Compliance of comments of the reviewers

The authors thank the reviewers for their thoughtful comments. These have been incorporated in the manuscript as follows. The point wise replies of the comments of the reviewer **M. Masood** are given below.

Comment	Response of the authors
M. Masood (Referee) **masood35od@gmail.com**	
Although some of my comments below are critical, I should acknowledge that the authors have put enormous effort in undertaking this study and I congratulate them for the work. The manuscript has been focused in details on hydrologic modeling of a part of Ganga basin which is a Himalayan mountain basin. Authors chose SWAT model to model the basin to achieve the aim of understanding hydrological responses of the basin. I believe this paper is also relevant to the special issue The changing water cycle of the Indo-Gangetic Plain". However, I would like to recommend the authors to revise the manuscript thoroughly by addressing following issues.	Thanks.
General comments on Text 1. I found the novelty of this study is very limited to publish it in a high impacted journal like HESS. There are many study already conducted on mountain basin in different parts of the world using various hydrologic model including SWAT. Several those previous studies are also discussed by the authors in the Introduction. However, it is difficult to find the uniqueness of their study among those studies. Therefore, I think, authors should identity the novelty of the study and should highlight it in Introduction.	In the revised paper, results have been analyzed more critically. The impact of change in temperature and rainfall on stream flow has been studied and incorporated in the paper. In addition to Aphrodite data, the data from India Meteorological Department have been used and the results have been compared with the Aphrodite data. The abstract and conclusion sections have been suitably modified.
2. In the Introduction the authors presented literature review in great detail. However, I think, some studies should not be mentioned here as these are not relevant with current study. For instance, the paragraph in page-3, line 82-92 can be removed.	Will edit to incorporate the suggestions.
3. As I understand the central aim of the study is to improve the understanding of hydrological processes	Understanding the hydrologic response mechanism of the catchment based on modeling results has been explained in detail.

of the mountain basin. To achieve that goal, the authors have just calibrated and validated the SWAT model on the basin. I think this is not enough to understand the whole hydrological processes. The study needs in depth analyses of all hydrological process and climatic components and relationship among the component. They should justify/Compare their results with existing previous studies.	More in-depth analysis of the results is given.
4. If their objective is just hydrologic modeling of the basin, then it is better to incorporate the following additional analysis to improve the paper. (a) update/modify any module of the SWAT model and then apply it or (b) include addition analysis on model parameter uncertainty, sensitivity. The-following paper may help Masood, M, Ych, P. J. F., Hanasaki, NT.., and Ta cue i, K.: Model study of the impacts of future climate- change on the hydrology of Ganges--Brahmaputra-Meghna basin, Hydrology and Earth System Sciences, 19(2), 747-770, doi:10.5194/hess-19-747-2015, 2015c.2.	In this study we did not attempt to update/modify the model.
5. NSE of daily simulated hydrograph for calibration and validation is 0.57 and 0.49, respectively, which are below satisfactory. The authors should conduct additional parameter sensitivity analysis to find better parameter values aiming better model performance.	A sensitivity analysis was carried out and the results have been discussed. Section on uncertainty analysis will be strengthened. We agree that the values of NSE are low for validation run (daily data) and the reasons behind this have been discussed in the revised paper.
6. Throughout the manuscript, this group of words "Ganga basin up to Devprayag. has been repeated several time. Please avoid this repetition.	This has been corrected and the study area has been defined at one place to avoid repetition.
7. The model was simulated using bit old data (1992-2005). Why don't they choose recent data?	Due to non-availability of recent data, the study has been carried out with little old data.
General comments on Figures and tables 1. Overall quality of figures should be improved. 2. Sub-title with figure number (a)and (b) should be placed in all sub-plots of all figures with multi-plots. 3 Statistical indices (NSE, coefficient of determinant. etc.) should be put in the relevant	Comments on Figures and Tables will be taken care of suitably. We feel that scatter plots give a good visual impression of modeling.

figures. 4. Importance of presenting the scatter plots (Fig. 7b. 8b) is limited; because well defined trend is not observed in those figures. Specific comments on Figures 1. Fig. 4: As the elevation range is very high, multi-color gradient can be chosen instead of current two color (black and white) gradient. 2. Fig.6 should be removed; because same figure is put in the Fig. 7 (a). Specific comments on Tables 1. Table 1: References of the data sources are not appropriate. Please provide the references of relevant publications/report instead of weblink www.iitd.ac.in is an university web address. How can it be a data source? Please provide the specific data reference. For instance, the reference of APHRODITE data is Yatagai et al., 2012. Yatagai, A., Kamiguchi, K., Arakawa, Hamada, A., Yasutomi. N., and Kitoh, A.: APHRODITE: Constructing a Long-Term Daily Gridded Precipitation Dataset for Asia Based on a Dense Network of Rain Gauges, B. Am. Metcorol. Soc., 93, 1401-1415. doi:10.1175/BAMS-D-11-00122.1, 2012. 2, Table 2: What is the basis of sensitivity parameters a Please provide the reference of the Sensitivity Rank (column-3), Default Value (column-4) and Range (column-5).	Specific comments as suggested for different lines have been incorporated Specific comments on Tables have been incorporated. Specific comments on figures have been incorporated. Thanks. The reference of APHRODITE data has been provided. We will address this comment but the first part is not clear.