



Cloud observations: citizen science, school education, and weather communication.

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During two months the autumn of 2016 there was a cloud-campaign in Norwegian schools, with almost 100 schools and more than 1000 pupils participating. The campaign resulted in about 2500 pictures of WMO's ten basic cloud genera. The participants uploaded their pictures at a website to create an open-access cloud atlas. In addition, they provided information such as shape, height and colour of the clouds. The participants also made suggestions of cloud type, and they chose a weather symbol that they associated with the specific type of cloud.

The aim of the campaign was twofold. One the one hand, the campaign was assumed to result in joyful and explorative learning of clouds and rainfall. This was accomplished by allowing the children - participants were mainly from primary school - to make their own observations and to explore different cloud types and weather situations. A cloud chart and information about the most common cloud types were provided to the participants. At the same time, about 1500 of the pictures from the campaign is controlled by a meteorologist and collected in an online cloud atlas, in which schools can take advantage of in future cloud instruction. For example, observation of cloud height was found to be demanding, and this could be emphasised in the instruction.

One the other hand, by asking the participants to associate their cloud observations with a weather symbol, the campaign also aimed to explore the potential of user observations to inform and improve communication of weather forecast information through symbols. Some early results of the analyses suggest that for high clouds such as cirrus, the participants chose a more optimistic symbol (fewer clouds) than the observed cloud cover could indicate. In case, weather forecast providers should consider let user's observations and experiences with weather inform their communication through symbols. Finally, this campaign is illustrative for how citizen science can be used as a part of scientific enquiry and thus valuable for the scientist, and at the same time having the potential of being educative for the participants themselves.