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Comparison of longitudinal dependence of geopotential height and temperature from the selected reanalysis.

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The outputs from reanalysis are frequently used in our scientific work. We have a lot of reanalysis and it is good when they produce similar results. The differences among the reanalysis arise from different schemes,different downscaling methods,different temporal resolution used in reanalyses.Introduction of satellite data can caused inhomogeneity in reanalyse time series. The border conditions also influence results. The aim of this poster is comparison of longitudinal dependence of geopotential height and temperature at the selected pressure layers in the stratosphere among various reanalysis: MERRA -2, ERA – Interim and NCEP. We expect some differences in compared values especially at higher layers. Monthly means in winter months of the Northern Hemisphere will be compared, especially the following characteristics: absolute value in longitudinal maximum and minimum and thus we will be able to compute the amplitude of wave. We compare position of maximum and minimum in reanalysis. There is one main maximum and minimum in the longitudinal dependence of geopotential height and temperature in the stratosphere. On the other hand, in the troposphere the number of maxima and minima is higher. We try to search the border between the stratosphere and troposphere as a layer in which the wave with one maximum and minimum is transformed into wave with more maxima and minima. The results from various reanalysis will be compared. We do not expect huge differences because we use monthly means. In the case of daily data the differences can be larger. In the future we plan to compare also daily data.