



# Confronting the Fear of Climate Disasters

Even the IPCC Admits the Risk is Low!

## Contents

<b>Confronting The Fear Of Climate Disasters – Executive Summary</b> .....	2
<b>Confronting The Fear Of Climate Disasters</b> .....	4
<b>What should one make of these reports?</b> .....	6
<b>What are “Disasters”?</b> .....	7
<b>What Does the IPCC Say?</b> .....	8
About the Author.....	12
About Friends of Science Society.....	12

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## Confronting The Fear Of Climate Disasters – Executive Summary

Proponents of the thesis that humans are causing catastrophic climate change insist that changes in the earth's climate observed over the past century and a half are causing significant increases in extreme weather events and major economic losses.

Page | 2

United Nations organizations often support this view. The World Meteorological Organization (WMO) regularly issues reports on climate change and weather as though the two are inexorably linked. In May 2023, the WMO published a [report](#) entitled *Economic costs of weather-related disasters soars but early warnings save lives*. The reported economic losses rose significantly from about USD\$184 billion in the 1970s to about USD 1.47 trillion from 2010-2019.

The Food and Agriculture Organization (FAO) periodically issues reports describing how disasters, linked allegedly to climate change, are harming agriculture and food security. In 2023, it issued a [report](#) entitled *The Impact of Disasters on Agriculture and Food Security*. It warned that “disasters are producing unprecedented levels of damage and loss to agriculture around the world...Research aimed at deciphering the impact of climate change on agriculture indicates that climate change is likely to lead to more frequent anomalies and a decrease in agricultural production.”

Both reports neglected to provide context for their findings. In more than 80 percent of the disasters in the developed countries cited by the WMO, the economic losses were equivalent to less than 0.1 per cent of the countries' gross domestic product. Over the period 2000 to 2021 the global value added of agriculture, forestry and fishing rose by 84 percent from about USD 2.0 trillion to USD 3.7 trillion per year. In other words, global agricultural production was not “reduced” by disasters.

The Intergovernmental Panel on Climate Change (IPCC) seeks to define and assess what it considers to be real or potential adverse effects of climate change. Every few years the IPCC publishes an “assessment report” in which it attempts to set out the state of the knowledge. The most recent report was the Sixth Assessment Report, published in 2021. The executive summary of this report states that evidence of observed changes in extremes and their attribution to human influence has strengthened, in particular for extreme precipitation, droughts, tropical cyclones and compound extremes (including dry/hot events and fire weather). It gives an impression, reflected in media reports, that the world faces a grave situation.

A more detailed reading of the assessment reveals an entirely different conclusion.

The most revealing part of the report concerns the probability and timing of the emergence of “climate impact drivers” and the related “impacts” and the IPCC's collective judgments about whether the impacts are already occurring or may be expected to emerge in future. The only impacts for which the IPCC has a “high confidence” of impacts already increasing are in mean air temperature, extreme heat, mean ocean temperature, and atmospheric carbon dioxide at the surface. There is also “high confidence” of decreases in the dissolved oxygen in the ocean and in lake, river and sea ice. There is a “medium confidence” that ocean salinity at the surface has already

occurred. There is also “medium confidence” that decreases in cold spells and in permafrost have already occurred.

For the rest of the potential climate impacts, there is a “low confidence in the direction of change” of most of the impacts that get almost endless media attention, including precipitation, aridity, drought, fire weather, cyclones and severe wind storms, snow and sea ice, sea levels, coastal erosion, ocean acidity and air pollution. The dire outcomes that so many in governments and the media predict are, in many cases, not confidently foreseen by the IPCC scientists even under the worst-case scenarios.

Maybe the mainstream media should report this.

