Climate and Thinking With Your Own Head

An Open Letter to the Citizens of Utah

by Dr. Christopher Essex

SPPI
Science & Public Policy Institute
"science-based policy for a better world"

SPPI Original Paper ♦ October 4, 2010

CLIMATE AND THINKING WITH YOUR OWN HEAD

An Open Letter to the Citizens of Utah

by Dr. Christopher Essex | October 4, 2010

WHAT THIS IS ABOUT

I have been invited to share with the people of Utah some of my views and experiences from over the last twenty years on the subject of climate. Let me begin by discussing a relative of mine. He was a smart, self-made, well-educated, levelheaded man, whose native language wasn't English. I could always count on him to penetrate the fog from confusion and nonsense like a laser to find the true lie of the land. He would often say to the younger generations, which included me, "think with your own head." I have always preferred his expression to, "think for yourself." The latter sounds too vain or self-indulgent, like helping yourself to an extra serving of chocolate custard. On the other hand the former seems more like a duty, or maybe even a criticism: have you been avoiding your homework by farming out your thinking to other brains; have you let yours go weak from lack of exercise; shape up!

Thinking with your own head challenges all opinions, especially your own. That kind of thinking is a responsibility central to democracy, because if you farm out your thinking to others, what do you bring to the table? Why not just let those others do your voting too? One of the many extraordinary and wonderful qualities of the United States of America is that it was founded by independent, levelheaded people who believed that doing the thinking was not something relegated to a privileged elite. Cultivating your own mind and doing your own thinking was your responsibility. Freedom was something to be earned between your ears as well as in the world around you.

Thinking with your own head is a responsibility central to democracy, because if you farm out your thinking to others, what do you bring to the table?

Doing your homework remains an obligation today. Sometimes reading newspapers, or executive summaries is not enough. Sometimes you have to school yourself in the basics, when unfamiliar technical matters become the central issues of the day. There has been far too little self-schooling on the issue of climate over the last twenty years. There has been too little homework and too much decision by gossip. Any promised dialogue on science has invariably degenerated into whispering about the merits of individuals instead of discussing scientific facts. This avoidance of thinking with your own head has led to an orgy of thinking with the heads of others. Instead of being contemptuously dismissed, the well-known fallacy of *ad hominem* reasoning has become the gold standard, while the actual public scientific understanding has languished at the grade school level it was at in the early nineties. There

has been far more than enough time to substantially advance beyond the old tortured bromides about computers, greenhouses, and glaciers if people had been gradually sharpening and deepening their understanding over the past two decades. Appallingly, this frozen public mental state frames the very programs of scientific research themselves through the funding schemes that express what policymakers want!

> ***Any promised dialogue on science has invariably degenerated into whispering about the merits of individuals instead of discussing scientific facts. This avoidance of thinking with your own head has led to an orgy of thinking with the heads of others.***

For good or ill, climate has grown to become a central issue over these decades. Claiming that people are poor and helpless beginners who need experts to think for them is years past its best before date. But this claim is just great if you believe that only an elite is capable of making intelligent decisions and the rest should just shut up and do as they are told. Wasn't that how the aristocracy worked in the 18th century, when the privileged few did the thinking? People thinking with their own heads have always been a problem for those who crave power. Today they can shut those troublemakers down by invoking expertise instead of inherited nobility. Either way you can forget about democracy.

But now it's time for the good people of Utah to make democratic decisions of their own that impinge on the domain of climate experts. The outcomes can significantly affect your lives. How should you approach such and issue? After sharing some experiences on how this inherently scientific issue continues to be twisted into *ad hominem* nonsense, I conclude with some small suggestions on how to get back to the truth of things. If you follow my suggestions, you will have a much better chance at navigating through this confusing topic, and you will help free scientists like me from a sociopolitical nightmare that has probably set science back at least a generation.

Consensus Confusion

The United Nation's Intergovernmental Panel on Climate Change (the IPCC) headed by Rajendra Pachauri, is the organization of interest for those who don't want too much democratic independent thinking. Their motto should be, "leave the thinking to us." Recently another UN commission reviewed the IPCC and found its approach wanting on a number of counts. Pachauri replied defensively that, "the scientific community agrees that climate change is real."

