# Eyes on the Climate

guidance and background for presenters of this one-on-one, hands-on demo

## This activity is about the climate

Explain first: ***Climate is related to weather, but they're not the same***.

- **Weather** is the state of the air at a given time and place. Weather describes what's happening right now where we are: Is it raining? Is the sun shining? How hot is it?
  [Other weather descriptions include: temperature, pressure, humidity, cloudiness, or other meteorological phenomena]
- **Climate** is the average weather conditions in an area from year to year.
  [Background on some climate examples:
  For Monroe, LA, the average temperature is 66 °F (range 54 to 77 °F), average rainfall is 54 inches.
  For Shreveport, LA, average temperature's 66 °F (range 55 to 76 °F), average rainfall is 51 inches.
  Source: https://www.usclimatedata.com/climate/monroe/louisiana/united-states/usla0319 .
  Coldest place in lower 48 states is Mount Washington, NH; average annual temperature: 27 °F
  Source: https://www.currentresults.com/Weather-Extremes/US/coldest.php (NOAA National Climatic Data Center, weather data collected from 1981 - 2010)
  Hottest place in the lower 48 states is Marathon, FL; average annual temperature: 79 °F]

Explain the demo: ***We're going to look at the temperature of the whole planet over the last 138 years***.

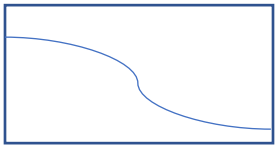
- We're going to ask how different the global temperature for each year has been from the normal temperature (*i.e.* the average temperature) for the 20th century.
- We're going to use a **graphing activity** to help us do this.

  The presenter explains the axes of the graph: The graph shows **years** increasing from left to right, and shows **temperature differences** from top to bottom.

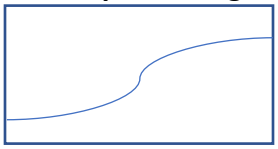
  The presenter then draws an example line on each of the 1st 3 blank graph grids, while explaining the temperature change pattern that each line shows. Presenter then asks the participant to trace the example lines, but using a different colored marker. The presenter repeats the explanation of what pattern each line shows as it is traced.

  **Different types of lines match different ways the temperature of the planet might behave**.

No Change



Start warm → colder



Start cold → warmer

  Presenter then flips to the 4th blank grid and asks: **What's your guess for how the temperature has changed? Draw a line to show that.**

  The presenter says: Now we'll compare your line to a graph showing how global temperature has actually changed over the last 138 years. (Source: https://www.ncdc.noaa.gov/cag/global/time-series/globe/land_ocean/ann/7/1880-2018 ) Presenter flips to the 1st data plot.

