

Footnotes for companion Climate Etc posts on Catastrophe Narrative / Snarl

All the quote sources are linked so that the quotes can be seen in their original context. However, note that a feature of emotive narratives is that they frequently propagate shorn of full context, in which form they better compete for the highest selection (i.e. the most chance of engaging our emotions and hence achieving further propagation). See the *terminal metaphors* intro section of footnote 7 plus footnote 14 for more on this aspect.

1. Catastrophe narrative from key Western authority sources (26 sources 39 quotes)

Sample includes leaders, ex-leaders and candidate leaders from 8 Western nations (most being in office or candidacy at the time of their quotes), along with high ministers, high UN officials, the Pope and UK royalty. In total 26 authority sources over about the last 15 years. Out of their 39 comments, a little over half employ the actual term catastrophe or catastrophic. Yet many of the comments that don't use this exact term invoke even worse consequences. While 'catastrophe' means great damage or calamity or cataclysm or disaster, these are nevertheless typically occurrences from which some rump or remnants of the system suffering the catastrophe (e.g. 'humans', or 'life') would be expected to survive. However, absent the major emissions cutbacks being advocated, there is rather less scope for such an expectation of survival in alternative phrasings such as:

1c)i]: *'five minutes after midnight'*, referring to the doomsday clock and presumably also the already stored consequences of current emissions.

1k) *'what is at stake is the future of the planet, the future of life'*, a simple statement that's about as existential as one can get regarding not just humanity, but its home.

1s) *'two decades to save the world'*, simpler still yet no less existential, and with urgency too.

1h) *'future generations will be roasted, toasted, fried and grilled'*, which dire and lurid prospect does not lend itself to considerations of survival.

1v) *'we are at the limits of suicide'*, a term meaning self termination for an individual still implies terminal when extrapolated to a race.

Other alternatives employ phrases that are merely broad equivalents to 'catastrophic', for example 1z) *'calamitous'*, 1c) *'dramatic damage'* and *'devastating consequences'*, where the context is likewise global for people or the planet and is sometimes quite explicitly framed, such as 1y) *'so far-reaching in its impact and irreversible in its destructive power, that it alters radically human existence'*. Other phrases such as 1x) *'committing the world to a drastically different place'* or 1r)ii] *'we have 500 days to avoid climate chaos'* or 1j)ii] *'killing our planet'*, are also hard to interpret in a manner that implies anything significantly less consequential than a catastrophe.

Most examples are structurally simple. Example g) conflates natural and man-made phenomena. Example x)i] includes both *merchants of doubt* and *emotively overwhelmed conditionals*. Example m)i] includes *moral association*. Examples, i), n), u)ii] and y) include *engaging anxiety for children*. Examples m)ii], u)iii] and w) also include *emotively overwhelmed conditionals*. See footnotes 3 to 5 for further context on such narrative variants.

a) [AL GORE] Ex US VP. i] [in a speech](#) to NY University School of Law (Sept 2006): "Each passing day brings yet more evidence that we are now facing a planetary emergency — a climate crisis that demands immediate action to sharply reduce carbon dioxide emissions worldwide in order to turn down the earth's thermostat and avert catastrophe." ii] From [Earth in the Balance](#): Ecology and the Human Spirit, Pg 37 (2006): "...a choice to 'do nothing' in response to the mounting evidence is actually

a choice to continue and even accelerate the reckless environmental destruction that is creating the catastrophe at hand.”

b) [AMINA J. MOHAMMED] UN Deputy Secretary General, [to a 2017 expert meeting](#) on climate adaptation, Bonn (May, 2017): “We are the first generation to experience the impacts of climate change, and we are also the last that can prevent a catastrophe for people and the planet.” *Update*: the original UNFCCC link to video seems to have vanished, but it can be found [here](#), and the quote is also preserved in (slightly skewed) text form at various news outlets, such as [here](#).

c) [ANGELA MERKEL] Chancellor of Germany. While president of the EU, i) [on German TV](#) in a wake-up call for climate action prior to 26 leader EU climate meeting (2007): “It is not five minutes to midnight. It’s five minutes after midnight.” ii) [To UN summit](#) on Climate Change (2009): “After all, scientific findings leave us in no doubt that climate change is accelerating. It threatens our well being, our security, and our economic development. It will lead to uncontrollable risks and dramatic damage if we do not take resolute counter measures – not in some distant future, but right now.” [Same speech](#) : “we will need to reach an understanding on central issues in the weeks ahead before Copenhagen, ensuring, among other things, that global emissions reach their peak in the year 2020 at the latest.” iii) [At the Lowy Institute](#) in Sydney (Nov 2014): “If we do not put a brake on climate change, it will have devastating consequences for all of us – there will be more storms, there will be more heat and catastrophes more droughts, there will be a rising sea levels an increasing floods.”

d) [BAN KI-MOON] U.N. Secretary-General. i) in his [closing speech](#) for COP15 in Copenhagen (2009): “Your words have been heard around the world. Let your actions now be seen. There is little time left. The opportunity and responsibility to avoid catastrophic climate change is in your hands.” ii) At COP21 in Paris (2015): [Warning that](#) “the clock is ticking towards climate catastrophe”.

e) [BERNIE SANDERS] US presidential candidate (2016), [feelthebern.com](#): ‘Bernie Sanders strongly believes climate change is real, catastrophic, and largely caused by human activities.’ [Speaking of the Paris Climate Agreement \[quote 5\]](#) (Dec 2015): “While this is a step forward it goes nowhere near far enough. The planet is in crisis. We need bold action in the very near future and this does not provide that.”

f) [BILL CLINTON] Ex US President, [speaking at](#) the World Economic Forum in Davos (2006): “First, I worry about climate change. It’s the only thing that I believe has the power to fundamentally end the march of civilization as we know it, and make a lot of the other efforts that we’re making irrelevant and impossible.”

g) [CHARLES MICHEL] Belgium’s Prime Minister, [to 72nd Session of the UN General Assembly](#) (September 2017): “I wish to express our support for the victims of the recent hurricanes, and for the victims of the earthquakes in Mexico. These natural disasters brutally shatter lives and dreams. They lead to instability and insecurity. Above all, these catastrophes sound a warning shot. A reminder of the extreme urgency with which we must act, together, to combat global warming... ..We can no longer postpone what we must do today. Doubt is no longer allowed. For many countries, and in particular the island states in the Pacific, the Indian Ocean and the Caribbean, these natural phenomena have a direct impact on their survival.”

h) [CHRISTINE LAGARDE] Managing director of the International Monetary Fund, [in response to a question](#) from the audience at the World Economic Forum in Davos, Switzerland (2013): “Unless we take action on climate change, future generations will be roasted, toasted, fried and grilled.”

i) [ED DAVEY] UK Secretary of State for Energy & Climate Change. i) [to the ‘Avoid’ symposium at the Royal Society](#) (Feb 2013): “In reality, those who deny climate change and demand a halt to emissions reduction and mitigation work, want us to take a huge gamble with the future of every

human being on the planet, every future human being, our children and grand children, and every other living species.” ii] [Press release](#), *Successful Projects for Ambitious Mitigation* (Dec 2014): “Every country needs to act to prevent catastrophic climate change. The UK is playing a leading role and working with the international community to ensure climate finance is best leveraged to reduce emissions and help the most vulnerable who will be hit first and hardest by climate change.”

j) [EMMANUEL MACRON] As President of France. i] [To the One Planet Summit](#) in Paris (December 2017): “When I say that we're losing the battle, I would like you to realise that of the countries represented here, 5, 10 or 15 of them won't exist anymore in 50, 60 or 100 years. It's as simple as that.” ii] Speaking before a joint session of US Congress, [via the New York Post](#) (April 2018): ‘Macron said that without a reduction of carbon dioxide emissions and pollution, there will be no more Earth. “We are killing our planet. Let’s face it, there is no ‘planet B,’” Macron said.’

k) [FRANCOIS HOLLANDE] As President of France [to the Paris climate summit](#) (Nov 2015): “To resolve the climate crisis, good will and statements of intent are not enough. We are coming to a breaking point.” [Same event](#): “Never have the stakes of an international meeting been so high, since what is at stake is the future of the planet, the future of life.”

l) [GORDON BROWN] As Prime Minister of UK, [climate plan](#) leading up to Copenhagen (2009): “If we miss this opportunity, there will be no second chance sometime in the future, no later way to undo the catastrophic damage to the environment we will cause... ..As scientists spell out the mounting evidence both of the climate change already occurring and of the threat it poses in the future, we cannot allow the negotiations to run out of time simply for lack of attention. Failure would be unforgivable.”

m) [GRO HARLEM BRUNDTLAND] Ex 3 times Prime Minister of Norway. i] As UN Special Envoy on Climate Change, [to 15th session](#) of the UN Commission on Sustainable Development (2007): “So what is it that is new today? What is new is that doubt has been eliminated. The report of the Intergovernmental Panel on Climate Change is clear. And so is the Stern report. It is irresponsible, reckless and deeply immoral to question the seriousness of the situation. The time for diagnosis is over. Now it is time to act.” ii] As a co-author of the [Blue Planet Laureates](#) (including also Hansen, Erhlich, Lovelock, Stern and others) [Imperative to Act](#) (Feb 2012): ‘The global community’s attempts to address climate change have been hopelessly inadequate. The costs of climate change, already projected at 5% or more of global GDP, **could** one day exceed global economic output if action is not taken. The globe requires bold global leadership in governments, politics, business and civil society to implement the solutions - that have been scientifically proven and supported by public awareness - to save humanity from climate change catastrophe.’

n) [HILLARY CLINTON] about 6 months after announcing presidential candidacy, [time.com](#) (Nov 2015): “I won’t let anyone to take us backward, deny our economy the benefits of harnessing a clean energy future, or force our children to endure the catastrophe that would result from unchecked climate change.”

o) [JAN PETER BALKENENDE / TONY BLAIR] Dutch / UK prime ministers, in a joint letter regarding climate change to EU leaders at a summit in Finland, [via the BBC](#) (2006): “We have a window of only 10 to 15 years to take the steps we need to avoid crossing catastrophic tipping points.”

p) [JEREMY CORBYN] UK Labour Party Leader. i] in a [Guardian article](#) (Sept 2016): “We are on course for a climate catastrophe. 2016 is set to be the hottest year on record. Unless the Paris agreement’s target of limiting the rise in temperatures by 1.5C is met, heatwaves like that in 2003, which killed tens of thousands of people in Europe, will become the norm. And that is before considering rising sea levels and desertification that will sink cities, and kill and displace millions, or the fact that the Earth

has already lost half its wildlife in the past 40 years. ... In order to deliver clean, affordable heating and electricity we need to change the whole system of energy supply. When energy is driven by the needs of people, it will be greener – because saving the planet is in the interests of everyone” ii] And [to the Labour Party’s](#) ‘alternative models of ownership’ conference, London (Feb 2018): “In 1945, elected to govern a country ravaged by six years of war, the great Attlee Labour Government knew that the only way to rebuild our economy was through a decisive turn to collective action. Necessary action to help avert climate catastrophe requires us to be at least as radical.”

q) [JOHN KERRY] as US Secretary of State, [responding to UN report](#) (2014): “Unless we act dramatically and quickly, science tells us our climate and our way of life are literally in jeopardy... .. There are those who say we can’t afford to act. But waiting is truly unaffordable. The costs of inaction are catastrophic.”

r) [M. LAURENT FABIUS] French Minister of Foreign Affairs and International Development. i] [in the National Assembly](#) (May 2014): “We have 500 days – not a day more – to avoid a climate disaster. People often talk about climate change or global warming. I attach great importance to words, and as far as the French language is concerned I don’t think those words are very appropriate, because – without alluding to this or that political programme – change is seen as rather a positive thing, but in the case of climate, it isn’t at all. Some French people say: why not, since they might think Lille, for example, is going to join the Côte d’Azur? That’s absolutely not it. We must face up to climate disruption, climate chaos. The scientists, several of whom are present here, have said it: ‘you’d have to be blind not to see it’.” ii] In the same month, “we have 500 days to avoid climate chaos” also stated during [televised greeting](#) by John Kerry on Fabius visit to the US State department.

s) [MARY ROBINSON] Former Irish president Mary Robinson (served 1990-1997), UN High Commissioner for Human Rights (1997-2002), from 2007 part of Mandela’s [The Elders](#) NGO addressing the world’s ‘seemingly insurmountable problems’. i] [From an interview](#) by John Gibbons, as published in Ireland’s Sunday Tribune (Sept 2010): ‘By taking such a clear stance against the trillion-dollar fossil fuel lobby, Robinson can look forward to being excoriated and painted as a Luddite she-devil by the well-oiled climate denialist PR machine. It will, in other words, be just like old times. Just because you are not easily scared does not mean there’s nothing to be afraid of. And Mary Robinson is, perhaps for the first time in her life, manifestly fearful. And this fear comes from the gnawing sense that we are on the edge of an unspeakable catastrophe. “I know it sounds unreal, and I think about it a lot”, she said in an exclusive in-depth interview in Dublin. “Yes, we have had concerns in the past about nuclear, and the potential for destroying parts of the world, but I don’t think we’ve ever had this kind of situation”. Her rigorous legal training allows Robinson to keep her emotions firmly in check. This time, somehow it’s different. Discussing the spectre of a looming climate disaster causes her to put aside the jargon of the negotiating rooms and the formulaic language of international diplomacy. She lays it out plainly. Climate change is “the biggest human and human rights issue of the 21st century, because of its **potential** for conflict, its **potential** for devastation, in fact its **potential** for destroying our world as a whole”.’ ii] Speaking about climate change on RTÉ’s Morning Ireland, [as reported](#) by the Irish Times (April 2014): ‘Former president Mary Robinson said this morning global leaders have “at most two decades to save the world”.’

t) [NICOLAS SARKOZY] When President of France, as [recorded](#) in United Nations coverage (2009): ‘said there were only 87 days left to succeed or fail, and the world knew that it had to limit global warming. There could be no further debate on that. For the first time, the world had to decide, not for a country, a region or a continent, but for the entire planet. The choices were for a catastrophe, or a solution... The world was already living on borrowed time.’

u) [OBAMA] As a senator. i] [Energy Independence and the Safety of Our Planet](#) (2006): “All across the world, in every kind of environment and region known to man, increasingly dangerous weather patterns and devastating storms are abruptly putting an end to the long-running debate over whether or not climate change is real. Not only is it real, it’s here, and its effects are giving rise to a frighteningly new global phenomenon: the man-made natural disaster. ...unless we free ourselves from a dependence on these fossil fuels and chart a new course on energy in this country, we are condemning future generations to global catastrophe.” ii] [Speech in Berlin](#) (2008): “This is the moment when we must come together to save this planet. Let us resolve that we will not leave our children a world where the oceans rise and famine spreads and terrible storms devastate our lands.” iii] As US President, [via UN coverage](#) at COP15 (2009): “If we fail to meet it {the threat of climate change} boldly, swiftly and together, we **risk** consigning future generations to an irreversible catastrophe”. iv] In [George town University speech](#) (2013): “Sticking your head in the sand might make you feel safer, but it’s not going to protect you from the coming storm.” v] [State of the Union](#) (2015): “The best scientists in the world are all telling us that our activities are changing the climate, and if we do not act forcefully, we’ll continue to see rising oceans, longer, hotter heat waves, dangerous droughts and floods, and massive disruptions that can trigger greater migration, conflict, and hunger around the globe.”

v) [POPE FRANCIS] i] Asked if the U.N. climate summit in Paris (2015) would mark a turning point in the fight against global warming, [the pope said](#): “I am not sure, but I can say to you ‘now or never’. Every year the problems are getting worse. We are at the limits. If I may use a strong word I would say that we are at the limits of suicide.” ii] [Via Reuters](#) (June 2018): “‘Civilisation requires energy but energy use must not destroy civilisation,’ the pope told top oil company executives at the end of a two-day conference in the Vatican.”

w) [PRINCE CHARLES] heir to the UK throne, [in a speech](#) to business leaders in Brazil (2009): “The best projections tell us that we have less than 100 months to alter our behaviour before we **risk** catastrophic climate change.”

x) [TIM WIRTH] Ex-Senator / Under Secretary and UN Foundation President, [speaking](#) of Obama’s likely second term in office as a last window of opportunity (2011): “It’s the last chance we have to get anything approaching 2 degrees Centigrade. If we don't do it now, we are committing the world to a drastically different place.”

y) [TONY BLAIR] As the UK prime minister, [giving the Prince of Wales Business and the Environment Programme anniversary lecture](#) Whitehall (2004): “What is now plain is that the emission of greenhouse gases, associated with industrialisation and strong economic growth from a world population that has increased sixfold in 200 years, is causing global warming at a rate that began as significant, has become alarming and is simply unsustainable in the long-term. And by long-term I do not mean centuries ahead. I mean within the lifetime of my children certainly; and possibly within my own. And by unsustainable, I do not mean a phenomenon causing problems of adjustment. I mean a challenge so far-reaching in its impact and irreversible in its destructive power, that it alters radically human existence.” ([Billed in the Telegraph](#) as ‘Blair warns of climate catastrophe’).

z) [152 MEMBERS OF THE US HOUSE OF REPRESENTATIVES] Comprising over one-third of all members and nearly two-thirds of all Democrats. Via [Hill Heat](#) (Feb 2008): ‘signed and submitted a [letter](#) to House Speaker Nancy Pelosi stating their guiding principles for “comprehensive global warming legislation” to “save the planet from calamitous global warming.” The letter, led by representatives Henry Waxman (D-CA), Ed Markey (D-MA), and Jay Inslee (D-WA), was delivered to Pelosi this morning.’

2. Catastrophe narrative from lesser ranking / local politicians, leaders of smaller nations, NGOs, economists, influencers and faiths (26 sources 28 quotes)

See the main post for context. See footnote 1 intro regarding equivalence to ‘catastrophe’, or worse.

a) [ANDY ATKINS] Friends of the Earth's executive director, reacting to A UN report via [the Huffington Post article](#) *Fossil Fuels 'Leading To Catastrophic Climate Change, Stark UN Report Reveals* (2012): “We can only avoid catastrophic climate change if we reduce our dependency on fossil fuels - we're already on track for four degrees warming which will be impossible for human society to adapt to.”

b) [ANOTE TONG] President of Kiribati, [addressing the leaders event](#), COP21 Paris Climate Conference (2015): “It is indeed encouraging to note the eloquent contributions that have and are being made to address climate change, the greatest challenge of all time which if not addressed now, may well be the last and final challenge for all of humanity. The science is very clear and we have gone past debating the technicalities of climate change... For it is not about science, it is not about economics, it is about survival of this Planet – PEOPLE, men, women and children, whole communities, cities and nations.”

c) [BILL McKIBBEN] Environmentalist and author. i] 350.org, [lecturing](#) at Texas A & M, (2012): “We’re no longer at the point of trying to stop global warming. It’s too late for that. We’re trying to keep it from becoming a complete and utter calamity.” ii] Title and subtitle of Bill McKibben’s Rolling Stone [article](#) (July 2012): ‘Global Warming's Terrifying New Math; Three simple numbers that add up to global catastrophe - and that make clear who the real enemy is.’

d) [DAMIEN LAWSON] Friends of the Earth Australia national climate justice coordinator, speaking critically of the then Australian Government’s target for emissions cuts by 2020 (5%), via [IndyBay](#) (2009): “A five per cent target locks Australia into runaway climate change. This target will not stop drought, it will not save the Great Barrier Reef, and it will not prevent ice melting and the sea rising. “This is an emergency and the government must act within this term. Our carbon emissions must peak in the next year and then continuously decrease if we are to have any hope of avoiding catastrophic climate change.”

e) [DAVID SUZUKI] Canadian academic, science broadcaster and environmental activist. i] [As reported](#) by Canada’s Global News (2012): “We are upsetting the atmosphere upon which all life depends. In the late 80s when I began to take climate change seriously, we referred to global warming as a ‘slow motion catastrophe’ one we expected to kick in perhaps generations later. Instead, the signs of change have accelerated alarmingly.” ii] “We’re in a giant car heading towards a brick wall and everyone’s arguing over where they’re going to sit.” (Note: [according to his biography](#) this is a metaphor Suzuki has used many times, and appears to generically to cover other environmental issues as well as climate change, or all together, regarding which there is also conflation via the sometimes framing of CO2 emissions as ‘pollution’). Example usage, see below second picture [in this online interview](#), which also invokes *fear plus hope* (see footnote 4).

f) [ELIOT SPITZER] Former Governor of New York, former Attorney General of New York, [via Slate](#) (2012): “The pace of global warming is accelerating and the scale of the impact is devastating. The time for action is limited - we are approaching a tipping point beyond which the opportunity to reverse the damage of CO2 emissions will disappear.”

g) [ELIZABETH MAY] Leader of the Green Party in Canada and Canadian MP, via [The Star](#) (2009): “Recently, Prince Charles has said we have only an estimated 100 months. Unless the world comes together and negotiates a meaningful agreement to rapidly reduce greenhouse gas emissions nine

months from now – at the Copenhagen meeting of the United Nations climate conference in December – another 90 months won't help. We have hours to act to avert a slow-motion tsunami that could destroy civilization as we know it.”

h) [ERIC MASKIN] US economist and Nobel laureate, [in a speech to the centenary conference of the Indian Institute of Science in Bangalore](#) (2012): “There is universal consensus among experts that the earth's atmosphere is heating up - and that we are responsible for it by putting carbon dioxide in the atmosphere. We also know that the consequences of global warming are catastrophic. But how do we make sure that all countries reduce greenhouse gases?”

i) [ERIK ASSADOURIAN] Senior Fellow at the Wordwatch Institute, one of the top ten sustainable development research orgs (says Globescan), founded 1974. [From WI website](#) (2007, sampled 25th Oct 2018): ‘Europe, already feeling the effects of climate change, should pressure the U.S. to join international climate negotiations, according to Erik Assadourian, *Vital Signs* Project Director. “The world is running out of time to head off catastrophic climate change, and it is essential that Europe and the rest of the international community bring pressure to bear on U.S. policy makers to address the climate crisis,” said Assadourian, who spoke at the Barcelona launch of *Vital Signs*. “The United States must be held accountable for its emissions, double the per capita level in Europe, and should follow the EU lead by committing to reducing its total greenhouse gas emissions by 80 percent by 2050”.’

j) [FATIH BIROL] International Energy Agency's chief economist, [to Reuters](#) (2012): “When I look at this data, the trend is perfectly in line with a temperature increase of 6 degrees Celsius (by 2050), which would have devastating consequences for the planet. We have 5 years to change the energy system, or have it changed.”

k) [FRANK BAINIMARAMA] Fijian Prime Minister, [addressing](#) the Climate Action Pacific Partnership event, (July 2017): “...we need to fill our sails with a collective determination to move the climate agenda forward. To not only maintain the course that was set in Paris at the end of 2015 - to fully implement the historic agreement we reached - but speed up the process. Because if we don't, the world - and especially our precious island homes - face certain catastrophe... ..On the best advice, we must by 2020, fundamentally turn the current position around. We must not abandon our Paris target of 1.5 degrees above the pre-industrial age however difficult it may be to reach. We must also achieve net zero emissions of heat-trapping greenhouse gasses within a few decades.”

l) [GEOFF MAITLAND] At April 2014 the incoming president of the Institution of Chemical Engineers (IChemE is a global org with ~40,000 members). [Via the IChemE website](#) (April 2014): ‘Maitland said: “Arguably, engineers have a more important role than governments in our transition to renewable energies. Short-term energy policies and ‘political fiddling’ are failing to provide the solutions needed – and fast enough. We are sleep-walking into a catastrophic climate change future”.’

m) [IAN DUNLOP] Former Chair, Australian Coal Association & CEO, Australian Institute of Company Directors, [in the Guardian](#) (March 2018): “Climate change is accelerating far faster than expected, to the point where it now represents an existential threat to humanity, that is a threat posing permanent large negative consequences which will be irreversible, an outcome being locked in today by our insistence on expanding the use of fossil fuels... ..Already one of the world's largest carbon polluters when exports are included, Australia is complicit in destroying the conditions which make human life possible. There is no greater crime against humanity.”

n) [JAKOB VON UEXKULL] Former Member of the European Parliament and a leader of the German Green Party, founded both the Right Livelihood Award and the World Future Council. [Opening speech](#) to the World Future Forum (2016): “We may all be doing our best but, as Winston Churchill said: ‘In a crisis, it is not enough to do our best – we have to do what is necessary’. Today we are heading for

unprecedented dangers and conflicts, up to and including the end of a habitable planet in the foreseeable future, depriving all future generations of their right to life and the lives of preceding generations of meaning and purpose.

This apocalyptic reality is the elephant in the room. Current policies threaten temperature increases triggering permafrost melting and the release of ocean methane hydrates which would make our earth unliveable, according to research presented by the British Government Met office at the Paris Climate Conference.

