We thank the reviewer for his comments and take into account all the comments

Authors present a solar cycle-long climatological study of the VTEC performance above Nepal region. Authors present different scale variabilities – from the diurnal patterns through seasonal and annual to the solar cycle ones. Authors also make references to the physical mechanisms beyond the different patterns. I would recommend publication after addressing few minor/moderate issues:

Authors summarize the general objective of the work as climatology over Nepal, that has never done before, on the other hand they point out that similar studies for the Asian region has been done before.
Authors address those studies in discussion, but it would be worth to precise what is the Nepalese climatology research area in this field during the manuscript objective formulation.
The precise area of research is to study very first time the Ionosphere above Nepal using data of a solar cycle 24.

p. 5, l. 4 – Authors' statement about GIMs resolution (only 1 or 2 hours available) is inaccurate – there are 15-minute GIMs available in the IGS repository (e.g. UQRG).

In 1998 and under IGS, the first maps of the TEC were with a few analysis centers and at 2 hour intervals (odd hours) due to a limited number of measurement in the network. The best global coverage has made it possible to increase the temporal rate of the maps with the calculation on even hours ensuring daily continuity at midnight. The current situation is as follows with the 8 independent analysis centers (on CDDIS website)

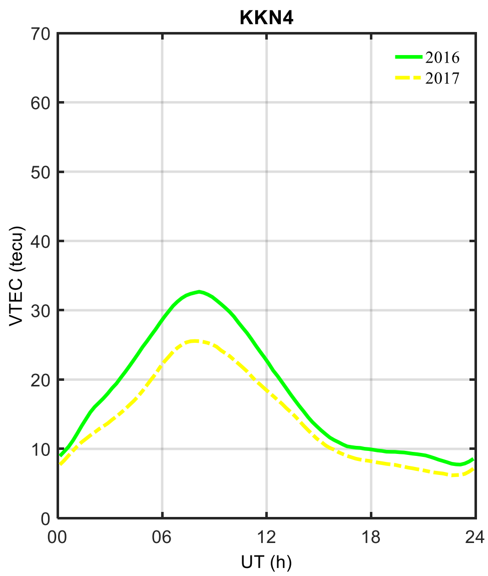
Analysis center	Number of maps per day	Time interval between maps
CASG	49	30 min
CODG	25	1h
ESAG	25	1h
EMRG	25	1h
JPLG	13	2h
UPCG	13	2h
UQRG	97	15 min
WHUG	13	2h
IGSG	13	2h

The interval varying between centers depends on the analysis software. The tendency is to provide 25 maps at 1 hour intervals even if the IGSG synthesis remains at 2 hours. Some centers offer a lower time period. Indeed, UQRG offers a prototype service at 15 minute intervals. In this article, our goal was not to study the different solutions offered. We have chosen to retain the experienced CODG analysis center, which has the longest annual series, and to take the IGSG maps which provide a summary of some different TEC results.

p. 6, l. 7-8 and figure 3b – Authors distinguish diurnal patterns of VTEC variability into parabolic and wave-like ones, however the separation of years 2016 and 2017 is questionable – in Figure 3b the profiles for 2016 and 2017 look pretty similar.

The superimposed plot of year 2016 and 2017 show parabolic type of variation in VTEC during both years.

It is corrected in the text.



We added a comment on figure 3a

Mountains generate relief waves which propagate to stratosphere and lower thermosphere (Martin Leutbecher and Hans Volkert, 2000). Studies on these waves have been made in Nepal in the lower atmosphere (Regmi, R.P. and S. Maharjan, 2015; Regmi et al., 2017). Other studies have shown the impact of relief waves on the ionosphere in the Andes (Torre et al., 2014) and Tibet (Khan A., S. Jin, 2018). In the figure 3a we see oscillations which cannot be interpreted directly as the signature of the waves. In fact, for the processing of GPS data, we use pseudo-range signals which can be affected by reflections on surrounding reliefs as well as by waves.

With 5 references

Khan A., S. Jin, Gravity wave activities in Tibet observed by Cosmic GPS radio, Geodesy and Geodynamics 9 (2018) 504-511, https://doi.org/10.1016/j.geog.2018.09.009

Leutbecher Martin and Hans Volkert (2000), The Propagation of Mountain Waves into the Stratosphere: Quantitative Evaluation of Three-Dimensional Simulations, Journal of the Atmospheric Sciences Volume 57(18), DOI: https://doi.org/10.1175/1520-0469(2000)057<3090:TPOMWI>2.0.CO;2, 3090–3108

Torre, P. Alexander, P. Llamedo, R. Hierro, B. Nava, S. Radicella, T. Schmidt, and J. Wickert (2014), Wave activity at ionospheric heights above the Andes Mountains detected from FORMOSAT3/COSMIC GPS radio occultation data, Journal of Geophysical Research: Space Physics, 119(3):2046-2051

Regmi, R.P. and S. Maharjan, Trapped mountain wave excitations over the Kathmandu valley, Nepal, Asia-Pacific Journal of Atmospheric Sciences volume 51, pages303–309(2015)

Regmi, R.P., T. Kitada, J. Dudha, S. Maharjan, Large-scale gravity over the middle hills of the Nepal Himalayas: implication for aircraft accidents, Journal of applied meteorology and climatology, pp 371-389, February 2017, DOI: 10.1175/JAMC-D-160073.1

p. 6, l. 14 – Authors discuss minimum during solstices, but address only January solstice.
It is observed from the plot that TEC is minimum in both solstices (January and June)

The results of monthly and seasonal variability analyzes seem to lead to convergent conclusions. It should be checked and properly addressed, if there are any differences revealed between monthly and seasonal patterns.
The difference between monthly and seasonal variation is not observed.

The very last conclusion of the manuscript about Nepal-specific behavior of certain seasonal variabilities seems a bit exaggerated, as the manuscript does not provide or address any exact results for the other regions for a clear Nepal-specification distinction.
This line is omitted from the text.
~~It is probably a characteristic of Nepal~~
We added:
The highest Himalayan mountains on earth in Nepal, are the source of landform waves that travel through the stratosphere and the lower thermosphere where they deposit their energy and give birth to secondary gravity waves that can affect VTEC. In our climatology study we analyze average behaviors that do not allow the study of these waves. Another study analyzing individually each day and using phase processing of GPS signals should be done in the future to analyze the impact of the Himalayas on VTEC and the impact of the low atmosphere on VTEC.

In the equation 3 and its description the elevation angle symbol looks like logical set membership operator rather than Greek epsilon.

It is corrected