



Teacher Guide

Audience: 6th-8th grade

Necessary Skills: Ability to Read and Write, ability to make connections between two sets of data

Purpose: To teach students about how greenhouse gases can affect our climate, and how NOAA scientists extrapolate conclusions from data.



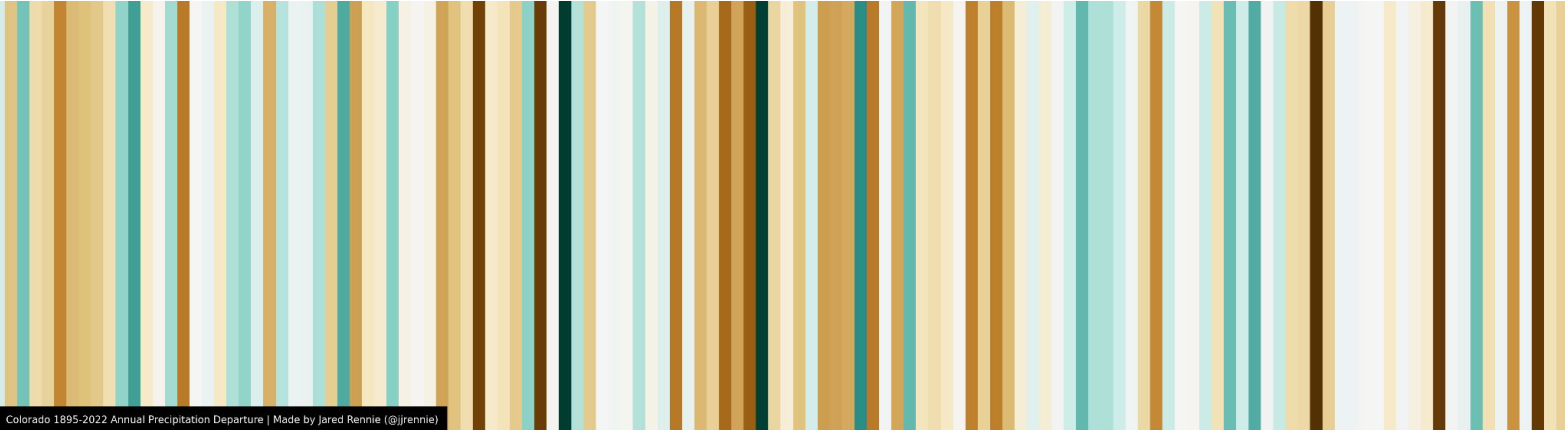
Colorado Climate Stripes

The data below shows how the averages of several data points have changed over the years. Your job is to step into the role of a NOAA scientist and make connections between them.

