

Title: Short-term precipitation amounts

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Abstract: The main object of this thesis is an analysis of short-term precipitation amounts with emphasis on transition period between pluviometer and automatic rain gauge. For the analysis, we were given data by Czech hydrometeorological institute, which contain precipitation amounts measured by pluviometer of 10 minutes term and precipitation amounts measured by automatic rain gauges of 10 and 15 minutes terms for four climatic stations. A summary of basic knowledge of measurement of precipitation and methodology of detection of inhomogenities in climatic time series is the point of the first part of the thesis. The aim of data analysis is to analyze basic characteristics of statistical distribution of precipitation amounts on a scale of days, hours and finally 10 or 15 minutes terms . A comparison of the distribution is carried out firstly in the transition period, where measurements of pluviometer and automatic rain gauge have an overlap, then two separate periods before and after automation are being compared. The main outcome of the thesis is a description of a possible cause of an inhomogenity caused by a change of measuring technique, which is underestimating of low precipitation amounts by pluviometer and problems concerned with measuring high precipitation intensities by automatic rain gauge.

Keywords: precipitation, automation, homogenization.