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Climatic variability of the global-scale wave activity and SSW events.

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To investigate changes observed during two latest decades in the large-scale dynamics of the winter stratosphere in the Northern Hemisphere, the UK Met Office data were used. Two composites of the meteorological fields averaged over 1995-2004 and 2005-2014 years were calculated. The changes of the zonal mean and vertical wind components as well as amplitude of planetary waves with zonal wave numbers 1 and 2 (PW1 and PW2 respectively), averaged over all winter months (December-February) have been considered. Results obtained show that there is significant increase of PW1 and PW2 during the last decades. The maximum of PW1 amplitude shifts into the upper stratosphere that leads to the SSW appearance at the higher levels. The amplification of PW2 amplitudes is observed in January, when usually SSW events are observed. To investigate the link between the wave activity and frequency of SSW events, the vertical component of EP-Flux have been analyzed.