Cross-border exchange of warnings on a regional level - cooperation between Czech and German forecasters

The impact of political changes in the 1990's was, among other things, the catalyst for informal contacts between forecasters from Central Europe. In 2000, for example, a group of forecasters from two regional centres of the Czech Hydrometeorological Institute (CHMI) had an opportunity to visit the regional centre of DWD in Munich. It was very interesting to compare operational tools, software and model outputs, which are different on both sides of the border. Communication was in English which seemed to be a good solution for balanced and direct conversations without the use of an interpreter. Thanks to the friendly attitude of German colleagues, especially Klaus-Juergen Tenter - at that time Head of Forecasting - (third from the left in Fig.3), we discussed many problems concerning our common profession in both an official and unofficial capacity. After this meeting, an idea about exchange of warnings for an area near our common border was born. Coincidentally at that time in WMO RA-VI, a pilot project for setting up a network for the bilateral exchange of severe weather war-nings between neighbouring countries was proposed. For this reason our initiative was passed on to Wolfgang Kusch, coordinator of sub-group on regional aspects of public weather services in WMO RA-VI.

The goal was to test information exchange between forecasters speaking different languages and using diverse local area meteorological models (LM model in DWD, ALADIN in CHMI). In the years before, a standard coded report WAFOR was used to inform other meteorological services that a warning was issued. However it was only used occasionally and the code was somewhat complicated. We then decided to start up our own experiment after finding out that WAFOR was going to finish.

One possible way of overcoming the language barrier is to use a bilingual form sent by fax. The form used by regional forecasting offices in Strasbourg (Météo-France) and Stuttgart (DWD), and published in WMO documents, became our inspiration for a proposal of our own version in German and the Czech language. The forecaster has to designate dangerous phenomena and the area which is expected to be affected. It is also possible to add some other information such as precipitation totals etc. Contacts who could speak English were consulted about the content of the form. It was necessary to define types of dangerous weather, thresholds and the allocation of areas along the common border according to climatology and/or political division. Two areas of mutual interest were agreed, the Ore Mountains and Sumava Mountains (Bavarian Forest), and cooperation between the forecasting centres of Leipzig-Usti nad Labem and Munich-Plzen started during winter 2001 (see Fig.1 and Fig.2).

Figure.1: Bilingual form used by the regional forecasting offices of Leipzig (DWD) and Usti and Labem (CHMI) in season 2003/2004

Attention was focused on heavy precipitation, severe thunderstorms, wind gusts and adverse winter conditions from the point of view of road maintenance. Initially an attempt was made to adjust common thresholds but for some phenomena it was not possible (especially wind gust limits) due to the internal instructions of each national meteorological service. The content of the form is one of the topics for discussion at regular meetings at some of the regional offices (Leipzig 2001, Plzen 2002, Munich 2003, Usti nad Labem 2004). Forecasters meet every spring to discuss limits, case studies and statistics, exchange experiences with their own forecasting methods (for example an empirical-statistical formula for wind gusts during thunderstorms by Christian Freuer, fourth from the left in Fig.3) and maintain informal relationships. A new concept for the form had to be accepted in Munich, April 2003 (see Fig.3) because of a statistically derived set of dangerous weather phenomena for Germany as a whole. It was not possible to copy all of these thresholds for the Czech version of the form, so a new approach was selected. **The main principle is that it is useful to send signals to colleagues when we expect severe weather near our common border following assessment of our local forecasting model, experiences and other inputs. The impact of such an event is likely to cause severe disruption, damage and/or loss of life in the area of interest. At this stage nothing else is arranged but the forecaster uses this information to aid his/her decision-making process. Note that each national warning system is operated independently.**

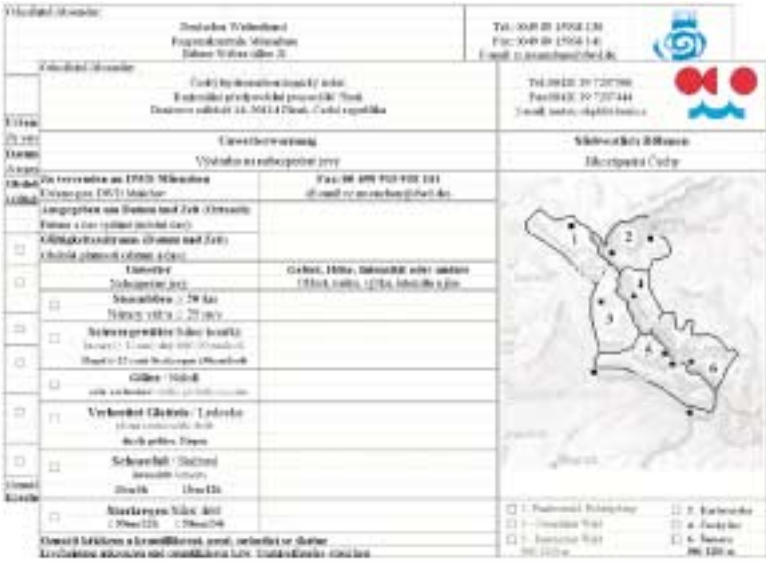

Figure 2: Bilingual form used by the regional forecasting offices of Munich (DWD) and Plzen (CHMI) in season 2003/2004

Figure 3: Munich, April 2003 – the group of cooperating forecasters, joined by climatologists at the same meeting.

The last meeting (at the time of writing) in Czech Republic (see Fig.4) confirmed that such cooperation is still alive and should continue even if CHMI and DWD are to participate in a new WMO RA-VI pilot project and eventually in the EMMA project. It is not a particular problem to complete a bilingual form and send it by fax but storage of the forms for verification purposes is more difficult. In future it would be useful to install an Internet or e-mail platform for the exchange of warnings and relevant synoptic information (model outputs). Forecasters are expected to continue to cooperate in case studies and for this purpose, it is desirable to nominate English speaking contacts for operational exchange of information (for example damage caused by severe convection, meteorological data from areas near the border, media reports etc.). For further cooperation it would be very desirable to replace present non-regular e-mail transfer of climatological data by a direct regular connection between database servers. On this matter, agreement between the headquarters of DWD and CHMI is necessary. A proposal for data format and a list of stations was presented by climatologist Jiri Hostynek. Another

area of cooperation seems to be road meteorology. Radek Tomsu presented a proposal for a new format of flash warning for winter road maintenance. This problem will be discussed in other working groups but the exchange of such warnings could become a matter for cooperating forecasting offices.

Participants of the last meeting agreed that this cooperation between DWD and CHMI should be publicised within the WGCEF newsletter and helped with the editing of this article. The next meeting is planned to be held in Leipzig during spring 2005.

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Figure 4: Usti nad Labem, May 2004 – from left to right: Radek Tomsu (Usti), Guido-Peter Wolz (Munich), Martin Novak (Usti), Jan Sulan (Plzen), Wolfgang Weber (Leipzig), Volker Wünsche (Munich), Jiri Hostynek (Plzen).