

Stanford University physicist Robert Laughlin says governments – and people generally – should proceed with more humility in dealing with climate change. The Earth, he says, is very old and has suffered grievously: volcanic explosions, floods, meteor impacts, mountain formation “and all manner of other abuses greater than anything people could inflict.” Yet, the Earth is still here. “It’s a survivor.”

Writing in the summer issue of the magazine *The American Scholar*, Prof. Laughlin offers a profoundly different perspective on climate change. “Common sense tells us that damaging a thing as old as [Earth] is somewhat easier to imagine than it is to accomplish – like invading Russia.” For planet Earth, he says, the crisis of climate change, if crisis it be, will be a walk in the park.

Relax, Prof. Laughlin advises. Let it be. “The geologic record suggests that climate ought not to concern us too much when we gaze into the future,” he says, “not because it’s unimportant but because it’s beyond our power to control.” Whatever humans throw at it, in other words, Earth will fix things in its own time and its own way.

Prof. Laughlin is the co-recipient of the 1998 Nobel Prize for physics. Brilliantly imagined, incisively expressed and vastly entertaining, Prof. Laughlin’s essay on climate change (What the Earth Knows) has been adapted from his forthcoming book on the future of fossil fuels. (His 2008 book, *The Crime of Reason*, documented pervasive government and corporate “sequestering” of scientific knowledge.)

You can’t discuss climate change, Prof. Laughlin says, without looking backward across geologic time. He puts ordinary rainfall into perspective to illustrate the point. The rain that now falls on the world in a normal year measures a metre – “about the height of a golden retriever.” The rain that has fallen since the beginning of the Industrial Age measures 200 metres. The rain that has fallen since the age of dinosaurs would fill Earth’s oceans 20,000 times. The rain that has fallen since oxygen formed would fill the entire world 100 times.

Yet, the amount of water in Earth’s oceans hasn’t changed significantly in all of this time. In Earth’s most recent glacial melting, 15,000 years ago, the sea level rose by one centimetre a year for 10,000 years – and then abruptly stopped. The heat required to produce this melting was 10 times the total energy consumption of all human civilization.

Excess carbon in the atmosphere? It happens all the time. And Earth deals with it. Anything that humans do to mitigate it will be a waste of time. Governments and citizens delude themselves when they think they can make a difference.

“The Earth doesn’t care about any of these governments or their legislation,” Prof. Laughlin writes. “It doesn’t care whether you turn off your air conditioner, refrigerator and television set. It doesn’t notice when you turn down your thermostat and drive a hybrid car.

“These actions simply spread the pain over a few centuries, the bat of an eyelash as far as the Earth is concerned, and leave the end result exactly the same: All the fossil fuel that used to be in the ground is now in the air and none is left to burn.”

The Earth will dissolve the bulk of this atmospheric carbon dioxide in its oceans, a process that will take roughly 1,000 years. (The oceans now hold 30 trillion tons of carbon – 30 times the world’s coal reserves.) Over tens of thousands of years, the Earth will transfer excess carbon dioxide into rocks, a process that will ultimately restore carbon dioxide concentrations to the same level that prevailed before humans existed.

How do we know the Earth will turn excess carbon dioxide into limestone? We know because the world's carbon dioxide levels are determined "by a geologic regulatory process." The proof is in Earth's rocks.

Prof. Laughlin concedes that excess carbon dioxide could – "in a handful of examples" – contribute to the extinction of species. He cites corals as an example. But he insists that keeping carbon in the ground for a little while longer won't make much difference to animal or to organism.

The real extinction problem, he says, is human population pressure: habitat destruction, pesticide abuse, overharvesting, species invasion. This is a distinction of great importance because it might help direct environmental concern to goals that people can actually achieve: Forget Gaia, save a marsh; forget the planet, save a frog.

The Earth regulates climate change in geologic time, Prof. Laughlin says, "without asking anyone's permission or explaining itself." If the Earth determines that Canada should freeze again, the best response would simply be to sell your Canadian real estate. The Earth moves on, Prof. Laughlin says. So should we.