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@article{Labe2022,
abstract = {The global mean surface temperature (GMST) record exhibits both interannual to
multidecadal variability and a long-term warming trend due to external climate forcing. To
explore the predictability of temporary slowdowns in decadal warming, we apply an artificial
neural network (ANN) to climate model data from the Community Earth System Model Version
2 Large Ensemble. Here, an ANN is tasked with whether or not there will be a slowdown in the
rate of the GMST trend by using maps of ocean heat content at the onset. Through a machine
learning explainability method, we find the ANN is learning off-equatorial patterns of
anomalous ocean heat content that resemble transitions in the phase of the Interdecadal
Pacific Oscillation in order to make slowdown predictions. Finally, we test our ANN on observed
historical data, which further reveals how explainable neural networks are useful tools for
understanding decadal variability in both climate models and observations.},
author = {Labe, Zachary M. and Barnes, Elizabeth A.},
doi = {10.1029/2022GL098173},
file =
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\_}ms.pdf:pdf},
issn = {1944-8007},
journal = {Geophysical Research Letters},
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