

**We thank the reviewer for his comments and take into account all the comments on Comment on manuscript entitled “Climatology of ionosphere over Nepal based on GPS TEC data from 2008 to 2018” by Pandit et al.**

**This work is publishable subject to modifications according to comments given in following.** Comment 1; Reviewer is convinced with replies against previous comments by another reviewer Some additional comments need to be answered:

**Abstract:**

Line 27-28: “**The maximum value of TEC is observed during spring 28 equinoxes than autumn equinox with a few anomalies**” Replace anomalies by asymmetries. It is replaced in the text, see line 28 page 1

Line 28-30: It is now well established that winter anomaly is only phenomena of F2 peak. It is not a feature of seasonal variation in TEC. So modify sentence like-**seasonal variation in TEC is observed to be a manifestation of variation of solar flux, particularly the level of solar flux in consecutive solstices.** Also discuss paper <https://doi.org/10.1007/s10291-018-0795-x> in result section to explain seasonal variation in TEC. This paper clarifies misconception of winter anomaly in TEC.

The sentence is replaced and this referred paper

Rao, S.S., Sharma, S., Pandey, R. (2019b), Study of solar flux dependency of the winter anomaly in GPS TEC, *GPS Solutions*, **23**(4) DOI: 10.1007/s10291-018-0795-x is used to explain seasonal variation in the text see lines 14-18 page 9

**Introduction Section:**

Add following references from the Indian longitude

sector 1. <https://doi.org/10.1007/s10509-019-3701-2>

Rao, S.S., Chakraborty, M., Kumar, S., Singh, A.K. (2019a). Low-latitude ionospheric response from GPS, IRI and TIE-GCM TEC to Solar Cycle 24, *Astrophys Space Sci*, **364**:216,

2. <https://doi.org/10.1002/2014JA020559>

Dashora, N., and Suresh, S. (2015). Characteristics of low-latitude TEC during solar cycles 23 and 24 using global ionospheric maps (GIMs) over Indian sector, *J. Geophys. Res. Space Physics*, **120**, 5176–5193, doi:10.1002/2014JA020559. A

These references are added in the text, see lines 6-10 page 3

**Methodology Section**

Reframe title from “**Data sets and data analysis**” to

Dataset Everything else seems good.

It is changed in the text, see line 27 page 3

## Results and Discussion

Line 15-19 should be

“In this section, we present the diurnal, monthly, seasonal, solar cycle and geomagnetic variation in GPS TEC over Nepal during the solar cycle-24. Figure 1 represents the position of chosen GPS stations in Nepal for this study and Figure 2 represents the variation of sunspot number and solar flux during the period 2008-2018.”

It is replaced in the text, [see lines 21- 24 page 5](#)

Line 23: Increasing should be inclining and decreasing should be declining.

It is changed in the text, [see line 2 page 6](#)

Line 4-5, page 6: remove following sentences or modify accordingly

“Diurnal variation of VTEC was studied by plotting similar 5 curves for all the days from year 2008 to 2018 for all chosen four stations.”

It is modified in the text, [see lines 14-16 page 6](#)

Line 19 page 7; Replace tecu by TECU, do similar changes throughout the paper.

It is replaced in the all the text

Line 5-6 Page 8; Nepal sometimes shows features of EIA crest latitude and sometimes EIA trough stations.

This sentence is omitted from the text; [see lines 16-18 page 8](#)

This is totally wrong. Nepal is off crest region and lie in low-mid latitude region. It is not possible to exist in equatorial trough region. Remove sentence. Author should aware that magnetic equator is shifting towards south year by year.

Page 8: Reframe the text about winter anomaly following the comment given for abstract section.

The text is reframed; [see lines 3-6 and 11-14 page 9](#)

## Conclusion section

Line 25-26; “no diurnal 26 peak is observed during minimum and descending phases of the solar cycle”

This is not true, modify it.

It is corrected in the text; [see line 15 page 13](#)

Remove word “winter anomaly” from text following comment given against abstract section.

The word “winter anomaly” has removed from the text.

Revise whole conclusion section and write it in very precise and systematic manner.

The conclusions are arranged systematically and precisely; [see lines 27-30 page 13 and lines 1-2 page 14.](#)

Good Luck!