



The German Weather Service's Aeronautical Nowcasting System NowcastMIX-ITWS

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At the German Weather Service, a Nowcasting system for convective events called NowcastMIX has been developed. In aeronautical meteorology, the goal is to provide a nowcasting process (NowcastMIX-ITWS) with a spatial and temporal high resolution analysis and prediction for convective events. The forecast horizon is up to 2h. Relevant convective areas are shown as cells with severity warning information classified into four warning categories.

The core of the system is based on already existing internal DWD modules, based prevailingly on 2D and 3D radar information and satellite data. This leads to a forecast of the occurrence and behaviour of convective cells and the influencing regional wind field. Absence of modules or single radar stations is indicated. The warning area of the NowcastMIX-ITWS covers the whole territory of Germany. The severity of the predicted convective events is clustered into four warning categories meeting aeronautical requirements using Fuzzy-logic. The model is tested with analysis data in the summer months of 2012.

A cell evolution module and the data from LIDAR systems located at the airports in Frankfurt and Munich will be added in 2013. Also, within the summer of 2013, the system shall be fully tested and verified and delivered ready for operational use to the forecasters.