"Improvements to the Land Surface Air Temperature Reconstruction in NOAAGlobalTemp: An Artificial Neural Network Approach"

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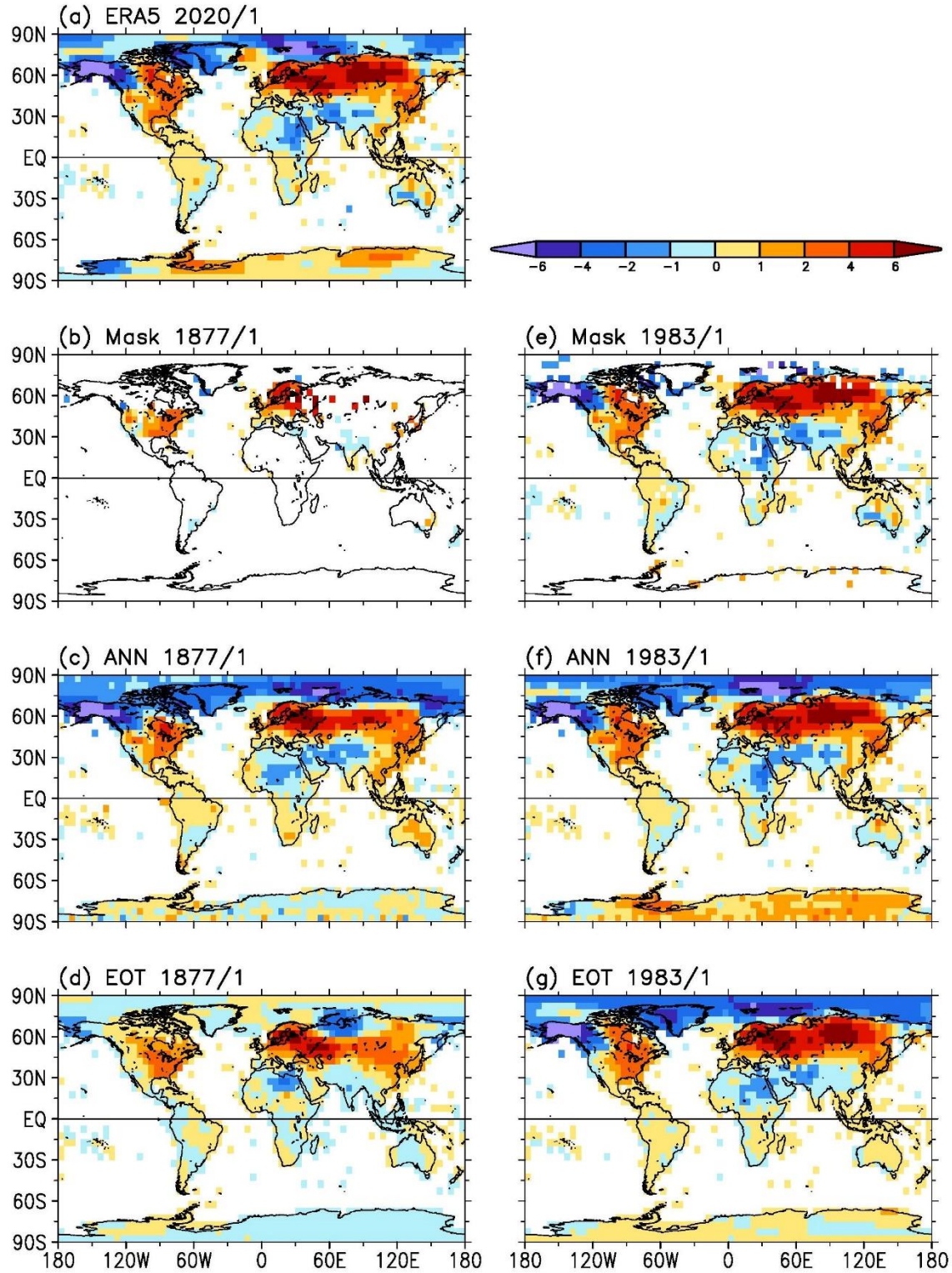* Corresponding author: Boyin Huang, boyin.huang@noaa.gov

Fig. S1. LSAT anomalies (ºC) in (a) ERA5 in January 2020, (b) masked by observations in January 1877, (c) ANN and (d) EOT reconstructions; (e) masked by observations in January 1983, (f) ANN and (g) EOT reconstructions. Figure S1 is a duplication of part of Figure 7 in the main text for the purpose of a large figure size.