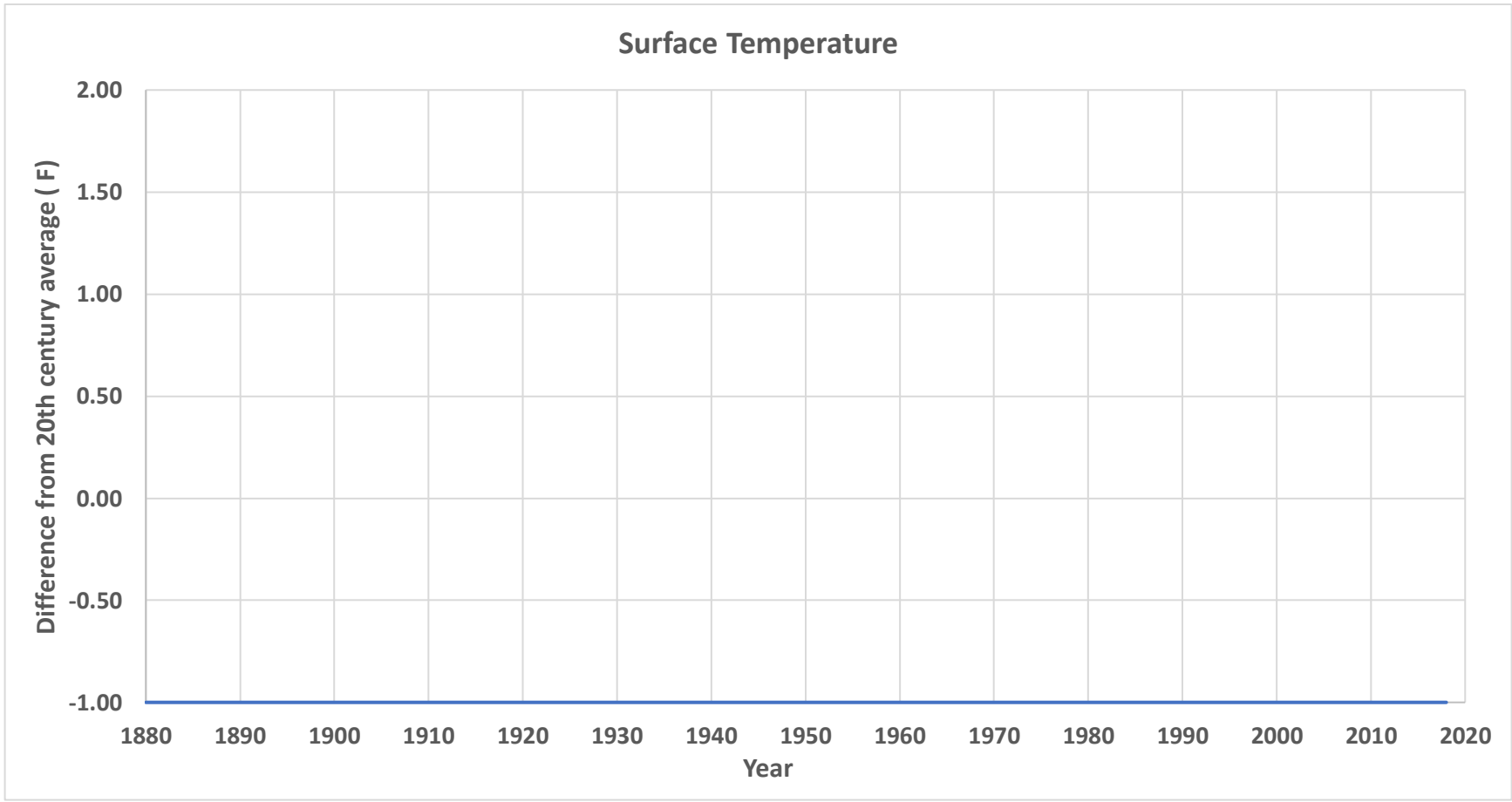
  The presenter points out that there's variability from year to year, but we see there's been an **overall increase in temperature** compared to the 20th century average that **started about 1980 and has continued to 2019** (38 years). Presenter may want to use 2nd data plot to discuss other points.

Conclusion: ***This is important because the increase in global temperature is changing our climate***.

Wrap-up: ***Thanks*** for doing the climate activity! Give out a **sticker** for participating.
Please take the **handout brochure**. It has some other **activities** and more **information** about the climate, including

actions **young people,** and others in **our communities**, are taking to react to our changing climate and prepare for the future.

(The websites listed as sources for the map and graph in the handout are interactive and you can choose different input options to explore.)