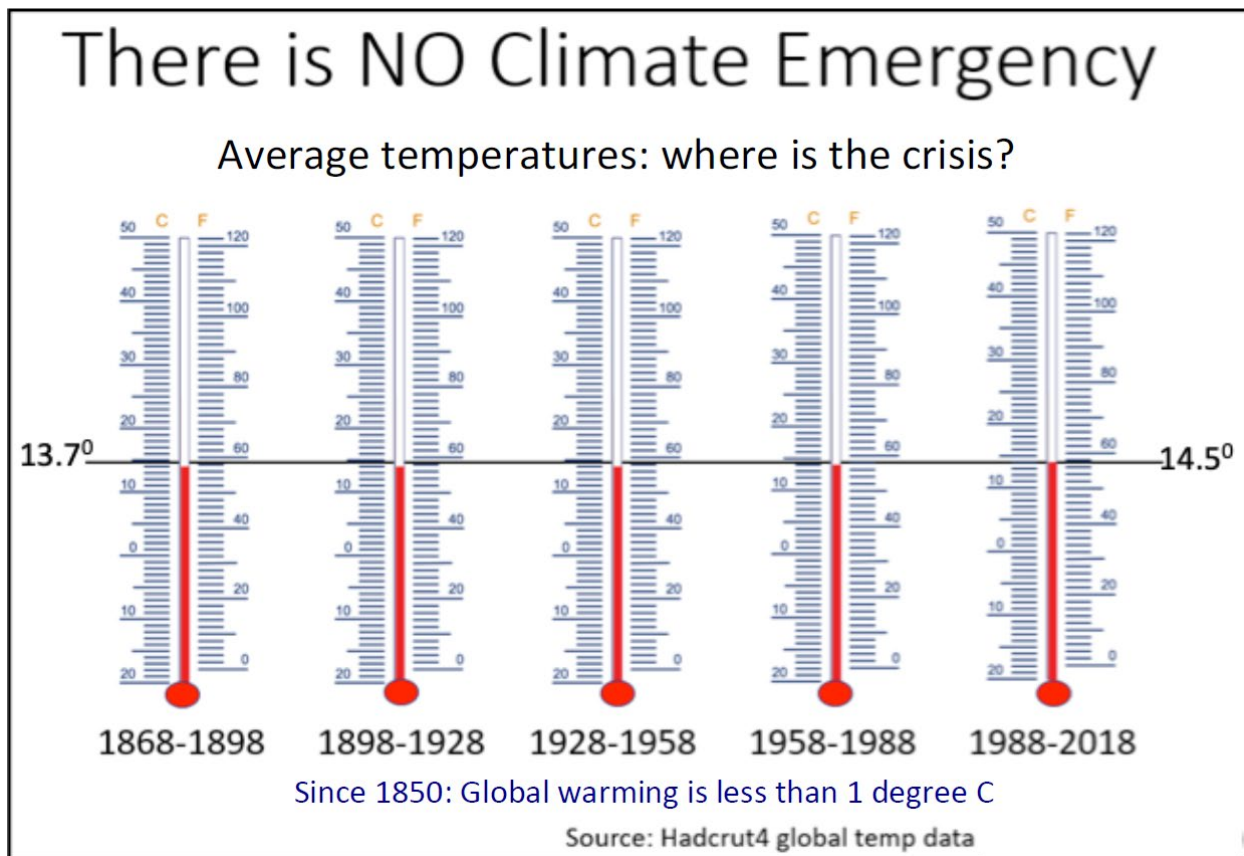
## Confronting The Fear Of Climate Disasters

*That man is prudent who neither hopes nor fears the uncertain events of the future.*

Anatole France

Page | 4

Scientists tell us that the earth's climate is a chaotic system, governed by dozens of natural and human-induced influences that are extremely difficult to understand and virtually impossible to model accurately.<sup>1</sup> Despite this, proponents of the thesis that humans are causing catastrophic climate change insist that by re-engineering the world's energy system and thus adjusting the "knob" of carbon dioxide emissions, humans can control the climate. Based on their use of models, they further maintain that even the relatively small changes in the earth's climate observed over the past century and a half, including notably the increase in the globe's average temperature by just over one degrees C., is causing significant increases in extreme weather events. Finally, they promote the fear that these events are already harming humans through increased deaths, adverse health effects, and major economic losses.