So here we go. This your first test. Do you accept the words of this person in a position of authority or do you notice that his statement is entirely empty? Do you want to think with your own head, or do you prefer letting your betters do the thinking for you? If you are ready for the former, just ask whether anyone (never mind just scientists) ever claimed climate change is not real or even surreal. Of course no one has. So why would an intelligent highly educated man defend his organization with such a meaningless statement? Confusing, isn't it?

You are not alone if you are a bit confused about climate change, or global warming, or whatever it is that makes celebrities recommend things like using only one square of toilet paper at a time to save civilization. I'm sympathetic—about the confusion, not the toilet paper. I find it confusing too and I am supposed to be an expert. But some, out of ignorance or political motives, would charge that I am not an expert. They'd claim that I don't know what I am talking about on the science of climate. On at least this one point I agree with them. The catch is that they don't know either. On this subject no one knows.

Let me justify this charge by quoting from the most marvelous *Third Assessment Report* of the IPCC:

> *In climate research and modelling, we should recognize that we are dealing with a coupled non-linear chaotic system, and therefore that long-term prediction of future climate states is not possible.*

The United Nation's Inter-governmental Panel on Climate Change (the IPCC) headed by Rajendra Pachauri, is the organization of interest for those who don't want too much democratic independent thinking. Their motto should be, "leave the thinking to us."

This can be found in Section 14.2.2.2, page 774, if you are interested. The Third Assessment Report, from 2001, is the one that ended all doubt. But the Second Assessment Report (1995) and the Fourth (2007) also ended all doubt. Perhaps there were outbreaks of fresh doubts in between. In addition, after each report was released, important people widely proclaimed, "the debate is over." It's entirely unclear whether a debate ever took place, but count on the debate being declared over yet again when the fifth assessment report comes out in 2014. But bold declarations not withstanding, how can climate change be understood beyond doubt if prediction is fundamentally impossible? What is actually going on? Thinking with your own head begins with asking simple questions.

This quotation represents the *official* consensus. You know, that's the position where all the scientists within the local group of galaxies sign in blood that the one true truth provided to us by our climate overlords is really, really true. And by classical Gore-think, anyone who

thinks otherwise does not exist and is in the pay of oil companies. That always reminds me of Theorem II of the Pejorative Calculus that states that Alexander the Great did not exist and had an infinite number of legs[1].

Thinking with your own head begins with asking simple questions.

The official consensus position is more skeptical than most of the skeptical scientists are! Who wouldn't be confused by that? Ironically, it's clear that you would get into trouble uttering this consensus position in public, because the minions of our climate overlords would immediately denounce you as a "denier" of the "consensus" if you did.

DON'T HOLD YOUR BREATH

You could appeal to their sense of fair play or commonsense by saying something like, "Hey, I only had good intentions in telling you about this." Yeah. See how far that gets you. Or, you could try something like, "But this is the consensus position. It's straight from the UN's great book of climate authority itself." Let me know if that works for you, but don't hold your breath. They don't actually care. There's a narrow party line, which I have described elsewhere as the Doctrine of Certainty[2]. The Doctrine is a narrower free-floating fanatical folklore that is only loosely connected to the IPCC's main science reports, although it's alleged to be rooted in them.

There's a narrow party line, which I have described elsewhere as the Doctrine of Certainty. The Doctrine is a narrower free-floating fanatical folklore that is only loosely connected to the IPCC's main science reports.

To test this, ask one of the minions some questions. What did the IPPC scientists actually agreed to? Which scientists agreed to it? Can he or she (without Googling) even name one scientist of the vast number said to be party to it? You will be amazed at how uninformed the minions are relative to their passions. Do they know that notorious climate "deniers" are routinely counted in the consensus tally? Oh, they will say something like it doesn't matter, because "deniers" don't exist and have an infinite number of legs.

---

1 Joel Cohen, "On the Nature of Mathematical Proofs," in "A Stress Analysis of A Strapless Evening Gown", ed. Robert A. Baker Prentice Hall, 1963.

