



Climatological features of global multiple tropopause events

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In the last years, the research on tropopause and multiple tropopause events had gained an increasing interest. In this communication we show several climatological features of these events, such as the occurrence frequency and its trends, pressure levels, temperature and thickness of multiple tropopause. The events were studied separately of each season of the year. The relationship between tropopause features and low frequency variability modes is also studied. Centres of multiple tropopause occurrences are detected and increasing trends in the percentage of multiple tropopause cases are found out for all the globe and for each hemisphere separately. Differences in tropopause parameters were found between single, double or triple tropopause events and considerable seasonal and latitudinal influence. The relationship with low frequency variability modes shows clear influence of QBO, SOI and NAM 50 hPa on the multiple tropopause. Possible mechanisms explaining some of the observed features are suggested.