Long before that point, our prosperity, security, culture and identity will disintegrate. A Europe unable to cope with a few million war refugees will collapse under the weight of tens or even hundreds of millions of climate refugees.”

o) [JEREMY BUCKINGHAM] New South Wales Green party mining spokesman, via the [Sydney Morning Herald](#) (2017): “If we do not begin a rapid phase-out of coal, then our planet will suffer runaway climate change with catastrophic consequences. Burning coal is simply incompatible with protecting the climate.”

p) [JERRY BROWN] Governor of California (April 2017): via sfgate ‘Global warming is a looming catastrophe for California, the nation and the world, but few people — politicians and the general public alike — want to talk about it,’ Gov. Jerry Brown [told a San Francisco conference](#) on climate change Thursday.

q) [KUMI NAIDOO] Executive Director of Greenpeace International, [TV interview](#) uploaded on youtube (June 2013): “But for climate we have a clock that's ticking. We are five minutes to midnight in terms of that moment when we have catastrophic, runaway climate change, when it will be irreversible.” [Interviewer Randall Pinkston]: “What do you mean by ‘catastrophic, irreversible climate change?’ Spell it out for us.” [Kumi Naidoo]: “That’s a language that comes out of the scientific world. They talk about ‘catastrophic climate change’ and ‘runaway irreversible.’”

r) [MAITHRIPALA SIRISENA] President of Sri Lanka, [addressing the leaders event](#), COP21 Paris Climate Conference (2015): “The impact of Climate Change threatens our very survival. In Sri Lanka, the adverse impacts are already obvious.”

s) [NATALIE BENNET] Leader of the Green Party in England and Wales. [Via the Guardian](#) live coverage on AR5 release (2013): ‘Green party leader, Natalie Bennett, has this to say. “I’ve not seen any statements from the big three parties yet. The IPCC conclusions are clear. The scientific debate is over: the scientific conclusion is we need to take action now to avert catastrophic climate change. What needs to begin now is a serious, urgent debate about political and policy action. With the Climate Change Act in place, Britain is in a position to be a global leader, which also gives us the opportunity to benefit from a range of new low-carbon industries.”’

t) [NATIONAL CENTRE FOR CLIMATE RESTORATION] Australia, [in a submission](#) to a Senate Inquiry, *Implications of Climate Change for Australia’s National Security* (Aug 2017): ‘the accelerating impacts posed by human-induced climate change are an existential risk to humanity which, unless addressed as an emergency, will have catastrophic consequences.’

u) [PETER WHISH-WILSON] Australian senator, The Greens, [referring](#) to the CO2 parts-per-million in the planetary atmosphere (May 2016): “If 400 ppm was a blood alcohol reading then we would be heading for an inevitable car wreck.”

v) [RICKEN PATEL] Founding President and Executive Director of Avaaz, a major global civic organization with the world’s largest online activist community, including over 43 million subscribers. [Speaking at](#) the People’s Climate Change march through NYC (Sept 2014): “We are rushing headlong

into catastrophic tipping points in our climate system. We need action fast to transition to a 100 per cent clean energy economy.”

w) [STEPHEN HAWKING] High profile physicist [to BBC news](#) (2018): “We are close to the tipping point where global warming becomes irreversible. Trump's action could push the Earth over the brink, to become like Venus, with a temperature of two hundred and fifty degrees, and raining sulphuric acid.”

x) [TIM RATCLIFFE] European ‘divestment’ co-ordinator for the campaign group 350.org, reacting to A UN report via [the Huffington Post article](#) *Fossil Fuels 'Leading To Catastrophic Climate Change, Stark UN Report Reveals* (2012): “Investors now have scientific evidence that if you put your money into fossil fuels you are complicit in wrecking our future. We know that 80% of fossil fuels need to stay underground in order to avoid a climate catastrophe.”

y) [TWENTY FOUR PROMINENT AUSTRALIANS] Call for emergency-scale action on climate change in an [open letter](#) to the new parliament. From the letter (Jun 2016): ‘The future of human civilisation, and the survival of the precious ecosystems on which we depend, now hang in the balance. There must be an immediate ban on new coal and gas developments and an emergency-speed transition to zero emissions.’

z) [UK FAITHS] [Joint statement](#) by all UK faith based communities prior to Copenhagen Climate Conference (2009): “As leaders and representatives of faith communities and faith-based organisations in the UK we wish to highlight the very real threat to the world's poor, and to our fragile creation, from the threat of catastrophic climate change. The developed world is primarily responsible for the already visible effects of global heating. Justice requires that we now take responsibility for slowing the rise in global temperature.”

3. Emotively overwhelmed conditionals in catastrophe narrative from authority sources / influencers (13 sources / quotes)

See the main post for context. The conditionals / caveats are bolded. See footnote 1 intro regarding equivalence to ‘catastrophe’, or worse. Eleven of these thirteen examples speculate climate catastrophe (with ‘devastation’ or ‘irreversible’ in some cases), while one actually speculates ‘no planet’ and another merely a ‘ravaged’ planet. They are all pretty standard in form. Per g), it is no good saying that imminent catastrophic climate change is only ‘plausible’ (which word doesn’t really reflect the possibilistic nature in AR5WGC, but at least within an objective context does suggest some uncertainty), if this statement is then followed by saying a major contributor to that scenario (SLR) ‘will’ occur ‘as early as next year’, which then short-circuits what sense of uncertainty in the science may have been created, plus adds an unjustifiably short timescale regarding major attributable anthropogenic CC impacts whether or not some floods actually occur. Per b) and m), it is no good putting ‘potentially’ in front of catastrophic, if it’s then stated we *know*, or *inevitably*, the only thing which will avoid that scenario is essentially a dramatic emissions reduction, e.g. ‘far more stringent’ than Paris. The word ‘potentially’ is simply not deployed here in anything like the scientific sense in which mainstream climate science might use the same word within its expressions of such a possibility. Per l), it is no good saying ‘if’ the planet is ravaged, when also saying global warming ‘is now’ a weapon of mass destruction. The latter also makes for a particularly emotive pitch stressing the anthropogenic angle (weapons are a human thing), but emotive phrasing is not uncommon and is a big part of how conditionals are overwhelmed in individual perceptions. As Lewandowsky acknowledges when talking about the spread of emotive misinformation within [this paper](#), emotional response is rewarded with more retransmission than is veracity: “*But we have also noted that the likelihood that people will pass on information is based strongly on the likelihood of*

its eliciting an emotional response in the recipient, rather than its truth value (e.g., K. Peters et al., 2009)”. While Lewandowsky’s paper is about *misinformation*, as the quote implies, emotion wins out over veracity for information more generally within certain contexts (e.g. high uncertainty), and where both occur within the same narrative block. It’s also the case that the narrative of high certainty of global catastrophe *is* misinformation, if we adopt mainstream climate science per AR5WGR as the gold standard for truth. Example m) also includes *engaging anxiety for children*. Example a) invokes T.S. Eliot’s famous lines to raise up emotive speculation about the end of the world. In addition see 1m)ii], 1u)iii], 1w) and 1x)i] above, plus 6i), 6l), 7aa), 7ab), 7ac), 7ad), and 7ae) below.

a) [ANDREW SIMMS] Co-director of the New Weather Institute. Research associate with the Centre for Global Political Economy at the University of Sussex. Fellow at [NEF](#) (the new economics foundation). At the quote date, policy director and head of the climate change programme at NEF. Via [The Guardian](#) (Aug 2008): “If you shout ‘fire’ in a crowded theatre, when there is none, you understand that you might be arrested for irresponsible behaviour and breach of the peace. But from today, I smell smoke, I see flames and I think it is time to shout. I don't want you to panic, but I do think it would be a good idea to form an orderly queue to leave the building. Because in just 100 months' time, if we are lucky, and based on a quite conservative estimate, we could reach a tipping point for the beginnings of runaway climate change.

...once a critical greenhouse concentration threshold is passed, global warming will continue even if we stop releasing additional greenhouse gases into the atmosphere. If that happens, the Earth's climate will shift into another, more volatile state, with different ocean circulation, wind and rainfall patterns. The implications of which, according to a growing litany of research, are **potentially** catastrophic for life on Earth. Such a change in the state of the climate system is often referred to as irreversible climate change.”

... Today is just another Friday in August. Drowsy and close. Office workers' minds are fixed on the weekend, clock-watching, waiting perhaps for a holiday if your finances have escaped the credit crunch and rising food and fuel prices. In the evening, trains will be littered with abandoned newspaper sports pages, all pretending interest in the football transfers. For once it seems justified to repeat TS Eliot's famous lines: ‘This is the way the world ends/Not with a bang but a whimper.’

... So, there, I have said ‘Fire’, and pointed to the nearest emergency exit. Now it is time for the government to lead, and do its best to make sure that neither a bang, nor a whimper ends the show.’

b) [IAN DUNLOP] Former Chair, Australian Coal Association & CEO, Australian Institute of Company Directors, says in the foreword to [Recount: it's time to Do the math' again](#) by Breakthrough (2015): “For the last two decades global leaders have been guilty of willful denial regarding human-induced climate change, none more so than in Australia. Despite much rhetoric and endless negotiations, human carbon emissions continue in line with a worst-case scenario... .Unfortunately the years of procrastination have cut off options to solve the climate challenge with a graduated response – emergency action is now inevitable if **potentially** catastrophic and irreversible impacts are to be avoided... .In the lead-up to Paris, the focus of attention is the need to limit temperature increase to the official 2°C target with a limited carbon budget, but these are not appropriate objectives. Climate change is happening faster and more extensively than officially acknowledged and sensible risk management requires far more stringent action.

c) [JERRY BROWN] Governor of California. [Via Bloomberg.com](#) (Sept 2018): ‘U.S. President Donald Trump is the “enemy of the people” for hampering efforts to reverse **potentially** catastrophic increases in carbon emissions, Jerry Brown said Monday, blasting White House environmental policy

after signing a bill that will move the state toward 100 percent clean energy use by 2045. “Trump is not just AWOL on climate change, he has designated himself saboteur-in-charge,” Brown said in a telephone interview, citing the administration’s actions against California’s emissions standards, electric-car mandates and clean-power rules. “He has designated himself basically enemy of the people. I’m calling him out because climate change is a real threat of death, destruction and ultimate extinction.”

d) [MALCOLM TURNBULL] [To Australian parliament](#), as a shadow minister, not PM (2010): “Climate change is a global problem. The planet is warming because of the growing level of greenhouse gas emissions from human activity. **If this trend continues** then truly catastrophic consequences will ensue, from rising sea levels to reduced water availability to more heatwaves and fires.”

e) [MARK CARNEY] governor of the bank of England, [speech to the insurance market](#) Lloyds of London (Sept 2016): “We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors - imposing a cost on future generations that the current generation has no direct incentive to fix... ..The horizon for monetary policy extends out to 2-3 years. For financial stability it is a bit longer, but typically only to the outer boundaries of the credit cycle - about a decade. In other words, once climate change becomes a defining issue for financial stability, it **may** already be too late.”

f) [MINQI LI] Chinese political economist and associate professor of Economics at the University of Utah. *The rise of China and the demise of the capitalist world economy*, [Monthly Review Press](#), New York pg 183 (2008): “But more importantly, a 2-degree warming will constitute ‘a dangerous anthropogenic interference’ as it will initiate a series of climate feedbacks that are **likely** to take the earth beyond a set of ‘tipping points’. Beyond these tipping points, global warming will become a self-sustaining process out of human control, leading to massive catastrophes that could wipe out most of the species on earth”

g) [PETER SCHWARTZ] CIA consultant, in a report to the Pentagon, [via The Guardian](#) (Feb 2004): ‘Climate change “should be elevated beyond a scientific debate to a US national security concern”, say the authors, Peter Schwartz, CIA consultant and former head of planning at Royal Dutch/Shell Group, and Doug Randall of the California-based Global Business Network. An imminent scenario of catastrophic climate change is “**plausible** and would challenge United States national security in ways that should be considered immediately”, they conclude. As early as next year widespread flooding by a rise in sea levels will create major upheaval for millions.’

h) [SHARON BURROWS] General Secretary of the International Trade Union Federation, [quoted](#) in the Huffington Post (2013): “We will have no jobs **if** we have no planet.”

i) [SWISS RE] [Via Reuters](#) (2004): ‘The world's second-largest reinsurer, Swiss Re, warned on Wednesday that the costs of natural disasters, aggravated by global warming, **threatened** to spiral out of control, forcing the human race into a catastrophe of its own making... ..The human race can lead itself into this climatic catastrophe - or it can avert it.’

j) [TED KENNEDY] 2nd most senior Senator when he died in 2009 and 4th longest continuously serving senator in US history. To National Press Club, Washington DC (2005): “We should stop the non-scientific, pseudo-scientific, and anti-scientific nonsense emanating from the right wing, and start demanding immediate action to reduce global warming and prevent catastrophic climate change that **may** be on our horizon now.” [The Wit and Wisdom of Ted Kennedy](#), pg 124.

k) [TILMAN THOMAS] Prime Minister of Grenada, as recorded [in UN press](#) said (2009): “temperature increases of 2 degrees Celsius above pre-industrial levels would cause the total destruction of the world’s coral reefs, major ecosystems and thus the source of life, dependent goods and services. It

would dramatically cut ecosystems' ability to adapt. **It was argued that**, in many cases, the world was already at the tipping point with the distinct **possibility** of irreversible catastrophic effects."

l) [TONY BLAIR] UK prime minister. As reported in [John Houghton's Guardian article](#), '*Global Warming is Now a Weapon of Mass Destruction*' (July 2003): "There can be no genuine security **if** the planet is ravaged by climate change."

m) [UNICEF] [Press Release](#) before COP21 (Nov 2015): 'World leaders gathering in Paris for COP21 – held from November 30 to December 11 – will seek to reach agreement on cutting greenhouse gas emissions, **which most experts say** is critical to limiting **potentially** catastrophic rises in temperature. "We know what has to be done to prevent the devastation climate change can inflict. Failing to act would be unconscionable," said Lake. "We owe it to our children – and to the planet – to make the right decisions at COP21.'" (Anthony Lake = executive director).

4. *Fear plus hope in catastrophe narrative from authority sources / influencers* (13 sources / quotes)

See the main post for context. See footnote 1 intro regarding equivalence to 'catastrophe', or worse.

a) [ANGELA MERKEL] Chancellor of Germany. [Via the Climate Reality Project](#) (Nov 2016): 'Perhaps unsurprisingly, Chancellor Merkel was a key supporter of the Paris Agreement, which formally enters into force on November 4. "The Paris Agreement is thus proving to be a historical milestone in international climate protection. It is a sign of hope," she said this summer when the bill came before her federal cabinet for formal ratification. "The task at hand is to create and safeguard prosperity – and to do so not at the cost of the foundations of life, but rather on a sustainable path. It is no exaggeration to say that climate protection is no more and no less than a question of survival.'"

b) [ANTONIO GUTERRES] UN Secretary General. [Via the BBC](#) (Sept 2018): 'UN Secretary General Antonio Guterres has said that if the world doesn't change course by 2020, we run the risk of runaway climate change. ... Mr Guterres painted a grim picture of the impacts of climate change that he says have been felt all over the world this year, with heatwaves, wildfires, storms and floods leaving a trail of destruction. Corals are dying, he said, the oceans are becoming more acidic, and there are growing conflicts over dwindling resources. Concentrations of carbon dioxide in the atmosphere are at their highest level in three million years. ... Despite the dire situation, the world could still tackle climate change effectively, he said. Saying it was too expensive to do so was "hogwash". ... "We are careering towards the edge of the abyss," Mr Guterres said. "Our fate is in our own hands.'" (Note: similar expression to the UN general assembly later in September [here](#)).

c) [ED DAVEY] UK Energy and Climate Change Secretary (March 2015): "Getting the new deal in Paris is the most important thing a new government can do if we're going to avoid catastrophic climate change," he told [BusinessGreen](#) ahead of the speech. "And in doing that we've made strides in the UK, Europe and elsewhere in other parts of the world in the last few years. But the more you look at the issue, the bigger the challenges are and we've got a long way to go, so there's absolutely no room for complacency."

d) [ED MILLIBAND] Ex Leader of the Labour Party, and Leader of the UK Opposition (Sept 2010 to May 2015), in his Guardian article [Yes, the Paris climate change conference can save the planet](#), (Nov 2015): The science is even more unequivocal than it was six years ago. Just to take one example, 2015 looks like being the hottest year on record by some distance. We sometimes talk about the need to avoid dangerous warming of the planet as if it is a theoretical idea, but its effects are already here, with approaching 1 degree of warming so far. On the other side of the ledger, technology has thrown us a

lifeline. The costs of wind and solar energy have come down far quicker than anyone dreamed of. The constructive side of human ingenuity is holding its own in the fight against its destructive side. And it is now demonstrably the case that the fight against climate change can be job-creating, not destroying, according to the Confederation of British Industry and many others...

...But the bad news is that the {Paris} pledges will still be short of what is needed. In reality, the commitments for 2030 would take us towards something like a 3-degree world. That would mean higher temperatures than at any time in the last three million years, with potentially dramatic effects of intense heatwaves, flooding and climate refugees across the world.

...Is zero emissions even practical, and can it be done without closing down our economy? The answer to both questions is a strong yes. Indeed, top business leaders such as Ratan Tata as well as Paul Polman of Unilever have recently called on world leaders to adopt a zero emissions goal in Paris.”

e) [FRANK ACKERMAN]. Economist, from 2012 at [Synapse Energy Economics](#). [From the article *Climate Economics: The State of the Art*](#), with Elizabeth Stanton, (Jan 2013): “Climate science paints a bleak picture: The continued growth of greenhouse gas emissions is increasingly likely to cause irreversible and catastrophic effects. Urgent action is needed to prepare for the initial rounds of climatic change, which are already unstoppable. While the opportunity to avert all climate damage has now passed, well-designed mitigation and adaptation policies, if adopted quickly, could still greatly reduce the likelihood of the most tragic and far-reaching impacts of climate change.”

f) [FRANK BAINIMARAMA] Fijian Prime Minister, speaking at the opening of the 4th Asia-Pacific Broadcasting Union 2018 media summit on climate change, [via Xinhua News Agency](#) (Feb 2018): “It is an unprecedented crisis that we must face together – every single person on earth helping to reverse the damage to our planet that we have all inflicted with our life styles”... ..Bainimarama said that it was vital to tell the stories that need to be told and to generate the action that needs to be taken. He said that the media had the power to make a genuine difference to highlight the urgency of concerted action at every level to avert catastrophe and to clean economies. While pointing out that there were plenty stories out there about the negative effects of climate change, he called on the media to think outside the box in their storytelling, to fire people's imaginations about the positive stories of what is possible if humans altered their mindsets from doom and gloom to work together effectively as people and as nations to meet this challenge. Bainimarama said that great things are happening in the global quest to make the transition from dirty energy such as fossil fuels to clean, renewable energy such as hydro, solar and wind.’

g) [JOHN RITCH] [Up to end 2012](#), Director general of the World Nuclear Association (WNA). Via the Global Commons Institute [GCI] and a summary of [The Brazilian proposal regarding Contraction and Convergence](#). See pg23. (2005): “I not only support the C&C concept, I find it inconceivable that we will avert climate catastrophe without a regime built on some variation of this approach. In the debate about climate change, an impression has been created that the problem is too daunting and complex to prevent. Contraction and Convergence provides a way forward that is both fair and feasible.”

h) [MUNICH RE] Book title [{sample extracts}](#) from Munich RE Geo-Risks Research (2005): ‘Weather catastrophes and climate change, is there still hope for us?’

i) [OWEN JONES] Columnist, author and political activist, placed 7th in The Daily Telegraph’s 2013 list of Britain's most influential left-wingers. [Writing](#) in the Guardian (Nov 2015): “Germany has led the way with industrial activism to promote renewable energy industries that provide skilled jobs. Insulating homes and businesses will also create jobs and tackle fuel poverty, as well as tackling climate change. Jobs, growth and living standards: this is surely what climate change has to be linked to if it is to become a compelling issue. Sure, huge damage has already been done, and glaciers will continue to melt. But radical global measures can help mitigate the damage. A failure to act will mean catastrophe.”

j) [PAUL KRUGMAN] N.Y. Times columnist. From [Wind, sun and fire](#), New York Times (Feb 2016): “So what’s really at stake in this year’s election? Well, among other things, the fate of the planet. Last year was the hottest on record, by a wide margin, which should — but won’t — put an end to climate deniers’ claims that global warming has stopped. The truth is that climate change just keeps getting scarier; it is, by far, the most important policy issue facing America and the world. Still, this election wouldn’t have much bearing on the issue if there were no prospect of effective action against the looming catastrophe... Salvation from climate catastrophe is, in short, something we can realistically hope to see happen, with no political miracle necessary. But failure is also a very real possibility. Everything is hanging in the balance.”

k) [PETER TURKSON] Cardinal, Catholic Church. Via The Telegraph {[see 10.41am](#)} (Jun 2015): ‘Signalling that Pope Francis is placing the issue [climate change] at the centre of the agenda for his papacy, to build a “poor church for the poor”, Cardinal Turkson told a packed press conference in Rome: “We have a serious responsibility to do everything we can to reduce its impact on the environment and the poor. It is a responsibility for the whole of humanity.” But as he outlined dire warnings about the consequences of inaction, he insisted there is still hope of averting catastrophe. “Not everything has been lost,” he said. Human beings can also overcome this’.

l) [SCOTT WIGHTMAN] UK Ambassador [speaking at](#) the National Assembly Climate Change Forum in South Korea (Jun 2014): “The Financial Times newspaper recently wrote that we should look at climate change in the same way we look at the consequences of nuclear war. The risk of catastrophic results justifies immediate, serious action. Secondly, tackling climate change brings huge economic opportunities – for new sources of growth and jobs.”

m) [ZORAN MILANOVIC] Prime Minister of Croatia, [addressing the leaders event](#), COP21 Paris Climate Conference (2015): “Focus on energy effectiveness and renewable energy sources can lead to opening of large number of the new ‘green jobs’... Old models of growth, based on high levels of carbon are no longer effective. Instead they represent the threat of destruction of Earth for future generations.”

5. Miscellaneous catastrophe narrative variants from authority sources and influencers (25 sources, 26 quotes)

See the main post for context. See footnote 1 intro regarding equivalence to ‘catastrophe’, or worse. The catastrophe narrative variants listed here include: *engaging anxiety for children*, *moral association*, *attribution reinforcement*, *agenda incorporation*, *the voice of innocence*, *emotive bitters*, *terminal metaphors* and *survivalist*. See 1x)i] above and 7j) below for *merchants of doubt*.

NOTE: These categories (along with those from footnotes 3 and 4) are not always discrete and can combine.

Engaging anxiety for children

Care for children is a powerful instinct within humans that is easily roused, lending power to an argument if done in its name and assisting re-transmission of the argument. Inclusion within these quotes is no doubt almost always matter of *genuine* concerns, especially where parents cite their own children / grandchildren {and despite some cases, e.g. 5ac)i], looking rather more like stoking this concern rather than expressing realistic fears}. Yet the infectious power of such concern in society can transcend the issue, triggering guilt in others regarding our responsibility for children, and a need not to be seen as failing in this respect. And while even the smallest possibility of catastrophe might appear to legitimize inclusion of *anxiety for children* in communication, mis-framing such possibilities does far more harm than good, and once paired up with a false catastrophe narrative having no, improper, or *emotively*

overwhelmed conditionals, the narrative combination has an amplified persuasive effect, promoting an argument not based upon mainstream (or skeptical) science. One has to attempt an evaluation outside the engagement of such strong concern, of what fears are actually in play.

Assuming an average current age of 9 (halfway to adulthood at 18), and an average onset of ‘catastrophe’ in say 2065 (halfway between 2030 and 2100 – a typically expressed range), then the children at risk would be aged about 56 at onset. I doubt that the expressed fears in these quotes would be due to these 56 year-olds having to pay rather more tax for disaster protection, from a wealth that is much larger than their parents at this date if we believe some of the economists. Or even a wealth that is similar. Nor, terrible though it would be, could such fears be due say to loss of some species and habitats beloved of said parents. The emotion aroused is more visceral, fear of actual harm. Nor are the quotes mainly from those in undeveloped countries (who will physically suffer much more from extreme weather, whether or not anthropogenic factors are the main cause). Hence this expression of fear for children is emphasizing a true catastrophe of the global collapse kind, something that would indeed make life very risky for existing children in the decades to come – actual physical and well-being harms [and some quotes are explicit on this, e.g. 7bc]. And from the language, this is at least what many will understandably ‘hear’, or *emotively* comprehend.

Maybe the anxiety about catastrophe has simply overwhelmed logic, so some knowledge of the current status of mainstream science is not being evaluated with reason; this after all is a typical issue with strong emotion. Or a scientist is underwriting fears with their own *non-mainstream* theory projecting the catastrophic. Or someone is underwriting with another scientist’s such theory, which hence should be made clear, rather than allowing audiences to default to an *assumption* of backing by mainstream science. Whatever the detailed reasons, in all such cases propagation of the catastrophe narrative is powerfully amplified by an inclusion of (often expressive, occasionally even lurid) concern for children. The extra emotive invocation makes recognition of false certainty behind the portrayal of global catastrophe, much harder to detect.

[Note, this inclusion is useful to get a grip on an imagined timescale for catastrophe onset, if this isn’t explicitly stated, it being likely that the fear would be a lot less if the children will very probably get to retirement age before any onset; and ditto for grandchildren about 30 years more outwards].

Not only do psychologists generally acknowledge the strong effect of *engaging anxiety for children*, because most are themselves heavily influenced by the narrative of catastrophe, some actually *recommend* deploying this rhetoric tactic as a means of persuasion. For example, see the overview of Van Lange et al [here](#): ‘*But how can a longer-time perspective [on the negative future consequences of climate change] be promoted? One way is to emphasize that the young and vulnerable, especially one’s own children, are the ones who need to deal with these futures.*’ While one can’t call this deliberate, in the sense that the authors are strongly biased by their belief that the ‘immense’, ‘largely irreversible’, and ‘exponential’ (from the overview) consequences are simply a matter of already proven hard science, one would think that psychologists if anyone might question why such a campaign employing these rash tactics was actually needed, and also was still an uphill battle after three decades. Whatever one’s view regarding culpability, those psychologists making such recommendations are greasing the skids for still further propagation of the catastrophe narrative.

See 5aa) that has UK Prime Minister David Cameron tying the main motivation for policy action regarding ‘the Earth in peril’ to responsibility for, and allegations from, children. This usage emphasizes guilt for inaction rather more than anxiety, yet still via playing the children card. Plus, by association he underwrites the ‘peril’ with mainstream climate science. It is very clear that the writer of 5ab) truly and passionately thinks his son will likely have to survive civilizational collapse largely due to climate change

(see also 2i), emphasizing the *honest* expression via which *engagement of anxiety for children* typically propagates. Even in this context though, the sheer strength of 5ac)i] is a surprise, comparing inaction on climate change to inaction regarding the rescuing of children from a burning building (similarly strong is 7bc). For more examples featuring *engaging anxiety for children*, see: 1i), 1n), 1u)ii], 1y), 3m), 6g), 6h), 6p), 6s), 6z), 7bc), 7da), 7db), 7fa) and 7fb).