2 Christopher Essex and Ross McKitrick, "Taken by Storm: the troubled science, policy and politics of global warming," Key Porter 2002, 2007.

Overturned Applecarts

I'm not saying that there aren't good honest scientists who think that everything is relatively clear and nearly settled according to the Doctrine. The poor dears mean well, but they're just wrong. Don't be hard on them. Scientists are wrong quite a lot. Being wrong is an occupational hazard of the job. Of course, even I could be wrong about this; but you know I'm not.

Sometimes in science all of the scientists, or at least most of them, are wrong about the same thing. Despite their consensus, the whole bunch is just out to lunch. This actually happens more than people like to think. So every now and again the entire applecart gets flipped over by some lone scientist or two, causing a big intellectual wreck, spilling opinions, careers and academic loftiness all over the academic landscape. But scientists are experienced. There is a particular side of arrogant condescension that they prefer to be on, so they quickly tidy up the mess and rebuild a fresh consensus around a completely new thing. This is known as a *paradigm shift*, which is just a fancy way of saying that the scientific community had egg on its face and quick action was taken so as not to look too undignified.

One of a vast number of classical examples is continental drift. Alfred Wegener proposed it in 1912. His idea was that the solid ground under our feet should float like a cork and drift over the planet over thousands of millennia. What a crazy idea! Or at least that is how it seemed to many in the scientific community even until after Wegener's death. They even had a scientific conference devoted entirely to how crazy Wegener's idea was. But a shift happened after Wegener died. Now we teach continental drift to children, and everyone acts as if it's completely obvious.

Sometimes in science all of the scientists, or at least most of them, are wrong about the same thing. Despite their consensus the whole bunch is just out to lunch.

While there are many celebrated examples like this, there are far more that are all but unknown. So let me come to the point: the cycle of experts forming a mistaken consensus then later being found out by one or two revolutionary outsiders is normal and crucial to the advance of knowledge. It has happened over and over in the history of science and it is surely happening in some fields as you read this. While it's fun to make light of the repeated discomfiture of established experts—honestly I could do it all day long—science has nonetheless learned from its troubles over the centuries. After each cycle we see all the clearer the wonders of our world as our knowledge deepens. After many, scientists now recognize that revolution is as important as consensus is to science. There is a permanent tension between consensus and revolution that drives us forward, and which is always present in the hearts and minds of every scientist. It's complicated, but there is normally a grudging respect among scientists for those who question established thinking. While that

respect may be too little too late at times, all serious scientists know revolution is essential to how scientists do business.

Pejorative Calculus

So when we hear the Gore-think that skeptics don't exist and have an infinite number of legs, or we hear about a dubiously large number of same-thinking unidentified climate scientists, but who allegedly all agree to positions that no one attempts to understand, let alone can even articulate, we know that something foreign has been set loose to walk among the climate scientists. It's a throwback to the Middle Ages, tasked to defeat that revolutionary credo, not to mention the honest duty of all intelligent people to think with their own heads.

The authoritarians charge that thinking for non-experts is an arrogant and hubristic act of rebellion against their betters. But who decides who an expert is? Well, unnamed climate overlords do of course. Only those of privilege do the thinking and make the decisions and the rest had better do what they're told or else. This would have a familiar smell to the inhabitants of, say, the 13th century. But it has been devastating to modern independent mindedness too. I've seen bold professors from prestigious universities crumple into obsequious murmurings about not being an expert in climate science when challenged by this. What chance do laymen have when such intimidation is so effective?

The authoritarians charge that thinking for a non-expert is an arrogant and hubristic act of rebellion against their betters. But who decides who an expert is? Well, unnamed climate overlords do of course.

I'm not alone in becoming an expert by not believing in experts. But this authoritarian monster, out of the Middle Ages forbids this, returning us to a time when people knew their place. This foul thing has been my constant opponent for twenty years. Its spoor is everywhere. It's in newspapers and magazines. It's taken over national science organizations. It controls learned journals, and it's captured entire national academies of science. A few years ago I had a social conversation with the head of one such organization. Seeing that I was a bright and busy sort, he eventually asked me if I was a member of his grand institution yet. I told him that it would never happen. At first he wondered why, but as my opposition to the Monster became clear he agreed that indeed I would never be invited to join.

