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Interactive comment on "A combined Terra and Aqua MODIS land surface temperature and meteorological station data product for China from 2003–2017" *by* Bing Zhao et al.

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Although the development of thermal infrared remote sensing technology has made it possible to obtain surface temperature over a large area, there are still many missing values of temperature due to the influence of clouds and rainfall in most parts of China, especially in southern China. In this manuscript, the authors reconstruct a high-resolution land surface temperature dataset by combining multiple source data. This dataset covers the complex climate and topographical conditions in China and is very useful for regional climate and drought research. This manuscript proposes a new idea to retrieve LST of pixels under cloudy conditions which highly suitable contribu-

tion to Earth System Science Data. The authors show the validation in annual and seasonal scale for different areas with different climatic condition, which is important to further clarify the usage limitation for end users. It also provides a good data set for our meteorological department, which provides good support for long-term regional climate change research. Overall, this is a really nice contribution. A couple of suggestions and comments to improve the paper: 1) Pg.13, Line 412 "R>-0.6 " should be " R<-0.6"? 2ïijL'The legend of figure 8 should be revised (add unit). 3ïijL" the average annual diurnal LST difference from 2003 to 2017 is characterized by the blue line AB, which indicates the boundary between the eastern China and western China." However, I have not seen the results. 4) According to Figure 1, Line 428 should be the warming trend of the Loess Plateau in the western part of the Taihang Mountains, not the eastern part.

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