

Name of research institute or organization:

**University of Basel, Department of Environmental Sciences - Botany**

Title of project:

Stable isotopes in plant wax aerosols

Part of this programme:

Sustainable land use group at Uni Basel

Project leader and team:

Prof. Ansgar Kahmen, Project Leader  
Dr. Daniel Nelson

Project description:

We are collecting particulate material onto glass fiber filters to analyze the distribution and hydrogen isotopic composition of plant waxes at this location. The low abundance of these compounds at the Jungfrauoch requires that we sample at 1000 LPM for a month at a time. We are using these samples to help us define the background levels for these compounds in the atmosphere. We are hopeful that these samples will help us to define a background signal against which we can evaluate similar samples that we are also recovering from low elevation sites (grassland and forest) in Switzerland.

Presently we have analyzed all samples collected in 2014 and are looking forward to working on the 2015 samples soon. Comparing the 2014 data from the Jungfrauoch with data from plant wax aerosol samples that we analyzed from our grassland and forest site shows that the Jungfrauoch plant waxes likely have a somewhat local footprint (Fig. 1). The  $\delta^2\text{H}$  values of nC29 are generally comparable between the high and low elevation sites.

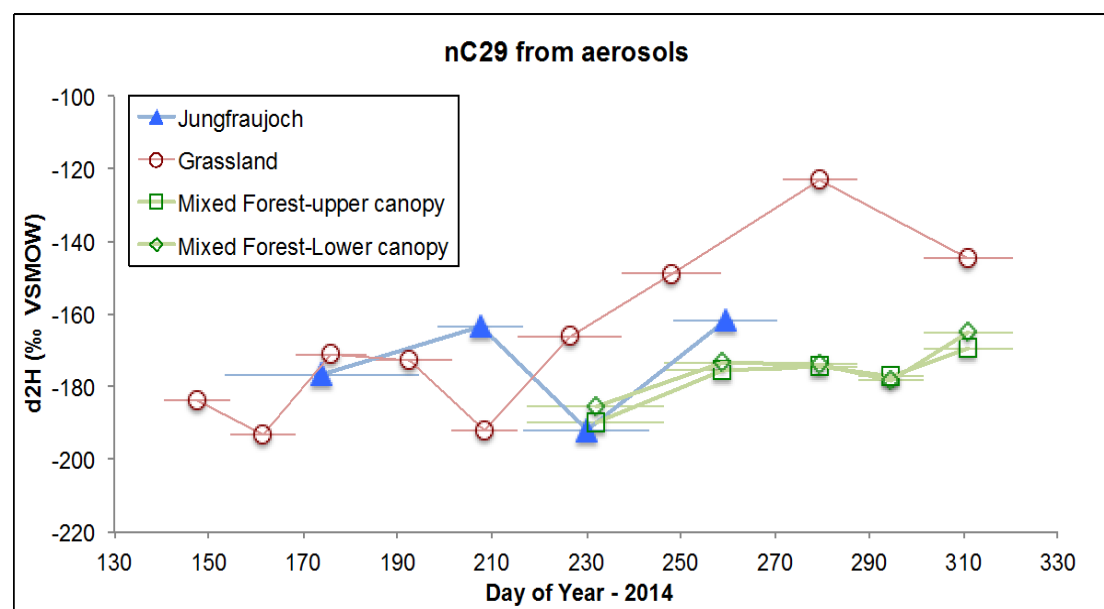


Figure 1. Currently available plant wax aerosol data from the Jungfrauoch compared to samples from lower elevation in Switzerland. X-error bars indicate the duration of the collection interval for each sample.

Key words:

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Leaf wax lipids, aerosols

Address:

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University of Basel  
Department of Environmental Sciences - Botany  
Schönbeinstrasse 6  
CH-4056 Basel

Contacts:

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Dr. Daniel B Nelson  
Tel.: +41 61 267 29 88  
e-mail: [daniel.nelson@unibas.ch](mailto:daniel.nelson@unibas.ch)

Prof. Ansgar Kahmen  
Tel.: +41 61 267 35 71  
e-mail: [ansgar.kahmen@unibas.ch](mailto:ansgar.kahmen@unibas.ch)  
URL: [www.botanik.unibas.ch/slu](http://www.botanik.unibas.ch/slu)