1895

Average precipitation

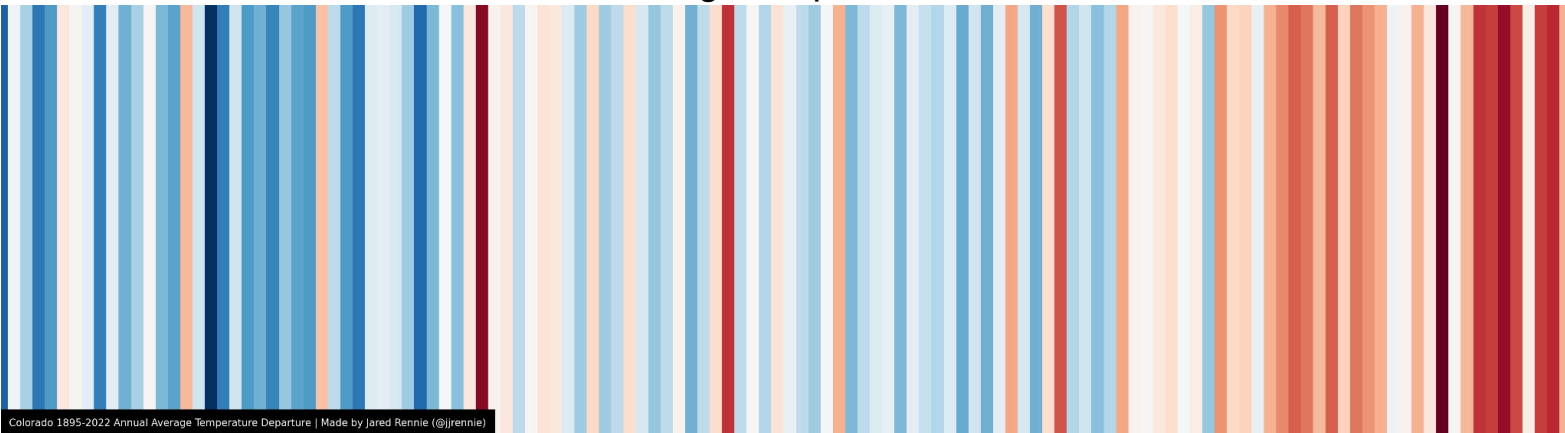
2022



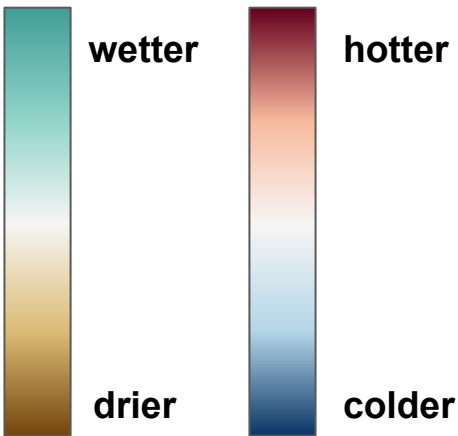
1895

Average temperature

2022

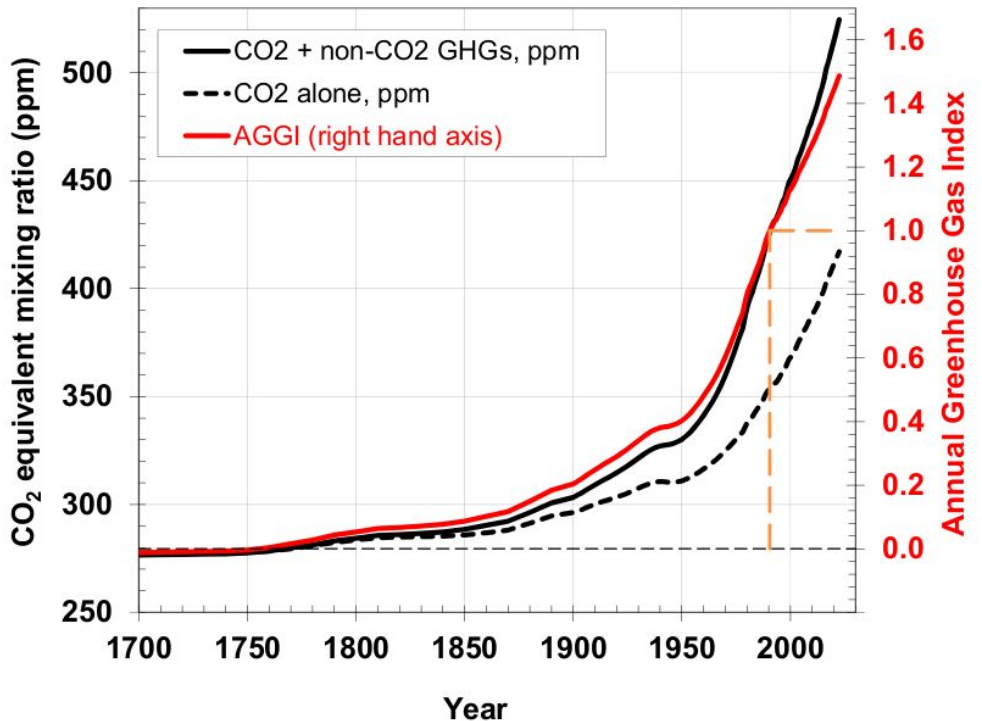


Was the yearly average...



...than the overall average in the 20th century?

Total atmospheric Greenhouse gases





Name _____ Date _____ Class _____



Fill-in-the-Blank

When the average temperature _____,
precipitation _____. When greenhouse
gases _____, temperatures _____.

When greenhouse gases _____,
precipitation _____.

WORD BANK (*words can be used more than once*)

rises | falls | change more often | changes more intensely
changes less often | changes less intensely

Free Write

I can also connect _____ and _____:

My overall conclusions about this data are that



Additional Resources



Data from:

<https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series>

On Climate Stripes:

<https://storymaps.arcgis.com/stories/36fb39f01f1041bf96d3da9a8ea17b6e>

Future Climate Explorer:

<https://crt-climate-explorer.nemac.org/>

Temperature Anomalies:

<https://www.ncei.noaa.gov/access/monitoring/global-temperature-anomalies>

On greenhouse gases:

<https://gml.noaa.gov/aggi/aggi.html>

On the difference between climate and weather:

<https://www.ncei.noaa.gov/news/weather-vs-climate>

Live webcams from our monitoring labs:

<https://gml.noaa.gov/obop/mlo/livecam/livecam.html>