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# Skeptics Failing to Get Anti-Climate Science Agenda into Texas Classrooms

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Teachers are largely ignoring a Board of Ed demand to spread doubt about man-made global warming, a SolveClimate investigation finds

BY JULIA HARTE, INSIDECLIMATE NEWS

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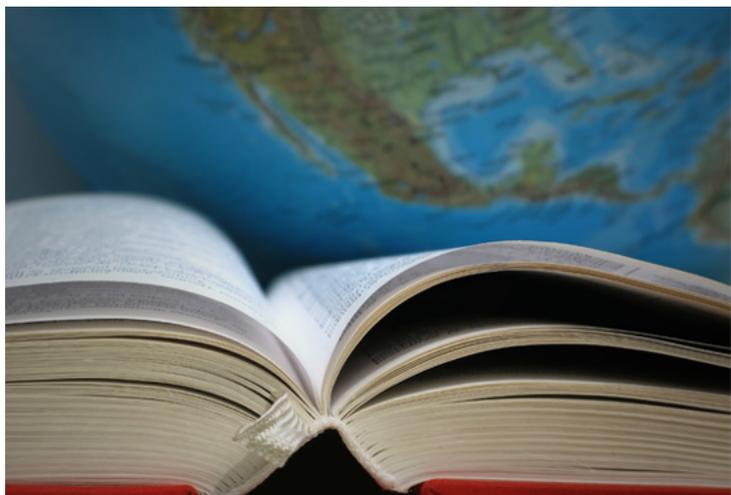
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Last March, the Texas State Board of Education approved controversial language in the curriculum requiring teachers to cast doubt on human contributions to climate change. Now, more than one year later, it appears that rule is being largely ignored by educators across the state, a SolveClimate examination has found.

In fact, dozens of inquiries failed to turn up one science teacher in Texas whose approach to the subject of climate change has been at all affected by the amendment to the state science curriculum. The standard has also done nothing to turn students against the consensus view of man-made global warming, according to educators.

Some even said that their students are more receptive than ever to the established science.

"It's too 'in the news' for it to go away," said Paul Caggiano, an environmental science teacher at St. Pius X High School in Houston. "When I ask a kid to do a current events report, they're not going to come up with a

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skeptical view of climate change. They're going to see it for what it is."

Still, as the scientific consensus continues to build worldwide, skeptics of global warming show no sign of giving up their fight against teaching the mainstream view in classrooms in Texas, and across the United States.

### **Skeptic-Led Efforts Aim for 'Objective Review' of Science**

On May 25, the Mesa County School Board in Colorado **received** a 700-signature petition from a local lawyer and conservative activist demanding that climate change no longer be taught as scientific fact in Mesa County schools.

Similarly, in March, the South Dakota State Legislature **passed a bill** urging teachers to make clear to their students that "global warming is a scientific theory rather than a proven fact." And earlier this year, the **Kentucky Science Education and Intellectual Freedom Act** was submitted to the state legislature in an effort to encourage debate over "the advantages and disadvantages" of scientific theories being studied.

Though the Kentucky bill died in committee, it was modeled after a **similar bill**, which became Louisiana state law in 2008, and encouraged teachers "to help students understand, analyze, critique, and objectively review scientific theories," such as climate change.

If these laws sound somewhat redundant —

promoting lessons and teaching techniques that most educators already use — it's because they are.

Beyond merely encouraging additional "analysis" and "objective review," of course, they're intended to get teachers to devote more class time to arguments against the existence of anthropogenic, or man-made, climate change. So was the case in Texas.

### **New Climate Language 'Unnecessary,' 'All Politics,' Teachers Say**

In



March 2009, the **Texas State Board of Education** changed the language in the state curriculum to force teachers to analyze and evaluate "different views on the existence of climate change."

Even in that notoriously conservative state, however, the effort appears to be failing.

Jamie Biel, an environmental science teacher at Lake Travis High School in Austin, for instance, said the amendment was "unnecessary."

In her classroom, Biel emphasizes that the

Earth's climate undergoes periodic natural change, she said. But she also makes sure that students are aware of the empirical data indicating that human activity has accelerated the rate and degree of climate change the planet is currently experiencing.

"We take great pains to make sure we don't say 'global warming,' because that turns a lot of people off. They'll stop listening if they hear that," Biel said.

The amendment didn't affect her own teaching method. "I've always encouraged my students to do their own research and fact check and fact check again, and really explore a topic," she explained. Nor, Biel said, has it changed the approach of any other environmental science teachers she knows.

