

Anonymous Referee #1

Many thanks for reading our manuscript and your comments.

Please find our answers to your comments.

1) Section 3.2.1 page 4 lines 29-31 and page 5 lines 1-10 and Figure 4:

I would expect to have a better correlation between the EP flux divergence (Fig4 bottom) and the acceleration of the zonal flow (Fig 4 top). For instance on 28 November the two quantities are anticorrelated at 30N and correlated at 50 to 70N. Please could you explain why it is not the case.

Acceleration of the zonal wind is determined by combination of EP flux divergence and Coriolis force. The anticorrelation of EP flux divergence with acceleration of the zonal wind suggests that planetary wave forcing is not the major factor to accelerate zonal wind. The zonal wind may be accelerated by EP flux divergence of unresolved smaller-scale wave or Coriolis force due to meridional circulation driven by diabatic heating.

The following sentence has been added in p.5 line 7-9

Acceleration of subtropical zonal wind in the upper stratosphere on 28 November could be resulted from unresolved wave (gravity waves) forcing, and/or increased mean meridional circulation due to diabatic heating.

2) The term “anomalous” is used for the zonal-mean wind and zonal-mean temperature in Fig. 2, for vertical pressure velocity in Fig. 3 and at several places in the text. Please explain what it means. Is it a deviation from a climatological mean?

Yes. According to the comment, the following sentence has been added in p.4 line 24

"Here, the term “anomalous” means deviation from a climatological mean (1979-2015)."

Page 6, lines 25-27: It is indicated that some recovery of the upwelling is seen in the NH form period (ii) to period (iii). When I look at the Figure 7c, this is not obvious. The upwelling between 5 and 10N seems to be about of the same amplitude. It may be a problem of m of representation.

Color shading has been slightly modified so as the difference becomes more visible.