Someday scholars will study the extraordinary excesses of people and institutions of this period overcome by the fervor that the Monster has unleashed. Some of the excesses are petty: I know of the wife of one skeptical scientist who was denied service in a shop when it became known who her husband was. Some are serious: honest scientists have lost their

jobs, and careers have been destroyed because of this thing. There are blacklists of climate "deniers", brazen incitements by leading politicians and even learned journal editorials. A skeptical author was even put on trial for writing a skeptical book.[3] Recently Greenpeace hastily removed a message from its blog threatening skeptical scientists,[4] "We know who you are. We know where you live. We know where you work. And we be many, but you be few."

Honest scientists have lost their jobs, and careers have been destroyed because of this thing. There are blacklists of climate "deniers", brazen incitements by leading politicians and even learned journal editorials.

These abuses penetrate into scholarly journals where the logical fallacy of argument *ad hominem* is legitimized. In a recent example,[5] the truths of Nature were addressed through curriculum vitae material and publicly stated opinions assembled from the Internet. Skeptical positions were cast into doubt because they questioned the qualifications of those expressing them, instead of the content of the positions. While this kind of bar room bluster is regrettably not uncommon, argument *ad hominem* has no place in academic journals. The fact that it is there at all is a testament to the money and energy that has been relentlessly poured into the political marginalization of scientists for simply doing their jobs. What should be treated as foolishness or madness has been made mainstream by irresponsible people who should be ashamed of themselves.

Recently Greenpeace hastily removed a message from its blog threatening skeptical scientists, "We know who you are. We know where you live. We know where you work. And we be many, but you be few."

I don't think that I have ever heard a reply, when one is made at all, to skeptical arguments about questions of climate not dripping with arrogant condensation and argument *ad hominem*. If anything should make an independent minded person suspicious of what is being said, that should light up all kinds of warning lights. By making the issue perennially about persons and not the truth of statements we effortlessly return to the

[3] http://en.wikipedia.org/wiki/Bjørn_Lomborg.
[4] http://weblog.greenpeace.org/climate/2010/04/will_the_real_climategate_plea_1.html.
[5] http://www.pnas.org/content/early/2010/06/22/1003187107.abstract.

Middle Ages. This may get you by in politics or journalism, but it's utter rubbish for decisions on scientific issues. Next people will be thrown into a pond to determine whether they float.

The overlords don't want you to think for yourself; they want your fealty. They want a small elite to do the thinking. Yours is just to shut up, be afraid, and believe.

The overlords don't want you to think for yourself; they want your fealty. They want a small elite to do the thinking. Yours is just to shut up, be afraid, and believe. In exchange they grant virtue and absolution from your sin of being alive. Scientists can also receive prestige and lots of funding, while the reverse is also true if you are an uncooperative miscreant. That means that scientists who have been fighting to be independent will systemically have fewer publications, fewer awards, less (if any) funding, and lesser recognition, which makes trashy *ad hominem* comparisons perniciously fallacious on many levels.

Many scientists happily pay this price for independence simply because thinking with your own head is their job. While the climate overlords can't make you do what you don't want to do, they sure can make you wish you had. That is exactly what this nonsensical, steadily escalating skeptic-contrarian-dissident-denier-climate-criminal name-calling has been for. That's why there are threats. That's why there are blacklists. That's why there are entire well-funded websites devoted to making links between scientists who speak up and oil companies. Sadly the oil companies, being good sports, fund climate activists instead of the accused scientists. I am sure that we would be smeared for taking candy from babies if it would suit the cause.

While the climate overlords can't make you do what you don't want to do, they sure can make you wish you had. That is exactly what this nonsensical, steadily escalating skeptic-contrarian-dissident-denier-climate-criminal name-calling has been for.

Climategate and Kafka

The unauthorized release of the Climategate emails was made against this utterly deranged backdrop. It was a breach of personal confidentiality of course, but not a release of official secrets by any means. Moreover the contents were not at all surprising to cynics on the frontlines, but it was novel to actually have hard evidence for a change. Manipulation, deception, distortions and damage to the

scientific enterprise are now plain for all to see. "Hide the decline," has become a catch phrase on the Internet. Some of the modern climate story is so insane, politically tortured, and excessive that no one could believe it unless you saw the evidence with your own eyes.

