Dear editor,

It has taken a bit of time due to busy schedules of the co-authors, but we have managed to address all your comments. We have de-seasonalised the signals of both NDII and Su and compared them. Of course the correlation is much less than in the seasonal comparison, but it is clear from the new deseasonalized graphs that there is a direct relation between the two residuals. In some years the relation is not at all good, but in some years the correspondence is striking. We should realise that the final result are affected by many uncertainties: the inaccuracy of the lumped model (which determines the way in which S_u represents moisture storage), the uncertainty of the precipitation and potential evaporation (which drive the variability of the root zone moisture in the model) and the accuracy of the NDII (in view of the errors due to clouds etc.). If we consider these inaccuracies, then the fact that the two residual signals show a clear dependency is a very strong indication that the NDII is a promising proxy value for root zone moisture storage. This offers new opportunities to use this well-distributed proxy as constraint for hydrological models.

We think that this is the most important innovation, that with the NDII we offer the hydrological community a new, model-independent proxy value for root zone storage. This will open up a wide range of new research in distributed hydrological modelling.