Thus does an unprovable thesis about human influences on the climate get translated into a claim that, unless Canadians all buy electric cars and pay ever-rising carbon taxes, they will suffer high weather-related economic costs. The main cheerleader for this campaign of fear is the United Nations. The United Nations Framework Convention on Climate Change has been institutionalized in a large bureaucracy that organizes the annual

<sup>1</sup> <https://journals.ametsoc.org/view/journals/bams/104/9/BAMS-D-23-0102.1.xml>

Conferences of the Parties (COPs) and over a thousand smaller conferences and networking events every year. The World Meteorological Organization (WMO) regularly issues reports on climate change and weather as though the two are inexorably linked. The Food and Agriculture Organization (FAO) adds to the chorus by periodically issuing reports describing how disasters, linked allegedly to climate change, are harming agriculture and food security. The UN agencies in turn are supported by the publications of the private World Economic Forum.

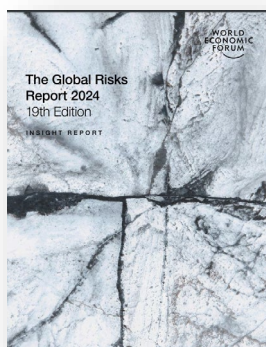
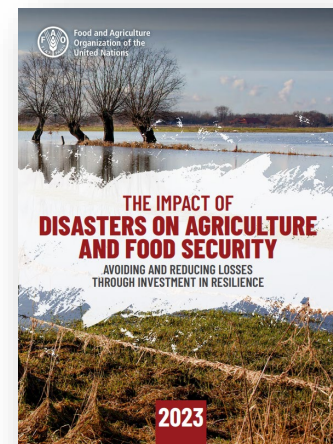
Three recent reports have gained considerable media attention and stoked public fear.



In May 2023, the WMO published a [report](#) entitled *Economic costs of weather-related disasters soars but early warnings save lives*. Based on the Centre for Research on the Epidemiology of Disasters' (CRED) Emergency Events database (EM-DAT), the WMO reported on the number of disaster-related deaths and reported economic losses by decade since 1970 due to drought, extreme temperature, flood, landslide storm and wildfire. The number of deaths actually declined from about 667,000 in the 1980s to 329,000 in the 2010-2019 decade. In contrast, the reported economic losses rose significantly from about USD\$184 billion in the 1970s to about USD 1.47 trillion from 2010-

2019. The report noted that most of the losses were due to *"weather, climate and water-related disasters"*. These were described as climate-related, with the further implication that the climate trends were driven by human activities.

Also in 2023, the FAO issued a [report](#) entitled *The Impact of Disasters on Agriculture and Food Security*. It warned that *"disasters are producing unprecedented levels of damage and loss to agriculture around the world. Their increasing severity and frequency, from 100 per year in the 1970s to around 400 events per year in the past 20 years, affect agri-food systems across multiple dimensions, compromising food security and undermining the sustainability of the agriculture sector... Over the last 30 years, an estimated USD 3.8 billion worth of crops and livestock production has been lost due to disaster events, corresponding to an average loss of USD 123 billion per year, or 5 percent of annual global agricultural GDP."* The report warned that *"Research aimed at deciphering the impact of climate change on agriculture indicates that climate change is likely to lead to more frequent anomalies and a decrease in agricultural production."*



The World Economic Forum added to the assessment of doom with its [Global Risks Report 2024](#) based on the results of the latest Global Risks Perception Survey (GRPS). This report summarized the results of the WEF's survey of "business leaders and public policy makers". According to this group, the top ten global risks over the next ten years are as follows:



1. Failure to mitigate climate change
2. Failure of climate change adaptation
3. Natural disasters and extreme weather events
4. Biodiversity loss and ecosystem collapse
5. Large-scale involuntary migration
6. Natural resource crises
7. Erosion of social cohesion and societal polarization
8. Widespread cybercrime and cyber insecurity
9. Geo-economics' confrontation
10. Large-scale environmental damage incidents

## What should one make of these reports?

The authors of the WMO report probably saw the potential for headlines with their estimate that the economic losses, due mostly to floods and storms, had been close to USD 1.5 trillion over 30 years. The annual average was USD 147 billion per year. The authors somewhat undercut the effect of their own scare tactics by acknowledging that, **in more than 80 percent of the disasters in the developed countries, the economic losses were equivalent to less than 0.1 per cent of the countries' gross domestic product.** The report also failed to note that, over the period 1990 to 2021, global GDP increased almost five times, growing from USD 23 trillion to USD 101 trillion, according to the [World Bank](#).

The FAO report that the impact of disasters on agriculture and food security was about USD 123 billion per year, if true, suggests that most of the adverse effects of disasters were in the agricultural sector. However, the FAO also reported that **over the period 2000 to 2021 the global value added of agriculture, forestry and fishing rose by 84 percent from about USD 2.0 trillion to USD 3.7 trillion per year. In other words, global agricultural production was not "reduced" by disasters;** at worst, the alleged effect of disasters was about 3 percent of the value of agricultural production in 2021.

The WEF report purports to be an opinion survey of the global elite, without identifying who the respondents are. The "top ten" list of risks is heavily weighted towards those aligned with the agendas of climate activists. One has to wonder about the absence from the list of such items as wars, pandemics, inflation, global indebtedness, super-power competition and the breakdown of the global trading system, to pick just a few other examples of potential risks. The fact that a WEF-selected group of individuals would identify as priority risks the issues identified by the WEF seems more like a celebration of the effectiveness of the WEF's fear mongering than it does an objective assessment of the dangers to the world's economy.



## What are “Disasters”?

In discussing any topic, and especially one as controversial as climate change, it is important to define one’s terms.

The primary sources of the WMO’s analysis of weather disasters are the United Nations Office for Disaster Risk Reduction (UNDRR) and the Centre for Research on the Epidemiology of Disasters (CRED). The latter organization has since 1988 produced the Emergency Events Database (EM-DAT). **The managers of EM-DAT caution readers online that “EM-DAT data is delivered ‘as is’ and without any guarantees of completeness or accuracy” and that it is important to be aware of its limitations.** The initial objective of the database was to support humanitarian action at the national and International levels, but today EM-DAT is also used to “*rationalize disaster preparedness and decision-making while providing an objective basis for vulnerability and risk assessment*”.

Nowhere does EM-DAT claim to be an authoritative source on the causes of disasters. It defines a disaster as “*a situation which overwhelms local capacity, necessitating a request to the national and international levels for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering*”. EM-DAT includes both man-made (“technological”) and natural disasters. The natural ones are divided into six main groups as summarized below:

Geophysical: earthquake, mass movement, volcanic activity

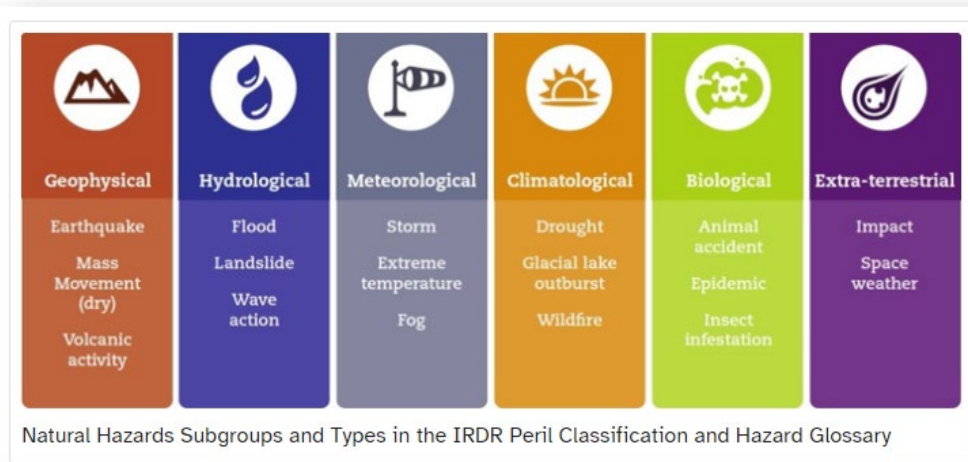
Hydrological: flood, landslide, wave action