Manipulation, deception, distortions and damage to the scientific enterprise are now plain for all to see. Some of the modern climate story is so insane, politically tortured, and excessive that no one could believe it unless you see the evidence with your own eyes.

It was such a boon to be able to actually point to something and be able to say, "see!" People really got it. It changed everything. A colleague I hadn't spoken to in years even stopped me on campus to shake my hand and congratulate me on my "vindication!" For the first time in decades, for some of us, a light appeared at the end of the tunnel.

We hoped for regrets, *mia culpas*, and assurances that something like Climategate would never happen again, not to mention some kind of action against its excesses. We wanted to see an end to the protected status certain scientists enjoyed, where they were above being wrong like a bunch of gangster "made men." But this was all too much to expect. The made men instead recriminated, whining that they were the ones now being mistreated, even calling their treatment "Orwellian." Accusing the mistreated of mistreatment is Alinskyian not Orwellian.

This whining of the privileged was paired with systematic underreporting of Climategate as the climate overlords circled the wagons. Then whitewash was painted thick onto everything that they could reach. After the objects of their embarrassment were safely under many gooey white coats, the all-clear was sounded by various op-eds and television talking heads proclaiming that it was all a big misunderstanding, taken out of context, and that the implicated were absolved of the "baseless" charges leveled by evil climate change deniers. I particularly enjoyed one such exoneration. The accused was absolved because he brought large grants into his university. They actually brazenly wrote that in their judgment for all to see.

Accusing those who you were mistreating of mistreatment is Alinskian not Orwellian.

After the all clear, the global catastrophe industry immediately returned to business as usual, generating once more their endless river of cultural pollution: tired headlines of the warmest this or that since whenever, cherry picked horror stories about glaciers and ice, etc.

Phase two was a political counterattack. The *ad hominem* study mentioned was unveiled, while Doctrine minions launched freedom of information demands against selected skeptical scientists. They cunningly demanded all of the personal email records of those scientists.

The unauthorized release of personal emails in Climategate gave them cover for this dirty trick. No legal request was ever made for the Climategate emails. Certainly Steve McIntyre and Ross McKitrick, who previous to the release, had innocently requested scientific data from the unit to whom the emails belonged, made no such request. Their request was instead normal, honest science. It asked for scientific data and information on how calculations were carried out on that data, in the interest of normal scientific transparency and reproducibility of very significant scientific claims and nothing more. Unfortunately their requests were not honored, which put the Climategate people in breach of normal scientific etiquette, if not scientific misconduct. Their highhanded contemptuous attitude toward such requests was made clear in the subsequent release of the Climategate emails.

The global catastrophe industry immediately returned to business as usual, generating once more their endless river of cultural pollution: tired headlines of the warmest this or that since whenever, cherry picked horror stories about glaciers and ice, etc.

In contrast, the demand for personal emails of climate skeptics by the minions of the Doctrine has nothing whatever to do with science. It's pure political tit for tat—a fishing expedition, which even if it does not pay off in some propaganda boon, reminds the skeptical scientists that it is better to shut up. If that were not offensive enough, one such demand fell on an institution not subject to freedom of information laws, but its director decided to act as if it were anyway. Funny how that goes, I would bet that the demand would be abruptly dismissed if it were for the emails of a climate made man.

Another cunning political move was to exaggerate the sensitivity of the Climategate emails, leaving the impression that this breach of personal confidentiality was as serious as a threat to national security. This gave politicians and media political cover to claim that they would not examine or comment on the contents of the emails because of higher morality. It was as if a judge dismissed a prosecutor's main evidence because the evidence was obtained illegally, and the serial perpetrators were thus set free. Of course people don't buy this, knowing full well that these actors haven't thought twice previously before reporting on released classified documents or other confidential documents. While this scandal was obscenely underreported, few who learned of it believed this ridiculous posturing. It was just more whitewash.

