Ocean Science

Discussions

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# *Interactive comment on* "Testing the validity of regional detail in global analyses of Sea surface temperature – the case of Chinese coastal waters" *by* Yan Li et al.

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This is a very interesting paper improving the ability of SST predicting models. The issue addressed in this study is very important and the authors have done a fine job. The finding is useful and important for climate research and modeling communities, although the present analysis/conclusions might be only fair. However, some points need clarification and I would suggest the following revisions.

1. Please further explain the reasons for determining these 26 special coastal stations and what characteristics they have. For example, why important cities such as Shanghai and other Yangtze River Deltas are excluded. Scholars may be very interested in

the changing laws of these coastal stations. Is it possible to supplement them?

2. When the same method is applied to a variety of different dataset, what is the difference, whether there is a need for major factors, especially for data sources with different lengths of timeseries. I think it should be pointed out.

3. The authors used the HadISST1, ERSST, COBE SST, and NOAA OISST dataset to calculate the long-term trend of SST in the marginal seas, e.g., coastal water of China. It is well known that the SST observations are extremely sparse during the early decades until satellite measurements being available in the 1970s, especially within the marginal seas. Therefore, I think a long-term SST trend using such a dataset is hard to convince. The authors need to explain this in more detail.

Based on the above points, this paper has the potential to be a useful contribution to the literature but will elect revision before publication. I think this paper deserves to be published in the journal after minor revision.

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