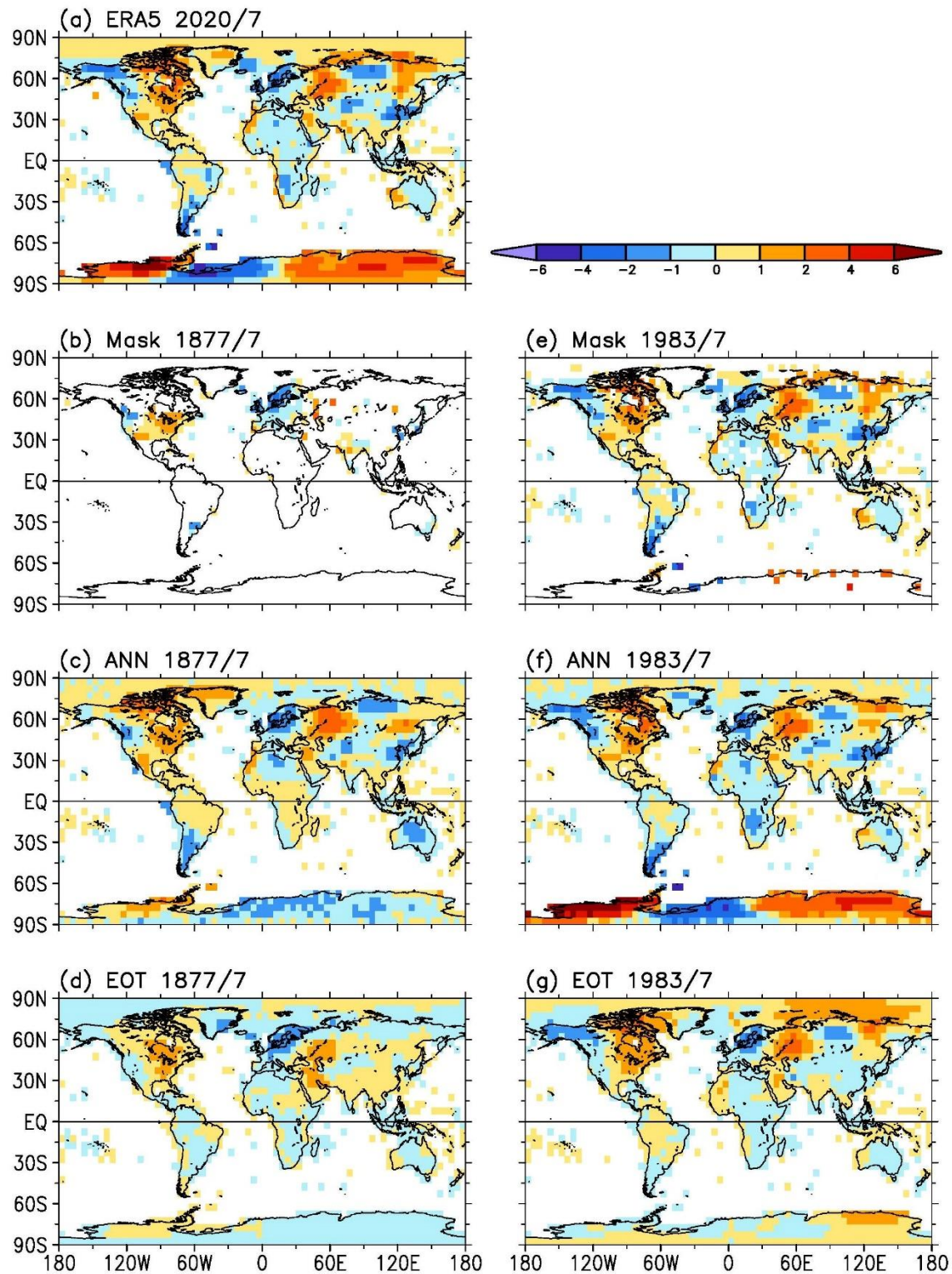
Fig. S2. Same Figure S1 except for using ERA5 in July 2020 and observation masks of July 1877 and July 1983. Figure S2 is a duplication of part of Figure 7 in the main text for the purpose of a large figure size.
