

Grütter, J., S. Lehmann, R. Auchmann, O. Martius, and S. Brönnimann (2013)  
The heatwaves in Switzerland in summer 1947. In: Brönnimann, S. and O. Martius  
(Eds.) *Weather extremes during the past 140 years*. Geographica Bernensia G89,  
p. 69-80, DOI: 10.4480/GB2013.G89.08



## **Abstract**

In 1947, Switzerland was affected by a heat period of large spatial and temporal extent and rare occurrence. The heatwaves of 1947 can be compared with the events of 2003 in terms of intensity and duration. The summer of 1947 is studied based on the analysis of MeteoSwiss station data as well as the “Twentieth Century Reanalysis” (20CR) data set. Heatwaves were defined as six consecutive exceedances of the local 90<sup>th</sup> percentile of temperature. Five different heatwaves were identified which struck Switzerland during the summer of 1947. The most intense heatwave event is analysed in more detail. The meteorological situation was characterized by a high-pressure bridge over Central Europe. Based on a comparison with literature and with observations, the applicability of the 20CR dataset for the meteorological analysis of heatwave events could be demonstrated. The representation of the heat period in summer 1947 in 20CR is satisfactory when compared with station data, albeit with a temperature bias due to differences in topography. Hence, heatwaves cannot be defined using an absolute threshold. We conclude that 20CR is applicable for an overview of the meteorological patterns characterizing a heat wave but may not reproduce local details.