But such hype has consequences. Once hyped, vigorous action theatre was required to back up the crazy notion that a simple breach of personal confidentiality was as grave as a threat to national security. Police teams in at least two countries, with grim terms like "anti-terrorism" swirling around them, were activated and dispatched to hunt down the wicked perpetrators. And whom do you think they visited and interviewed? Why, the scoundrels McIntyre and McKitrick of course! Not only did it distract from the scurrilous revelations within the emails, but the optics put the appearance of criminality back on the side of the "deniers" where true believers always believed it should be. Moreover it sent the other skeptics a message that could not be misunderstood. This perfect Kafkaesque ending to Climategate is just another day on the job in climate change wonderland.

THE MOTLEY CREW

Scientists are just not used to this epic political manipulation and intimidation. But these stories do get around, even when they are mysteriously absent from many parts of the media. Scientists didn't sign up for this. It's not part of the job description. Is it any wonder that public statements on this topic from scientists have until recently seemed very one-sided? You would have to be a bit out of your mind to voice any big doubts in this environment… cue insane laughter.

This protracted political meddling has severally damaged science. And the UN IPCC is the biggest symbol of that meddling. We have been set back at least a generation, by staggering amounts of government money flowing into this field with strings attached.

This protracted political meddling has severally damaged science. And the UN IPCC is the biggest symbol of that meddling. We have been set back at least a generation, by staggering amounts of government money flowing into this field with strings attached. There is far more than what any oil company could cough up. A recent article by John Rosenthal of the Hoover Institution cites figures in the tens of *billions* of Euros per year in the EU alone[6]. I look forward one day to a full global accounting.

Compare that wealth and influence to the disorganized motley crew that has stood against the fervor for twenty years or more. They don't have a nickel between them. These few, from all over the world, many of whom I have had the honor and privilege to come to know over the years, are wonderful independent minded people who often argue with each other. You don't need to agree with them. They won't launch political attacks against you, unlike the, celebrities, activists, media and politicians who stand against them.

[6] http://www.hoover.org/publications/policy-review/article/43291#nogo.

The Crew's public relations have been terrible. They have been routinely smeared, in escalating personal attacks. And no one lifts a finger to defend them. Unbalanced public discussions giving the Doctrine free reign are endless. With no resources, terrible public relations, and all the cards stacked against them they have been soundly beaten in public relations and out politicked over and over for decades. Yet they don't go away. It is very enlightening to see how the Doctrine minions struggle to understand why.

It's confusing for them of course, because in their game it's the norm for Goliath to cunningly whine that he is smaller than David. They profess that skeptics are paid off, well funded and well organized, but their insiders know these are political lies. So they actually are completely puzzled. What they can't comprehend is that we aren't playing their game. This is not about politics for us. Every one of the underreported exploits on our side of things was to get at the truth, and not to score political points or improve public relations. If we were playing their "game," these moves would make no sense at all. The motley crew is in it for the real truth of Nature, not some moronic political game. It doesn't matter what our opponents' resources are, or how many governments have capitulated to them, they cannot win the truth of Nature with political dirty tricks, *ad hominem* hokum, or public relations dodges and lies. Nature won't play their game, and we won't either.

Yes, I have been told many times that in politics perception is reality. I am told by other scientists that we must join with the Doctrine to present a uniform opinion, and that we should spice it up to get the world to take us seriously. Some have gotten quite carried away with that over the years. To them I say, you have gone too far across the line into the world of politics. The game is now over; time to come home and help clean up your huge mess. To the politicians I say that if you don't let the scientists loose from this insane goal of having scientists speak uniformly in order to have a cheap political talking point, science, and whatever its public good, will whither and die.

Many have forgotten that in the natural world, where scientists ply their trade, reality is reality and the power of that reality dwarfs all political perceptions showing them for the silly human delusions they really are.

YOUR MISSION, SHOULD YOU DECIDE TO ACCEPT IT

The Monster is an *ad hominem* obstacle to you thinking with your own head. Fight it. Go ahead and indulge yourself; think for yourself. If you don't want a return to an 18th century authoritarian elitism, then here is a prescription that will get all of us back on the right track.