Surface Temperature
Difference from 20th century average ( F)
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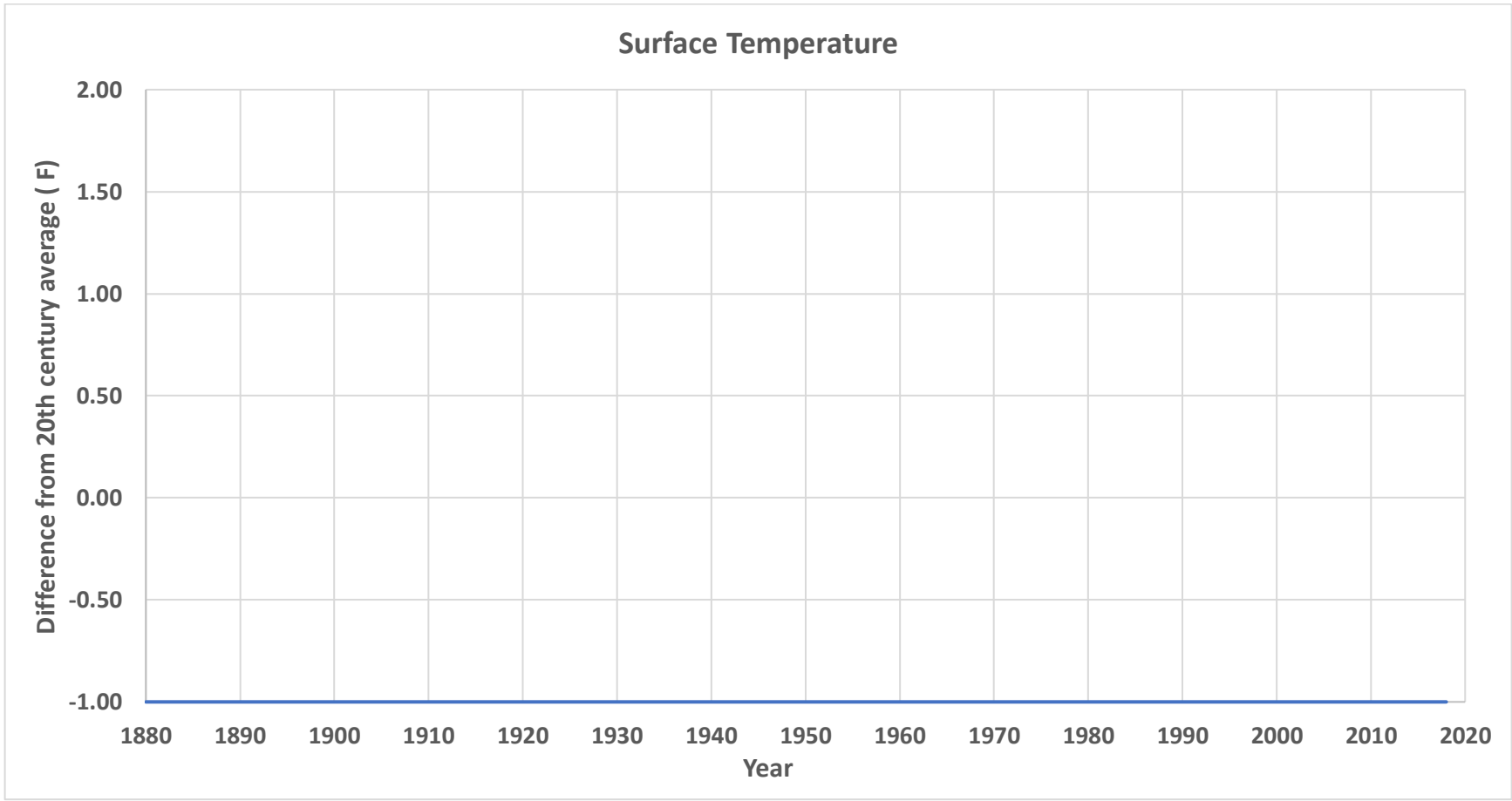
