## Supporting Information for "Reanalyses underperform in cold regions, raising concerns for climate services and research"

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## Contents of this file

1. Figures S1

X - 2

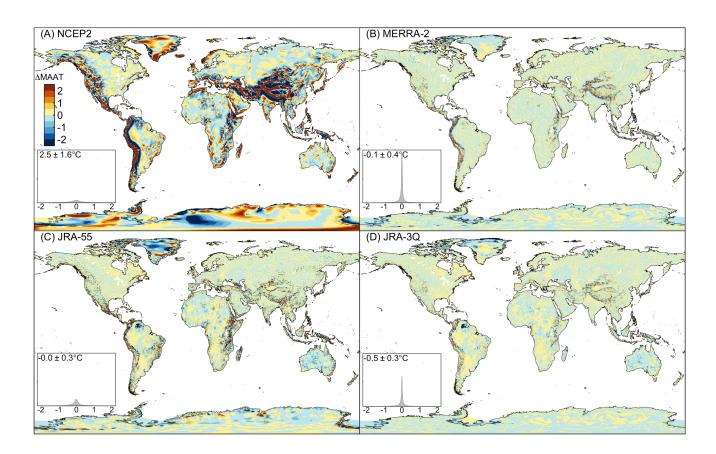


Figure S1. The MAAT difference ( $\Delta$ MAAT) between 3D downscaling considering variable lapse rate (see Methods) and 2D linear interpolation. As an example, the MAAT in 2000 is shown. Insets show the distribution of differences with mean and standard deviation.