



WEEK 12

CLIMATE CHANGE- GLOBAL TEMPERATURE DATA

This page contains the material to help you learn how scientists use data as evidence to understand climate change.



OBJECTIVES

1. To analyze global temperature data to see if Earth's average global temperatures are really increasing
2. To analyze CO₂ data to see if atmospheric levels are really increasing
3. To correlate CO₂ data with global temperature to see if there is a relationship
4. To compare current trends with rates of change during pre-historic periods using ice core data
5. To interpret what these results mean for understanding current climate change
6. To learn basic shortcuts and graphing in Excel



READINGS

1. [Handout to investigate global temperature](https://nsc.instructure.com/courses/3336615/files/221170761/download?download_frd=1) ↓
(https://nsc.instructure.com/courses/3336615/files/221170761/download?download_frd=1)
2. [Global surface temperature change](https://nsc.instructure.com/courses/3336615/files/221168019/download?download_frd=1) ↓
(https://nsc.instructure.com/courses/3336615/files/221168019/download?download_frd=1)
(Hansen et al. 2010)
3. Statistics vignette- [regression](https://nsc.instructure.com/courses/3336615/files/221170800/download?download_frd=1) ↓
(https://nsc.instructure.com/courses/3336615/files/221170800/download?download_frd=1)
4. [Great Basin Paleoclimate and Aridity](https://nsc.instructure.com/courses/3336615/files/221170809/download?download_frd=1) ↓
(https://nsc.instructure.com/courses/3336615/files/221170809/download?download_frd=1) Linked to Arctic Warming and Tropical Pacific Sea Surface Temperatures (Lachniet et al 2020)



LECTURES

- [Using Regression to Understand Climate Change](https://ed.ted.com/on/9XYGrMVX) [_ \(https://ed.ted.com/on/9XYGrMVX\)](https://ed.ted.com/on/9XYGrMVX) [28 min]
- [Relationship between Carbon Dioxide Concentration and Global Average Temperature](https://ed.ted.com/on/YWSVGnAO/) [_ \(https://ed.ted.com/on/YWSVGnAO/\)](https://ed.ted.com/on/YWSVGnAO/) [20 min]
- [Vostok slides](https://ed.ted.com/on/kvEvH8nc) [_ \(https://ed.ted.com/on/kvEvH8nc\)](https://ed.ted.com/on/kvEvH8nc) [07 min]



ACTIVITIES

- Complete the handout to investigate global temperature, use complete sentences in your explanations
- Submission of climate change handout, word file name includes your name. Handout should include at least until activity B if this assignment is your introduction to excel and working with data.
- Submission of excel file, file name includes your name
- Assignment will be marked with 2 points if is complete, 1 point if it is submitted but incomplete, and 0 points if it was not submitted. You will have the opportunity to revise if incomplete.

Points 2**Submitting** a file upload

Due	For	Available from	Until
Apr 18	Everyone	Apr 6 at 11:30am	May 7 at 11:59pm

+ [Rubric](#)