

## **Response to reviewer 1.**

For easier reading, we have reproduced the reviewer's comments (in black and italic) and give our responses in blue.

*This is a well-written paper. It presents interesting results from both observational and modeling aspects. First, it shows the SSS proxy  $d18O_w$  in the Bay of Bengal follows the large millennial variability of  $d18O$  in Greenland and East Asian implying a coherent variability of Indian monsoon with North Atlantic events and east Asia monsoon. Second, it performed coupled and AGCM experiments show that the North Atlantic SST impacts the Indian Monsoon mainly through the tropical Atlantic SST, the subtropical jet and the wave guide to the Indian monsoon region. I think the paper should be published after some minor revisions.*

We thank the reviewer for this encouraging review.

P2674, \_L25: "In all cases, the SST:..too small to explain the record". How big the  $d18O$  signal will be if it is caused purely by SST of, say,  $3^{\circ}C$ ? Please be quantitative.

In this temperature range, a  $3^{\circ}C$  warming would result in a  $d18O$  signal of  $0.7\%$ , which is smaller than the amplitude of most peaks, i.e. commonly  $>1\%$ . Quantitative estimates of isotopic effect of SST changes have been added in the text to clarify this point.

Also, in Fig.2, the SST does show two negative peaks, when do they occur? Do they correspond to H1 and YD? It will be good to show the SST reconstruction with time, too.

We have added the ages and the amplitude of the two short cooling events in the text. We have chosen not to add the SST record on Fig. 3 (in which the variables are plotted against time and not depth) in order not to make this figure more complex than it already. The SST excursions are quite small and so not explain the abrupt changes shown on Fig.3 so we feel it would not add to the message of this figure.

Also, for completeness, it will be good to describe briefly why an increased troposphere temperature gradient, or subtropic jet will enhance Indian monsoon.

This is explained better in the new manuscript: in the introduction, we present mechanisms of teleconnections between the North Atlantic/tropical Atlantic and the Indian monsoon which have been proposed by previous studies. We then discuss our modelling results in terms of these mechanisms (Section 3.3) and summarise this discussion in the conclusion.