Response to comments by Dr. C. Yann

Item wise responses to comments by Dr. C. Yann are given below. We have also incorporated necessary corrections and additional explanations in the manuscript to address the comments made.

1. There are few issues with multi-scale assimilation of DEMs, one of them is the slope tension dependency to spatial resolution. Nothing is said about this, prior nor after fusion, and how fusion algorithm is benefiting from this, or is constrained from the increase of noise.

Yes, it is clear that the spatial resolution affect considerably on DEM quality. We also do comparison between original SRTM in 90m with SRTM after interpolation to 30m and 30m DEM after fusion. Some enhancements were observed even in DEM quality as well as DEM derivative parameters. However, the main focus of this research is to develop DEM fusion algorithm using weighted averaging and to compare the resulting fused DEM with global DEMs before fusion. Slope tension dependency on spatial resolution will be addressed as a separate topic in our future research.

2. Further analysis of the difference can provide better fine-tuning of the model proposed.

Thank you very much for your valuable comment. We have seriously analyzed the accuracy of fused DEM by extracting various terrain related parameters, including slope, curvature, topographic roughness index. The angular difference between fused and reference DEM surfaces was also analyzed. The new results of this new analysis have been added to the manuscript and further strengthen our conclusions about the efficacy of the fusion algorithm.