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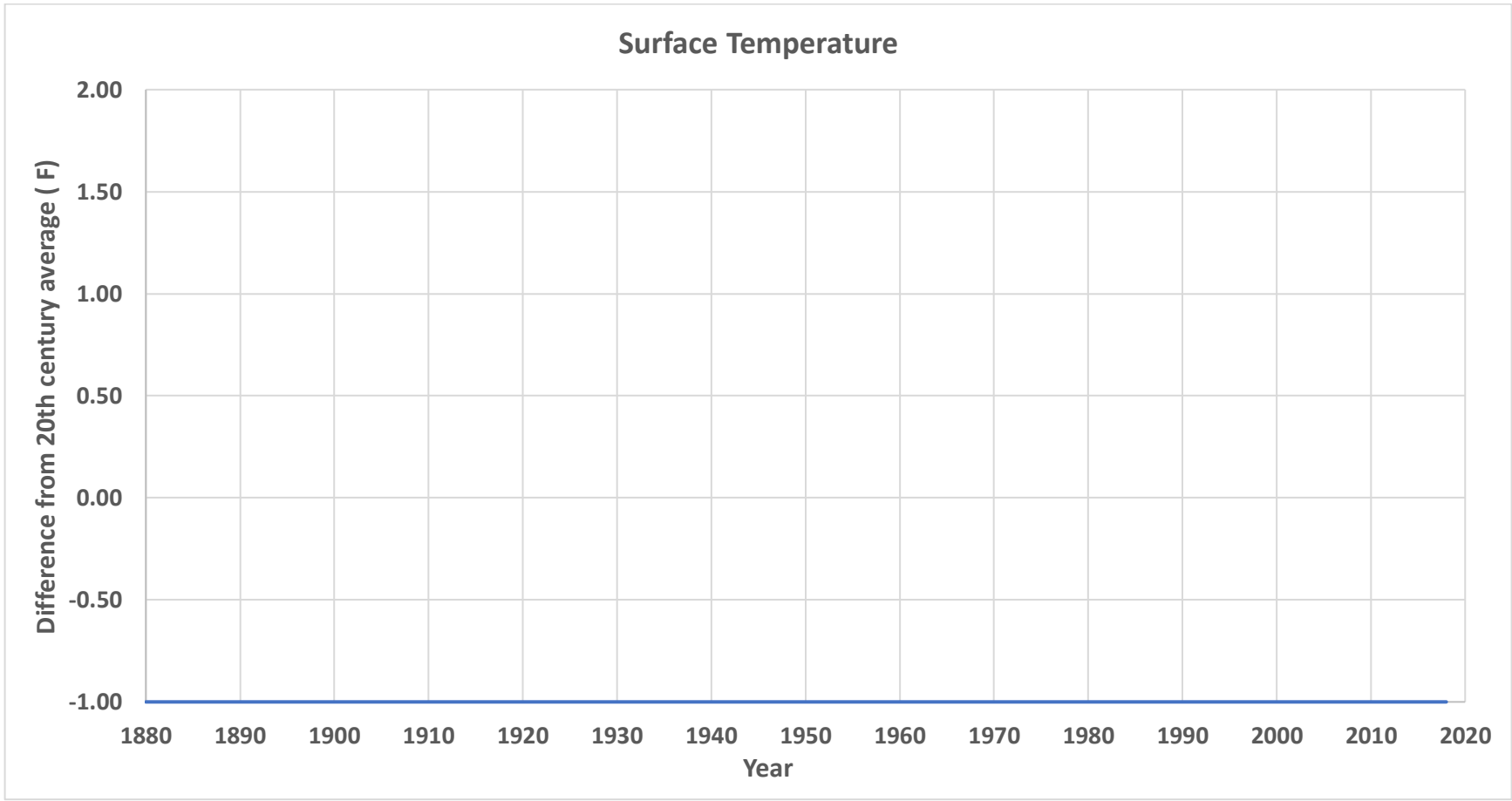
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