Meteorological: storm, extreme temperature, fog

Climatological: drought, glacial lake outburst, wildfire

Biological: animal accident, epidemic, insect infestation

Extra-terrestrial: Impact, Space weather





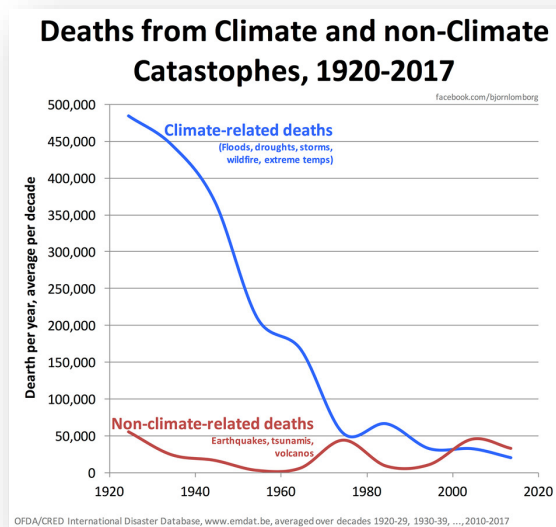
EM-DAT records at the country level human and economic losses for disasters with at least one of the following criteria:

- 10 fatalities;
- 100 affected people;
- a declaration of state of emergency;
- a call for international assistance.”

**It only takes one of those conditions to make it into the disaster database. So, if as few as 10 people die, it can be listed as a disaster.**

The following are some examples of the number of disaster events now listed in the EM-DAT database: floods (2657); tropical cyclones (2492); earthquakes (1544); storms (898); droughts (804); forest fires (317); cold waves (311); heat waves (259).

One of the main controversies concerning EM-DAT is why the number of disasters in the database has increased from less than 100 per year in the 1970s to between 300 and 400 per year in the post-2000 period. The managers of the database have confirmed that this is due to improvement in the reporting mechanisms, not increases in the actual number of disasters.<sup>2</sup>



## What Does the IPCC Say?

The Intergovernmental Panel on Climate Change (IPCC) uses a different terminology to define and assess what it considers to be real or potential adverse effects of climate change. The IPCC’s reports have gained notoriety because of the differences between the analysis of current scientific knowledge on different subjects, and its

<sup>2</sup> <https://wattsupwiththat.com/2023/12/01/natural-disasters-are-not-increasing-really/>

“Summaries for Policy Makers” which are written by government officials. The latter, one could argue, sometimes offers a politicized or simplistic interpretation of what the scientists concluded in their original reports.

Every few years the IPCC publishes an “assessment report” in which it attempts to set out the state of the knowledge. The most recent report was the Sixth Assessment Report, published in 2021.

The IPCC defines a disaster differently from the CRED. It is:

*“Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery.”*

This definition implies that, to understand changes in weather-related disasters over time, we need to understand both how physical events may have changed and how societal vulnerability may have changed.

