uncertainty information of the ensemble is used.

The main features of DMG are smoothing algorithms that preserve the significant meteorological signal and take into account uncertainty increasing with lead time. A rough estimate of the timing is provided as well.

Preliminary verification results for wind gusts for December 2018/January 2019 show that the ICON ensemble performs similarly well as the IFS-Ensemble for the first few days, while for larger leadtimes the IFS ensemble is superior.

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