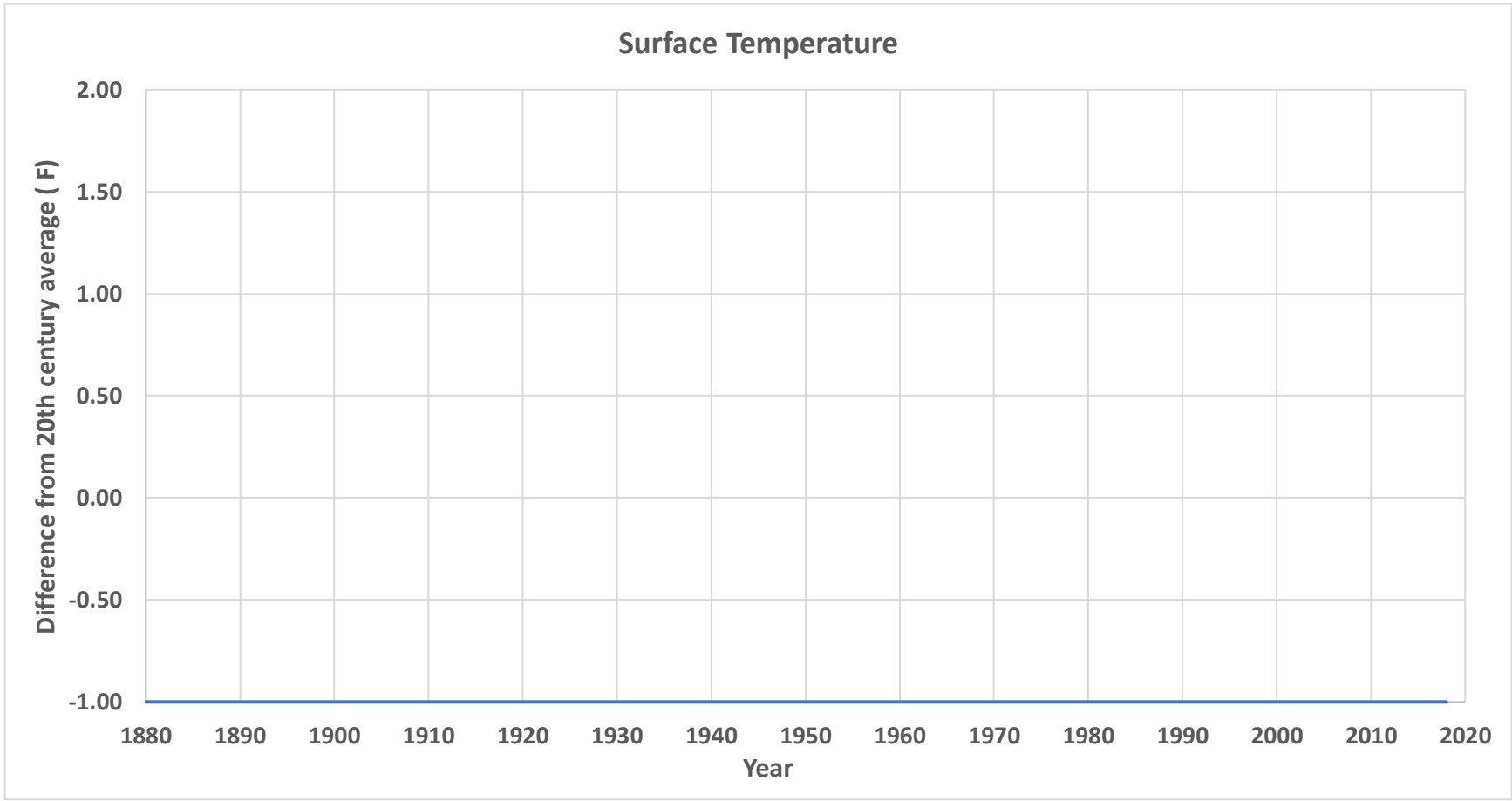
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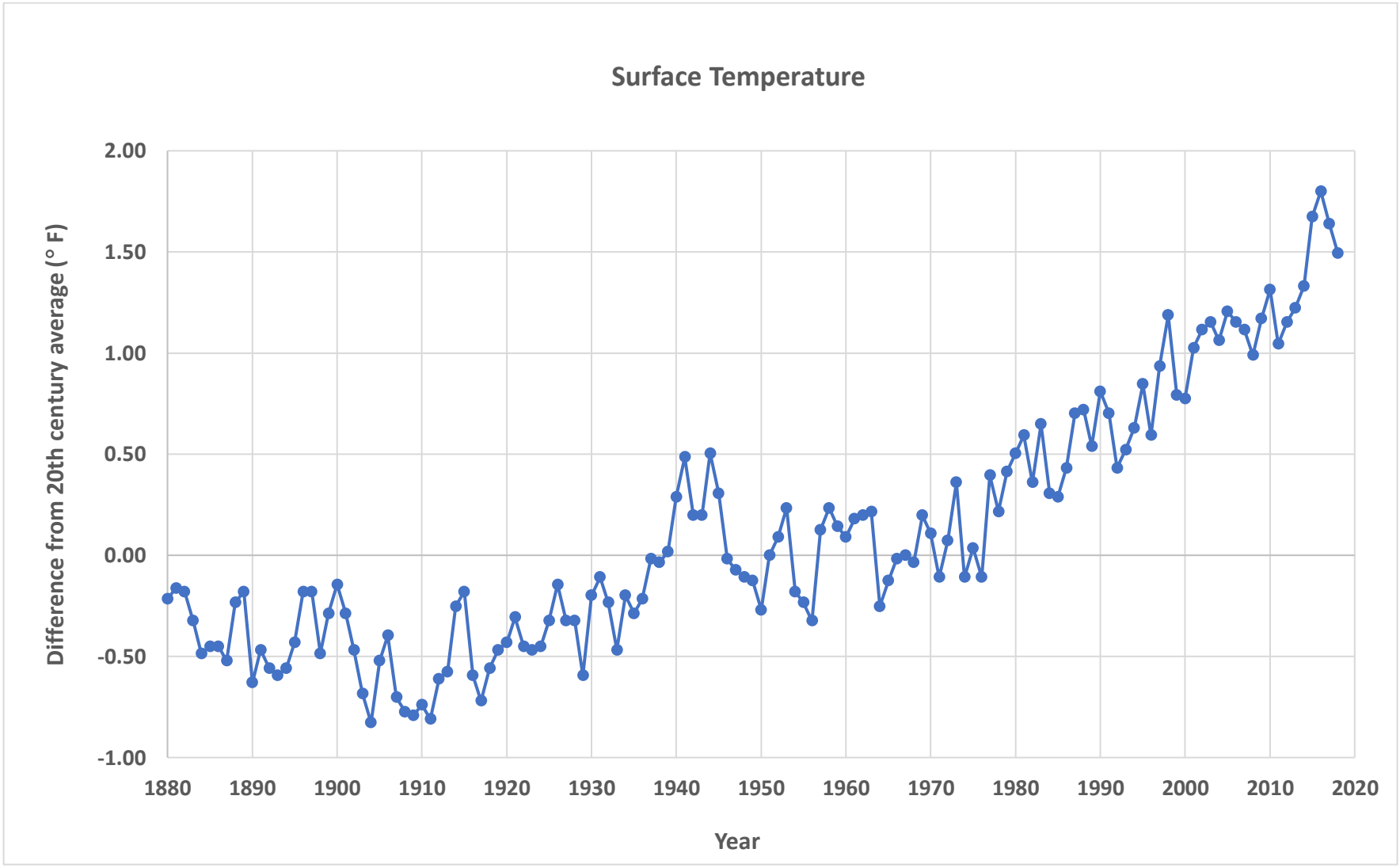