The IPCC also distinguishes between climate change and weather. Climate change refers to *“a change in the state of the climate that can be identified using statistical tests by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.”* Weather events, in contrast, vary in all time scales from seconds to millennia. **The challenge is to differentiate between weather events that are incidental and the normal result of climate variability and those that are the early indications of the longer-term consequences of genuine climate change. Added to this is the extraordinary difficult and uncertain task of attributing climate changes to human causes.**

The findings of the IPCC Sixth Assessment (AR6) report with respect to the frequency of disasters and “extreme weather events” and the attribution to human causes have been portrayed in different ways by different sources. The executive summary of the Sixth Assessment report reads as follows:

*“It is an established fact that human-induced greenhouse gas emissions have led to an increased frequency and/or intensity of some weather extremes since pre-industrial time, in particular for temperature extremes. Evidence of observed changes in extremes and their attribution to human influence (including greenhouse gas and aerosol emissions and land-use changes) has strengthened since AR5, in particular for extreme precipitation, droughts, tropical cyclones and compound extremes (including dry/hot events and fire weather). Some recent hot extreme events would have been extremely unlikely to occur without human influence in the climate system.”*

**That summary, read alone, gives one the impression that matters are grave and that much of the adverse effects of climate change can be attributed to humans. A more detailed reading of the assessment gives an entirely different sense of the conclusions.**

Perhaps no one follows and comments more authoritatively on the IPCC's analysis of extreme weather events than Professor Roger Pielke Jr. of the University of Colorado. In his public [comments](#) on the Assessment, he draws attention to a key concept in the AR6 report, which is the "time of emergence", defined as the time when a specific anthropogenic signal related to climate change is statistically detected to emerge from the background noise of natural climate variability in a reference period, for a specific region. Here are some specific quotes from the AR6 report.

- "An increase in heat extremes has emerged or will emerge in the coming three decades in most land regions (high confidence).
- There is low confidence in the emergence of heavy precipitation and pluvial and river flood frequency in observations, despite trends that have been found in some regions.
- There is low confidence in the emergence of drought frequency in observations, for any type of drought, in all regions.
- Observed mean surface wind trends are present in many areas, but the emergence of these trends from the interannual natural variability and their attribution to human-induced climate change remains of low confidence due to various factors such as changes in the type and exposure of recording instruments and their relation to climate change is not established...The same limitation also holds for wind extremes (severe storms, tropical cyclones, sand and dust storms)."

**Table 12.12 | Emergence of CIDs in different time periods, as assessed in this section.** The colour corresponds to the confidence of the region with the highest confidence; white cells indicate where evidence is lacking or the signal is not present, leading to overall low confidence of an emerging signal.

Climatic Impact-driver Type	Climatic Impact-driver Category	Already Emerged in Historical Period	Emerging by 2050 at Least for RCP8.5/SSPs-8.5	Emerging Between 2050 and 2100 for at Least RCP8.5/SSPs-8.5
Heat and Cold	Mean air temperature	1		
	Extreme heat	2	3	
	Cold spell	4	5	
	Frost			
Wet and Dry	Mean precipitation		6	7
	River flood			8
	Heavy precipitation and pluvial flood			
	Landslide			
	Aridity			
	Hydrological drought Agricultural and ecological drought Fire weather			
Wind	Mean wind speed			
	Severe wind storm			
	Tropical cyclone			
	Sand and dust storm			
Snow and Ice	Snow, glacier and ice sheet		9	10
	Permafrost			
	Lake, river and sea ice	11		
	Heavy snowfall and ice storm			
	Hail Snow avalanche			
Coastal	Relative sea level		12	
	Coastal flood			
	Coastal erosion			
Open Ocean	Mean ocean temperature			
	Marine heatwave			
	Ocean acidity			
	Ocean salinity	13		
Other	Dissolved oxygen	14		
	Air pollution weather Atmospheric CO <sub>2</sub> at surface Radiation at surface			

