Student 5: Low Achieved

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The past explains the future.

The issue:

Just how will the increases world wide of carbon dioxide in the atmosphere affect our weather, climate, and life in general? The best evidence comes from the PETM (Paleocene-Eocene Thermal maximum) 55.8ma when carbon dioxide levels rose quickly and there were major environmental effects. This carbon dioxide increase mirrors what is happening today.

Evidence from the PETM (55.8ma) (1)

During the PETM, around 5 billion tons of CO_2 was released into the atmosphere per year. The Earth warmed around 6°C over 20,000 years; although some estimates are that the warming was more like 9°C. Using the low end of that estimated range, the globe warmed around 0.025°C every 100 years. Today, the globe is warming at least ten times as fast, anywhere from 1 to 4°C every 100 years. In 2012, our fossil fuel burning released 35 billion tons of CO_2 into the atmosphere. How fast carbon enters the atmosphere translates to the how fast temperature increases, and the environmental and societal consequences of warming at such a break-neck speed could be devastating.

My personal response:

We are told that increasing carbon in the atmosphere will have a detrimental effect on Earth. When we have a look in the past to the PETM we see this response is true. All the projections by scientists have happened in the past and are linked with large amounts of CO_2 going into the atmosphere. I think global warming is therefore a fact and we need to do something about it. (2)

A societal response:

Politicians need to take heed of the scientific evidence. Too often we hear “global warming is not happening” or that the “models are not correct” or “economics must come before environmentalism.” All of these are extremely dangerous stands made by burying our heads in the sand. The evidence is out there.

Could we become extinct? The answer is a definite yes. We need to respond now and do something about it. Trust geologists. (3)