# CCMI stratospheric trends in relation to the stratospheric shrinkage

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Warming of the troposphere is directly connected with a positive trend of geopotential heights of pressure levels. This trend reaches its maximum around the tropopause and results also in the tropopause upward shift. In the stratosphere, the geopotential height trends are affected by the stratospheric cooling –there is a gradual reduction of the upward shift and even its reversal at about 10 hPa. That leads to a decreasing trend of the stratospheric thickness - a so-called stratospheric shrinkage. In this study, we calculate CCMI inter-model correlations of shrinkage with trends of various variables to separate the possible shrinkage effect and to analyze influence of the shrinkage on other middle atmospheric trends detected in the CCMI simulations.

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