README file for

Sustained technology-driven yield growth can more than offset warming impacts on agriculture

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This document describes how to replicate the results in this paper. The authors have included all scripts and processed data necessary to replicate the analysis. All raw data used in the analysis are publicly available through the sources below.

Data source

1. Historic Weather: 1950-2020
https://prism.oregonstate.edu/

2. 1950-2020 US County-level Corn Yield & Area
https://www.nass.usda.gov/Quick_Stats/

3. Projected Weather: 2040-2049
https://www.nccs.nasa.gov/services/data-collections/land-based-products/nex-gddp-cmip6

Brief guide to scripts

Figure1.do	Plot state-specific yield trends for top-10 US corn producing states
Figure2&3_a.do	Run regressions and make predictions for 2020 and 2050 yields based on 3°C temperature bin model, prepare the data for plotting in R.
Figure2&3_b.R	Make box plots for 2020 and 2050 yield predictions based on 3°C temperature bin model in R.
Figure4.do	Plot spatial distribution of 2050 yield predictions based on 3°C temperature bin model under climate scenario SSP2-4.5.
TableS1.do	Estimate temperature-yield relationship based on 3°C temperature bin model for 1950-2000 and 1950-2020 sample.
TableS2.do	Present 2020 yield predictions based on 3°C

	temperature bin model numerically.
TableS3.do	Present 2050 yield predictions based on 3°C temperature bin model numerically.
TableS4.do	Estimate temperature-yield relationship based on degree days model for 1950-2000 and 1950-2020 sample.
TableS5.do	Present 2020 yield predictions based on degree days model numerically.
TableS6.do	Present 2050 yield predictions based on degree days model numerically.
TableS7.do	Model selection using PWMSE.
TableS8.do	Present 2050 yield predictions based on two-knot piecewise linear function numerically.
FigureS1.do	Plot state-specific yield trends for all US corn producing states.
FigureS2.do	Plot state-specific annual growth rate of corn yields between 1950-2020 for all US corn producing states.
FigureS3.do	Plot spatial distribution of temperature changes between 2000 (2020) climate and 2020 (2050) climate.
FigureS4.do	Plot spatial distribution of 2050 yield predictions based on 3°C temperature bin model under climate scenario SSP5-8.5.
FigureS4.do	Plot the estimates of the 3°C temperature bin model under three different specifications of the time- effect controls.