1. High confidence except over a few regions (CNA and NWS) where there is low agreement across observation datasets.  
2. High confidence in tropical regions where observations allow trend estimation and in most regions in the mid-latitudes, medium confidence elsewhere.  
3. High confidence in all land regions.  
4. Emergence in Australia, Africa and most of Northern South America where observations allow trend estimation.  
5. Emergence in other regions.  
6. Increase in most northern mid-latitudes, Siberia, Arctic regions by mid-century, others later in the century.  
7. Decrease in the Mediterranean area, Southern Africa, South-west Australia.  
8. Northern Europe, Northern Asia and East Asia under RCP8.5 and not in low-end scenarios.  
9. Europe, Eastern and Western North America (snow).  
10. Arctic (snow).  
11. Arctic sea ice only.  
12. Everywhere except WAN under RCP8.5.  
13. With varying area fraction depending on basin.  
14. Pacific and Southern oceans then many other regions by 2050.

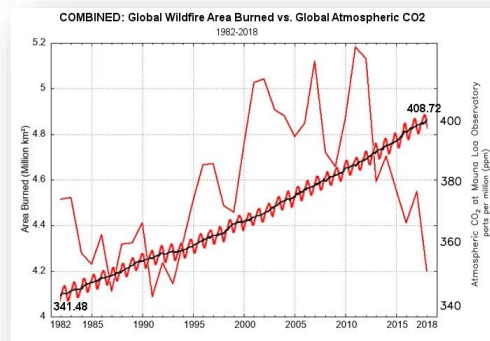
High confidence of decrease    Medium confidence of decrease    Low confidence in direction of change    Medium confidence of increase    High confidence of increase

Source: [IPCC AR6 WG1 Chapter 12 Table 12.12](#)

The most revealing part of AR6 with respect to the probability and timing of the emergence of “climate impact drivers” is table 12.12. This table lists the drivers and the related “impacts” and then uses a colour code to indicate the IPCC’s present level of confidence as to whether the impacts are already occurring or may be expected to emerge by 2050 and 2100 under the RCP8.5/SSP5-8.5 (worst case) scenarios.

The only impacts for which the IPCC has a “high confidence” increases are already occurring are in mean air temperature, extreme heat, mean ocean temperature, and atmospheric carbon dioxide at the surface. There is also “high confidence” that decreases are occurring in the dissolved oxygen in the ocean and in lake, river and sea ice. There is a “medium confidence” that increases in ocean salinity at the surface has already occurred. There is also “medium confidence” that decreases in cold spells and in permafrost have already occurred.

**That’s it. There is a “low confidence in the direction of change” of most of the climate impacts that get almost endless media attention, including precipitation, aridity, drought, fire weather, cyclones and severe wind storms, snow and sea ice, sea levels, coastal erosion, ocean acidity and air pollution. The dire outcomes that so many predict with confidence are, in many cases, not confidently foreseen even under the worst-case scenarios.**



Academics, scientists, the media or politicians who say otherwise are contradicted by the institution most identified with promoting catastrophic global warming, that is the United Nation’s Intergovernmental Panel on Climate Change, the IPCC! That seems like news worth reporting.



### About the Author

Robert Lyman is an economist with 27 years' experience as an analyst, policy advisor and manager in the Canadian federal government, primarily in the areas of energy, transportation, and environmental policy. He was also a diplomat for 10 years. Subsequently he has worked as a private consultant conducting policy research and analysis on energy and transportation issues as a principal for Entrans Policy Research Group. He is a frequent contributor of articles and reports for Friends of Science, a Calgary-based independent organization concerned about climate change-related issues. He resides in Ottawa, Canada. [Full bio.](#)

### About Friends of Science Society

Friends of Science Society is an independent group of earth, atmospheric and solar scientists, engineers, and citizens that is celebrating its 21st year of offering climate science insights. After a thorough review of a broad spectrum of literature on climate change, Friends of Science Society has concluded that the sun is the main driver of climate change, not carbon dioxide (CO<sub>2</sub>).

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