Figure S1

Time series of daily means of soil temperatures at -5 cm **(a)** and of air temperatures at 2 m **(b)** from AWS_{25} (25 m a.s.l.) and AWS_{495} (495 m a.s.l.) meteorological stations from May 2012 to September 2013.

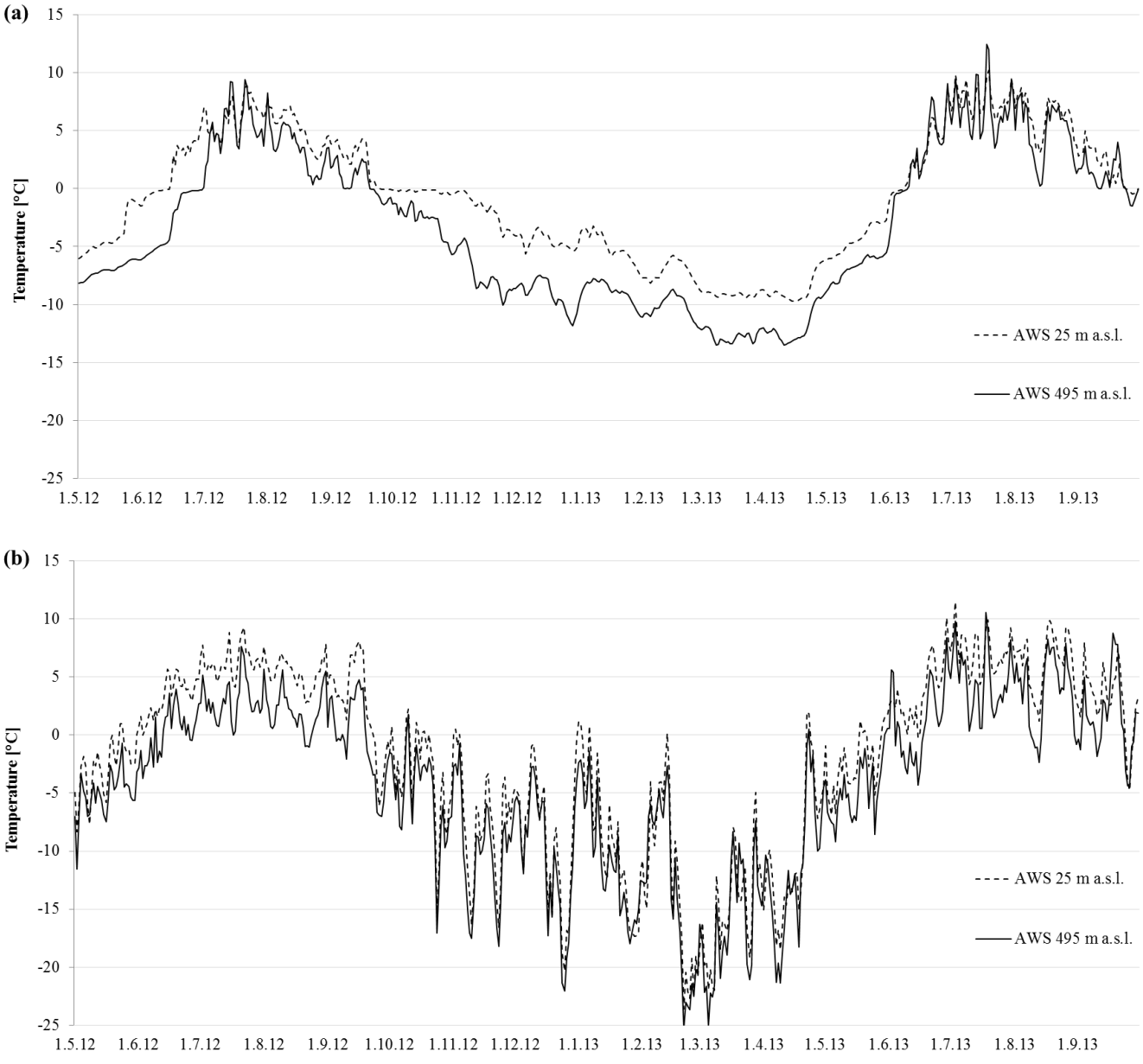

Figure S2

Time series of mean ± SD (n = 3) soil water content at -5 cm from AWS_{25} (25 m a.s.l.) and AWS_{495} (495 m a.s.l.) for three consecutive summer seasons (2011–2013). The grey area indicates time of sample collection in 2012. Note the stable soil water content from July until September. The volumetric measurement enable to determine soil water content only in a liquid state, which explains the very low water content in frozen soils during the winter period. These technical limitations explain also