



Fog analysis at Belgrade International Airport

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The fog is the most unpopular phenomena on airports. It is the main cause for diverting flights to another airports, which results in considerable cost to airlines. Improved knowledge of the conditions when fog occurs, or does not occur, could result in more accurate fog forecasts and earlier warning of the onset of fog. In this paper we analyzed fog occurrence at Belgrade International Airport. Fog is defined as occurring when the horizontal visibility falls below 1000 m. During the 33 years from 1973 to 2005, 1529 fog events were analyzed. In this period there is a linear increase (0,273days yr⁻¹) of number of days with fog. The highest frequency of fog occurs in the winter months of December and January and far exceeds the number of fog days in spring and beginning of the autumn. The exceptionally fog months with extreme number of days with fog was January 1989 (18 days), December 1998 (18 days), February 2005 (17 days) and October 2001 (15 days). As can be expected with longer nights in winter, fog occurs during more hours of the night and more frequently then in summer. During the winter months (December, January and February) 1990 to 2005 (sixteen years) fog occurred most frequently between 0600 and 0900h; in the autumn between 0400 and 0700 h. In summer fog occurred most frequently between 0300 and 0600. There is a question: can we forecast fog occurrence on the basis consecutive fog appearance? During the eleven-year period from 1995 to 2005 it was found that there was 13% chance that fog will occur on two consecutive days, 5% that it will occur three days in row, 2% for four and 1% for five, six and seven days in succession, respectively. In October 2001 the fog was observed in nine consecutive days. That is, persistence forecasting is most unlikely to be successful.