



Production and Dissemination of Warnings at DWD

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PVW (Production and Distribution of Warnings; German: Produktion und Verteilung von Warnungen) comprises the central software and hardware components for the automatic generation of weather warnings of DWD. PVW is also the key system that enables the DWD to separate the warning situation from warning products.

Forecasters at DWD abstract relevant weather events by specifying phenomena, severities, characteristics and the affected area in a GIS tool or by using processed model outputs. PVW then transforms these abstracted events into many different outputs of machine readable formats as well as human readable warnings.

The transformation contains the conversion to discrete areas, mainly administrative areas of different granularity (communes, urban quarters, etc.). Additionally, it takes into account overlapping of affected areas, phenomena, severities, validity periods and altitude information. The final result is a consistent warning status. A similar processing is also used to provide products in other spatial representations.

Based on abstracted weather events PVW can create the product content for an arbitrary number of languages and spatial domains.

Different product requirements arise from the transmission medium used to inform the customer. At present DWD distinguishes between two basic types of products:

- Premium-Products, immediately issued or updated, are often disseminated in machine readable form [CAP-XML (Common Alerting Protocol)], and
- Standard-Products, suited for push of warnings in a lower frequency, are mainly used in conjunction with conventional transmission paths (FAX, email, SMS, etc.) in the form of human readable text messages.

PVW creates products of different informational granularity to suit the particular medium.

The DWD fulfills the official task of alerting the public of risks from meteorological phenomena in combination with multipliers such as media, the Internet and the official DWD app "WarnWetter". Multiple geo-redundant servers and databases with an automatic failover mechanism provide high availability and robustness.