

## **Response function analysis between the radial growth of Norway spruce (*Picea abies* (L.) Karsten) and climate in Lithuania**

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The long-term dendroclimatological research on Norway spruce radial growth in Lithuania was carried out. For the purpose of research, 46 experimental plots of Norway spruce (*Picea abies* (L.) Karsten) were selected. Dry stands of spruce represent 31 research plots and moderately wet stands - 15 plots. For the measurements of tree-ring widths, dating quality control, indexing and constructing of chronologies the basic methodology of dendrochronological research was applied. The long-term link between air temperature, precipitation and the latewood, earlywood and annual radial growth of Norway spruce using a multiple regression techniques (response function) was estimated. Calculations of response function during the period of 1930–1994 from prior October to current September was carried out. The result shows the strong positive link ( $p \leq 0.05$ ) between precipitation of June and the radial growth of spruce on dry forest sites. A direct significant influence ( $p \leq 0.05$ ) of air temperature in April prevails on moderately wet forest sites.