conspicuous fluctuations of soil water content during transient periods between winter and summer season, resulting from freeze–thaw cycles when temperature oscillated around zero.

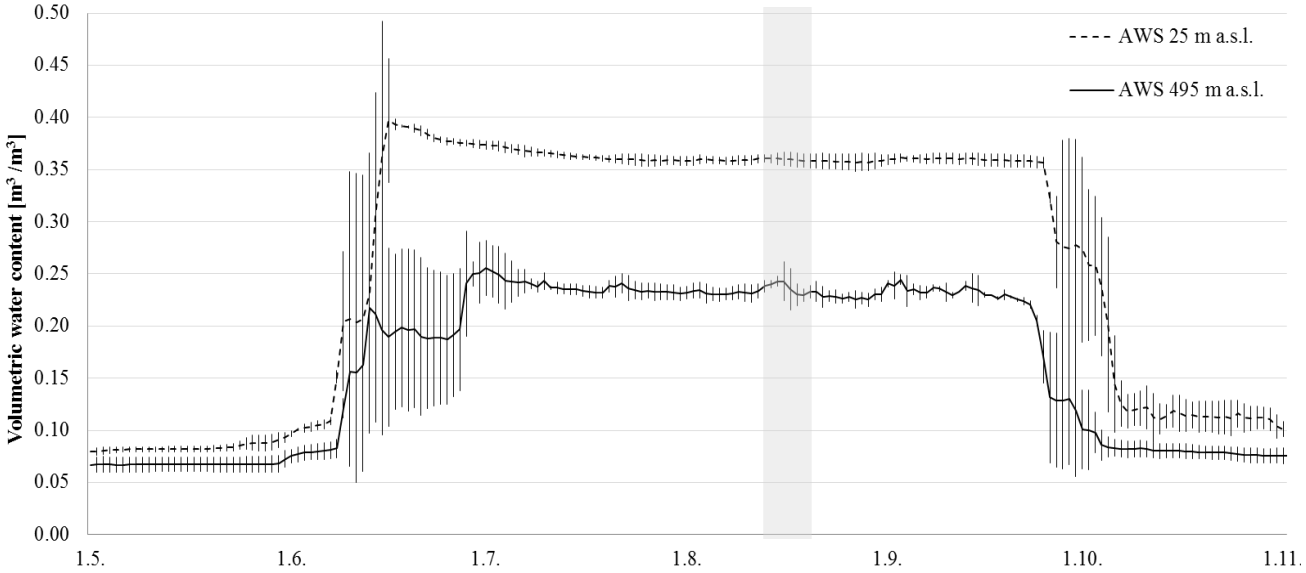

Figure S3

Loading of soil geochemical properties **(a)**, individual microbial PLFAs (mol% of PLFA) **(b)**, and relative abundance of main microbial groups **(c)** determined in soils along the altitudinal gradients. Ordination diagrams show results of the redundancy analyses constrained by the effect of altitude. *Arrows* indicate the direction in which the respective parameter value increases. *Triangles* are centroids (n = 9) of the sites with corresponding elevation. The portion of variance explained by the respective axis is given in the axis title.