



DECADAL CHANGES IN LONGITUDE-DEPENDENT OZONE FOR JANUARY DURING 1960-2000

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For mean January during the period 1960 - 2000 the zonally asymmetric decadal geopotential height changes at 300 hPa layer have been examined as an indicator for large-scale wave structure changes in the troposphere and lower stratosphere.

We found a strong alteration in the decadal changes of geopotential height over Europe showing an increase in the 60s and 80s and a decrease in the 70s and 90s. Over Central Europe the positive trend (increase of 2.5 m/a) for 40 years is in the same order (100 m) as the increase in the 80s. This is important to recognize because it implies an ozone decrease over Europe in the order of 20 DU if we use the standard change regression relation (10 m geopotential height increase is proportional to 2 DU total ozone decrease).

The decadal changes are also very important to understand because they built up the trend and could be partially stronger as the trend or inverse. The calculation of the longitude-dependent decadal total ozone changes show a decrease in the 60s and 80s and an increase in the 70s and 90s over Europe but vice versa over the North-Atlantic.