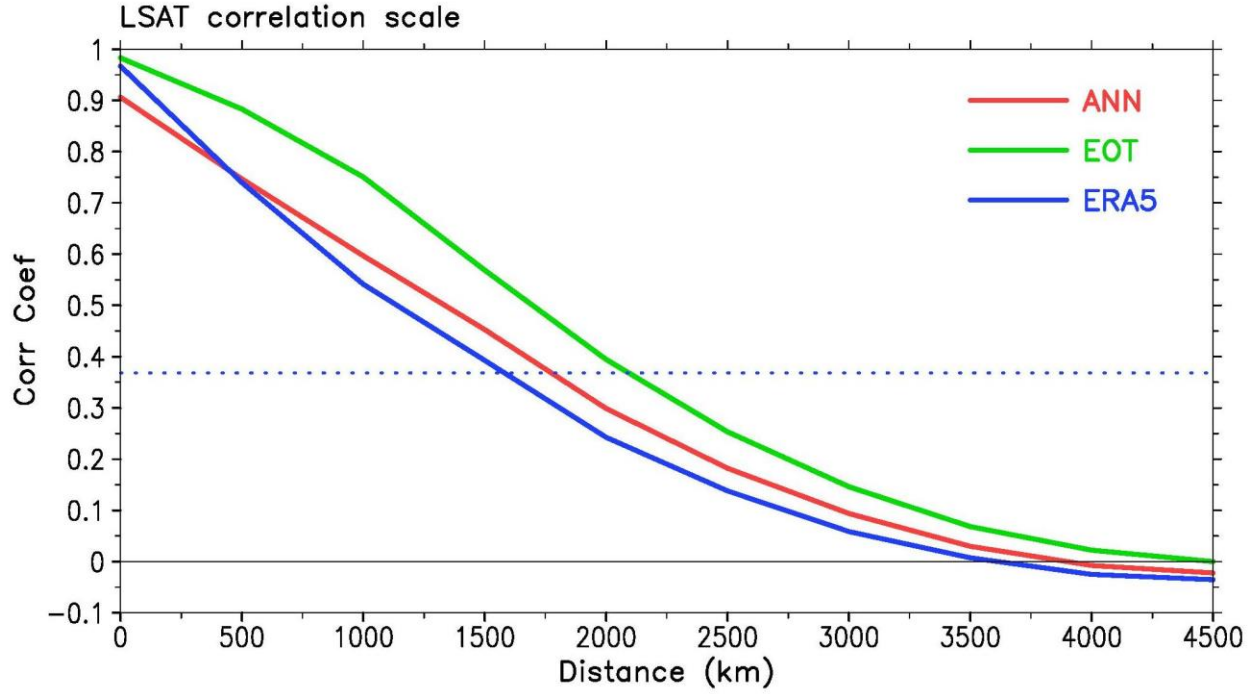
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Fig. S3. LSAT correlation scale in ANN (red solid), EOT (green solid), and ERA5 over the global land and Arctic north of 60ºN. The horizontal dotted line represents the e-fold value (0.368) of correlation, which can be used to approximate the correlation scales of ANN (1750 km), EOT (2100 km), and ERA5 (1600 km). Note that the correlations are calculated over 1850−2020 in ANN and EOT but over 1950−2020 in ERA5. However, our tests indicate that the correlations of ANN and EOT over 1950−2020 are very close to those over 1850−2020.