Response to Chief Editors

Discussion among Chief Editors:
Question: This paper (essd-2021-309) describes a high-resolution dataset of near-surface air temperature in China from 1979 to 2018.
I am wondering if it is fair to ask them to update the time series, for example, to 2020? Nearly 3-year data latency seems to be too long for air temperature data in this day and age.
Feedback: Without reading the paper or knowing more about their sources, I don't know their options. I do know that, in the world of global data products, sometimes 2018 represents the most recent publicly available quality-controlled product.
In global emissions, mostly due to tardy national reporting, we have - for key GHG - nothing more recent than 2018. Some forest inventories update only at five-year intervals (with some countries still lagging). In ESSD-221-228, the global GHG inventory paper prepared for IPCC WG III and for CoP26, they report only through 2018 then extrapolate to 2019. Carbon budget does the same; report through two years earlier then extrapolate to cover the most recent year. E.g. 2021 version of carbon budget (delayed this year by nearly two months), appearing in late 2021, will report through 2020 with caveats while extrapolating for 2021 based on initial months and preliminary estimates. Real-time (daily) reporting from NOAA of Moana Loa CO2 proves so important, but even our friends at ERL produce quality-controlled reports only after a couple months of checking? Tricky business during pandemic disruptions. Real-time crowd-sourced aviation data, for all its other weaknesses, all of a sudden assumes remarkable relevance?
For air temperature, one can find monthly reports with only a month lag from some sources but a full accurate quality-controlled annual product sometimes requires as much as six months processing before release? Longer if one wants merged surface and satellite data? If authors submitted the paper elsewhere then did not update it in the interim, they could easily have included only data through 2018 in their original manuscript. Or it came from a thesis but student then took a year or more to extract it for publication? For small changes, e.g. numeric updates, we allow final updates at proof stage.
Good question, not always the most obvious answer. Ask gently ...

Response: Thank you very much for Chief Editors' attention to our dataset and manuscripts. Our China National Key R&D Program support ends at the end of this year (2021), and the time for hourly data sharing agreement with the China Meteorological Administration is up, and the data-sharing agreement stipulates that the data was only provided until 2018. Especially for the hourly data of the past 3 years, there are now new regulations. Until there is no new cooperation project support, a large amount of station hourly data across China will not be provided to us in the short term. Without the support of ground weather observation station hourly data across China, it is difficult to guarantee the completion of this work. Of course, once we can obtain the relevant data, we will

continue to complete the work and update the dataset.

In addition, we are studying the use of MODIS remote sensing data to retrieve the surface air temperature with a resolution of 1 km. The theoretical accuracy of the algorithm is very good, but the actual application will take some time. Currently, we are improving the algorithm. In 2022, we will complete a 1-km near-surface air temperature dataset using remote sensing data from 2001 to 2021. Thank Chief Editors and reviewers for your support. Our dataset will be submitted to ESSD first. At that time, we will also share the dataset and invite you for guidance.