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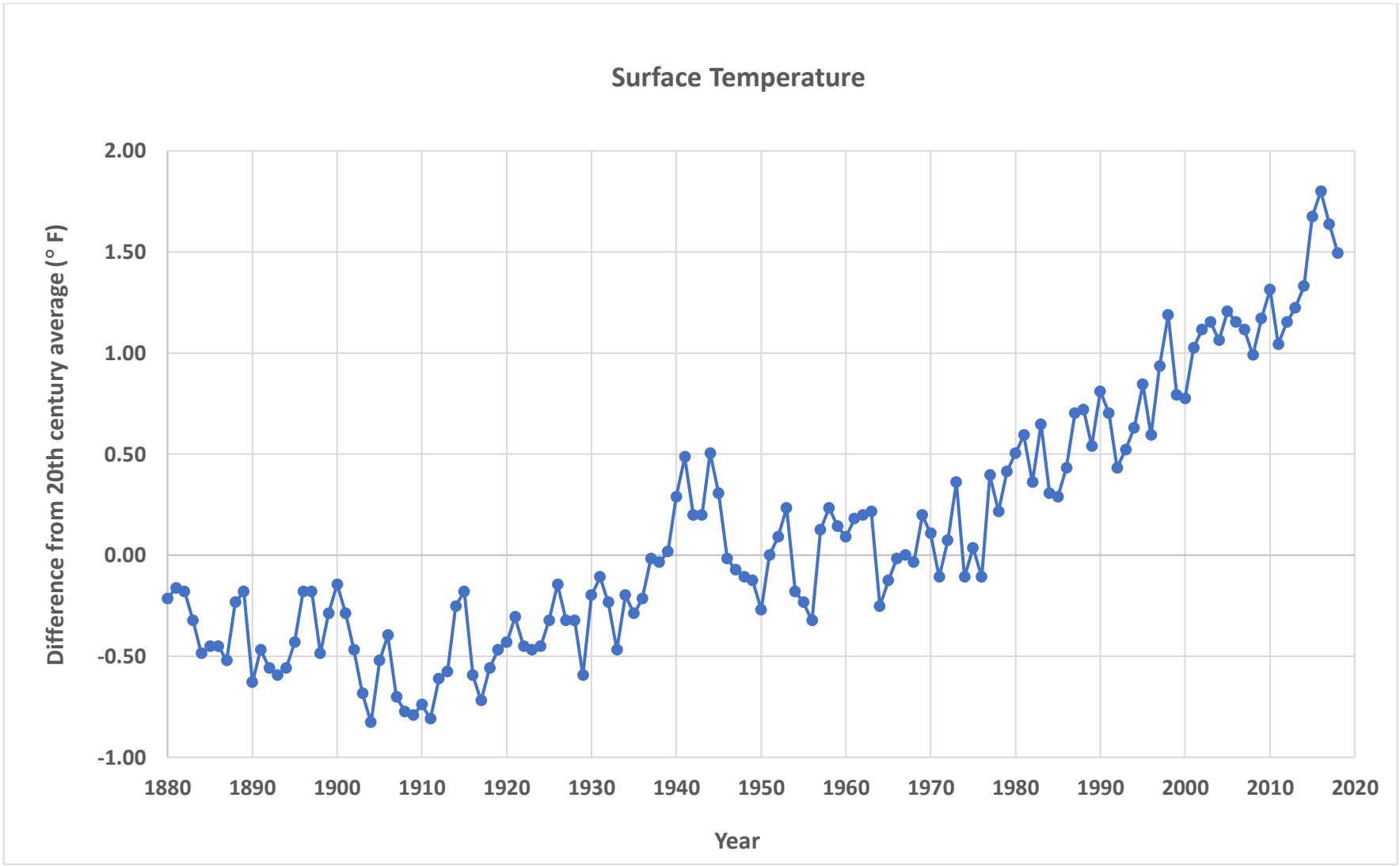
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