Moral association

Establishing an issue as one that is fundamentally moral, means that complexity and opposition often get steamrolled beneath moral affront. Our reactions associated with moral recognition are there for in-group reinforcement of acceptable baseline behaviors (which are relative to group and era), and affront works without the long process of having to navigate complexity. It's a shortcut. Yet in our complex modern world that shortcut is often challenged by the entanglement of many social groups (one size fits all solutions may be inappropriate), by scientific uncertainties, by the likelihood of unintended social consequences (i.e. even where physical science on a particular issue having social impact is sound), and more. Sometimes there just *is* genuine complexity which needs to be carefully navigated rather than steamrolled flat, in order to arrive at an equitable solution and without major unintended consequences.

Bearing all this in mind, in the context of climate change a powerful promotion of just one policy view (swift major emissions reduction) as a moral imperative, when an immature science is still grappling with a wicked system, and with fossil fuels clearly having major social upsides too, will likely cause more problems than it solves. But whether or not this turns out to be the case, doing so based upon the pretext of a high certainty of imminent global catastrophe (e.g. citing 'the planet', or 'humanity', or 'life') while also implying that such is backed by mainstream science, is illegitimate. Nevertheless, there are many and varied examples of narrative that forge just such a *moral association*. 5bb) links the attempt to science via the word 'research', and cites the 'viability of humanity' on the threat side. Example 5ba), being from the chairman of the IPCC at the time, is the supposed representation of mainstream science, and cites a very specific emissions policy that also implies certainty of projection (they '*had to peak*' no later than 2015), and invokes morals via 'sacred duty', plus global threat via 'protect the planet' from a rise of more than 2 Celsius.

A moral angle is not only invoked by the actual word 'moral', or legal equivalents like 'just / justice', or religious equivalents like 'sacred', but also via an association with particular social behaviors we consider immoral, such as criminality or greed, or implied moral wrong-doing via the deployment of a 'guilt' label. See examples 1m)i] 'deeply immoral', 2m) 'no greater crime against humanity', 2z) 'justice requires', 3b) 'global leaders have been guilty of willful denial', 5ac) 'some mad person keeps telling them that it is a false alarm', 5ce) 'When we inflict our greed upon nature, nature sometimes explodes'. 6n) 'work for a moral revolution urgently needed for a sustainable relationship with nature', 6v) 'This is state terrorism-sanctioned corporate terrorism, carbon terrorism and climate terrorism', 7da) 'My frustration with these greedy, lying bastards is personal. Human-caused climate disruption is not a belief', 7db) 'how they could have sacrificed the planet for the sake of cheap fossil fuel energy' (implied greed), 7fa) 'current generations have an over-riding moral duty to their children and grandchildren to take immediate action', 7hc) 'How can you ignore the severe sickness of someone you are so intricately connected to and dependent upon' (implied callousness, in this metaphor 'someone' is the planet itself).

Attribution reinforcement

It is inappropriate to imply that a high certainty of global catastrophic climate change, an emotive narrative not supported by mainstream science, also means a high confidence of anthropogenic attribution to specific weather events. The emotive threat of catastrophe, both global and local, in the latter case often amplified by raw feelings that emerge during actual local disasters, is redirected by this narrative variant

to reinforce in readers' minds a strong belief in a primarily anthropogenic causation for extreme weather events. And so proscribed action.

Example 5ca) claims a clear link between (anthropogenic) climate change and damage from a specific hurricane, which emotively reinforces a claim that the Paris Agreement isn't enough and more action is needed. Yet mainstream science per AR5WGC does not identify such clear linkages or clear proportion of contribution, nor even if this were so for some specific extreme events, claim anyhow that climate change generally is a 'suicidal development' [which like the Pope's very similar comparison in example 1v), is a *terminal metaphor* for the planet or humanity]. Example 5cb) similarly raises the threat of a generalized future 'climate crisis', to reinforce a (speculative) anthropogenic determination regarding current weather events across the globe, in this case to pressure for a very specific fossil fuel usage policy. 5cc) attempts to lay blame for very specific local issues such as bushfires and cyclones (and so related adversity too), directly upon regional politicians who are perceived as too soft on emissions reduction, hence via 'a result of climate change'. Yet even if attribution studies were far more advanced and could reasonably determine the anthropogenic contribution (if significant), which mainstream science can't currently do, this contribution comes from the entire global population, hence entangling every national and regional policy. Whatever the perception of the politicians being attacked and their specific policies, harnessing high emotion from terrible local events in order to attack / blame these individuals, while hiding behind the hi-jacked authority of science and the assertion of currently 'extraordinary' climate change (in a bad way, i.e. many more extreme events that are more severe / frequent), is not justified by the AR5WGC / mainstream position, whether or not extreme events such as those described (and rates thereof) *will* one day become extraordinary compared to history, and indeed due to ACO2 not other man-made or natural factors. 5cd) is a straightforward example of climate catastrophe / local weather linkage. Assisted by *moral association* (greed), example 5ce) asserts a climate-change threat to our existence, which conflated with our age-old fear of nature's power, emotively reinforces an assumed certainty of anthropogenic causation, hence also a particular proscribed policy as the only way to salvation.

Citing specific non-mainstream science that claims accurate attribution for a particular event would still not justify the inclusion of global climate catastrophe narrative, unless the non-mainstream science supporting a high certainty of global climate catastrophe (absent emissions) was likewise cited in addition to the attribution science, making clear it isn't mainstream.

See also 1g) citing current hurricanes and earthquakes, 1p) citing the 2003 European heatwave, 1u)] citing current weather patterns and the 'man-made natural disaster', and lastly 4b) citing heatwaves, wildfires, storms and floods. See footnote 7e) for more of this narrative variant from scientists, which also features subtler narrative form, plus some short comment within the intro there on studies later than AR5 that claim to know increased probability figures due to ACO2 for some specific extreme weather events.

Agenda incorporation

This type typically re-purposes the existing momentum of the catastrophe narrative to claim there is a solution within another cause, and hence energize that cause. Or at least it leverages the catastrophe narrative to blame or attack those opposed to such a separate cause. Given the catastrophe narrative is not supported by mainstream (or skeptic) science, of course not mentioned, this is wholly inappropriate. For examples 5db), 5dc), 5de), 5df) and 5dg) the agenda is anti-capitalism. For example 5da) the agenda is anti-Brexit, and for 5dd) it is anti-fracking. While the latter has indeed a direct overlap with the climate change domain via the fossil-fuel angle, this doesn't make citing a high certainty of imminent climate catastrophe any more legitimate in relation to the mainstream climate science position. 5dd) also features *attribution reinforcement*. See also examples 1p) and 4m) above; 'alternative models of ownership' and

‘old models of growth’ presumably also represent political agendas, as is 3c) anti-Trump. From scientists, see examples 7aa) and 7g) below.

This angle can be the basis of cultural alliances that emerge when there are many entanglements between two narrative driven movements that generate significantly more mutual benefits than they do downsides. Yet this is a double-edged sword, as there will indeed be some downsides within the net gain; for instance in the CC case, potentially causing perceived hypocrisy if too blatantly leveraging climate catastrophe for a pre-existing cause. Yet I say ‘perceived’, because any converged narratives that might emerge as winners are the result of many thousands of mixes that are produced by many people, who passionately believe that one cause genuinely intersects the other – so at the big picture level it is not a deliberate intent to deceive. While also some causes *genuinely do* intersect (albeit future history is the only objective arbiter), the inappropriate high certainty / urgency / fear plus falsely claimed mainstream science backing of the catastrophe narrative per these examples, means that the climate change partner in any corresponding sought alliance is, *relative to mainstream science*, effectively playing the bogie-man.

The voice of innocence

This is really is a subset of *engaging anxiety for children*, yet ‘from their own mouths’. Adults can feel guilty when morally upbraided by children, yet in the case of the climate catastrophe narrative it is other adults who are putting this into the latter’s mouths. Indeed, I think this angle may not emerge too much (although I haven’t searched), due to a high chance of backfire that will cause self-limitation. Even for those folks who know little about the climate domain, a proportion would not feel guilt, but rather suspect instead a schooling of the children (albeit this would be via systemic subjection to passionately held biases, rather than deliberate or nefarious intent). Some people may react this way to 5ea), which via the voice of children claims that the planet is slowly dying due to the actions of adults, but apparently not slowly enough to give the former a chance to grow up. Instead, they must drop their childhood pursuits and take full part in the fight which is ‘the last chance to save the planet.’

Emotive ‘bitters’

No speech crafted to produce concerted action is likely to be devoid of emotion, nor should it be. Yet *over-reliance* upon strong emotion or other rhetoric techniques, particularly if aligned to cultural positions, is not so much communicating a message but (helping to) manufacture (a false) one. With this in mind, dropping into a speech even short emotive cues from variants of the climate catastrophe narrative is still a propagation of that narrative, which will prompt a range of interpretations that overall cause significant bias regarding how the rest of the (more objective) speech is understood. Such cues are still powerful emotive flavorings based upon the culture of climate catastrophe. Whatever one thinks of the message payload, e.g. regarding say emissions policy or whatever, or indeed whether future history proves such policy right or wrong, speeches flavored in this manner will propagate as much or more due to the catastrophe narrative flavoring than such content, and indeed achieve more impact due to the emotive persuasion. Such gains are thus achieved under false pretenses, i.e. not via mainstream science understanding, although this is universally used by authority sources, per the many examples here, to underwrite their catastrophe narratives. This category shows examples of such short cues that are dropped into otherwise more balanced speeches, hence like a small amount of bitters in drinks causing a strong emotive flavoring aligned to climate catastrophe. Some of these can be quite subtle – I leave it to readers to make their own judgment about where such deployment fades from catastrophe reference down into reasonable invocation of environmental stewardship, though my own perception of ordering is, from strong to weak: 5fc), 5fd), 5fb), 5fa). So despite ‘serious consequences for all life on the planet, including our own’, coupled with no definition of ‘serious’ that allows listeners to interpret the worst in their own ways, 5fa) is arguably reaching that point (although note it also contains an overwhelmed conditional, ‘if’,

as ‘the rate currently observed and predicted by scientists’ is an authority statement that is not intended to be challenged (unless by implication one challenges science). Example 5fb) deploys an *emotive bitter* via *engaging anxiety for children*, and is arguably a grade stronger as the form ‘deprive our successors and their children of a real future before they are born’ implies a more urgent timescale for lack of future, as one presumes the unborn children of ‘our successors’ would be born near-term. Example 5fd) drops in ‘We don’t have a planet B’, a common meme these days. While the context of the speech is clearly man-made climate change, similar phrases have been used in a wider environmental stewardship context, plus in the absence of explicit catastrophe reference the implication of ruining planet A via man-made climate catastrophe is indirect. Example 5fc) drops in ‘save the planet’, and as with all the *emotive bitters* they work via knowing more explicit context from many other public messages, in this case what the planet is supposed to need saving from, i.e. climate catastrophe due to ACO₂ (in this case the context of the speech is also clear, but that isn’t always the case). However despite this being strong, catastrophe or equivalent isn’t explicitly stated, so as a stand-alone this qualifies as an *emotive bitter*. Mainstream science does not support a high certainty of events of a magnitude that requires ‘the planet’ to be saved, or implies (via no planet B) it will be trashed, or that children born sometime soon will have no real future. Arguably it does support ‘serious consequences’ per example 5fa), although this depends upon what ‘serious’ really means.

Terminal metaphors

These appear not to be rare within quotes from politicians or green NGOs or (usually progressive) activists or journalists. A couple from the latter are included as examples ga) and gb). See also 1v), 2e)ii], 2u), 3l) and 4b) for further examples from the authority sources above. Plus, example 3a) invokes T.S. Eliot’s famous lines to raise up emotive speculation about the end of the world. More surprisingly, this blunt variant of catastrophe narrative is also propagated by quite a number of scientists. See the *terminal metaphor* section of footnote 7 for a full explanation of this variant, plus 5ac), 6b), 6c), 6d), 6g), 6h), 6t), 6v), 6y), 7ha), 7hb), 7hc), 7hd) and 7ea) for examples from scientists.

Survivalist

Some of the more passionate greens play a kind of informal Jesuit role within the climate change domain, a hair-shirt police force who typically castigate orthodoxy for its sluggishness and conservatism, while reminding everyone of the terrible calamity that must await us. These uncompromising individuals minimize hope from the hope and fear equation as they fear it will encourage complacency (sometimes this motive is explicit), keeping only a tiny flame burning (in religious terms preaching much more about sin than about salvation). Yet with their belief in the catastrophic also at the fervent end of the scale, this inevitably results in a (probably very small) group of survivalists, who actually have to prepare for the worst, or at least urge everyone to do so, because they have truly convinced themselves that the worst is virtually unavoidable. Example h) features this *survivalist* motivation, as does example ab), in which Erik Assadourian says he is raising his son in a way that increases the odds that he’ll survive ‘the coming ecological transition (and probable civilizational collapse)’.

aa) [DAVID CAMERON] UK Prime Minister [addressing the leaders event](#), COP21 Paris Climate Conference (2015): ‘So let me take this argument the other way around. Not what we need to succeed – we all know that – but what we would have to say to our grandchildren if we failed. We’d have to say, “it was all too difficult”, and they would reply, “well, what was so difficult?” What was it that was so difficult when the earth was in peril? When sea levels were rising in 2015? When crops were failing? When deserts were expanding? What was it that was so difficult? Was it difficult to agree on 2 degrees? Was it difficult when 97% of scientists the world over have said that climate change is urgent and man-made and must be addressed?’

ab) [ERIK ASSADOURIAN] Senior Fellow at the Wordwatch Institute, one of the top ten sustainable development research orgs (says Globescan, founded 1974. See 2i) regarding his position on climate change. [Sampled](#) from personal website bio (18th March 2018): ‘Erik also spends about half of every day raising his son, Ayhan, and is trying to do so in a way that increases the odds that Ayhan will survive the coming ecological transition (and probable civilizational collapse). When time allows, which it rarely does, Erik is writing about this at raisinganecowarrior.net.’

ac) [[STEPHAN RAHMSTORF](#)] Oceanographer and climatologist, Professor of Physics of the Oceans at Potsdam University. i] [Letter](#) in response to science communicator Joe Duggan’s question ‘how do you feel about climate change?’ (2016?): “Sometimes I have this dream. I’m going for a hike and discover a remote farm house on fire. Children are calling for help from the upper windows. So I call the fire brigade. But they don’t come, because some mad person keeps telling them that it is a false alarm. The situation is getting more and more desperate, but I cant convince the firemen to get going. I cannot wake up from this nightmare.” ii] And in a [note](#) to Joe Romm (2014): ‘What climate scientists have feared for decades is now beginning to come true: We are pushing the climate system across dangerous tipping points. Beyond such points things like ice sheet collapse become self-sustaining and unstoppable, committing our children and children’s children to massive problems. The new studies strongly suggest the first of these tipping points has already been crossed. More tipping points lie ahead of us. I think we should try hard to avoid crossing them.’

ba) [R.K. PACHAURI] Chairman of the Intergovernmental Panel on Climate Change (IPCC), as [recorded](#) in United Nations coverage (2009): ‘While heartened that the Group of Eight (G-8) leaders had recognized the broad scientific view of limiting temperature increases to 2 degrees Celsius, he said adhering to that limit meant that global emissions had to peak no later than 2015 – just six years from now. If the United Nations did not act in time, those gathered today would be failing in their sacred duty to protect the planet.’

bb) [ROWAN WILLIAMS] Ex Archbishop of Canterbury (leader of the Anglican Communion, the 4th largest Christian Communion). Master of Magdalene college, Cambridge. Via [Envisionation](#) (2015): *Rowan Williams*: ...The timescales suggested at present for radical change threatening the stability, the viability, of humanity on this planet becomes more alarming the more research appears and that’s why we just need to be aware of all the options that might be available to us... *Nick Breeze*: Why is tackling climate change a moral issue? *Rowan Williams*: It is crystal clear to me that we are talking about moral issues here. We are not merely talking about how to make ourselves feel more comfortable. We are talking about what we owe to our fellow human beings. Given the scale of the threat, given the fact that it weighs most heavily on those least able to protect themselves, my inclinations is to say that if this question of whether carbon emissions is not a moral question then I do not know quite what is.’

ca) [ANTÓNIO GUTERRES] UN Secretary-General, [speaking](#) of hurricane damage during a visit to Caribbean islands (Oct 2017): “The link between climate change and the devastation we are witnessing is clear, and there is a collective responsibility of the international community to stop this suicidal development. And for that, it is essential that the Paris Agreement on climate change is fully endorsed and respected but also to recognize that the commitments made in Paris are not enough.”

cb) [JOAN WALLEY] Chair of the UK environmental audit committee of MPs, [said](#) (March 2014) “The UK government and Bank of England must not be complacent about the risks of carbon exposure in the world economy. The record-breaking extreme weather events causing chaos across the globe should be a wake-up call. The transition to a low-carbon economy will be much more painful if we

wait until there is a climate crisis before recognising that more than half of the world's fossil fuel reserves will have to remain in the ground.” (sometimes mal-attributed to Christina Figueres).

cc) [RICHARD DI NATALE & SARAH HANSON YOUNG] Green Party leader in Australia, [via The Australian](#) (Mar 2018): ‘said the government had been doing “everything it can to slow this country’s transition to renewable energy. Australians are bearing the brunt of their failure. In the last few days we’ve seen bushfires savage Tathra, Bega and South West Victoria. We’ve seen a cyclone hit Darwin. In Tathra we heard this morning that 70 homes and other buildings have been destroyed. In my home region of South West Victoria, 18 homes have been destroyed around the towns of Terang, Garvoc, Camperdown and Gazette. 40,000 hectares have been burnt. We are seeing climate change in our everyday lives have an impact on the risk of bushfires to our communities.”

From the same article: ‘South Australian Greens senator Sarah Hanson Young said bushfires were getting more severe and frequent, “as a result of climate change”. “I arrived in Canberra last night and I was watching the weather on the news saying that some of those coastal areas were 39 degrees yesterday, at the end of March,” Senator Hanson-Young told Sky News. “There is extraordinary changes going on in our climate, and yes, bushfires, we know the science has been telling us this for a long time, more and more extreme weather events, more severe and more frequent, is a result of climate change, and it’s one of the key reasons why we can’t take our foot off the pedal when it comes to reducing carbon emissions, reducing pollution, and that means, here in Australia, getting out of exporting more and more coal to the rest of the world, which is only going to make climate change worse”.’

cd) [MARTHINUS VAN SCHALKWYK] South African Environmental and Tourism Minister. [Via AllAfrica](#) (Feb 2006): ‘Cape Town — The Western Cape's unrelenting heat, even during the winter season, is the tip of a global warming catastrophe waiting to unfold, Environmental and Tourism Minister Marthinus van Schalkwyk warned today. Speaking at the first anniversary of the Kyoto Protocol [coming into force] here today, Mr Van Schalkwyk released scientific data on the impact of climate change that painted a gloomy picture.’

ce) [SUSHMA SWARAJ] Indian External Affairs Minister speaking at the United Nations General Assembly, [via NDTV](#) (Sept 2017): “I had identified climate change {earlier in the speech} as one of the significant dangers to our existence... ..When we inflict our greed upon nature, nature sometimes explodes. We must learn to live with the imperatives, cycles and creative urges of nature; in that lies, our own salvation. We have just witnessed hurricanes, earthquakes, rains that inundate, storms which terrify. This is not a mere coincidence. Nature sent its warning to the world even before the world's leadership gathered in New York at the United Nations through Harvey. Once our gathering began an earthquake struck Mexico and a hurricane landed in Dominica. We must understand this requires more serious action than talk. The developed world must listen more carefully than others, because it has more capacities than others. It must help the less fortunate through technology transfer and Green Climate Financing - that is the only way to save future generations.”

da) [CAROLINE LUCAS] UK MP for Brighton Pavilion, former leader and co-leader of the UK Green Party. [Via twitter](#) (Oct 2018): “With just 12 years left to avoid catastrophic climate breakdown, we need an environment secretary dedicated to working across borders to create a fairer, healthier, safer society – not a self-promoting architect of an environmentally destructive Brexit.” ([Called out by Richard Tol](#)).

db) [EVO MORALES] President of Bolivia. At Paris Climate Summit, [via The Telegraph](#) [look for 12:50] (2015): “We are here today to voice our deep concern at the dramatic effects of climate change in the world to date. These are threatening our existence and the existence of mother earth. Saving mother

earth to save life - that is our endeavour.” He makes an “urgent appeal to the Governments of capitalist powers of the world for them to stop destroying our planet irreversibly” and says “mother earth is getting dangerously close to its end... the capitalist system is responsible for that”.

dc) [DAVID CAMFIELD] A founder member from the [relatively new](#) organisation [Solidarity Winnipeg](#); author of *We Can Do Better: Ideas for Changing Society*. Teaches at the University of Manitoba. Via Canadian Dimension (May 2018): “Climate change is already happening. But the really bad news is that there’s very strong evidence that capitalism will deliver a future of catastrophic climate change that will have far-reaching effects around the world, especially in the imperialized countries of the Global South. There is a vast gap between the continuing growth of greenhouse gas emissions and the massive reductions of emissions needed to prevent widespread catastrophes. In a thoughtful article, “Revolution in a Warming World: Lessons from the Russian to the Syrian Revolutions,” Andreas Malm writes, *Lenin spoke of the catastrophe of his time as a ‘mighty accelerator’ bringing all contradictions to a head, ‘engendering world-wide crises of unparalleled intensity,’ driving nations ‘to the brink of doom’ ... Climate change is likely to be the accelerator of the twenty-first century, speeding up the contradictions of late capitalism – above all the growing chasm between the evergreen lawns of the rich and the precariousness of propertyless existence – and expedit[ing] one local catastrophe after another.* In advanced capitalist countries, we could see even more aggressive attacks on public health care, education and social services as states cut there while they spend more in response to floods, droughts and other effects of climate change. It’s easy to imagine mass international migration out of regions of the South hit hard by climate change leading to an intensification of racism and repression and the growth of fascist and other far right movements. As more catastrophes happen and cause problems for capitalists and governments in advanced capitalist countries, ruling-class strategists will attempt to come up with responses to reduce the impact of climate change and manage these problems on their terms.”

dd) [FRACK OFF] UK anti-fracking organization, [from their website](#) (sampled July 2018, the web-page says 2015): ‘Global temperatures are currently only 1 degree warmer than they were 100 years ago, which has already proved to be hugely destructive and has resulted in a huge increase in natural disasters over the past decade, and the last year in particular. Within 20 or 30 years – well within most people’s lifetime – the atmosphere’s temperature is likely to raise by 2 degrees. Although this was generally considered a “safe” temperature, the events of the past year have shown that the destructive effects of temperature increases are much more serious than most scientists expected. If we carry on at the current rate of increasing emissions, then apocalyptic temperatures are likely to be reached, with much of the Earth becoming uninhabitable and billions of people displaced... ...At a time when we should be rejecting the use of fossil fuels (coal, gas and oil), a UK-wide ‘dash for gas’ makes no sense. Fracking is a method of natural gas extraction, it accesses new reserves of fossil fuel and results in vast amounts of greenhouse gas being released into the atmosphere, exacerbating the rise in global temperature. The energy that should be invested in exploring real alternatives, is instead being directed at finding tiny pockets of gas, and is destroying the Earth in the process. While the UK is only one small part of a bigger picture, given our historical responsibility for (quite literally) blazing the trail to the end-state of industrial civilisation, the UK would probably be more influential than most in encouraging humanity to pull back from the brink.’

de) [IAN ANGUS] Author and editor of Climate and Capitalism website, [via the Socialist Worker](#) article *How can we save the planet and stop catastrophic climate change?* (July 2017): ‘The environmental conditions that have sustained human civilisation throughout its history are collapsing, capitalism is to blame and only socialism has the solution. That’s the warning sounded by Ian Angus, author and editor of Climate and Capitalism website.’

df) [JONATHON PORRITT] Program director, Forum for the Future, and chair of the UK Sustainable Development Commission (an executive non-departmental public body and company wholly owned by the UK, Welsh, Scottish and Northern Ireland government). Writing in ‘Green Futures’ [Issue 70](#), pg30/31, last paragraph (Jan 2008): ‘The collapse of the world’s banking system and the impending disaster of accelerating climate change are not separate phenomena. They are simply the most visible symptoms of a particular model of capitalism that will bring civilisation to its knees. But those symptoms will not get sorted unless and until we commit to a radical transformation of the way we create and distribute wealth in the world today.’

dg) [NAOMI KLEIN] Canadian author, social activist, and filmmaker known for her political analyses and criticism of corporate globalization and of capitalism. Awarded the Sydney Peace Prize for her activism on climate justice. From her NYT (non-fiction) bestseller listed *This Changes Everything: Capitalism vs. the Climate* pg18, [via wikiquote](#) (2014): “We have not done the things that are necessary to lower emissions because those things fundamentally conflict with deregulated capitalism. ...We are stuck because the actions that would give us the best chance of averting catastrophe—and would benefit the vast majority—are extremely threatening to an elite minority that has a stranglehold over our economy, our political process, and most of our major media outlets. ...It is our great collective misfortune that the scientific community made its decisive diagnosis of the climate threat at the precise moment when those elites were enjoying more unfettered political, cultural, and intellectual power than at any point since the 1920s.

ea) [64 CHILDREN FROM 20 COUNTRIES] Attending [Children’s Climate Conference](#) in Sweden. In addition to presenting a communiqué to the Swedish Environment Minister (Ms. Romson) to take to COP21, 3 children from the conference travelled to Paris themselves to present the document to world leaders. [Via the Manitoulin Expositor](#) (2015): ‘The communiqué, or ‘Children’s Demands,’ was written and signed through thumbprints by the 64 children who attended the conference. The document called on the adults of the world to ‘act like a kid.’

