

Title: Verification of Pre-Monsoon Temperature Forecasts over India during 2016 with focus on Heat

### Wave Prediction

#### NHESS-2016

We are thankful to the editor and the reviewer for their helpful suggestions which have helped us to improve the quality of the paper to a great extent. We have tried to incorporate as many of their suggestions as possible.

*How much of the skill in predicting the heatwaves comes from persisting a heatwave already present in the initial conditions? How does the model perform when the heatwave evolves within the forecast range (e.g. Beyond days 2-3).*

**Reply 1:** Extreme events like heat waves are rare in nature and here we provided a general view of the two particular heat wave events (11 April & 21 May). From our experience as well as the forecast for the post heat wave event days, we can state that the skill of predicting an event with the initial conditions of *no indication* of severity is comparatively *lower* than when the signature is present in the initial conditions.

Even before the event, there is some signature of it as can be seen in the figure (). The overall prediction of warm conditions is nicely predicted but at closer lead times, the events are better predicted. Same can be seen in the box and whisker plots for ETS (and rest of the score plots as well). For instance, the skill of NEPS does not fall drastically from Day-2 to Day-7 and thus depicts a reasonable skill. So, overall the NEPS specifically, has a good skill in predicting the extreme event and is relatively robust. Now we have included this reply in the manuscript in the end of conclusions.

"...converg towards.." should read "...converge towards..."

Reply 2: We have corrected the phrase in the manuscript, "...converg towards.." to "...converge towards..."

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Reviewer 2, Comment 1 - The authors have addressed my comment in their reply but not incorporated any discussion into the paper. Just a sentence along the lines of their reply would be useful.

**Reply Reviewer 2, comment 1:** We have elaborated the reviewer #2 comment 1 in the revised Manuscripts and added a paragraph from line 13 to 21 at page 10.

Section 3 - "...converg towards.." should read "...converge towards..."

**Reply Section 3 :** Now we have corrected the spelling of converge in manuscripts at page 6, line 11.