

Abstract

This thesis deals with the occurrence of fog in The Czech Republic and its composition. It engages in current status and also historical evolution (since about the second half of 20th century). The thesis is divided into two parts. The first part is the research of the professional literature, which sums up the results of realized studies, explains terms connected with fog and describes methods used for fog quantification. The second part contains results of my own study for the city station Prague-Libuš (1971-2015) and mountain station Churáňov (Šumava, 1961-2015). The fog is an often underestimated phenomenon, which has provable influence on water balance and contributes to the atmospheric deposition, especially in mountain ranges, where the occurrence is higher. The composition of fog is being changed during the observed time. The amplest ions are in most cases NO_3^- , NH_4^+ , SO_4^{2-} , Cl^- a Ca^{2+} . In connection with decreasing general air pollution shows, it goes also to reduction the concentrations of pollutants in the fog. Because of the lower content of these particles the occurrence of fog might be also lower in the cities and former highly-polluted regions caused by the lower number of condensation nuclei, which is noticeable on Prague-Libuš. In connection with global warming there are some speculations about the decrease of fog in clean regions, too, which is not significant for year or months values on my studied locality Churáňov. The year-on-year heterogeneity is better-marked in frequency of fog occurrence. The annual process stays similar. The occurrence of fog is by the literature and also my study higher in autumn and winter, the month with the highest fog frequency at most places in The Czech Republic is October. In the territory of The Czech Republic the sums reaches tents to almost three hundred foggy days per year. The occurrence and the composition of fog in The Czech Republic is not much examined theme, which would deserve larger attention.

Keywords: fog, occurrence, chemical composition, trends