Variation of seasonal thaw depth at permafrost larch forest in eastern Siberia

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This study investigated temporal and spatial variability of seasonal thaw depth at larch-dominated forests in the middle part of the Lena basin, eastern Siberia. We compared temporal and spatial variability of thaw depth at two larch-dominated forests mixed with birch and willow, in the southern and middle parts of the Lena basin. Difference in precipitation both of rain and snow and soil properties such as soil texture relate to difference in seasonal thawing speed and soil water content of the two forests. Field measurements of thaw depth using handheld dynamic cone penetrometer were repeated in each site in June–July (first half of summer) and September (before soil freezing). Although averages of thaw depth observed in the same season was not differ, their spatial variability showed contrast in two sites. Thaw depth relates to vertical mean penetration resistance in summer, while it relates to upper canopy and floor plant coverage in autumn observation.

Keywords: seasonal thaw depth, larch forest, soil water