Though Biel said she encounters resistance to the theory of man-made climate change "in every walk of life," the students are often most interested in learning the correct facts about the situation.

"They're usually just trying to gather more information so they can have a rational discussion, especially if they're hearing one thing at home and one thing at school," Biel said. "They have a hard time being able to separate the wheat from the chaff ... That's mainly what

they're asking: 'Please help us figure out what's true and what's not.'

According to Susan Buhr, director of education outreach at the Boulder, Co.-based **Cooperative Institute for Research in Environmental Sciences**, respectful dialogue is the "most important strategy" available to teachers of climate change.

"You can't let someone who denies the evidence for climate change hijack the classroom, but it has to be a place where people can actually discuss things, whether they reflect the mainstream or not," said Buhr, who works with teachers to promote effective and accurate climate science education.

For Buhr, it's vital that students understand the nature of science. A pernicious myth about scientific theories is the notion that they can be proven absolutely. That popular fallacy, Buhr said, enables climate change deniers to argue that man-made climate change is illegitimate because it has never been "proven."

"The job of science is to construct the explanation that best fits the evidence," Buhr explained. "There is never any absolute proof

about anything. We don't know everything about gravity, but that doesn't mean we don't believe it."

Confusion over the nature of scientific theories has caused deniers of anthropogenic climate change to adopt a position more ideological than scientific, she said.

"A lot of it has to do more with a personal or political identity than it does with real, intellectual consideration of the topic," said Buhr.

Indeed, the Board of Education's amendment urging teachers to teach "different views on the existence of climate change" is "all politics," according to Caggiano of the St. Pius X High School in Houston.

Since he teaches at a Catholic school, Caggiano doesn't have to adhere the state curriculum standards. But even if did, he says, he wouldn't worry about the mandate.

"It's just a piece of paper. I don't think you're going to find teachers who have been teaching environmental science who are going to change their lesson plans because of it," he said.

Nor does Caggiano think spending more class time on climate change skepticism would change

students' ultimate conclusions on the topic. The evidence for dangerously quick climate change is too ubiquitous for students to ignore, he said.



After teaching the basic principles that govern Earth's climate and the various ways humans have affected the environment, Caggiano shows his students two documentaries about man-made climate change, *An Inconvenient Truth* and *The Eleventh Hour*, and asks them to take pro or con sides on the messages in the films.

Even in Houston, "a big oil and gas town, and very much entrenched in that mentality," 95 percent of his students agree that human activity is the cause of the current rapid changes in the climate by the

end of the course, Caggiano said.

Most students also reach that conclusion in Colleen Krockenberger's classes at Memorial High School, a public school in Houston.

Like Biel, Krockenberger, an environmental science and biology teacher, has found that the term "global warming" tends to put students on edge. Instead, she acknowledges that climate change causes warming trends in some parts of the planet and cooling trends in others, though it does have an average overall warming effect on the planet. And she explains that, while climate change is a natural process, human emissions of greenhouse gases can enhance it.

Krockenberger presents her students with data from governmental scientific bodies that track changes in temperature and greenhouse gas emissions over time, but lets the students work out for themselves the factors causing the current climate change.

"Because it's such a polarizing topic, I try to basically give students the facts and let them decide on their own what they really support and believe," she said.

At the beginning of the year, Krockenberger adds, a lot of students say they simply "don't believe in" anthropogenic climate change. But after they examine actual data for the first time, she said, almost all students come around to the mainstream scientific view.

"Once I take the science that seems to usually be too much jargon for them to understand, and break it down in a way that they can comprehend, they start to realize what is going on, [that] this is a natural process, but we're adding to it in a way that enhances it," she said. "It's almost like a 'one plus one equals two' logical progression."

### **Educators Worry About More Restrictive Changes**

Like Biel and Caggiano, last year's amendment to the Texas science curriculum standards has affected neither Krockenberger's teaching approach nor that of any teachers she knows.

"I think it was misworded, because climate change is a natural process — there's just no doubt that it exists," Krockenberger pointed out.

Many educators Krockenberger knows have watched the Board of Education's recent decisions with alarm, she says, and worry about whether more restrictive curriculum changes lie in store. But she thinks their alarm may also impel teachers to get involved with the group, and ensure they have a louder voice in future

decisions.

And when it comes to the state's long-term future — its students — Krockenberger is very hopeful.

"A lot of the kids are getting their information from news sources these days, and the amount of misinformation out there is really going down. I feel like my kids are coming in with a slightly better understanding of what climate change is, and what impact it can have," she said.

"More and more, I'm noticing that even my younger students have a stronger grasp of the science."

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