1. *Stop being afraid*. Doom is scary. But you can't think while afraid, and authoritarians don't want you to think. Many clever people are paid full time to cook up the scariest possibilities, ignoring all the rest. That's what some of the non-science working groups of the IPCC do. That's all they do. The IPCC does not do the good consequences of climate change at all. That should tell you something. Remind yourself that there are many possible dooms for humanity having nothing to do with humans or climate. Humans have always faced an uncertain future—nothing new in

that. Remember the IPCC quote above that we don't know and will never know. Clear your head. Stop being afraid.

2. *Think With Your Own Head.* Any fool can have an opinion. Try not to be fooled. It's all too easy for any of us. Whether others agree with yours or not, an informed opinion is an asset to everyone. Don't expect others to think for you. Do your homework. School yourself in the basics; build your thinking from that while limiting your dependence on the opinions of others as much as possible. Ask questions that undress pomposity. Distinguish between disputes over facts and disputes over interpretation. In the absence of dirty tricks, the former ought to be possible to resolve objectively. Acknowledge alternative interpretations from the same facts, and then strive for your best estimate of where the truth lies, but be open to revisions. Remember that putative cures can be worse than the disease. Weigh known unintended consequences the best you can. Then be sure to vote.

Stop being afraid. Doom is scary. But you can't think while afraid, and authoritarians don't want you to think. Many clever people are paid full time to cook up scary and not happy possibilities. That's what some of the non-science working groups of the IPCC do. That's all they do.

3. *Hands Off The Scientists!* Let all thinking people call for an immediate shut down of all political operations against skepticism, because any rational analysis has skepticism at its core. Henceforth skepticism and honest doubt should be promoted as good and proud things—the heart of thinking with your own head. Incitements against the skepticism of scientists, especially by influential people, must cease or be challenged. Challenge the term "denier," and other pejorative language like it.

These are things you can do. Having you standing up for these principles will make a greater difference than you know, and you will have the heartfelt thanks of me and many other scientists from all over the world gasping to do our jobs while fighting off the epic groupthink, aggression, and irrationalism of a poisoned zeitgeist.

Christopher Essex *is Professor and Associate Chair in the Department of Applied Mathematics at The University of Western Ontario. He is a former director of its Theoretical Physics Program.*

In 2003, he was invited to teach on the thermodynamics of photon and neutrino radiation at the UNESCO advanced school in Udine, Italy. He is also known for work on anomalous diffusion, especially on superdiffusion and extraordinary differential equations. He is co-discoverer of the superdiffusion entropy production paradox. He has also worked on applications of dynamical systems theory, such as chaos cryptography, and recently the limits of computation, among other applications of mathematics. He has recently organized sessions for the World Federation of Scientists in Erice, Sicily on different aspects of the limits of climate forecasting. He has co-chaired these sessions with Antonino Zichichi of CERN, and Nobel Laureate, T.D. Lee.

He built his first climate model in the 1970's, and held an NSERC postdoctoral fellowship in the Canadian Climate Centre's general circulation modelling group. He also held an Alexander von Humboldt Research Fellowship in Frankfurt, Germany. In 2002-03 he was a visiting professor at the Niels Bohr Institute in Copenhagen, Denmark, supported by a Danish National Bank foreign academic program.

He is an award-winning teacher and a recipient, with Ross McKitrick, of the "$10,000 Donner Prize" in 2002, for the book Taken by Storm: the Troubled Science, Policy, and Politics of Global Warming—now in its second edition. That book was a finalist for the 2002 Canadian Science Writers' Book Award. He is also coauthor with Robert Adams of Calculus: A Complete Course, 7th edition.

In 2007 and 2009 he was a guest at the Vatican, where he discovered modern mathematics encoded in the ancient floor tiles of the Vatican museum. His climate book was cited on the US Senate floor, and he has been denounced in the Parliament of Canada as a "denier" of climate science—listed under "Honors" in his cv. In 2007 he was appointed to the Natural Sciences and Engineering Research Council of Canada. (NSERC).

Both Freeman Dyson and Leslie Woods have personally advised him in the noble art of scientific heresy.

Cover photo of the Wasatch Mountains of Northern Utah
posted by ICanonit on wunderground.com.