

Tropical response to the vortex displacement major stratospheric warming in comparison with vortex split type

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This present study investigates the tropical response to vortex displacement major stratospheric warming in comparison with vortex split type. We have taken major stratospheric warming events from 2002 to 2013, both of vortex split and displacement type for this analysis. The dynamical variables such as temperature, wind components, potential vorticity are retrieved from ECMWF ERA Interim datasets. The Outgoing Longwave Radiation is also taken in order to investigate the convection changes. The generation and propagation of planetary waves from polar latitudes to low latitudes are visualized using Eliassen Palm flux. Quantitative attempt has been made to examine the planetary wave forcing impact on tropical latitudes. An intensified wave energy and forcing was observed in the month of December and leading to circulation changes in the stratosphere. During this condition, a prominent change in the tropical variables such as temperature, convection also observed. The present work will help to know deep insight about major stratospheric warming impact on the tropical dynamics. The detailed results will be presented in the conference.