Dimmerfoehn in the Alps
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Introduction and Abstract
Internationally, the technical term “dimmerfoehn” is often defined incorrectly, sometimes even wrongly. The ad-hoc research group "Foehn climatology in Switzerland (FKch)" and the AGF elaborated a new definition. Members of these two groups from Austria, Germany, and Switzerland were directly involved in a draft version which was subsequently refined together with additional foehn experts in Germany (Prof. Hoinka), Austria (Prof. Mayer), and New Zealand (Prof. Sturman). This poster offers some overviews, facts and new insights in order to illustrate the new WMO-definition which was introduced into TERMDAT in May 2015.

Case Study: 4–5 November 2014
Comparison of Stations
In the late afternoon of November 4th, an ongoing foehn turned into a short period of dimmerfoehn. First it hit Altdorf (ALT, from 4/11/14 18:00 to 5/11/14 00:20), then Chur (CHU, 4/11/14 21:00 to 5/11/14 04:30) and finally Vaduz (VAD, 5/11/14 04:30 to 02:30) as figures 2–4 show. The automatic model by Dürr seems to work quite well; in the figures the dimmerfoehn is marked with ’0’. Tests on dozens other cases have shown that his model is very realistic.

Conclusion
Dimmerfoehn is a rarely occurring kind of foehn. Nevertheless it is an interesting variation as it has in an average lower wind speed – i.e. less damage potential – but, on the other hand, it brings precipitation to the leeward side of the Alpine ridge which – in heavy cases – can result in flooding. Hence the automatic model is very useful to detect dimmerfoehn quickly and reliably. Dürr’s model is still in a stage of testing and improving. This will be certainly one of the focuses of AGF’s further researches.

The New WMO-Definition (May 2015)
Dimmerfoehn: A form of foehn in which humid air extends across the mountain ridge causing precipitation and poor visibility unusually far to the leeside.

A Brief Historical Outline
It is not clear when the term “dimmerfoehn” was first used. In a travel report by Meisner (1823) there is after the description of a “normal” foehn the following text: ”... und wenn er dann erst mit dem Regen eintritt, so wird er hier in der Gegend von Altorf Dimmer-Föhn genannt.” [... and when it finally appears together with the rain, then here in the region of Altorf it is called dimmer-foehn. (translated by AGF)]. According to the Swiss German Dictionary Idiotikon, the name “Dimmerfohn” is derived from the Swiss German adjectives “tinnmig” or “dimmrig” meaning hazy, obscure, dark, cloudy. It seems that Streiff-Becker (1933) made the first attempt to identify the meteorological mechanism leading to dimmerfoehn and to describe the phenomenon scientifically. His sketch (fig. 1) of his first scientific observation of dimmerfoehn made on September 12, 1933 in the Glarus Alps was first published in Streiff-Becker (1947).

Case Study: 4–5 November 2014
Precipitation
The figures 5–8 show how the frontal precipitation (in the west) is closing in the precipitation area of the orographic foehn (over the Alpine ridge and leeward).

Sources:
AGF, www.AGFoehn.org
ICAM 2015 P2.5
Innsbruck, Austria