“We are the kids, and we will fight to save the world,” starts the communiqué. “We are kids, and we see our schools float away in rising water. We see the ice melting, and starving polar bears in our land. We see our water wells drying out. And we see black smoke killing people. But we will fight to save the world. We see kids, and we see typhoons hitting our home. We see big people cutting down trees, and we feel how the air sometimes is hard to breathe. We see how the forest is burning. But we will fight to save this world.”

“We are kids, and we like to play,” continues the communiqué. “We like to draw, play football and read books. We like to sing and dance. But now we will fight to save the world. We are kids, and we have to pay for mistakes that we haven’t made. You adults are giving us a world in chaos, and we are scared. But our future children should live in a better world than this. So we will fight to save the world! We are kids, we’re still young and have a lot to learn. But this is the last chance to save our planet, and we don’t have the time to grow up. Our planet is dying slowly. This has to end. That’s why we’re here to tell you adults: act like us kids – and fight to save the world!”

fa) [ÅSA ROMSON] Swedish Minister for Climate and the Environment plus Deputy Prime Minister, in [PR for a budget proposal](#) inclusive of climate / energy related investment (Oct 2014): “It is time to take responsibility. **If** the earth’s temperature continues to rise at the rate currently observed and predicted by scientists, it will have serious consequences for all life on the planet, including our own. The

new Government will therefore act at both national and global level to take the lead in this work. Sweden will pave the way and show what is possible, while working to make what is possible a global reality.”

fb) [ENDA KENNY] Prime minister of Ireland, [speech at Paris climate summit](#) (2015): “The negotiations this week will be very difficult but if we are serious then we should leave Paris with an ambitious and binding agreement that will ultimately limit global temperature increase to less than 2 degrees above pre-industrial levels. In this regard, I wish to salute the leadership the French Republic has brought to hosting the negotiations. I encourage our negotiators to bring this process to a successful conclusion next week. Let’s send the signal the world is waiting for and let us not deprive our successors and their children of a real future before they are born.”

fc) [ERNA SOLBERG] Prime Minister of Norway, [speech at Paris climate summit](#) (2015): “Norway will work constructively with all parties to make Paris a success. This is not the time for tactics or game-playing. This is the time to act and to put our best foot forward. To save our planet – together. We must live up to the world’s expectations. We must make COP21 the turning point.”

fd) [SAULI NIINISTÖ] President of the Republic of Finland, [speech at Paris climate summit](#) (2015): “Just during these three minutes, the carbon dioxide output of human kind has increased almost with 200 000 tons. This is twenty times the weight of the Eiffel tower. Outside this venue citizens, civil society and business are waiting for our leadership on turning the curve in the fight against climate change. Also future generations will look upon us. We have no choice but to agree on a Climate Agreement that can exclude the worst consequences of global warming. We don’t have a planet B, this is the only one.”

ga) [JEREMY LENT] Author and founder of the nonprofit Liology Institute, contributor to various publications such as the Huffington Post, [Resilience](#), and [Open Democracy](#) (an independent global media platform attracting over 8 million visits per year). [Via Common Dreams](#), the popular progressive news website (Sept 2017): “Imagine you’re driving your shiny new car too fast along a wet, curvy road. You turn a corner and realize you’re heading straight for a crowd of pedestrians. If you slam on your brakes, you’d probably skid and damage your car. So you keep your foot on the accelerator, heading straight for the crowd, knowing they’ll be killed and maimed, but if you keep driving fast enough no-one will be able to catch you and you might just get away scot-free. Of course, that’s monstrous behavior and I expect you’d never make that decision. But it’s a decision the developed world is collectively taking in the face of the global catastrophe that will arise from climate change.”

gb) [JOHN BELLAMY FOSTER] Professor of sociology at the University of Oregon, and since 2006 the editor of [The Monthly Review](#), the longest continuously published socialist magazine in the United States. From *A Resistance Movement for the Planet*, [an interview](#) in *Left Voice* (July 2017): ‘We are on a runaway train headed over the climate cliff as we stoke the engine with more coal to increase its speed.

... We are already facing growing catastrophes due to climate change. It is too late to avoid soaring temperatures, scarce water, and extreme weather. That ship has in many ways already sailed. The earth is going to be much less hospitable to human beings in the future. What we are trying to avoid at this point is something else: as James Hansen says, and as I quote in my article on “Trump and Climate Catastrophe”: “a dynamic situation that is out of [human] control” propelling us to a global temperature increase of 4° C or even higher, which would threaten the very existence of human civilization, and countless human beings. Even worse it would point to the possible extinction of our species. In this sense, dystopian views don’t quite get at the severity of the threat, which is greater than even the most dystopian

novel could project—after all a dystopian novel has to have at least one human remaining at least temporarily.

...In such situations optimism or pessimism are not the point. What we need is courage and determination in facing up to seemingly insurmountable odds. What we have to do is not so difficult on the face of it, if we just look at the direct ecological measures that we need to take. What makes it seem like an insurmountable problem is the monstrosity of global capitalist society.”

h) [\[RUPERT READ\]](#) Dr (philosophy). Author. Twenty+ years contributor to Philosophy department at the University of East Anglia (lately creating a center for Wittgenstein studies). Chair of Green House UK think tank. Former Green Party spokesperson plus MP and MEP candidate, and councilor (Norwich Wensum Ward 2004 to 2011). Columnist in both the local (East Anglia) and national (the Guardian, the Independent, the New Statesman) press, plus semi-regular appearances on BBC radio (3 & 4). Via [Green World](#) (Jul 2018): ‘While climate optimism may make us feel a little better about the looming climate crisis, does it inhibit the urgent, significant action needed to avoid the catastrophic civilisational breakdown threatened by runaway climate change?’

...But any which way, barring miracles, this civilization is going down. It is time we stopped engaging in the absurd contortions and pretences of ‘climate-optimism’. It’s time now for climate-realism. That entails not only an epic struggle to mitigate and adapt, an epic struggle to take on the climate-criminals, but also starting to plan seriously for civilizational decline and collapse. This planning, for the sake of brevity, means thing like: planning for greater self-reliance; building community; crafting values and a spirituality for a more local and Earthly future; creating seed-banks; learning to grow food; and getting yourself and your loved ones a knife-proof vest.

And for those Greens who simply can’t give up on the chance that we might yet get lucky and pull off a miracle, here’s the cure in the tail: we must wake up to the remorseless logic with which I began this little piece as it is possibly our best remaining (albeit slim) chance of truly appreciating just how desperate our situation now is, and thus of having some slight hope of still being able to head off the otherwise inevitable collapse that awaits us.

Furthermore, if we start living now in a way that prefigures a future in which we cannot rely on any of the accoutrements of this civilisation, then we will be starting to undergo the very transformation that this civilisation needs to survive.

...This civilisation is going down unless, just conceivably, it transforms – we transform – in revolutionary, unprecedented ways undreamt of in Paris’s philosophy.’

6. Catastrophe narrative from individual climate / environmental / other scientists (26 sources, 30 quotes)

See main post for context. See footnote 1 regarding equivalence to ‘catastrophe’, or worse. a) onwards = climate scientists, p) onwards = environmental and other scientists including meteorologists and science policy wonks. Note: the boundary between these groups is fuzzy as ‘climate’ is anyhow a cross discipline topic, and some folks come from a core area such as geology or bio-chemistry and then migrate over time into climate related studies. So, depending on quite how the line is drawn would shift which group a few particular scientists appear in. In addition, see 5ac) and 2w) above.

a) [\[ANDREW GLIKSON\]](#) Earth and Paleo-climate Scientist, Visiting Fellow at the Australian National University, Research School of Earth Science, the School of Archaeology and Anthropology, and the Planetary Science Institute, and a member of the ANU Climate Change Institute. i] Article [at LA](#)

[Progressive](#) (2016): “It follows that, where and when the majority of authoritative scientific institutions (NASA, NOAA, NSIDC, Hadley-Met, Tyndale, Potsdam, CSIRO, World Academy of Science, IPCC and so on), based on the bulk of the evidence, indicate beyond reasonable doubt that open-ended emissions of greenhouse gases inevitably lead to a major shift in the terrestrial climate, and thereby the demise of humans and of species, a toleration and/or condoning of continuing emissions by governments contravenes at the very least the spirit of international laws... . The deleterious alteration of the climate over populations and nations constitutes an assault against humanity and nature and yet, to date, while spending about \$2 trillion dollars each year on so-called “defense”, it appears human laws and institutions are paralyzed, unable to avert the portents of a climate catastrophe. While humans are in many circumstances able to negotiate, no negotiation is possible with the basic laws of physics which dominate the climate system.” ii] [via The Conversation](#) (Jan 2018): “Good planets are hard to come by.” iii] [Via Global Research](#): “Rarely has the full extent of the climate catastrophe been conveyed by the mainstream media, including the ABC, as contrasted with the proliferation of pseudo-science infotainment programs, where attractive celebrities promote space travel. ... Given a 2 to 3-fold rise in extreme weather events, signs of the impending global climate tipping points are everywhere, from hurricane-hit Caribbean islands and southeast US, to cyclone-ravaged and sea level rise-affected southwest Pacific islands, to flooded south Asian regions such as Kerala and Pakistan, to fire-devastated regions in southern Europe and California, to the Australian and east African droughts. ... Should there be a future investigation of those who have been, continue to, promote and preside over the rise in carbon emissions, with the consequent climate calamity, this would be recorded by survivors as the greatest crime ever perpetrated by the Homo ‘sapiens’.”

b) [ANDREW WEAVER] Lansdowne Professor and ex Canada Research Chair in climate modelling and analysis in the School of Earth and Ocean Sciences at the University of Victoria. i] Regarding evidence ‘now’ that humans are the main cause of Global Warming. [Via NBC News](#) (Jan 2007): “The smoking gun is definitely lying on the table as we speak,” added U.S. climate scientist Jerry Mahlman, who reviewed all 1,600 pages of the first segment of the giant four-part {IPCC} report. “The evidence ... is compelling.” Andrew Weaver, a Canadian climate scientist and chapter co-author, went even further: “This isn’t a smoking gun; climate is a battalion of intergalactic smoking missiles.” ii] [And writing](#) in the Huffington Post, also about proof of human causation for global warming (Sept 2012): ‘So here we now have a {Canadian} government willingly and knowingly committing future generations to ecological collapse and untold climate-related catastrophes. It’s fully “knowing” since they have read, and selectively quoted from, our study on the warming potential of coal. It’s “willing” because despite this, they are introducing policies that will ensure we have coal-fired electricity plants spewing greenhouse gases into the atmosphere for decades to come. Will future generations hold these ideologues in Ottawa accountable for their actions? I certainly hope so.’

c) [DAVID KAROLY] [via The Australian](#) (April 2013): ‘Eminent Australian climate scientist David Karoly has warned that by driving global warming we are “unleashing hell” on our country. Our coal exports are by far Australia’s greatest contribution to climate change at about 140 per cent of domestic emissions in 2011-12.’

d) [ERIC RIGNOT] Glaciologist and professor of Earth system science at the University of California, Irvine, and Senior Research Scientist at NASA’s Jet Propulsion Laboratory. From *Climate Change: The Elevator Pitch*, a video at [climatecrocks.com](#) (February 2015): “The science is looking at the impact of that [warming] on the climate, the impact on humans, the impact on sea-level, the impact on precipitation. It’s gonna be the impact on food production, it’s gonna be the impact on where people live; pretty serious impacts. It’s gonna be impact on bio-diversity, which in my opinion is even bigger than

sea-level rise, right, the... the decay of species. In the end, what we're saying, what most of the science is saying, is these changes are occurring very fast. We're on a very fast train heading for the wall, *and that's not good*. So we have to change, we have to change the way we live. And I often say, it's er... it's common sense. We didn't leave the stone age because we ran out of stone. We have... we have to leave the oil age, because burning oil is not good for the climate, it's not good for us. Er... but it's a huge shift in our society, it's a... it's a huge shift in the way we live."

e) [[HANS JOACHIM SCHELLNHUBER](#)] Theoretical physicist. Chief (German) government advisor on climate and related issues during Germany's EU Council Presidency and G8 Presidency. Director, Potsdam Institute for Climate Impact Research. i] In an interview with the German newspaper Saarbruecker Zeitung, via [Deutsche Welle](#) (2008): 'Schellnhuber warns that previous predictions about climate change and its catastrophic effects were too cautious and optimistic. "In nearly all areas, the developments are occurring more quickly than it has been assumed up until now ... We are on our way to a destabilization of the world climate that has advanced much further than most people or their governments realize... When only one side fails to act, industrial countries or developing countries, than [sic] a disastrous climate change will be inevitable"' ii] Personal observation by David Spratt [in the work](#) he prepared for a Senate Inquiry, 'IMPLICATIONS OF CLIMATE CHANGE FOR AUSTRALIA'S NATIONAL SECURITY', in his role within the National Centre for Climate Restoration (Aug 2017): 'Asked at a 2011 conference in Melbourne about the difference between a 2°C world and a 4°C world, EU and German government advisor, Prof. Hans Joachim Schellnhuber, replied in two words: "Human civilisation".'

f) [[HAROLD WANLESS](#)] Professor and chair of the Department of Geological Sciences at the University of Miami's College of Arts and Sciences, [communicating about climate change and sea-level rise](#) for over three decades. [Climatologist](#). In addition to geology, research on glacial melting and [sea-level rise](#), [plus](#) hurricane effects on coastal environments, evolution of mangrove coastal wetlands and anthropogenic effects on coastal and shallow marine environments. [Via Counterpunch](#) (published early Feb 2017, but most seems sourced from late 2016): "So there you have it my fellow humans: it's at least possible that we could be looking at an epic extinction event, caused by ourselves, which could include exterminating our own species, or at least what we call 'civilization,' in as little as nine years.

What is particularly galling, in thinking about this, is the prospect that eight of those last years might find us living in a country led by Donald Trump, a climate-change denier who seems hell-bent on promoting measures, like extracting more oil from the Canadian tar sands, the North Dakota Bakkan shale fields and the Arctic sea floor, as well as re-opening coal mines, that will just make such a dystopian future even more likely than it already is.

The only 'bright side' to this picture is that it may not matter that much what Trump does, because we've already, during the last eight Obama years and the last eight Bush years before that, dithered away so much time that the carbon already in the atmosphere -- about 405 ppm -- has long since passed the 380 ppm level at which, during the last warming period of the earth, sea levels were 100 feet higher than they are today.

That is to say, we're already past the point of no return and it's just the lag being caused by the time it takes for ice sheets to melt and for the huge ocean heat sinks to warm in response to the higher carbon levels in the atmosphere that is saving us from facing this disaster right now.

It is at this stage of the game either too late to stop, or we should be embarking on a global crash program to reduce carbon emissions the likes of which humanity has never known or contemplated."

g) [[JASON BOX](#)] Professor in Glaciology, and Greenland ice climatologist, based at The Geologic Survey of Denmark and Greenland (GEUS). [Via the Daily Mail](#) (Aug 2014): 'The leaking gas

from the seafloor may have its origins in collapsing clusters of methane trapped in frozen water due to high pressure and low temperature. Scientists at Stockholm University called the discovery ‘somewhat of a surprise,’ which, according to Dr Box, is an understatement. “We’re on a trajectory to an unmanageable heating scenario, and we need to get off it,” Dr Box told Brian Merchant at Motherboard. “We’re f**ked at a certain point, right? It just becomes unmanageable. The climate dragon is being poked, and eventually the dragon becomes pissed off enough to trash the place.” Same article: ... “I may escape a lot of this,” Dr Box told Motherboard, “but my daughter might not. She’s three years old.”

h) [JAMES HANSEN] Up to 2013, head of NASA GISS. i] In [Guardian article](#) (Feb 2009): “Only in the last few years did the science crystallize, revealing the urgency - our planet really is in peril. If we do not change course soon, we will hand our children a situation that is out of their control.” From his book *Storms of My Grandchildren* (2011): “Planet Earth, creation, the world in which civilization developed, the world with climate patterns that we know and stable shorelines, is in imminent peril.” ii] In a National Public Radio [interview with Guy Raz](#) (April 2017): “Imagine a giant asteroid on a direct collision course with Earth. That is the equivalent of what we face now, yet we dither taking no action to divert the asteroid.”

i) [KEVIN ANDERSON] Deputy Director, Tyndall Centre for Climate Change Research. In *The Scotsman*, via his [wiki entry](#) (2009): ‘Current Met Office projections reveal that the lack of action in the intervening 17 years – in which emissions of climate changing gases such as carbon dioxide have soared – has set the world on a path towards **potential** 4C rises as early as 2060, and 6C rises by the end of the century. Anderson, who advises the government on climate change, said the consequences were “terrifying”. “For humanity it’s a matter of life or death,” he said. “We will not make all human beings extinct as a few people with the right sort of resources may put themselves in the right parts of the world and survive. But I think it’s extremely unlikely that we wouldn’t have mass death at 4C. If you have got a population of nine billion by 2050 and you hit 4C, 5C or 6C, you **might** have half a billion people surviving”.’

j) [[MICHAEL MacCRACKEN](#)] Chief scientist at the Climate Institute in Washington. Until 2001, he coordinated the US government’s studies of the consequences of global warming. [Via CBS News](#) (Mar 2007): “We’re on a path to exceeding levels of global warming that will cause catastrophic consequences, and we really need to be seriously reducing emissions, not just reducing the growth rate as the president is doing.”

k) [MICHAEL OPPENHEIMER] Professor of geo-sciences, Princeton (and has taken a leading role in various environmental and science policy related activities, especially with regard to acid rain). [Via Reuters](#): ‘Scorching heat, high winds and bone-dry conditions are fueling catastrophic wildfires in the U.S. West that offer a preview of the kind of disasters that human-caused climate change could bring, a trio of scientists said on Thursday. “What we’re seeing is a window into what global warming really looks like,” Princeton University’s Michael Oppenheimer said during a telephone press briefing. “It looks like heat, it looks like fires, it looks like this kind of environmental disaster... This provides vivid images of what we can expect to see more of in the future.”

l) [PAUL BECKWITH and JOHN NISSEN] Paul: Physicist and [part-time Professor of geography](#) at the University of Ottawa and [Climate System scientist](#). John: Chair of the Arctic Methane Emergency Group (AMEG). [AMEG press conference](#) at COP20 in Lima (Dec 2014): Paul – “... We feel in AMEG that we carry a burden, erm of knowledge about... that, that scares us regarding the, the er, how the climate change, how, how, the climate system, how quickly it can respond, how quickly it can change, and we feel this two degrees Celsius message that is, we hear all the time from the IPCC is not really the

benchmark that is important. So, I'd like to introduce er, John Nissen the chairman of AMEG, and he will go into the details of, of what, what we've just determined."

John – "...Climate change is happening now, it's the weird weather, er that you've, er been exhibited all over the northern hemisphere. Erm, and, and it's about to get far worse. The abrupt climate change the world has been observing recently is, is, due to Arctic warming. The Arctic has been warming much faster than the rest er, of the planet. **If** the Arctic continues to warm, things will get worse and worse, and we'll end up with that situation described in the New York Times, here when the planet will become uninhabitable I'm afraid. So... that's, and that's happening *now*. And we've got to *stop it*. So, what's going on? Well, er the Arctic has started a vicious cycle of warming and melting. This is the start of a runaway meltdown of the, of, of the whole of the Arctic icecap. It has to be stopped. AMEG believes that it *can* be stopped by cooling the Arctic quickly, an' we have some top engineers advising us how that can be done. The public is not being told the truth about Arctic meltdown. Governments are doing nothing to stop Arctic meltdown. This is why I'm giving this press conference, we need action."

m) [PETER WADHAMS] Professor of Ocean Physics, and Head of the Polar Ocean Physics Group in the Department of Applied Mathematics and Theoretical Physics, University of Cambridge. President of the International Association for the Physical Sciences of the Oceans Commission on Sea Ice. Via the [Cambridge Independent](#) (Oct 2016): 'Professor Wadhams is not convinced reducing carbon emissions, planting forests or even expensive geo-engineer projects to reflect sunlight away from the earth will be enough to save the planet. The level of carbon dioxide in the atmosphere is already too great. But he has not given up hope. "What is needed is new technology, a method of large scale filtering of the air to take the carbon dioxide out. This is a system not yet invented but not beyond the ingenuity of scientists if we spend the money on research. We need to do this if we are to save the planet from catastrophic consequences," he said.'

n) [VEERABHADRAN RAMANATHAN] Victor Alderson Professor of Applied Ocean Sciences and director of the Center for Atmospheric Sciences at the Scripps Institution of Oceanography, University of California. [Via The Hill](#), (May 2018): "As a co-chair of this report I can state that it was excruciating to arrive at the existential threat conclusion. But the massive data we reviewed left us with no other option. The very conditions on which human civilization has depended for the last 12,000 years are threatened by human ideologies, actions and systems that perpetuate climate change. Unchecked climate change can expose 70 percent of the population to lethal heat stress in addition to record-breaking storms, floods, extreme droughts and fires, exacerbating socioeconomic inequalities, and marginalizing the vulnerable from participation in society. But, the report left out something crucial that here I would like to address. It is not that nothing can be done to avert such a global catastrophe; far from it. As shown by numerous reports there are many scalable solutions to reduce the warming almost by half within 30 years and stabilize the warming below dangerous levels. We have about 10 years to deploy these solutions. If such solutions are available, why are they not already being implemented? Because knowing is never enough! Something beyond knowledge must move the will to take actions. What is that something? Today, untruth competes with truth to muddy the issue of climate change. The faith community can transcend divisions and bring together people of different perspectives to seek the truth and work for a moral revolution urgently needed for a sustainable relationship with nature: One where humankind challenges notions of domination over nature and sees itself as part of nature... ...Climate change is an existential threat that will require unprecedented cooperation between divergent sectors and members of society. As a climate scientist, I know that the faith community is critical to the process. I therefore urge persons of all faiths to prophetically help lead the nation towards a world of climate stability that safeguards the common home we all share."

o) [WARREN WASHINGTON] A [senior scientist at NCAR](#). Via [Scientific American](#) (April 2009): ‘Drastic, economy-changing cuts to greenhouse gas emissions will spare the planet half the trauma expected over the next century as the Earth warms. And that’s the good news. Because failure to significantly curb these planet-warming gases will truly transform our world in less than 100 years. A new study to be published by scientists at the National Center for Atmospheric Research finds that a 70 percent cut in emissions should stabilize temperatures at a mark not too much higher than today. Such a cut, most experts agree, would require vast retooling of a fossil-fuel-based economy and an unprecedented level of global cooperation. But that major effort to slash emissions, the scientists warn, won't stop global warming. The question confronting politicians throughout the world, in other words, is not whether they want the planet to warm: It is to what degree. “We can no longer avoid significant warming during this century,” NCAR scientist Warren Washington, the lead author, said in a statement. But “we could stabilize the threat of climate change and avoid catastrophe.”’

p) [[ANTHONY RICHARDSON](#)] Professor at University of Queensland. Research interests: impacts of climate change, marine ecology, and analyses of large datasets using modern statistical techniques. Via [‘Is this is how you feel’](#) (2015):

“How climate change makes me feel.

I feel a maelstrom of emotions

I am exasperated. Exasperated no one is listening.

I am frustrated. Frustrated we are not solving the problem.

I am anxious. Anxious that we start acting now.

I am perplexed. Perplexed that the urgency is not appreciated.

I am dumbfounded. Dumbfounded by our inaction.

I am distressed. Distressed we are changing our planet.

I am upset. Upset for what our inaction will mean for all life.

I am annoyed. Annoyed with the media’s portrayal of the science.

I am angry. Angry that vested interests bias the debate.

I am infuriated. Infuriated we are destroying our planet.

