

Climate change is real and it's caused by humans

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From Judy Weiss Brookline, Mass.

I appreciate Aaron Breitreutz's thoughtful analysis of climate change. However, he stumbled over one detail, causing a faulty conclusion.

Breitreutz explained that weather is short term, climate is long term. He correctly said: People arrive at different measurements of climate depending on time frames used for averaging temperatures (30 or 300 years). Using 300 years, we don't see a warming trend. Using 30 years, we do see warming. Breitreutz claims this proves climate scientists can't conclusively measure climate change. His conclusion is false.

Sound educated judgment about how to analyze temperature measurements is as crucial as using accurate, well-calibrated measuring devices. Choosing a time period for averaging measurements requires expert, educated judgment. Becoming an expert takes years of training.

Educated judgment leads to meaningful averages that reveal how much the climate has changed. Anyone who suggests averaging temperatures over 300 years, instead of 30 years, is either not an expert in climate studies, or is trying to dilute the warming caused by the industrial revolution (150 years ago) by adding in 150 years of pre-industrial revolution temperatures.

Climate science is a complicated field. Americans talk as if it just involves setting a thermometer on our windowsills. It's hard for Americans to accept that climate science has progressed beyond Ben Franklin's almanac.

Also, Americans are taught: We're all equal, with equal chances of growing up to be president, and have equal rights to express our views.

But in the field of climate science, expert statements are facts and non-climate scientists may express opinions as long as their opinions are consistent with scientists' facts. Otherwise our opinions are as meaningless as 300-year temperature averages.

The lesson: Climate change is real, caused by humans, and fact-based opinions argue for carbon pricing to cut emissions.

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