But most of all I am apprehensive. Apprehensive about our children’s future.”

q) [DANA NUCCITELLI (Dana1981)] Environmental scientist, risk assessor, and [climate columnist](#) at the Guardian. In a [posting](#) at Sceptical Science (Sept 2007): “If we continue forward on our current path, catastrophe is not just a possible outcome, it is the most probable outcome. And an intelligent risk management approach would involve taking steps to prevent a catastrophic scenario if it were a mere possibility, let alone the most probable outcome. Climate contrarians will often mock ‘CAGW’ (catastrophic anthropogenic global warming), but the sad reality is that CAGW is looking more and more likely every day. But it's critical that we don't give up, that we keep doing everything we can do to reduce our emissions as much as possible in order to avoid as many catastrophic consequences as possible, for the sake of future generations and all species on Earth.” [Print version](#).

r) [DAVID PAGE] Dr. A terrestrial geologist [researching the rocky planets](#) of the inner Solar System, and the parallels of [methane-clathrate destabilisation](#) on Mars and Earth. Via [Arctic News](#) (April 2018): “Let us have no more ‘scientific reticence’ about Arctic methane. Earth at 1 AU is forever on the 0.97-0.99 AU margin of runaway warming (Kopparapu et al., 2013). To see what that's like, we need only look to our *other* nearest planetary neighbour {Venus} and carry on with 'Business-As-Usual'. For the \$3-trillion that was spent a decade ago bailing-out the shareholders of two corrupt mortgage lenders and a failing bank we could have built enough offshore wind turbines to power the entire planet, fixing

dangerous climate-change globally and permanently. If we're lucky, we may have a decade remaining to fix it now.” (some discussion of this theory on a [RealClimate thread](#)).

s) [[JEFF MASTERS](#)] Ex flight meteorologist for NOAA hurricane hunters. Phd in air pollution meteorology. Co-founder and Director of Meteorology for the Weather Underground company. Via private message to Joe Romm, quoted in Joe’s post [Year of Living Dangerously](#), at the Think Progress blog (December 2010): ‘Here’s what Dr. Masters wrote me: In my thirty years as a meteorologist, I’ve never seen global weather patterns as strange as those we had in 2010. The stunning extremes we witnessed gives me concern that our climate is showing the early signs of instability. Natural variability probably did play a significant role in the wild weather of 2010, and 2011 will likely not be nearly as extreme. However, I suspect that crazy weather years like 2010 will become the norm a decade from now, as the climate continues to adjust to the steady build-up of heat-trapping gases we are pumping into the air. Forty years from now, the crazy weather of 2010 will seem pretty tame. We’ve bequeathed to our children a future with a radically changed climate that will regularly bring unprecedented weather events—many of them extremely destructive—to every corner of the globe. This year’s wild ride was just the beginning.’

t) [[JOHN HOLDREN](#)] Originally trained in aeronautics, astronautics and plasma physics. Science policy advisor. See in article for positions held; [via the Belfer centre](#) (2006): As President of the American Association for the Advancement of Science—the largest general science society in the world and the publisher of the journal SCIENCE—Holdren’s focus is on strengthening efforts worldwide “to deploy science and technology more effectively in support of sustainable well-being for all of the Earth’s inhabitants.” An important part of this focus is addressing the challenge of climate change. “Global climate change is the most dangerous and the most difficult of all the environmental problems that humans have ever caused and probably will ever cause,” Holdren says in a AAAS video. “We are in the situation of driving an automobile with bad brakes toward a cliff . . . in the fog,” he says. “The auto is the world’s energy-economic system and the cliff is climate-change catastrophe. We don’t know exactly where the cliff is because of the uncertainties in climate science —the fog—but that is hardly a consolation, or a reason not to try to slow down.”

u) [[JOHN SCALES AVERY](#)] Lektor Emeritus, Associate Professor, at the Department of Chemistry, University of Copenhagen. Via [Human Wrongs Watch](#) (April 2016): “In an amazing display of collective schizophrenia, our media treat oil production and the global climate emergency as though they were totally disconnected. But the use of all fossil fuels, including oil, must stop almost immediately if the world is to have a chance of avoiding uncontrollable and catastrophic climate change.”

v) [[GIDEON POLYA](#)] [Bio-chemist](#), author, activist. See [Inquiry Submission](#) to Australian Senate Select Committee on Climate Policy. [Via MWC News](#) (2015): “The world faces catastrophe unless global warming and this Arctic CH4 release can be stopped. Unaddressed man-made climate change is set to exacerbate an already worsening climate genocide and cause 10 billion avoidable deaths this century leaving a predicted only 0.5 billion of Humanity alive. Presently about 7 million people die annually from the effects of pollutants from carbon fuel burning and 0.4 million people die annually from the effects of climate change. 17 million people die avoidably each year from deprivation but if climate change is not requisitely addressed an average of 100 million people will die avoidably each year this century. This is state terrorism-sanctioned corporate terrorism, carbon terrorism and climate terrorism.”

w) [[GUY McPHERSON](#)], Professor Emeritus of Natural Resources and Ecology & Evolutionary Biology at the University of Arizona. Via his [Nature Bats Last](#) site, (2011): “About a decade ago I realized we were putting the finishing touches on our own extinction party, with the party probably over by 2030. During the intervening period I’ve seen nothing to sway this belief, and much evidence to

reinforce it. Yet the protests, ridicule, and hate mail reach a fervent pitch when I speak or write about the potential for near-term extinction of *Homo sapiens*...

We're headed for extinction via global climate change. It's hotter than it used to be, but not as hot as it's going to be. The political response to this now-obvious information is to suspend the scientist bearing the bad news. Which, of course, is no surprise at all: As Australian scientist Gideon Polya points out, the United States must cease production of greenhouse gases within 3.1 years if we are to avoid catastrophic runaway greenhouse. I think Polya is optimistic, and I don't think Obama's on-board with the attendant collapse of the U.S. industrial economy."

x) [[MAYER HILLMAN](#)] Architect, town planner, social scientist, policy advisor. Senior Fellow Emeritus of the Policy Studies Institute (and former head of its Environment and Quality of Life Research Programme). Member of, among others: New Economics Foundation, Soil Association, UK Public Health Association, Scientists for Global Responsibility. [Via the Guardian](#) (2018): "We're doomed," says Mayer Hillman with such a beaming smile that it takes a moment for the words to sink in. "The outcome is death, and it's the end of most life on the planet because we're so dependent on the burning of fossil fuels. There are no means of reversing the process which is melting the polar ice caps. And very few appear to be prepared to say so." Hillman, an 86-year-old social scientist and senior fellow emeritus of the Policy Studies Institute, does say so. His bleak forecast of the consequence of runaway climate change, he says without fanfare, is his "last will and testament". His last intervention in public life. "I'm not going to write anymore because there's nothing more that can be said," he says when I first hear him speak to a stunned audience at the University of East Anglia late last year.'

y) [[ROBIN RUSSELL-JONES](#)] Medical doctor, environmental scientist and Chair of Help Rescue the Planet, an educational charity dedicated to minimizing air pollution and mitigating climate change. [Via The Ecologist](#) (Jun 2016): "The problem is that no one knows exactly when this [major Arctic methane release] is likely to occur, so the IPCC describe it as a high impact, low probability event, and then exclude it from their models predicting likely temperature rises over this century. Other people take the view that such an event is inevitable and that we are playing Russian Roulette with the future survival of human civilisation as we know it. Furthermore our data indicates that this process has already started. It is one of the main reasons why the global warming target was lowered in Paris last year from 2 to 1.5 degrees Celsius. For that target to be met, we need to abandon fossil fuels in favour of renewables and energy conservation so that 100% of electricity is being generated from non-fossil fuel source by 2030. If we do nothing, we are looking at an environmental catastrophe that human civilization is unlikely to survive. And if we fail in this endeavor, I fear that future generations will never forgive us."

z) [[THOMAS GOREAU](#)] Degrees in planetary physics (MIT) and planetary astronomy (CalTech), plus Phd in biogeochemistry (Harvard). President of the Global Coral Reef Alliance and member of the Jamaican delegation to the UNCCC. Previously Senior Scientific Affairs Officer at the United Nations Centre for Science and Technology for Development, in charge of Global Climate Change and Biodiversity issues. [Briefing '350 PPM is a death sentence'](#) to AOSIS at the Copenhagen Climate Change Conference (Dec 2009): "The long-term sea level that corresponds to current CO2 concentration is about 23 meters above today's levels, and the temperatures will be 6 degrees C or more higher. These estimates are based on real long term climate records, not on models. We have not yet felt the climate change impacts of the current excess of greenhouse gases produced by fossil fuels, and the data shows they will in the long run be many times higher than IPCC models project..."

Current 'targets' for CO2 being discussed by UNCCC are way too high to prevent the extinction of coral reefs (which can take no further warming, since most corals have died in the last 20 years from heat shock) and the disappearance of all low lying islands and coastlines where billions of people live.

Even a target of 350 ppm is UNACCEPTABLE if we are to avoid dangerous interference with the Earth climate system, causing inconceivable ecological, environmental, and economic disaster. Global warming must not be allowed to continue as would happen by stabilizing CO2 and temperature at present levels. Greenhouse gas buildup MUST BE REVERSED, and CO2 reduced to levels of around 260 ppm, below Pre-Industrial levels. The technologies to do so are proven, cost effective, and capable of being rapidly ramped up, but are not being used on the scale needed due to lack of serious policies and funding to reverse global warming and stabilize the climate system at safe levels. THAT IS WHAT AOSIS AND UNCCC MUST ACCOMPLISH IF WE ARE TO PRESERVE OUR PLANET’S LIFE SUPPORT SYSTEMS FOR FUTURE GENERATIONS. The solutions are already in hand. Let’s all get serious and stop stealing our children’s future!” (Capitalization is original).

7. Miscellaneous catastrophe narrative variants from individual climate / other scientists (24 sources, 26 quotes)

See the main post for context. See footnote 1 intro regarding equivalence to ‘catastrophe’, or worse. This footnote is similar to footnotes 3,4 and 5 (see intros there for more explanation of the variant categories), but specifically featuring narrative from scientists. Two more variants, *merchants of doubt* and *irony*, are added on the end. NOTE: These categories are not always discrete and can flow into each other or combine. Variants listed here include:

Emotively overwhelmed conditionals

See first the intro to footnote 3 for further context. Examples ac), ad) and ae) are pretty standard, but example ab) is much subtler and more interesting. Framed in terms of scientific curiosity, a laudable motive, this example nevertheless includes several emotively phrased story-lines which collectively overwhelm the presented conditionals (i.e. that the answers to ‘how hot will it get’ and other questions, are indeed not known). To highlight this construction the example is bolded differently to the others, emphasizing the emotive story lines. So, the ‘unknown’ in regards to temperature is not ‘just’ unknown, but *terrifyingly* unknown. This word will bias reader interpretation towards a pre-supposition of greater likelihood for being very hot, and also a greater likelihood of severe impacts from being hot. All of the industrial era temperature rise is also attributed to humans (this may or may not turn out to be true, but there are no caveats stated regarding the current uncertainties and possible natural contributions, hence giving a false impression of certainty). The temperature is not stated just to continue to rise, but to *skyrocket*. This word will be interpreted as meaning an abrupt very high vertical rise, yet even where significant acceleration is strongly anticipated according to the more severe IPCC scenarios (and ‘sure’ also implies there is no uncertainty whatsoever), this would not be the case. The ‘catastrophic for *no-one*’ option is omitted, yet in terms of ‘no more than current (natural) catastrophes’, albeit maybe different ones, this possibility exists within mainstream science, even absent severe emissions cuts in line with the push around SR15, say. Nor are any extra caveats assigned to ‘catastrophe for all’, despite in mainstream science all the hedging and uncertainty around same; plus ‘catastrophe for some’ from extreme weather has always occurred, and this alternative will continue anyhow whether or not man-made CC increases a general occurrence. In reader’s minds, all this will further weight some poorly bounded possibilities (of dramatically worse than now scenarios) towards greater likelihood within a well-bounded space, and this promotion is then further cemented by raising subtle questions about the future of civilization (i.e. an implication that it may not actually have one due largely to CC) and indeed the state of the planet itself. While by no means are these scenarios stated to be inevitable or even likely, and indeed the very question posed is whether they’ll occur, it’s also the case that the general nature of these scenarios, i.e. conjectural / not well bounded / possibilistic, is not emphasized either, which will thus lead to a reader assumption

that such negative outcomes are more likely, where ‘likely’ itself will also be assumed to stem from well-bounded investigations (despite they are ongoing: ‘I want to find out’). This framing sets a very biased expectation about the likely answers to perfectly legitimate questions. The quote is in the vernacular, and despite being in a science-based magazine, indeed scientific language is not expected. But use of the vernacular does not preclude more balance in a similar fashion, and ‘terrifyingly’ plus ‘skyrocket’ owe more to emotion and narrative influence than to mainstream science. To her credit Marvel states that her text does *not* reflect the official view of those institutions for whom she works, but unfortunately then adds “although it damn well should”. This seeds a storyline that administrative sclerosis or incompetence or whatever is holding back true science, avoiding the possibility that a wider scientific perspective might actually challenge Marvel’s narrative. Indeed, the entire tenor of Marvel’s article is that the full weight of the authority of science backs everything within it, and hence in the reader’s mind, the emotive storylines too. The sign-off that ‘great certainty and great ignorance can coexist with each other’ appears to be having one’s cake and eating it. I.e. emotive certainty we’ll evolve to a Mad Max dystopia (see full text) if we don’t cut emissions, yet with some plausible deniability that science actually tells us this. Marvel manages to trump the above in another unusually pitched and emotive article in *Scientific American*, a [Halloween Special](#) that might in fact defy categorization. The first paragraph includes: ‘...*trust me, as a climate scientist, I’m frightened every day. Watching our best projections of future climate is like watching a horror movie you can’t walk out of.*’ Then this movie is précised. Note: dishonesty is *not* implied in any such articles, merely the kinds of bias that accompanies a passionate belief in cultural narratives.

Example aa) holds some interest too, see especially the extension note on the end of this example. While conditionals such as *may, might, could be*, are overwhelmed by emotion and also spurious certainty elsewhere within the text (e.g. ‘totally hand over our fate’, and a fundamental re-orientation of society ‘is’ required) in the normal manner of this narrative variant, the form of aa) and its highly emphatic nature also achieve a *morphed conditional*. I.e. the aforementioned conditionals appear initially to represent scientific caveats, so to do with the state of knowledge of the climate system and the unknowns within its complexity (which albeit being overwhelmed is good re providing at least some balance to those who may be more perceptive). Yet later text such as: ‘We can avoid the hothouse scenario but it’s going to take a fundamental re-adjustment of our relationship with the planet’, alters the framing enough to imply that the prior conditionals are only expressing what will or won’t happen depending on the action of society, per the authors’ various recommendations. Albeit vague and contradictory (which assists with both author conscience and a maximum range of interpretation – which in turn assists with narrative propagation), the conditionals have morphed from looking like scientific ones into looking like policy ones. This narrative trick is not uncommon, yet its appearance does not imply any conscious deception or nefarious agenda, the narrative variant is simply emergent due to high selective value, and those who propagate it no doubt have full, genuine and honest belief in the high ideals and veracity of their words, which is *why* they are so energetically propagated. Several examples verge on *morphed conditional* form, but the conditionals have to look as though they’re to do with science in the first place, which is not always the case.

See also 6i) and 6l) for more examples of *emotively overwhelmed conditionals* from scientists.

Fear plus hope

See first the intro to footnote 4 for further context. ba), bb), bc) and bd) are all pretty standard.

Example bc) is also combined with *engaging anxiety for children*.

Both of above

See examples ca) and cb).

Engaging anxiety for children

See first the intro to the *engaging anxiety for children* section of footnote 5 for context.

Diverse and creative emotive phrasing is sometimes a challenge to categorize. Yet given the very high emotional investment in example da), plus mention of ‘stealing the future from my daughter’ (sets a near-term timescale) and ‘destruction’ of the ‘life-support system that keeps us all alive’, and fossil-fuel as main causation (thus man-made CC), this quote speaks more about the climate catastrophe narrative, whether from general influence or from personal theories, than it does to mainstream climate science. Not to mention featuring a small dose of conspiracy theory too, in the *merchants of doubt* vein. While people typically express themselves much more bluntly when their emotions are aroused, often tending to over-emphasize, this indeed is part of the main point about how the catastrophe narrative spreads. And too, how it will be perceived when coming from an authority source (in this case a respected scientist) by an unsuspecting public. Whether Bradshaw’s dire expectations prove one day to be groundless, or indeed accurate, they will meanwhile propagate on the back of this emotive expression, i.e. not due to reason, also encouraging an inappropriate vengeance culture, and further do not align to the mainstream position. Example db) is pretty standard, though like 5aa) emphasizes guilt for inaction more than anxiety, albeit still via playing the children card. See also 6g), 6h), 6p), 6s), 6z), 7bc), 7fa) and 7fb) for more of this narrative variant from scientists.

Attribution reinforcement

eb) is a very straightforward example, whereby a variety of types of extreme weather events all across the globe are stated as occurring ‘in patterns and with fingerprints that tie them directly to the changes in climate that humans are causing’, thereby forming apparently hard evidence that we must support efforts ‘to avoid catastrophic impacts of climate change’. But mainstream science per AR5WGC does not claim it can distinguish with such certainty between the natural extreme events that have always occurred and those that might be due to man’s activities (or alternatively, attribute with high certainty the clear contributions for any single event). Nor for most types of such events is an increase in occurrence actually claimed by the IPCC / AR5WGC anyhow (albeit the implication on this issue from mainstream sources may typically be, ‘yet’).

It is inappropriate to imply that a high certainty of global catastrophic climate change, an emotive narrative not supported by mainstream science, also means a high confidence of anthropogenic attribution to specific weather events. The emotive threat of catastrophe, both global and local, in the latter case often amplified by raw feelings that emerge during actual local disasters, is redirected by this narrative variant to reinforce in readers’ minds a strong belief in a primarily anthropogenic causation for extreme weather events. If it was made very clear that a high certainty of catastrophic climate change was a product of *minority* science, this would be a reasonable caveat that might cause readers to be warier of attribution confidence too. But that never seems to get stated, and many expressions claim the authority of the ‘best scientists’ or the 97% or just ‘science’, hence implying the mainstream.

Ultimately, even if mainstream attribution studies were as advanced as example eb) suggests, it would still be inappropriate to link the extreme events to a generalized concept of certain (absent action) global catastrophic climate change that is not supported by mainstream science. (*Note:* albeit [disputed by mainstream sources](#), some papers post AR5 are [claiming to know](#) at least how much the anthropogenic contribution to date increases the odds of certain particular extreme [observed] events, typically through comparing the detailed observed conditions to modelled conditions absent AC02. Yet even within this more limited context, and if time also proved the modelling skill and therefore such claims as correct, mainstream science does not at this time claim the sum of any such events leads to a high certainty of imminent global climate catastrophe, which *attribution reinforcement* narratives *are* claiming. If more such papers appeared, with attributions to anthropogenic contributions all being high across many / most

events, and with high confidence too, then such a sum might one day hold and be accepted as mainstream. But on that day, ‘CAGW’ could reasonably be used to describe mainstream science).

ea) is a more interesting example, which is *not* of straight global catastrophe but chosen for its subtle extrapolation of a local ‘catastrophe’ that is attributed to climate change, into global implications. The local catastrophe, a steep population decline of Adelie penguins at Palmer, Antarctica, cannot via mainstream science be attributed with ‘no doubt’, as Fraser states, to climate change. The unusual (‘relentless, dire’) weather for the area cannot for certain be separated from natural excursions, in order to say that this is a ‘bitter scenario produced by climate change’.

[At the time the population dynamics of Adelies were not well enough known, and don’t appear to be even now, for citing this as a species catastrophe to be confident, which situation is nevertheless implied. E.g. see later discoveries [here](#), [here](#), and [here](#). These links by no means exonerate climate change as a significant species impact (or indeed other potential human impacts, e.g. fishing). But clearly even major populations, including that of 1.5M birds on the Danger Islands just 500Km North and East of Palmer (both locations are towards the end of the West Antarctica peninsula) and ‘seemingly unaffected by climate change’, were not then mapped, let alone the dynamics across all the populations. However, whether in context time will still judge the decline of the Palmer population as a catastrophe, is not the primary issue. Meanwhile, as of the last link above (from March 2018), the causal drivers of the ‘sharp increases’ and ‘marked declines’ in local populations, ‘remain unknown’.]

Via the title ‘*What can dying penguins tell us about the future of the planet?*’, plus the references to Alley’s concept of climate flipping, and ‘prologue to the way climate change can happen’, and ‘a clear, stripped-down preview of what could occur elsewhere’, very serious implications for the whole planet are pulled into the emotive storyline of this article, for which angle support is ultimately based upon this local catastrophe being unequivocally (i.e. false certainty) attributed to climate change.

There are also *emotively overwhelmed conditionals* at work here. For instance, it is stated that ‘we do not know the mechanisms delivering this weather’. Yet this caveat is indeed overwhelmed by Fraser’s ‘no doubt’, and Hooper’s constant theme emphasizing that the ‘bitter scenario’ is one which science can and has ‘unpacked’ in a very straightforward manner, so implying that the climate change culprit is easily identifiable. The surface characteristics are no doubt ‘unpackable’, but such doesn’t imply mainstream science can at this time explain the deeper causation of events. Aiding Hooper’s storyline (with Fraser’s quote) are emotive spice-ups such as ‘relentless, dire’ weather, ‘ferocious summer’, ‘bitter scenario’, and even a biblical style portent for this Antarctic region and hence the planet too (the ‘rainbow’ story at the end). Plus, an emotive anthropomorphization of the penguins: ‘*There isn't a sense of a society engaged in group activity. Last time, each colony, each subset, seemed to me like a suburb, most households roughly similar. Now the rookery feels like an urban city in a war zone. Some colonies are reasonably active, some almost non-functioning. But in general the city is severely depleted.*’

Moral association

See first the intro to the *moral association* section of footnote 5 for context. Both fa) and fb) also incorporate *engaging anxiety for children*.

Agenda incorporation

See first the intro to the *agenda incorporation* section of footnote 5 for context. Example g) pitches for a ‘one-world’ society plus governance, and also features a (medical) *terminal metaphor*. See also 7aa), which is related to g) via the contribution of Schellnhuber to both.

Terminal metaphors

These compare the scenario of Earth (or humanity) under conditions of man-made climate change, to every-day real-life scenarios (or sometimes fantasy scenarios) having a terminal outcome (i.e.

death), or at least a very high probability of terminal outcome (absent urgent action, which as a part of the metaphor is the equivalent of emissions reduction). E.g. Earth as a very ill person who is dying of a dire disease (which is anthropogenic climate change). The great simplicity of such metaphors opens the door wide for bias, because all the scientific hedging and caveats and balanced considerations are typically not promoted into the comparative scenario (indeed this would be very hard in most cases); the metaphor expression simply loses all of these. Hence the emotive message that Earth or humanity (or ‘all life’) simply dies i.e. a catastrophe narrative in other guise. Bias is especially likely for folks who are unaware of the scientific caveats anyhow (so the great majority of the public), and who may already have been subject to and digested prior catastrophe narratives. Yet bias is in any case very likely across the board; such metaphors emerge precisely because of their simplicity and consequent focused emotive punch regarding the death of the planet (or life or civilization, depending upon the precise form deployed). Some texts including terminal metaphors do maintain a caveat (or more), yet typically outside of the metaphor section itself. Hence the full text is contradictory, emphasizing a high certainty of terminality at one point, yet indicating a lesser probability elsewhere. Quite apart from having the same impact as the above examples of *emotively overwhelmed conditionals* (i.e. the emotive part of the text, the metaphor, will win out over the more objective / less emotive caveat within public perceptions), a crucial issue regarding emotive narratives is that they are frequently retransmitted shorn of context anyhow. So, in this form the metaphor alone may be built into the next person’s narrative as an embedded quote or paraphrase or whatever. Hence in such cases, the catastrophe narrative escapes into the wild without the partial bounds its original expression contained.

Example hc) portrays the Earth as a very sick person, who is ‘slipping away from us’ (due to climate change), and for whom we must not pretend that their ‘acute’ and ‘desperately ill’ state could not lead to death (absent action). This example also includes fear and hope, plus urgency, claiming ‘we can cure this terrible illness’, but being against the clock only if we act together / quickly / now. Example hb) uses the same metaphor for the Earth suffering with climate change, though it is not quite so strongly framed. Nevertheless, the illness is said to be ‘dire’ on a current diagnosis, and that we will observe a ‘shortened life’, which as a metaphor for the planet cannot mean much less than catastrophe as ‘the pain and illness unfold’. This example also claims a special relationship between climate scientists and the planet, a certain ‘closeness’, which essentially emotive connection is really about establishing a sense of privileged authority (by no means indicating any deliberate ploy – such things can be genuinely lived / felt, yet nevertheless climate scientists have no special such claim upon the planet, and neither is Earth in any case responsive in the same way a patient can be to a doctor through their ‘closeness’). Example ha) uses a different metaphor, whereby the oblivious population of the Earth are compared to the occupants of a boat heading towards a powerful waterfall, the obvious implication being that the boat will sink and the occupants drown – a catastrophic outcome. Urgency is featured here too, there is apparently sufficient time to navigate the current / prepare, such that we ‘only lose some equipment’, not the people. Yet despite that possibility ‘time is running out’ and ‘no one acts’. So, a high likelihood of terminal outcome is planted into readers’ minds.

Example hc) attempts to turn an uncertainty argument into *terminal* certainty, as the chances of survival after hitting a brick wall at 80 km/h are essentially zero, on the assumption there’s no magical equivalent of airbags within the climate, and the brakes are indeed not pushed (i.e. emissions aren’t cut).

See also 1v) suicide, 2e)ii] a giant car heading towards a brick wall, 2u) drunk driver and inevitable car wreck, 3l) ‘Global Warming is Now a Weapon of Mass Destruction’ [rather ironic given the WMDs Blair previously used as a justification were never in fact found], 4b) We are careering towards the edge of the abyss, 5ac) children in burning house with no help, 5ca) suicidal, 5ga) shiny new

car driving too fast on a wet, curvy road, heading straight for a crowd of pedestrians, 5gb) a runaway train headed over the climate cliff as we stoke the engine with more coal to increase its speed, 6b) climate is a battalion of intergalactic smoking missiles, 6c) by driving global warming we are unleashing hell, 6d) very fast train heading for the wall, 6g) the climate dragon is being poked, and eventually the dragon becomes pissed off enough to trash the place, 6h) Imagine a giant asteroid on a direct collision course with Earth. That is the equivalent of what we face now, 6t) automobile driving with bad brakes toward a cliff in the fog, 6v) Unaddressed man-made climate change is... state terrorism, sanctioned corporate terrorism, carbon terrorism, climate terrorism, 6y) playing Russian Roulette with the future survival of human civilization [traditionally this is just a one in six chance when using a six-chamber revolver], 7ea) biblical portent of Noah type floods, 8a) comparison to World War III (very probably not terminal for everyone, but assuming it's nuclear and truly a *world* war, terminal for large swathes of humanity and on a timescale far shorter than anything mainstream science proposes as likely for climate change. Plus, example 3a) invokes T.S. Eliot's famous lines to raise up emotive speculation about the end of the world

(Irony)

One can almost admire the comedic irony via which an apparently inevitable and near-term demise of humans due to our fossil fuel (hence climate change) impacts, is so casually expressed in example i). Comedic irony is a long-established rhetoric technique, yet in this case the transmitted catastrophic concept doesn't align to *mainstream* climate science, and this isn't made clear.

Merchants of doubt

The accusation against fossil fuel companies for systemic misinforming seems to be tenuous at best and likely flawed, compared to a strong historic case against tobacco companies; indeed the formal case [seems to be struggling](#). Yet whether or not there is significant mileage in this *merchants of doubt* proposition, implying that the same level of certainty behind the tobacco / cancer linkage underwrites *global climate catastrophe* (absent serious emissions reduction), which is what example j)i] does ('truly catastrophic climate change' / 'no planet B'), is inappropriate. Indeed, implying that such certainty is a mainstream understanding resisted only by a subset of conservatives, is directly counter to the fact that *mainstream* science does not have such an understanding about the certainty of catastrophe. The specter of catastrophe creates an emotive reaction in this example that is essentially steered towards a scapegoat, i.e. the fossil fuel industry. j)i] also includes *fear plus hope*. Being informed on the status of mainstream science may indeed be helpful to one's confidence that catastrophe could be averted even with late / lesser action; such an outcome is indeed not regarded as inevitable and near, though catastrophic narratives imply or explicitly state that this is so. Example j)ii] follows the same line, implying catastrophic climate change is highly likely unless the influence of 'dark money' from the fossil fuel industry can be removed. Yet with or without the speculated influence, such high certainty of a catastrophic outcome for the climate of our world is not supported by mainstream science.

None of the above characteristics imply that any deliberate manipulation is in play. As mentioned elsewhere in this post and footnotes, the catastrophe narrative variants, inclusive of all their contradictions and issues, are emergent, and in the overwhelming number of cases would be fully, even passionately, believed by those who are enabling their propagation. Nor is there any implication of illness or delusion or dishonesty or any other dysfunctions; we are all subject to the influence of emotive cultural narratives.

The *merchants of doubt* narrative variant is highly attractive because it alleviates the puzzlement of orthodox folks who can't comprehend why, after decades of major effort plus pushing from the highest authority sources downwards, there is still widespread scepticism in the general public. Depending on the region and measurement criteria, even majority scepticism. A scapegoat with nefarious motives is a much

easier explanation to grasp than delving into the complex reality, and avoids issues that are likely to be uncomfortable regarding the truth of cultural polarization and the emotive role of catastrophe narrative.

See also 1x)i] and 7da).

(Mixed)

Regarding a combination of *fear plus hope, moral association plus agenda* (religious) from a scientist, see 6n).

aa) [JOHAN ROCKSTRÖM] (quoted), and co-authors, including Will Steffen and Hans Joachim Schellnhuber. Professor at the Stockholm Resilience Centre. [Via the BBC](#) (August 2018) ‘Back in 2015, governments of the world committed themselves to keeping temperature rises well below 2 degrees, and to strive to keep them under 1.5. According to the authors, the current plans to cut carbon **may** not be enough if their analysis is correct. “What we are saying is that when we reach 2 degrees of warming, we **may** be at a point where we hand over the control mechanism to Planet Earth herself,” co-author Prof Johan Rockström, from the Stockholm Resilience Centre, told BBC News. “We are the ones in control right now, but once we go past 2 degrees, we see that the Earth system tips over from being a friend to a foe. We totally hand over our fate to an Earth system that starts rolling out of equilibrium.”

...According to the research paper, crossing into a Hothouse Earth period would see a higher global temperature than at any time in the past 1.2 million years. The climate **might** stabilise with 4-5 degrees C of warming above the pre-industrial age. Thanks to the melting of ice sheets, the seas **could be** 10-60 metres higher than now.

... We can avoid the hothouse scenario but it’s going to take a fundamental re-adjustment of our relationship with the planet... The authors say a total re-orientation of human values, equity, behaviour and technologies is required. We must all become stewards of the Earth.’

Note: the ‘total re-orientation’ of essentially everything has the look of a sizeable journalistic over-stretch, but the abstract of the [featured paper](#) shows it’s a reasonable reflection: ‘Collective human action is required to steer the Earth System away from a **potential** threshold and stabilize it in a habitable interglacial-like state. Such action entails stewardship of the entire Earth System—biosphere, climate, and societies—and could include decarbonization of the global economy, enhancement of biosphere carbon sinks, behavioral changes, technological innovations, new governance arrangements, and transformed social values.’ And while the threshold to a Hothouse remains ‘potential’ in this paragraph, the action (entailing the total re-orientation list) ‘is’ nevertheless required, according to the authors, in order to avoid the outlined consequences. Hence the ‘scientific’ conditional representing a possibilistic scenario, has morphed to a conditional regarding only our action or lack thereof.

ab) [KATE MARVEL]: [Via Scientific American](#) (Jun 2018): “The answer to this basic question—how hot will it get?—is both certain and **terrifyingly** unknown. We’re sure it’s not zero; the planet has already warmed by two degrees Fahrenheit **in response to human activities**. We’re **sure** that if our greenhouse emissions continue unabated, the temperature will continue to **skyrocket**. But we’re not sure exactly what’s in store. Will climate change **be catastrophic for some or for all**? What will it do to the natural world on which we’ve **based our civilization**? What will the **future planet** look like? I want to find out.”

ac) [KEN CALDEIRA] Senior Scientist, Department of Global Ecology, Carnegie Institution (Caldiera Lab: Environmental science of climate, carbon, and energy), plus professor (by courtesy) Department of Earth System Science, Stanford. [Via Public Utilities Fortnightly](#) (Feb 2007): “I don’t see a whole lot of political momentum toward seriously addressing the problem, just a lot of superficial things that will be ineffective. That’s because politicians have a lot to gain from appearing to address it, but little

to gain from actually solving what is a multi-decade problem. One scenario is that we won't really do anything until a catastrophe happens, and then people will demand that we do both [transition away from fossil fuels and conduct geoengineering]. When the s—really hits the fan—when huge droughts in the Midwestern breadbasket are collapsing our agriculture system, ice sheets are melting, sea levels are rising, and we're getting hit by Katrina-scale hurricanes—geoengineering might be an emergency backup system we could deploy. We should avoid geoengineering if possible, but we need it in our toolbox **in case of catastrophe.**"

ad) [\[PETER GLEICK\]](#) President of the Pacific Institute in California. Among the issues he has addressed are conflicts over water resources, water and climate change, development, and human health. Member of NAS and in 2011 chairman on Ethics task force for AGU. [Via the Independent](#) (Feb 2016): "Dr Gleick posted the sea ice graph on Twitter with the message: "What is happening in the Arctic now is unprecedented and **possibly** catastrophic." And, in emails to The Independent, he explained: "The current trend is below any previous year. What is alarming is how far below any previous ice extent the current data are [and] how early it is for there to be this little ice. It is certainly **possible** that the ice extent will track back up if cold enough weather returns, for long enough. It is just very unlikely." While such changes will have a harmful effect on polar bears, walruses and other elements of the Arctic ecosystem, Dr Gleick said the **potential** for catastrophe was from "the global implications of those changes". "The evidence is very clear that rapid and unprecedented changes are happening in the Arctic," he wrote. "What is much less clear is the complex consequences. We are, effectively, conducting a global experiment on the only planet we have. The interconnections with weather patterns, sea-level, and more are real. And while there remains uncertainty about the ultimate consequences, there is a good and growing body of research that is pretty scary, and pretty much no evidence that the possible impacts will be good, unless you are a global shipping company hoping to save some money by opening up routes in the Arctic or an oil/gas company hoping to find new cheap fossil fuels." Among the "scary" possibly consequences is that the warming Arctic is altering weather systems for much of the northern hemisphere – and not in a good way. "Changes in ice extent and volume **may** all be reflected in weather patterns in mid-latitudes. In 2015, a phenomenon called the polar vortex and unusual patterns of jet stream flow brought record-breaking hot and cold weather to different parts of the US," Dr Gleick wrote. "Massive storms, sometimes called 'bomb cyclones', are created when warm air from the Atlantic and cold air from the Arctic combine. Just this season, massive flooding associated with one of these storms struck the United Kingdom producing record rainfall.""

ae) [\[RICHARD SOMERVILLE\]](#) Climate scientist and Distinguished Professor Emeritus and Research Professor at Scripps Institution of Oceanography at the University of California, San Diego. [Via Scientific American](#) (Dec 2012): "Underestimates will continue to characterize climate projections, cautioned Richard Somerville, IPCC scientist and Professor Emeritus and Research Professor at Scripps Institution, "But that's the nature of research," as it constantly discovers new possibilities. Looking back at the 1950s when scientists first identified the climate problem, Somerville notes that the tone at the time "was not catastrophic at all, but rather curious to see how the climate system would react to a big spike in carbon dioxide emissions." Only over time did the full realization dawn on the scientific community that many of the consequences of climate change **could be** very serious and even catastrophic. And that is what hasn't gotten across to the public, Somerville warned: a sense of urgency that, to most scientists, is now very clear. "This is an urgency that has nothing to do with politics or ideology," said Somerville. "This urgency is dictated by the biogeochemistry and physics of the climate system. We have a very short time to de-carbonize the world economy and find substitutes for fossil fuels."

ba) [[DANIEL P. SCHRAG](#)] Professor of earth and planetary sciences at Harvard and director of the Harvard University Center for the Environment. [Via Climate Science Watch](#) and the [Boston Globe](#) [fee] (2006): “Let’s be clear: I am not a skeptic on climate change. In my earth science courses, I teach that burning fossil fuel is raising atmospheric carbon dioxide to levels not seen on Earth for more than 30 million years. In public lectures, I show pictures of what would happen to Florida and the Gulf Coast if half the Greenland Ice Sheet melted, asking people to imagine abandoning New Orleans and Miami. I tell people that, unless we take action to reduce emissions, the question is not whether this is going to occur, but when. Yet I am an optimist because I believe we can fix the climate change problem. We can deploy the technologies to meet our energy needs while slashing carbon emissions: plug-in hybrids, windmills, carbon sequestration for coal plants, and even nuclear power... .Unfortunately, I am a little less optimistic today than I was a couple of weeks ago, before testifying at the Senate Committee on Environment and Public Works... I watched in horror as Inhofe’s witnesses spouted outrageous claims intended to deceive and distort. Two were scientists associated with industry-funded think tanks... I am still an optimist. We still have time to avert a climate catastrophe. But I am not counting on government, or at least this government, to lead us toward a solution. As our leaders accept the outrageous spectacle I saw the other day as just a normal day in Congress, we will have to take the first step without them.”

bb) [[DAVID KING](#)] Emeritus Professor of Chemistry at Cambridge University. Ex UK chief scientific advisor, and from Sept 2013 to Mar 2017 the Foreign Secretary’s Special Representative for Climate Change, [via the IEA](#) (Jan 2016): “What we are dealing with today is a looming catastrophe for mankind, and I believe that it’s quite possible that future historians will say that the twelve of December 2015 {the Paris Agreement}, was a critically important turning point for all of us.”

bc) [[ERIC HOLTHAUS](#)] Meteorologist and Journalist. [Via Vice](#) (Mar 2015): “If you’re like me, climate change keeps you up at night on a regular basis. It’s not so much that we’re still on track for the worst-case global warming scenario, or that the survival of countless species—not to mention civilization as we know it—hangs in the balance, but the quiet understanding that our kids are going to feel some of the worst impacts in just a few brief decades...”

Increasingly, and understandably, these existential climate change crises have put a lot of us on edge, raising big, scary questions about the fate of humanity in the 21st century. That so many have opted for willful ignorance almost makes sense. For those who live in the real—and warming—world, though, the fact that the earth’s atmosphere will undergo some pretty fundamental changes in the next generation can raise second thoughts about the idea of procreation...

For natural pessimists, the inexorable destruction by climate change leads to thoughts that fall along the lines of this Jezebel headline, which asks: ‘*Why Would I Ever Want to Bring a Child Into This Fucked Up World?*’ Because really, why the hell would someone of procreating age today even consider having a baby? It feels like an utter tragedy to create new life, fall in love with it, and then watch it writhe in agony as the world sings to a crisp...

We live in a very critical time for human history, as the first generation to fully understand the implications of the damage we have done to the earth, and perhaps the last generation with the opportunity to change course. It’s perfectly normal to get a little freaked out when you realize the implications of that at a personal level...

My wife and I just had a baby, and it’s quickly becoming the best decision we ever made. Even though his future is uncertain, the knowledge that there’s still time left to turn things around has become a tremendously powerful motivating factor in our lives. Our baby has brought us back from the brink. It’s impossible to be hopeless with a newborn. Climate change has changed me. And I don’t think I’m the only one.”

bd) [TIM FLANNERY] See [wiki](#) for Flannery's variety of science contributions and roles. From his book *The Weather Makers*, via [The Sydney Morning Herald](#) (2001): "If enough of us buy green power, solar panels, solar hot water systems and hybrid vehicles, their cost will plummet. This will encourage the sale of yet more panels and wind generators, and soon the bulk of domestic power will be generated by renewable technologies."

This will place enough pressure on industry that, when combined with the pressure from the Kyoto Protocol, it will compel energy-hungry enterprises to maximise efficiency and turn to clean power generation. This will make renewables even more affordable. As a result, the developing world - including China and India - will be able to afford clean power rather than filthy coal.

With a little help from you, right now, the developing giants of Asia might even avoid the full carbon catastrophe in which we, in the industrialised world, find ourselves so deeply mired.

Much could go wrong with this linked lifeline to climate safety. It may be that the big power users will infiltrate governments further and stymie the renewables sector; or maybe we will act too slowly, and nations such as China and India will have already invested in fossil-fuel generation before the price of renewables comes down. Or perhaps the rate of climate change will be discovered to be too great and we will have to draw carbon dioxide from the atmosphere.

As these challenges suggest, we are the generation fated to live in the most interesting of times, for we are now the weather makers, and the future of biodiversity and civilisation hangs on our actions."

ca) [NIKLAS HÖHNE] Professor and founding partner NewClimate Institute. [Via The Independent](#) (June 2016): "In a major analysis of 10 different studies into the effect of what world leaders promised to do [at the Paris summit], researchers calculated that the planet was still on course for a temperature increase of 2.6C to 3.1C by the end of this century... ..One of the researchers, Professor Niklas Höhne, of the New Climate Institute in Cologne, told The Independent: "Three degrees of warming would be what I describe as completely catastrophic and this is definitely what we need to avoid. Even two degrees is not a very pleasant situation, with significantly more droughts and floods and weather events... not a very pleasant world. There's also **the risk of** tipping points and irreversible change." However Professor Höhne expressed confidence that countries would increase their targets to reduce carbon emissions to avoid this fate, saying that the pledges at Paris were simply the "first step" and that it had been acknowledged at the time that they would not be sufficient."

cb) [STEPHAN RAHMSTORF] Oceanographer and climatologist, Professor of Physics of the Oceans at Potsdam University. From [The Sydney Morning Herald](#) (Nov 2015): "As an oceanographer and climate researcher, I have mapped plenty of alarming trends over the past few decades. But I am confident that humanity has the capability, capacity and means to keep the increase in global temperatures below the **potentially** catastrophic threshold of 2 degrees. And I am also cautiously optimistic that a meaningful global agreement to limit greenhouse gas emissions will emerge from the upcoming Paris talks... ..And despite myriad entrenched vested interests worldwide we are finally making headway in moving away from fossil fuels, the root cause of the unfolding climate crisis... ..When the delegates of more than 190 countries meet in Paris next month the emissions reduction targets they put on the table will probably not suffice to keep global warming below 2 degrees. We know this because most nations have already declared their hand. This need not be a fatal flaw of a new global agreement on emissions reductions, as long as it provides a structure on which much more can be built."

da) [COREY BRADSHAW] Phd in Zoology. 2008-2014 Director of Ecological Modelling, 2014-2017 Sir Hubert Wilkins Chair of Climate Change, both at the University of Adelaide. Via [Is this](#)

how you feel (2014): “Public indifference and individual short-sightedness aside, I am furious that politicians like Abbott and his anti-environment henchman are stealing the future from my daughter, and laughing about it while they line their pockets with the figurative gold proffered by the fossil-fuel industry. Whether it is sheer stupidity, greed, deliberate dishonesty or all three, the outcome is the same – destruction of the environmental life-support system that keeps us all alive and prosperous. Climate change, but the rapidity with which we are disrupting the current climate on top of the already heavily compromised environmental health of the planet makes the situation dire. My frustration with these greedy, lying bastards is personal. Human-caused climate disruption is not a belief – it is one of the best-studied phenomena on Earth. Even a half-wit can understand this. As any father would, anyone threatening my family will be [*text version mistakenly has ‘by’*] on the receiving end of my ire and vengeance. This anger is the manifestation of my deep love for my daughter, and the sadness I feel in my core about how others are treating her future. Mark my words, you plutocrats, denialists, fossil-fuel hacks and science charlatans – your time will come when you will be backed against the wall by the full wrath of billions who have suffered from your greed and stupidity, and I’ll be first in line to put you there.”

db) [[ROBERT WATSON](#)] Atmospheric chemist. Director of Strategic Development for the Tyndall Centre for Climate Change Research at the University of East Anglia. [Via The Guardian](#) (March 2017): “Our children and grandchildren will look back on the climate deniers and ask how they could have sacrificed the planet for the sake of cheap fossil fuel energy, when the cost of inaction exceeds the cost of a transition to a low-carbon economy,” Watson said.’

ea) [[BILL FRASER](#) plus [MEREDITH HOOPER](#)] Fraser = Marine / wildlife ecologist from the Polar Oceans Research Group. Hooper = historian and science writer. [Via Meredith Hooper in The Independent](#) (2007): ‘The night before arriving at Palmer, Bill gives me a briefing. Dr Bill Fraser is a seabird ecologist, one of an inner group of US scientists who have dedicated themselves to Antarctic research... The news is shocking. The season, Bill says flatly, has gone to hell. Palmer’s Adelie penguins are in crisis, barely holding on. The weather has been relentless, dire. The seabird work is under real pressure. “We are arriving to a catastrophe, walking into a bitter scenario produced by climate change,” he says. “The Adelie penguins don’t have the capacity to survive the drastic changes that are occurring. There’s no doubt.” ...Here is climate change in action, Antarctica as a living experiment. Litchfield Island is a precisely located landscape, with just two key species, Adelies and brown skuas. Their relationship is straightforward; the numbers have been collected. Contributing factors have been unpacked and understood, decline tracked over time. The hypothesis is clear, the outcome predicted... Here on the Antarctic Peninsula, impacts of warming can be tracked. It’s a clear, stripped-down preview of what could occur elsewhere. It’s an unpacking of the ways climate change can reveal itself. It’s a prologue to the way climate change can happen. At Palmer, this ferocious summer, we do not know the mechanisms delivering this weather, or how the weather relates to the peninsula’s warming. But I can document what it means to be here... Richard Alley, US polar geoscientist, speaking at the International Glaciological Society Symposium in Cambridge, August 2006: If you push too hard at the climate, something flips. People want to know. What does the future hold? When do we get in trouble? ...To Richard Alley, sea levels have risen in the past. People dealt with them. We as humans can respond, effectively. And he pulled up a powerful image from deep in our cultures. God, according to the Bible, sent a rainbow to promise man that he would never again allow Earth to be flooded. But I think of Palmer, in the ferocious summer. Rising temperatures sent a rare rainbow. A potent symbol, but potent in a different way. In high latitudes, water comes from the sky packaged as frozen crystals, and stays frozen, as ice and snow. With increasing warmth, water gets delivered in liquid form, destabilising ice and snow and living things. As

was happening at Palmer in 2001-02, that ferocious summer of rapid climate change. Perhaps the biblical rainbow isn't a promise. It is a reminder.”

eb) [[JOHN HOLDREN](#)] Originally trained in aeronautics, astronautics and plasma physics. Science policy advisor. See article linked in 6t) for positions held. As the senior advisor to President Barack Obama on science and technology, [via National Geographic](#) (Dec 2015): “We know without any doubt that the climate is already changing in ways that are not explainable by natural influences and that are precisely explainable as a consequence of the heat trapping gases that we have added to the atmosphere by fossil fuel burning and deforestation. We know that damaging impacts are already occurring all around the world. In some parts of the world, we’re seeing drastic increases in heat waves; we’re seeing in other parts of the world increases in the power of the strongest storms, more torrential downpours and associated flooding, melting of permafrost, increased coastal erosion. All of these things are occurring in patterns and with fingerprints that tie them directly to the changes in climate that humans are causing. We know further that these changes cannot be stopped overnight. There’s tremendous momentum in the climate system, and there is tremendous inertia in the energy system, the agricultural system, the forestry system, the practices that are driving these changes. And therefore, it is absolutely essential, if we want to avoid catastrophic impacts of climate change, that we turn this problem around starting now.

fa) [[JAMES HANSEN](#)] Up to 2013, head of NASA GISS. [Via The Guardian](#) (Apr 2012): ‘Averting the worst consequences of human-induced climate change is a “great moral issue” on a par with slavery, according to the leading Nasa climate scientist Prof Jim Hansen. He argues that storing up expensive and destructive consequences for society in future is an “injustice of one generation to others”. Hansen, who will next Tuesday be awarded the prestigious Edinburgh Medal for his contribution to science, will also in his acceptance speech call for a worldwide tax on all carbon emissions. In his lecture, Hansen will argue that the challenge facing future generations from climate change is so urgent that a flat-rate global tax is needed to force immediate cuts in fossil fuel use. Ahead of receiving the award – which has previously been given to Sir David Attenborough, the ecologist James Lovelock, and the economist Amartya Sen – Hansen told the Guardian that the latest climate models had shown the planet was on the brink of an emergency. He said humanity faces repeated natural disasters from extreme weather events which would affect large areas of the planet. “The situation we're creating for young people and future generations is that we're handing them a climate system which is potentially out of their control,” he said. “We're in an emergency: you can see what's on the horizon over the next few decades with the effects it will have on ecosystems, sea level and species extinction”Hansen will argue in his lecture that current generations have an over-riding moral duty to their children and grandchildren to take immediate action.’

fb) [[PIETER TANS](#)] Chief, Carbon Cycle Greenhouse Gases Group at NOAA Earth System Research Lab. Via [‘Is this is how you feel?’](#) (~2015): “I feel exasperated that it is taking so many decades before society gets serious about the challenge posed by climate change – speeches and declarations, yes, but nothing has been done that measures up to the challenge. In 1972 I ran into a little book, ‘Inadvertent Climate Modification’, that outlined the problem we face today. I was convinced right then that this would very likely grow into a serious problem. Today we know much more about past climates and the massive impact we have on the atmosphere, oceans, and ecosystems. Every year there are more warning lights that start blinking red. What we do or not do trying to avoid catastrophic outcomes is a moral choice. What world are we leaving to our children and grand children? When emissions are limited, how do we allocate emissions rights between poor and rich nations? Our current economic system requires

perpetual growth to function well. How can we redesign our economy to function in the zero growth environment that the Earth will force upon us? Our observations suggest that may occur sooner rather than later. It is easy to see why progress has been so inadequate. In the mean time, my wife and I consider it our moral duty to minimize our footprint on the environment in any way we can. I also consider it my duty as a scientist and as a citizen to try to inform the public and policy makers clearly about the predicament we are in and the choices we cannot avoid.”

g) [[HANS JOACHIM SCHELLNHUBER](#)] Theoretical physicist. Chief (German) government advisor on climate and related issues during Germany’s EU Council Presidency and G8 Presidency. Director, Potsdam Institute for Climate Impact Research. [Via the German Advisory Council on Global Change](#) (2013): ‘If we do not turn down the heat we shall collide with the planetary guard rails. In order to alter our course and to prevent the Earth system from breaking down, we must re-invent ourselves... For instance, the 2 °C climate-protection guardrail has been picked up internationally and adopted by many nations. A comparison: if the temperature of the human body increases by only 2 °C [AW: normal body temp is ~37], we call it fever. If the temperature exceeds 40 °C, one organ after the other breaks down, and finally the whole human system collapses. First of all we have to decarbonize the energy systems worldwide, which means replacing fossil resources with renewable ones in order to limit global warming to a maximum of 2 °C. This will only be possible if every single person is prepared to question his or her way of life. In order to be able to stay within the guard rails, we have to put things on the right track in this decade! ...Such fundamental processes of change require creativity and innovation. And – above all – a world society of global citizens that presses ahead with solving problems that cannot be solved by single countries.’

Plus more on those guardrails or ‘boundaries’ and what the world society of global citizens may look like, [via *Humans and Nature*](#), *Expanding the Democracy Universe* (2013): ‘The global pursuit of economic growth and individual wealth in an environment with limited resources and capacities will soon hit the ‘planetary boundaries’ and may tear this cultivated world and its breathing inhabitants apart by making their living space uninhabitable and their existence unsustainable. Most importantly, the climate challenge calls for worldwide rational and concerted action... In addition to the reforms and constructive steps each state can make, we should implicitly create innovative concepts to respond effectively to the climate crisis. One crucial concept is the idea of a global democratic society. This society could be represented by a small set of global institutions that support the sovereign countries as assembled within the United Nations in working out solutions to problems that require concerted transnational action. Let me conclude this short contribution with a daydream about those key institutions that could bring about a sophisticated—and therefore more appropriate—version of the conventional “world government” notion. Global democracy might be organized around three core activities, namely (i) an Earth Constitution; (ii) a Global Council; and (iii) a Planetary Court. I cannot discuss these institutions in any detail here, but I would like to indicate at least that:

- the Earth Constitution would transcend the UN Charter and identify those first principles guiding humanity in its quest for freedom, dignity, security and sustainability;
- the Global Council would be an assembly of individuals elected directly by all people on Earth, where eligibility should be not constrained by geographical, religious, or cultural quotas; and
- the Planetary Court would be a transnational legal body open to appeals from everybody, especially with respect to violations of the Earth Constitution.

In order to dovetail the die-hard system of national governance with the global institutions, a certain percentage of national parliamentary seats should be earmarked for “Global Ombudspeople.”

Their prime mandate would be to ensure that the first humanitarian principles, as sketched above, are observed, not least in the interest of future generations. This is no less and no more than a vision to extend democracy across space and time. Unprecedented challenges like anthropogenic climate change remind us that such dreams need to come true — soon.’

ha) [[KATRIN MEISSNER](#)] Associate Professor and ARC Future Fellow, Climate Change Research Centre, University of New South Wales. [Via is this how you feel](#) (2014): ‘It makes me feel sick. Looking at my children and realizing that they won’t have the same quality of life we had. Far from it. That they will live in a world facing severe water and food shortages, a world marked by wars caused by the consequences of climate change. It makes me feel sad. And it scares me. It scares me more than anything else. I see a group of people sitting in a boat, happily waving, taking pictures on the way, not knowing that this boat is floating right into a powerful and deadly waterfall. It is still time to pull out of the stream. We might lose some boat equipment but we might be able to save the people in the boat. But no one acts. Time is running out.’

hb) [[PETER B. DeMENOCA](#)] Dean of Science at the Faculty of Arts and Sciences, Columbia University. Founding director of Columbia’s Center for Climate and Life. Geochemist and paleoclimate scientist at Lamont-Doherty Earth Observatory. [Via is this how you feel](#) (2014): ‘Imagine how a medical doctor feels having to inform their patient, an old, life-long friend, of a dire but treatable diagnosis. The friend angrily disregards what you have to say, for a variety of very human reasons, and you watch helplessly as the pain and illness unfold over the rest of their shortened life. There is a similar closeness between climate scientists and the planet. There’s a sense of wonder and respect. Nations and economies don’t like uncertainty. Climate change destabilizes the institutions we’ve built over centuries of stable climate and sea level.’

hc) [[SARAH PERKINS-KIRKPATRICK](#)] Climate Scientist. Senior research associate and extreme events specialist at the Climate Change Research Centre at the University of New South Wales. [Via is this how you feel](#) (2014): ‘For sometime [sic] now I’ve been terribly worried. I wish I didn’t have to acknowledge it, but everything I have feared is happening. I used to think I was paranoid, but it’s true. She’s slipping away from us. She’s been showing signs of acute illness for quite a while, but no one has really done anything. Her increased erratic behaviour is something I’ve especially noticed. Certain behaviours that were only rare occurrences are starting to occur more often, and with heightened anger. I’ve tried to highlight these changes time and time again, as well as their speed of increase, but no one has paid attention.

It almost seems everyone has been ignoring me completely, and I’m not sure why. Is it easier to pretend there’s no illness, hoping it will go away? Or because they’ve never had to live without her, so the thought of death is impossible? perhaps they cannot see they’ve done this to her. We all have.

To me this is all false logic. How can you ignore the severe sickness of someone you are so intricately connected to and dependent upon. How can you let your selfishness and greed take control, and not protect and nurture those who need it most? How can anyone not feel an overwhelming sense of care and responsibility when those so dear to us are so desperately ill? How can you push all this to the back of your mind? This is something I will never understand. Perhaps I’m the odd one out, the anomaly of the human race. The one who cares enough, who has the compassion, to want to help make her better.

The thing is we can make her better!! If we work together, we can cure this terrible illness and restore her to her old self before we exploited her. But we must act quickly, we must act together. Time is ticking, and we need to act now.’

hd) [STEPHAN LEWANDOWSKY] Australian psychologist currently based at the University of Bristol, UK, where he is the chair in cognitive psychology at the School of Experimental Psychology. As Lewandowsky has not only focused upon psychology within the climate change domain, but contributed to direct efforts on climate science also, e.g. [here](#) and [here](#), then I felt it was best to include him within this section. Via [Skeptical Science website](#) (2010): “So anyone who says that we shouldn’t act on climate change because of uncertainty is really inviting you to ride towards a brick wall at 80 km/h because it might not hurt. Are you feeling lucky? Or shouldn’t we better cut emissions in light of the uncertainty?”

i) [BRENDAN G. MACKEY] Professor and Director of the Griffith Climate Change Response Program, Griffith University. [Via is this how you feel](#) (2014): “Dear Earth, Just a quick note to say thanks so much for the last 4 billion years or so. It’s been great! The planetary life support systems worked really well, the whole biological evolution thing was a nice surprise and meant that humans got to come into being and I got to exist! I’m really sorry about the last couple of 100 years – we’ve really stuffed things up haven’t we! I thought we climate scientist might be able to save the day but alas no one really took as seriously. Everyone wants to keep opening new coal mines and for some reason that escapes me are happy to ignore the fact that natural gas is a fossil fuel. Well, no one can say we didn’t try! You’re probably quietly happy that “peak human” time has come and gone and it’s kind of all downhill for us now, though I guess you’re more than a bit miffed at what we’ve done to your lovely ecosystem (the forests and corals were a really nice touch by the way) and sorry again for the tigers, sharks etc. In case you were wondering, our modeling suggests that your global biogeochemical cycles (especially the carbon one) should reach a new dynamic equilibrium in about 100,000 years or so. I guess it will be a bit of a rocky road until then but, oh well, no one said the universe was meant to be stable! All the best and do try and maintain that ‘can do’ attitude we love so much.”

j) [MICHAEL MANN] Climate Scientist. Distinguished Professor of Meteorology and Director of the Earth System Science Center at Pennsylvania State University. i) [Via The Why Files](#) (April 2014): “We have delayed confronting the climate problem because the fossil-fuel industry has funded disinformation for several decades. We knew tobacco-industry products were killing people in the 1950s, but it wasn’t until many decades later that we really acted on policy. The tobacco industry, rather than engaging in a good faith discussion about what to do about the problem, chose to hide the health impacts, to discredit the science. It’s the same playbook with fossil fuels. Delay has costs. In the case of tobacco, we acted decades late, and there were potentially millions of lives lost. Here, we are talking about the health of the entire planet; there is no “planet B” if we screw this one up. But I have no doubt that we will act in time to avert truly catastrophe climate change. I’m an optimist, and I recognize that some conservatives are coming out and embracing the existence of the problem, not trying to deny it.” ii) [Via E&E news](#), in critique of an article at the New York times that undermines the ‘Exxon knew’ campaign (Aug 2018): “Frankly, I think a lot is missing. The article feels tone-deaf to me. Its message, to quote the great and powerful OZ, seems to be ‘pay no attention to that billions-dollar fossil-fuel industry disinformation campaign behind the curtain.’ At a time when dark money and its poisoning of our politics is the greatest obstacle to averting catastrophic climate change, the author seems to want to give a free pass to the bad actors involved and instead engage in victim (‘us’) blaming.”

8. Catastrophe narrative from the health / medical domain (4 quotes / sources)

See footnote 23. Example b) leverages the emotive imperative of climate catastrophe to attempt to re-purpose an existing professional network into advocacy for orthodox climate change policies. This

by no means implies nefarious or duplicitous motives are in play; the catastrophe narrative is emergent, and is so successful precisely because it frequently achieves an emotive engagement that results in still more honestly motivated propagation. Regarding example c), as has always been the case adults should do their very best to protect children from extreme weather just as from any other danger, yet *engaging anxiety for children* by deploying the vague and scary concept of the ‘apocalyptic’, which according to formal dictionary meanings at least cannot be supported by mainstream climate science, is inappropriate. The referenced document is detailed regarding effects / issues (which by type if not by speculated level / location, are all faced with or without AGW in any case), and so might seem to do more good than harm anyhow re children’s health, simply by raising awareness. However, history has plenty of examples where a highly emotive and inflationary use of fear to achieve purpose, even the best possible purpose, typically leads to unintended consequences and often ends up being net damaging rather than beneficial. Especially as the fear is not used only to promote health issue awareness, but to directly advocate for climate change policy (the Paris goals). This example also conflates ‘air pollution’ (normally meaning noxious gases or harmful particulates) with carbon dioxide, thereby mixing / associating different fears within the minds of readers. Example a) relates to the same report referenced in c), *engaging anxiety for children* via emotive reference to ‘burning their futures’ (and more generally accusing the Australian government of ‘failing to save the lives of its citizens’) apparently by not acting against climate change with the kind of effort that would be needed to win a world war III, such a war being equated to climate change. Example d) also has a tinge of conspiracy theory tending towards *merchants of doubt* territory, and also features some pretty distasteful stuff from Professor Greg Skilbeck.

a) [DAVID SHEARMAN] Honorary secretary of Doctors for the Environment Australia and Emeritus Professor of Medicine at Adelaide University. Via the ABC News article [Climate change is World War III, and we are leaderless](#) (Aug 2018): “Like the US, Australia is failing to save the lives of its citizens by prolonging the life of polluting coal-fired power.

...Prime Minister, doctors wish you well in your endeavours; your visit to drought-riven states is an excellent start. Our suggestions relate to the two most important people at your investiture, your lovely young children. Please study the collective action plan so badly needed (a report co-authored by leading medical scientist Fiona Stanley) to avoid burning their futures in a hot, hungry, stormy and resource-conflicted world.”

b) [FIONA GODLEE] Editor in chief of the [BMJ](#), from this journal (2014): [Pay-walled, Free](#), (with links updated): ‘When the BMJ started publishing articles on climate change, some readers told us to [stick to our knitting](#). “What did this have to do with medicine?” they asked. And wasn’t climate change a myth, a result of natural climatic variation, nothing to do with human activity? There were surely more immediate challenges that The BMJ and its readers should be focusing on.

We listened politely but carried on, convinced of the threat to human health and survival. With others we set up the [Climate and Health Council](#). We published [editorials and articles](#), co-hosted conferences and seminars, lobbied funders, talked to policy makers and politicians, and worked with the BMA, the royal colleges, and their equivalents in other countries, all the time worrying that this was not enough. Our hope was to encourage doctors and other health professionals to take a lead in tackling climate change.

Now we have gone a step further, with the publication of an article that contains no medicine or healthcare at all. “[The science of anthropogenic climate change: what every doctor should know](#)” is pure climate science. Why? Because if we doctors are to become effective advocates against climate change, a better understanding of the science will help us...

...The worst case (RCP 8.5) is “business as usual” with unabated emissions, which would lead to a further rise by 2100 of 3.7°C above the average at the beginning of this century and more than 4°C higher than pre-industrial levels. As our Analysis authors explain, regional variations mean that in some parts of the northern continents temperatures would increase by more than 10°C. Writing last week in the *Lancet*, Andy Haines and colleagues emphasised that such huge temperature rises, and the consequent severe climate instability, would take us into what is being called the “afterlife” threshold, “where the impact on humanity is so great as to be a discontinuity in the long-term progression of humanity.” In other words, the effects would be catastrophic.’

c) [[FIONA STANLEY](#)] Australian epidemiologist noted for her public health work, her research into child and maternal health, and birth disorders. Distinguished Research Professor, The University of Western Australia, Vice Chancellor’s Fellow, The University of Melbourne. Named Australian of the Year in 2003. Member of Doctors for the Environment Australia’s Scientific Advisory Committee. From [No Time For Games; Children’s Health and Climate Change](#) (2015): “Crucially, federal and state governments must take immediate steps to curtail increasing temperatures by whatever means necessary. This includes contributing robust targets at the UN global climate change negotiations in Paris in 2015 which are aimed at setting strong emissions reduction targets to stall temperature rises. Failure to act responsibly will have dire consequences for our children’s wellbeing, and the impacts of inadequate action for their children verge on the apocalyptic and are too scary to contemplate. Conversely choosing now to limit further climate change offers a major opportunity to immediately improve the health of our children via reductions in air pollution and design of low carbon cities. If we do nothing how will our generation, who had the chance to act but failed to do so, justify our inaction to future generations living on what will become an inhospitable planet? As a parent, a grandmother and a public health professional with a long career in primary prevention, I strongly urge all Australians to get behind this report’s bold recommendations. Together we can and must help tackle climate change for the sake of our children, while there is still time.”

d) [[PETER SAINSBURY](#)] University of Sydney Adjunct Associate Professor, Public Health, School of Public Health. Adjunct Professor, Sydney Medical School, University of Notre Dame. Past President, Public Health Association of Australia, President of the [Climate and Health Alliance](#). [Via news.com.au](#) (Sept 2018): “Australia is being held back by the self-interest of a few right-wing politicians and a network of highly influential companies, particularly in the fossil fuel industry, who are prepared to sacrifice other people’s health and wellbeing for their own short-term economic gain,” he said. ...“Climate change is occurring at a rate that is far faster than anything seen in Earth’s recent history, and that it is principally due to human activity. If co-ordinated global action is not taken in the next few years to rapidly slow the release of greenhouse gases into the atmosphere and reach zero net carbon emissions by 2050, there will be catastrophic consequences.” Incidentally, from the same article: ‘But Professor Greg Skilbeck’s words were even more sharp. The academic from the University of Technology, Sydney, said if we believed in science as part of the function of our everyday lives, we should believe in climate change. “You cannot pick and choose — if you don’t accept climate change, you should not be given penicillin or painkillers or even visit a doctor,” he said.’ But if it’s the kind of climate change the article espouses: ‘the life-and-death issue on which Australia is “irresponsible to the extreme”’, and of which experts surveyed for the article including Skilbeck agreed was an ‘existential threat to civilization’, then not only would large sectors of the public not accept this, neither would many scientists.

9. Economically 4 of 7 according to IMF and World Bank figures for 2017, and excluding trading blocks (EU). Politically 4 of 6 according to 2018 [US News Power Rankings](#).

10. Rational Wiki sampled [here](#) on 26th October 2018.

11. While as noted in the main post ‘CAGW’ is indeed applied to items for which it doesn’t apply (e.g. ‘theories’, ‘scientists’, ‘supporters’, whatever), it is at least an abbreviation for something that most certainly *does* occur in the climate change domain, for which there are a range of ‘theories’, ‘scientists’, ‘supporters’ etc. to which it *does* correctly apply. The latter doesn’t negate the aggressiveness that has become associated with the term due to incorrect usage. However, ‘denier’ / ‘denialist’ is a term imported from a different domain which therefore had far worse emotional associations right from its first use as a label applied to climate skeptics, horrendous associations in fact, from Holocaust denial, to which topic linkage was explicitly made by some early usage (and still, on occasion). The label is typically applied universally, i.e. to all those who raise questions of any sort regarding the orthodox science position or even associated climate change related policies, including to the great majority of skeptics who accept the role of CO₂ as a greenhouse gas and also accept mankind has contributed something to Earth’s changing climate, and even to those who merely question the narrative of global climate catastrophe, a narrative that isn’t supported by mainstream science. According to RationalWiki’s own definition then, this is a snarl word. When applied to someone who disputes all orthodox science conjectures including in regard to the physics of CO₂, it could in theory at least not be a snarl word. However, the horrendous nature of its original domain usage, coupled with the fact that the tests proposed for ‘denialism’ by academia are fatally flawed, plus the way ‘denialism’ is typically framed being as a psychological condition (whereas even where something like this does exist, it is a cultural-value related reaction, which reaction might or might not be a root cause for rejecting all orthodox science per above), means that even for these cases, usage is dubious at best, and highly inadvisable. Where the usage is clearly inappropriate (the great majority), it’s also the case that the level of (inherited from prior domain) aggressiveness invoked by such usage, has to be considered much worse than a similar misuse of ‘CAGW’ (which in no way provides any sanction whatsoever to misuse ‘CAGW’). For the mis-framing and flawed academic tests of ‘denialism’, see this [prior Climate Etc post](#).

12. Links for the five example sentences in section 1 that include ‘CAGW’ without an added descriptor:

- 1) <https://www.coursehero.com/file/p3mnerl/Proof-positive-that-CAGW-is-about-power-politics-and-greed-is-the-fact-that/>
- 2) <http://www.mdpi.com/1660-4601/8/4/985/htm>
- 3) <https://blogs.shell.com/2013/02/25/stockmodel/>
- 4) <https://groups.google.com/forum/#!topic/rec.gambling.poker/r37Sun0vJE8>
- 5) <http://www.climate-skeptic.com/2010/11/lindzen-testimony.html>

13. I’ve specifically interpreted the mainstream science position as best represented by the Working Group Chapters of AR5 (and technical summaries of same), rather than for instance the condensed Summaries for Policy Makers. This is because (while neither express a high certainty of global catastrophe), there appears to be significant tension within the IPCC regarding a clash between less emotively biased scientific input at one end, and more emotively biased policy / political input at the other, with consequent gradation of messaging for layers in-between, which gradation Caleb Rossiter describes below (from [RealClear Energy](#)):

- *Public figures, news editors, and commentators make claims that are more alarmist than what individual IPCC authors say at the release of the report.*
- *Individual IPCC authors make claims at the release of the report that are more alarmist than what the official press release says.*
- *The official press release makes claims that are more alarmist than what the report's summary for policy-makers says.*
- *The summary for policy-makers makes claims that are more alarmist than the various chapters of the reports.*
- *The chapters of the report make claims that are more alarmist than the studies they reference in the footnotes.*

The studies referenced in the footnotes are often actually peer-reviewed and generally make cautious claims about a possible trend spotted in one or a small number of locations or in a global computer model.

Both types of studies are more speculative than definitive because, as they always acknowledge in the fine print, they are based on highly-uncertain measurements of highly-complex phenomena with many interacting causes, of which warming gasses generated by human activity are only one, and often a minor component.

Whether this is only a fifth true or maybe not even true all, I can't see any real case for arguing that the Working Group papers are *less* representative of the mainstream scientific position than the Summaries for Policy Makers, the production process of which at least has more potential for biased input from non-scientists, whether or not this actually occurred or in what amount. According to Rossiter the Chapters are also more biased than the raw papers they reference, but given that a presumption this is so means we couldn't have *any* synthesized position to form a marker, I chose to ignore it.

14. As Lewandowsky acknowledges when talking about the spread of emotive misinformation within [this paper](#), emotional response is rewarded with more retransmission than is veracity: “*But we have also noted that the likelihood that people will pass on information is based strongly on the likelihood of its eliciting an emotional response in the recipient, rather than its truth value (e.g., K. Peters et al., 2009)*”. While Lewandowsky's paper is about *misinformation*, as the quote implies, emotion wins out over veracity for information more generally within certain contexts (e.g. high uncertainty), and where both occur within the same narrative block. It's also the case that the narrative of high certainty of global catastrophe *is* misinformation, if we adopt mainstream climate science per AR5WGC as the gold standard for truth.

15. In fact of 14 mentions of catastrophic in WG1 ‘The Physical Science basis’, 9 are due to coverage of the river flooding issue as noted in the main post. Other mentions occur in text such as this from Table 12.4 relating to projections within the 21st century: ‘*Very unlikely* that methane from clathrates will undergo catastrophic release (*high confidence*)’ [italics original]. However, other words like ‘collapse’ and ‘abrupt’ may also be deployed to potentially describe a global catastrophic situation, but these likewise do not do so where they occur, for example: ‘It also remains *very unlikely* that the AMOC will undergo an abrupt transition or collapse in the 21st century for the scenarios considered (*high confidence*) (TFE.5, Figure 1 – *AW: note this includes the extreme RCP8.5 scenario*). For an abrupt transition of the AMOC to occur, the sensitivity of the AMOC to forcing would have to be far greater than seen in current models, or would require meltwater flux from the Greenland ice sheet greatly exceeding even the highest of current projections. Although neither possibility can be excluded entirely, it is *unlikely* that the AMOC will collapse beyond the end of the 21st century for the scenarios considered, but a collapse beyond the

21st century for large sustained warming cannot be excluded. There is *low confidence* in assessing the evolution of AMOC beyond the 21st century because of limited number of analyses and equivocal results.’ [italics original]. There are very many mentions of ‘abrupt’ in fact, but none of these keywords are deployed in such a way as to create a narrative of high confidence of global catastrophe, as is often pointed out here and at other blogs when skeptics inappropriately apply the term ‘CAGW’ to the IPCC / mainstream science. Regarding ‘abrupt’, a useful generic example of its application is (from the technical summary, TS.6.4): ‘Several components or phenomena in the climate system could potentially exhibit abrupt or nonlinear changes, but for many phenomena there is *low confidence* and little consensus on the likelihood of such events over the 21st century.’ [italics original]. Nor would such events individually, should they occur, necessarily have a high likelihood of leading to global catastrophe either, so linkage / cascade considerations are involved too. And a lot of usage is mundane, for example: ‘It is *likely* there was an abrupt decline in SH mid-latitude precipitation in the early 2000s consistent with enhanced drying that has very recently recovered.’ [italics original]. Or associated with paleo-climate where ‘abrupt’ is in the context of the timescales under consideration, which albeit may sometimes only be decades are in relation to natural events from which comparative understanding is being sought. WG II / III output includes mention of local catastrophes such as hurricanes (a perennial natural phenomenon) and also references much literature on various natural catastrophes plus uses terms like ‘catastrophe bonds’ or ‘catastrophe risk markets’, normal terms within insurance and finance, with WG III further discussing probability models for catastrophe. Nevertheless, as with WG I output, this or other keywords are not deployed in such a way as to create a narrative of high confidence of global catastrophe. The nearest that there seems to be to some genuine catastrophe narrative is from WG III / 3.4.7, which starts: ‘The next problem in aggregating wellbeing is to take account of changes in population. Climate change can be expected to affect the world’s human population. Severe climate change might even lead to a catastrophic collapse of the population (Weitzman, 2009), and even to the extinction of human beings. Any valuation of the impact of climate change and of policies to mitigate climate change should therefore take changes in population into account.’ However, beyond [Weitzman 2009](#) there is no quantification of ‘might’ here, and the paper is an economic not physical climate analysis, which refers back to earlier IPCC literature to look at worst-case ‘fat tail’ probabilities of physical climate change, projecting the economic impacts from temperature rises inclusive of the 10 to 20 degrees C window, across two to several centuries (both scales are mentioned). While the casual phrasing, which does not emphasize these extreme possibilities / longer timescales, provides an opportunity for emotive catastrophe concepts to get an unrepresentative foothold in people’s minds, this section in no way constitutes scientific backing of a high certainty of imminent (decades) global catastrophe. So notwithstanding the possibilities discussed in AR5WGC, footnote 15b below from seven years before the first AR5 publication, appears to remain an appropriate characterization of the situation overall.

15a. As Ted Nordhaus of the Breakthrough Institute [notes](#) regarding catastrophe messaging: ‘*I do hope we might figure out how to have a more civil conversation about our differences. In my view, that starts with how we talk about science. ...Climate activists, similarly, have every right to be alarmed about potential for catastrophic climate impacts. But that is not consensus science.*’

15b. Or as climate scientist Mike Hulme puts it, within [the same BBC article](#) as quoted in main post: “To state that climate change will be ‘catastrophic’ hides a cascade of value-laden assumptions which do not emerge from empirical or theoretical science.”

16. For instance a study from 2014 including this result was: [The Role of Emotion in Global Warming Policy Support and Opposition](#), by Nicholas Smith and Anthony Leiserowitz (S&L2014), published in Risk Analysis, Vol. 34, No. 5, 2014. First its Consensus credentials, from the opening lines:

“Global warming is one of the world’s most pressing problems. Unabated emissions of anthropogenic greenhouse gases, primarily from the burning of fossil fuels, are likely to have irreversible consequences. Substantial reductions in these emissions are therefore required if “dangerous” anthropogenic impacts are to be minimized, as recognized by international law.”

Before the next quote, please note that the word ‘affect’ has a (debated) particular meaning in psychology. Precise definitions vary, here are three out of many: ‘the observable expression of emotion’, ‘the conscious experience of emotion’, ‘the manifestation of emotion or mood’. ‘Affect’ is considered positive when the emotions or moods experienced are pleasant (e.g. joy or elation) and negative when these are unpleasant (e.g. anger or guilt). S&L2014 considers ‘affect’ to be a *generic* positive or negative emotive feeling, in contrast to any of the *specific* emotions which may have caused that generic feeling (e.g. joy or hope, or guilt or fear). Here is the abstract:

‘Prior research has found that affect and affective imagery strongly influence public support for global warming. This article extends this literature by exploring the separate influence of discrete emotions. Utilizing a nationally representative survey in the United States, this study found that discrete emotions were stronger predictors of global warming policy support than cultural worldviews, negative affect, image associations, or sociodemographic variables. In particular, worry, interest, and hope were strongly associated with increased policy support. The results contribute to experiential theories of risk information processing and suggest that discrete emotions play a significant role in public support for climate change policy. Implications for climate change communication are also discussed.’

And finally the section including the impact of fear memes:

‘Worry, in particular, was the single strongest predictor. That is, the more respondents worried about global warming, the more likely they were to support national climate and energy policies. Interestingly, however, fear was not associated with increased policy support... ..This finding has important implications for climate change educators and communicators. Fear appeals have often been used under the assumption that scaring the public about climate change will engage them in the issue, motivate individual action, and generate public support for broad policy change, but recent research demonstrates that fear appeals are often ineffective or even counterproductive. “Dire” fear-based messaging around extreme weather and other climate phenomena has been found to raise anxieties, but also to distance the public. O’Neill and Nicholson-Cole found that catastrophic and alarmist visual imagery actually decreased public engagement with the issue.’ [reference numbers clipped, see original paper for the full references].

Also see [The Breathrough](#) article also from 2014: *‘A growing body of scholarly and scientific studies finds that fear-based appeals around climate change backfire, resulting in increased climate skepticism and fatalism among much of the public.’*

More recently, [Lewandowsky notes](#) (2018): ‘Some past attempts to use visual imagery to communicate climate change have evoked negative emotions, such as fear, through conveying apocalyptic visions of the future. Unfortunately, these may actually demotivate audiences, triggering denial or apathy instead of engagement’. However, this calls up a 2009 reference for main support, ‘Fear won’t do it’ by O’Neill S. and Nicholson-Cole S.

16a. Via Spiegel online (2010): *“The two-degree target has little to do with serious science,” says Hans von Storch. Many of his fellow scientists, he adds, now see themselves too much as political activists who*

want to get something done. This, in turn, harms the credibility of science as a whole, he adds, and it is also a more deep-seated cause of the Climategate affair and the sloppy work on the IPCC report [AR4]. “Unfortunately, some of my colleagues behave like pastors, who present their results in precisely such a way that they’ll fit to their sermons,” says Storch. “It’s certainly no coincidence that all the mistakes that became public always tended in the direction of exaggeration and alarmism.” Von Storch is a German climate scientist and Professor at the Meteorological Institute of the University of Hamburg, plus (since 2001) Director of the Institute for Coastal Research at the Helmholtz Research Centre (previously: GKSS Research Center).

17. Indeed he is explicitly identified with mainstream science or ‘the consensus’ by some media articles such as [The Top 15 Climate-Change Scientists: Consensus & Skeptics](#) from *The Best Schools*. Others acknowledge his [disagreement with](#) the mainstream; Given the lack of support for CAGW notions in the IPCC / AR5WGC, scientists who express such notions are by definition not mainstream.

17a. For instance a 2015 [Rolling Stone article](#) interviewing about two dozen climate scientists notes: “As you might expect, having tickets to the front row of a global environmental catastrophe is taking an increasingly emotional toll on scientists, and in some cases pushing them toward advocacy. Of the two dozen or so scientists I interviewed for this piece, virtually all drifted into apocalyptic language at some point.” The first half of this assumes ‘global catastrophe’ as an inevitable scenario (no caveats are stated, though absent major emissions cuts of course, as is confirmed later within the article). So the question is; does the catastrophe narrative have such an emotive grip on these scientists that they are indeed *emotively* convinced? I.e. the journalist (who is also a meteorologist – see footnote 7c) has *correctly* reflected their belief. Which state would not only be seriously biasing their science, but also causing them to eventually retransmit the raw narrative themselves, i.e. minus the proper scientific context and hedging that separates projections from predictions and possibilities from firm outcomes. Rather than scientific study arousing such strong emotion, it seems likely causation is in the reverse sense. See also footnote 21.

18. Even strictly within the short quotes provided in footnotes 1 to 5, an underwriting by science is commonly incorporated into these catastrophe narrative examples, as follows:

1c)ii] ‘scientific findings’, 1l) ‘scientists spell out’, 1m)ii] ‘scientifically proven’, 1q) ‘science tells us’, 1r)ii] ‘scientists... have said it’, 1u)v] ‘the best scientists in the world are telling us’, 2b) ‘the science is very clear’, 2q) ‘that’s a language that comes out of the scientific world’, 2s) ‘the scientific conclusion is’, 2x) ‘now have scientific evidence that’, 3j) ‘we should stop the non-scientific, pseudo-scientific, and anti-scientific nonsense’, 4d) ‘the science is even more unequivocal’, 4e) ‘climate science paints a bleak picture’, 5aa) ‘97% of scientists the world over have said’, 5ac) ‘what climate scientists have feared for decades is now beginning to come true’. 5ba) ‘leaders had recognized the broad scientific view’, 5cc) ‘we know the science has been telling us this for a long time’, 5ed) ‘scientific data on the impact of climate change that painted a gloomy picture’, 5dd) ‘temperatures are much more serious than most scientists expected’, 5dg) ‘the scientific community made its decisive diagnosis’.

In fact, the fuller verbiage from which the quotes are snipped often includes similar phrases, so the total number of catastrophe narrative examples explicitly underwriting with science is significantly larger, though I haven’t captured / totaled these additional phrases except for the footnote 1 examples, which follow: 1a)i] many refs e.g. ‘scientists announced alarming new evidence’, ‘Many scientists are now warning’, ‘The scientists tell us’, ‘yet another team of scientists reported’, etc. 1d)i] ‘acknowledged the scientific imperative’, 1i) very many refs e.g. ‘it is the science that drives policy’, ‘we hear loud and

clear from the experts’, ‘When the scientists tell us that’ (repeated), ‘we should listen to the scientists’, ‘overwhelming scientific evidence’, ‘the overwhelming judgment of science’, etc. 1k) ‘the conclusions of scientists’, 1s)] several refs, e.g. ‘how clear the science was almost half a century ago’, ‘a view drawn from a range of high-level scientific assessments’, ‘visibly angry at the people behind the current wave of denial of even the most basic science’, etc. 1u)] several refs, e.g. ‘we’ve been warned by legions of scientists and mountains of evidence that this was coming’, ‘what we can be scientifically certain of is that our continued use of fossil fuels is pushing us to a point of no return’, 1y) a few refs, e.g. ‘There is one overriding positive: through the science we are aware of the problem’. 1z) many refs, e.g. ‘You have listened to the scientists’, ‘The effects of global warming are happening much faster than scientists predicted’, ‘as a matter of stewardship, we must acknowledge the recommendations of the scientific community’, ‘Even more widespread and serious, according to the preponderance of evidence from scientists worldwide’.

Additionally, alternative phrasings in catastrophe narrative can indirectly underwrite via science, i.e. without using the actual words ‘science / scientists / scientific’. For example by underwriting with the IPCC output instead, as does 1m)] ‘The report of the Intergovernmental Panel on Climate Change is clear’, and 1s)] ‘In a response to the latest report from the UN Intergovernmental Panel on Climate Change’. Or by attributing any objections to ‘deniers’; the inference being that such folks deny the clear science that is claimed to underwrite catastrophe. Example 1n) does this, though here the ‘science’ word is also still used as well: ‘...Republican deniers, defeatists and obstructionists should know—their cynical efforts will fail. Not only are they on the wrong side of science and of history...’. Example 1u)]iv) uses a similar approach, but via the phrase ‘meeting of the Flat Earth Society’, which serves as an alternative to ‘deniers’. Or via other constructions such as 1w) ‘the best projections tell us’, which means of course *scientific* projections (although ‘projection’ implies more uncertainty than say ‘scientific conclusion’, mainstream projections don’t anyhow point to a high certainty of global catastrophe, likely critical 100 months from 2009 according to this particular example).

Although ‘the best scientists’, ‘95% of scientists’, ‘the world’s scientists’ or similar phrases are not infrequent, so explicitly citing the majority or mainstream, more often there may just be, say, ‘climate science’, as though this speaks for all of that enterprise, or indeed just ‘science’, or ‘scientists’. In such cases a majority or mainstream is *implied*, because there is almost never any further information to indicate the touted catastrophe narrative might *not* be mainstream, and for sure public audiences would need a specific reason to have any doubts about this implication. It is unlikely that any of the authority figures actually giving the exemplified quotes, have any such doubts.

All the catastrophe narrative quotes in footnotes 6 and 7 actually come from scientists, so are automatically self-underwriting, so to speak. While these examples don’t stress their variance from the mainstream position, which of course means they’ll be interpreted by audiences *as* mainstream, there are also examples where a catastrophe narrative is indeed contrasted by scientists to the mainstream position, along the lines of the links in paragraph 6 of section 3 in the main post.

18a. Yet directing the affront to those with essentially no influence (e.g. individuals on social media or blogs who have understandably believed what the many high authority sources say regarding the backing of science, whether such people class themselves as ‘skeptical’ or otherwise), is never going to achieve anything except still more misunderstanding and conflict. This affront is very rarely directed towards the authority sources as exemplified in footnotes 1 to 5, or at least not visibly so, yet this would be very helpful in tackling the problem.

19. Those scientists included in the catastrophe narrative examples from footnote 6 and 7 who are also IPCC contributors, include at least: from the 831 authors in the AR5 Working Groups; Andrew Weaver, Anthony Richardson? (website claims ‘culminated in me being invited to co-author of Chapter 30 The Ocean in the IPCC 5th Assessment’, but he is [not listed](#) in the 10 authors of this chapter), David Karoly, Eric Rignot, Michael Oppenheimer, Niklas Höhne, Peter Wadhams and Pieter Tans. From earlier IPCC main reports; Hans Joachim Schellnhuber (a coordinating lead author on AR3 WGII), Jason Box (AR4), Michael MacCracken, Michael Mann (a lead author on AR3), Richard Somerville (a coordinating lead author on AR4), Stephan Rahmstorf (a lead author on AR4). From other IPCC efforts; Johan Rockström (contributed on at least [this](#) early effort towards AR6), Ken Caldeira (IPCC 2005 special report on CCS, also resigned as a co-ordinating author on AR5), Robert Watson (IPCC chair, 1997 to 2002), Thomas Goreau (at least 1 [expert meeting](#) in 2007).

20. The linked article cites a paper ‘[Climate change prediction: Erring on the side of least drama?](#)’ by Keynyn Brysse, Naomi Oreskes, Jessica O’Reilly and Michael Oppenheimer. Plus, Kevin Trenberth, Michael Mann and Richard Somerville all contribute comments in the article to the effect that (to a greater or lesser extent) research results as presented by the IPCC are too conservative. And a Hansen paper contradicting the IPCC is also cited. Out of these scientists Oppenheimer, Mann, Somerville and Hansen are featured in the list of quotes above. Oreskes is not a climate scientist herself, yet appears to support those scientists who propagate catastrophe narrative (excepting any like Hansen who prefer nuclear as part of the ‘solution’). She says [here](#) of ‘issues such as climate change’: ‘*Scientists should consider themselves as sentinels, she said, responsibly raising the alarm to government officials and others about what the data show and even offering possible solutions to science-based problems.*’ A problem with the word ‘responsibly’ here, is that a strong emotive belief in catastrophe culture will make it seem that promoting catastrophic outcomes deriving from nascent seed concepts / research, and above the normal scientific process plus uncertainties, is the most responsible thing one could possibly do. ‘Possible solutions’ may also suffer overreach, i.e. from scientific suggestions to simply the policy preferences of particular scientists.

21. Note that within the Climate Etc post pointed by the text ‘[leak back into science](#)’, some links are now broken. For the ‘Scared Scientists’, the site scaredscientists.com appears to have been taken down, but you can still find them [here](#) (click to enter and then click on each scientist’s photo in turn). For all the ‘From the Heart’ videos of climate scientists and ecologists, including some new ones since that post at Climate Etc, go [here](#).

22. Richard Lindzen’s ‘[three group](#)’ video also notes much agreement between scientists supporting the IPCC consensus (group1), and skeptic scientists (group2), most notably that current knowledge does not point to near-term catastrophe. However he says that group 3, who do propagate and believe the narrative of catastrophe, consist mainly of politicians / NGOs / media, and scientists *outside* of the climate domain who’ve jumped on the bandwagon. But there are clearly some *climate* scientists in group 3, even if they are only a small minority. An obvious example is James Hansen, and various others in footnote 7 express the catastrophe narrative too.

23. Albeit limited to reportage in English, catastrophe narrative quotes in footnotes 1 to 5 are from a range of authority / influencer sources originating in the US, UK, France, Germany, Holland, Belgium, Ireland, Denmark, Norway, Sweden, Finland, Australia, Canada, India, South Africa, Bolivia, Croatia, Fiji and

Grenada. 19 nations in total, of which 13 within the Western grouping. I didn't include Zimbabwe as I wasn't really sure whether it counted from an irresponsible leader anyhow, though I suppose he was still an influencer of sorts until turfed out of office. Or at least [the WHO still thought so](#) until very late in the day. Just for the record here he is:

[ROBERT MUGABE] President of Zimbabwe. [From speech at COP21](#) (2015): “We are all agreed that, unless present climatic trends are reversed, disaster stalks our planet Earth. None of us here can dispute the fact that urgent corrective measures and actions, based on tenets of equity and justice, must be taken to avert the impending disaster. This, Mr President, is what we should strive to achieve at this important summit.”

There are also cross-national authorities included, most obviously the UN elite who are at odds with the findings of their own scientific process as run by the IPCC. Emergent narratives often feature urgency about some major (or perceived major) issue, because this emotive element can be a very strong contributor to their rise, and indeed the UN elite have constantly stressed urgency in terms of near-term ‘final’ deadlines, e.g.

[ERIK SOLHEIM] Ex Norwegian MP, ex leader of the Socialist Left Party of that country and ex minister for the environment. Now Executive Director of the United Nations Environment Programme. [Via the Thai Visa News](#) (Sept 2018): “If we cannot strengthen our mitigation commitments in time, we will miss the *final* opportunity to prevent the global temperature from rising beyond 2 degrees and fail to avoid catastrophic outcomes of extreme climate change,” Solheim said.’ [italics mine].

There's an obvious outcome regarding this feature as many deadlines pass, especially given the UNs supposed ultimate authority position on the issue (by virtue of owning the IPCC). A downside which was very bluntly noted by [The National Post](#) (a Canadian newspaper) recently. Yet emergent narratives are of course blind, they succeed by selection within the moment and albeit there is cultural inertia to consider too, they are neither sentient nor agential so cannot see obvious looming issues. However, their ability to evolve around such issues as they occur can be impressive too.

The other big intergovernmental org has also propagated the catastrophe narrative:

[KAMALESH SHARMA] Commonwealth Secretary-General. Note: [The Commonwealth of Nations](#), normally known as the Commonwealth, is an intergovernmental organisation of 53 member states that are mostly former territories of the British Empire. [Via Reuters](#) (Nov 2009): ‘Kamalesh Sharma said the group, representing more than 1.8 billion people and bringing together wealthy nations like Britain, Canada and Australia with some of the world’s smallest states, had a shared responsibility to confront what he called “the looming existential catastrophe of climate change”.’

Plus, the exemplified quotes cover various faiths, most notably Catholicism as represented by the Pope himself and also a cardinal, additionally Rowan Williams, who was leader of the Anglican Communion from 2002 to 2012, and a UK joint faith statement. Some faith groups, e.g. the [Cornwall Alliance](#), oppose orthodox climate change policies. I guess as one would expect, the Jesuits are [supporting the Pope](#), and six bishops representing episcopal conferences on five continents likewise, [urging world leaders](#) to fulfill the Paris Agreements ‘in order to tackle and overcome the devastating effects of the climate crisis’. Most faiths seem to broadly support climate change orthodoxy. There appears to be much that is reasonable regarding generic social responsibility and stewardship of the environment within [their statements](#) on the issue (plus other environmental issues, these are frequently lumped together). Yet tendrils of the narrative of catastrophe thread through various of these statements too.

The ~50 example scientists expressing the catastrophe narrative range from the pretty obscure to the very well-known and influential, with a bunch in-between. These scientists and others who propagate the catastrophe narrative infuse it with the authority of ‘science’, i.e. their pronouncements are typically

interpreted by the public as coming from *mainstream* science, the example quotes also encouraging the kind of high certainty that most people associate with scientific judgements.

Though needing much more investigation than I had time for, it seems on the surface at least that the catastrophe narrative finds a home much more readily in some functions of society than others. While this may seem obvious for the case of say environmental science or government environmental workers, there appear to be other cases such as the caring professions (who wield much authority), with consequent propagation of catastrophe narrative as part of either expectations for future coping or advocacy for action by some medical authorities or associations. I've not followed-up on / validated this angle, but footnote 8 provides brief insight via a few catastrophe narrative quotes I happened to come across from authorities in the medical / health domain.

Note: there is a prolific propagation of catastrophe narrative by journalists / media contributors, which I intended to sample and categorize for this post. But this is a very considerable task and I didn't have enough time (though very many of the quotes from authority sources / scientists in these footnotes are via journalists, I mean here the input primarily from the journalists themselves). Journalists have a certain amount of authority and certainly huge influence on messaging. While we don't necessarily expect hard / detailed scientific facts from them, we do expect attempts to verify broad story-lines on scientific issues with at least mainstream sources (and one would hope, even sniffing out that there is controversy within the academy itself). Hence important categorizations are for instance whether emotive wording had specific credible backing from a scientist (plus whether that scientist's place on the spectrum of positions was mentioned), or was invented (maybe an attempted summary of a mash of sources yet none of which implied such wording), or say was based around wording from a political leader that nevertheless wasn't itself consistent with the science, and so on. Given that mainstream scientific opinion doesn't support the catastrophic, all catastrophic story-lines not explicitly linked to non-mainstream scientists (where this status is also made clear), or explicitly billed as unsupported opinion, have in essence failed verification, but this can happen to differing degrees and in different ways.

24. I seem to remember that a decade and more ago 'CAGW' was more often read at face value and didn't carry such snarl word implications, plus it wasn't quite so exclusive to one side of the debate. Unfortunately, I didn't save links of orthodox folks employing the acronym within normal comments (i.e. not just objecting to skeptic usage). This was likely an infrequent occurrence, although I do recall 'lolwot' doing this here at Climate Etc a few years back, and footnote 6q) shows Dana Nuccitelli doing so way back in 2007. A little history of 'CAGW' is mentioned at [Oliver Bothe's blog](#) (aka 'meteo'), though this post is mostly about the growth of the word 'catastrophic' (or similar) within the literature and articles, rather than specifically the acronym 'CAGW'.

25. Public challenges to catastrophe propagation are infrequent, especially regarding scientific sources. And typically also downplayed; for instance Dana Nuccitelli [writing in The Guardian](#) (July 2018), even while acknowledging there are indeed scientists who propagate doomsday stories (whom he describes as 'alarmists'), nevertheless minimizes the issue. Such scientists are 'largely ignored' he states, while those individuals he terms as 'deniers' are 'incredibly influential'. This line is not consistent with the primary authority narrative per footnotes 1 and 2, which for many years prior to the recent exception of Trump has been aligned to the position of the former and not the latter. However, a comparative influence of specific groups, as though either are somehow controlling the action, is in any case missing a critical point: the catastrophe narrative is *emergent*. Hence it is not as such imposed by specific parties as a conscious agenda anyhow, although by virtue of having infiltrated the ranks of top authority, its punch is hugely

increased. Nor does Nuccitelli's article sit too well with his earlier comment regarding 'CAGW' (see footnote 6q).

26. 'The phrase catastrophic anthropogenic global warming and its acronym (*CAGW*)', notes [Jacobs et al](#) (pg46 in [this book](#)), 'is rarely used in the mainstream press'.

27. Replacement terms have been discussed here on Climate Etc. and elsewhere, for instance see footnote 29 below. However, on reflection I think renaming is very probably a diversion. When 'CAGW' is used inappropriately, the error typically does not stem from confusion about the acronym (or its expansion) versus potential alternatives, but rather from confusion about who or what this correctly intended term actually applies to. Resulting in a labelling of the wrong individuals or groups or social phenomena. E.g. 'CAGW theory' applied to mainstream science, because scientists expressing the narrative of catastrophe in public are mistakenly assumed to be speaking on behalf of the *mainstream* position. Yet if per the main post 'CAGW' is applied *appropriately*, i.e. to individuals, groups or social phenomena that legitimately earn the term, it is perfectly correct, and still needed in order to accomplish this valid labelling. And while alternate terms describing adjacent or other notions may likewise be legitimate (and useful) within their appropriate context, this by no means removes the existence of that which the 'CAGW' term legitimately and accurately describes.

28. See also footnote 27. The blunder is not typically choosing the wrong term, but applying the term to the wrong individuals, groups or social phenomena. When for instance a skeptic mistakenly uses 'CAGW theory' to label mainstream science, orthodox challengers will often point out that the catastrophic is not supported by mainstream climate science, and further that the vague, undefined, and emotive concept of global catastrophe can morph to mean pretty much anything that supports a commenters line of argument. This is a perfectly legitimate critique. Indeed, when the 'CAGW' term is *correctly* applied, e.g. to the A-list authorities or minority scientists regarding their listed quotes in this file, it's clear that culpability for a lack of definition and a chameleon-like emotive rhetoric device, lies with these individuals or groups who publicly express the catastrophe narrative, *not* with those who merely report such expression, whether the latter happen to use 'CAGW' to describe such expressions or not, or indeed whether they themselves are deemed skeptical or orthodox or neutral regarding the socially conflicted climate change issue. It is the presidents and prime ministers, the UN elite, NGOs, religions and businesses and many other politicians and authorities, plus minority scientists, who should be addressed regarding what they actually mean by 'catastrophe', or such equivalent phrasing as they deploy.

29. Some other discussion of the 'CAGW' term I came across, just in the interests of having as much as possible linked from one place. 1] from [academic economist David Friedman](#), 2015, just a couple of paragraphs but in line with the main post here (except I do not infer any 'pretence' for Obama or other authorities). 2] At [Skeptical Science](#), 2014, proposing alternate terms EAGW (E=expensive) and PCAGW (P=potentially). 3] David Appell, in reply to timg56 at here Climate Etc, within comments to Lucas Bergcamp's post on '[Decision theory and the doom scenario of climate catastrophe](#)' (Sept 2016): "...it would be difficult for me to argue that my camp has not become more shrill and strident over the past two decades. I will, however, note that the CAGW meme is not our creation, we call it AGW. The C is there for mockery and dismissal of the politics of fear and perceived overconfidence. AGW is no meme, it's science. You'll note that I didn't say it was settled. Still, I can own the C, so long as its preceded by a P for 'potentially'." Per the main post that 'C' may be there for mockery, or possibly misunderstanding, or it may be there simply to legitimately describe (without mockery) a narrative, or (non-mainstream)

scientific claim, or a group / individual, which *is* aligned to the catastrophic, and which pre-existing phenomena are *correctly* described by the ‘C’. Plus, an issue with PCAGW is that the ‘potentially’ could in good faith be used to reflect the many scientific caveats, yet can then be interpreted / re-used as merely reflecting catastrophe *only if* major emissions reductions are not undertaken, i.e. certainty has reappeared should said reductions be projected not to occur (this is a *morphed conditional*, per examples above). Or the ‘potentially’ may become emotively overwhelmed by contradiction / certainty elsewhere within a deployed narrative (see the introduction to *emotively overwhelmed conditionals* in footnote 7). However, renaming is probably a red herring anyhow; ‘CAGW’ is legitimate *as long it is applied to the correct phenomena* (see footnote 27).

30. For example:

[From Free Malaysia Today](#): “There is increasing and very robust evidence of truly severe and catastrophic risks even at the lower bounds of these temperature targets,” said Peter Frumhoff, director of science and policy at the Union of Concerned Scientists, a Washington-based research and advocacy group. ... “When we’re talking about 1.5C it’s not just to protect a few dozen small island nations,” said Henri Waisman, a senior researcher at the Institute for Sustainable Development and International Relations, and a coordinating author of the report. “It’s to avoid dramatic impacts that become exponentially more dramatic when we go from 1.5C to 2C.” ... “If we want to save ourselves from the disasters that are looming, we only have unrealistic options left,” said Kaisa Kosonen, Greenpeace IPPC campaign lead. “We have to try to make the impossible possible.” (reporting on SR15, but about a week before this was published).

[From the BBC](#): “Final call to save the world from ‘climate catastrophe’.” Including *moral association*: “If you save a small island country, then you save the world,” said Dr Amjad Abdulla, an IPCC author, from the Maldives. “Because the report clearly states that no-one is going to be immune. It’s about morality - it’s about humanity.” As recorded by various [other sites](#), an earlier version of the same report was titled *Climate report: Scientists politely urge ‘act now, idiots’*, whereas scientists deployed no such insult. The line derived from a Greenpeace activist actually quoted within the article: “Scientists might want to write in capital letters, ‘ACT NOW, IDIOTS,’ but they need to say that with facts and numbers,” said Kaisa Kosonen, of Greenpeace, who was an observer at the negotiations. “And they have.”

[From The Guardian](#): ‘We have 12 years to limit climate change catastrophe, warns UN.’

[From Mother Jones](#): ‘New UN Climate Report Dims Hope for Averting Global Warming Catastrophe.’

[From The Washington Post](#): ‘The world stands on the brink of failure when it comes to holding global warming to moderate levels, and nations will need to take “unprecedented” actions to cut their carbon emissions over the next decade, according to a landmark report by the top scientific body studying climate change. ... “It’s like a deafening, piercing smoke alarm going off in the kitchen. We have to put out the fire,” said Erik Solheim, executive director of the U.N. Environment Program. He added that the need to either stop emissions entirely by 2050 or find some way to remove as much carbon dioxide from the air as humans put there “means net zero must be the new global mantra”.’

From [Energy and Technology](#) (E&T): “Unprecedented’ carbon reduction necessary to prevent catastrophe, IPCC warns.’

From Alan Rusbridger (Principal, LMH Oxford. Ex-editor, Guardian. Chair, Reuters Institute. Author, Play it Again; Breaking News), [via Twitter](#): “Most UK papers think a drunken snog at Strictly is the most

important story today. More important than a terrifying new #IPCC report saying we have 12 years to stave off the catastrophic effects of global warming.’

31. E.g. [per Pielke](#) regarding temperature extremes, droughts, floods, cyclones or tornadoes, there is not any conclusion that amounts to a contribution of high confidence of global catastrophe. Reports are the same or similar to AR5, i.e. low / modest impacts or low confidence obscuring what future impacts may actually occur. And [per Curry](#) on other catastrophe possibilities: *‘collapse of the West Antarctic Ice Sheet, possibly resulting in up to 2.5 m sea level rise as per the NOAA (2017) report (actually, the IPCC does not even make this case, they are predicting SLR of 1-2 feet). This extreme scenario, which would maybe justify all this, is regarded as extremely unlikely, and we are not presently on such a trajectory. In any event, if the WAIS collapses it is more likely to be due to the geothermal heat flux and volcanoes beneath the ice sheet. Recent research shows portions of the WAIS rising at a rate of 41 mm/yr, acting to protect the WAIS from collapse. MASSIVELY uncertain. species extinction. After alarming conclusions in AR4, the AR5 backtracked, and this new Report backtracks even further. What about the ocean – acidification and declining oxygen? Our understanding is in its infancy, but this needs to be looked at more.’* Though of which regarding species there is an exception for corals, SR15 goes the other way for these, essentially predicting a wipe-out at over 2C global temperature rise.

32. Consciously constructed hoaxes / scams / conspiracies are weak social constructs and cannot support long-lived cultural entities that move major global resources over many generations (although cults can sometimes start as the former and morph to the latter, yet by which time their characteristics are emergent not planned, their precepts believed not cynical). The social phenomenon of CAGW gets its formidable strength from honest belief, in the same manner as do religions like Christianity that can span millennia. So with or without use of the ‘CAGW’ acronym, claiming the phenomenon is due to a hoax is wrong, or at least would require the presentation of an unimaginable evidence set linking endless individuals and orgs in highly complex and preconceived Machiavellian schemes lasting decades. Nor is there need for any such evidence; the CAGW social phenomenon ticks every box for a standard cultural emergence, of which there have been endless others throughout history, and as far as we know pre-history too (which is why the behaviors are so deeply buried in us). However, none of this precludes dishonest activity on the side. Any human enterprise sufficiently large will have a few scams clinging to its coat-tails, and strong cultures especially, because of the rich pickings their contradictions offer. So, *with proper evidence*, e.g. per the Gleick affair, or maybe some scandal involving folks getting illegally rich on bio-fuel / energy schemes or whatever, these may rightly be claimed as fraudulent / scams / whatever, and under the loose umbrella of CAGW too. But something like ‘CAGW scam’ implies main causation, and hence is wrong by definition (unless the unimaginable evidence above did indeed magically appear).