



NEWSLINE

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Who's at fault? New technology makes link between extreme heat and climate change

Author: Rachel Wadden

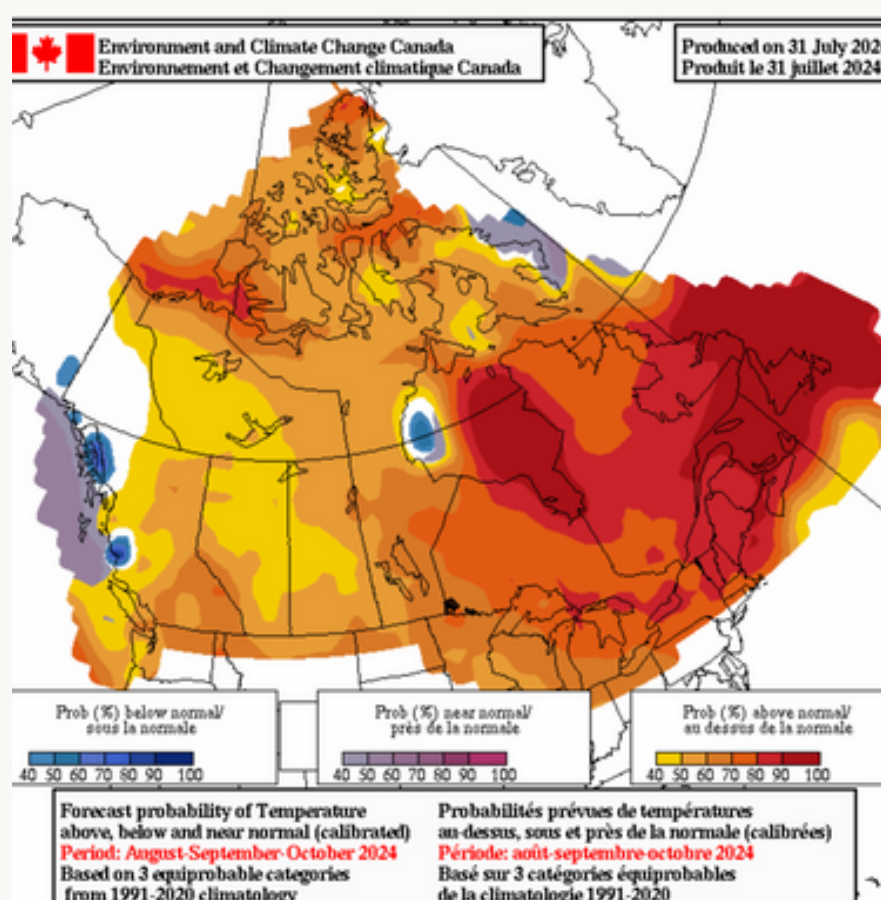
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<https://climafacts.ca/whos-at-fault-new-technology-makes-link-between-extreme-heat-and-climate-change/>

The end of June is a critical time for most, marking the beginning of summer as classrooms close, and plans are made for the July-first long weekend. Whether you are celebrating a graduation, vacation time off, or simply having a spare moment to breathe the summer air, happy spirits can be felt throughout much of Canada at the end of June. However, June 2024 told a different story as these celebrations and relaxing breaths were suffocated by intense heat throughout much of Eastern Canada. With over 100 heat records broken on June 19, the Canadian government was required to take some action to explain these boiling temperatures.

If you face a similar problem to many Canadians, living in a rental unit without an air conditioning system, then you understand that heat waves do not only impact your movement outdoors but permanently melt your chocolate bars, condemn your leather couches to be covered by sheets, and replace enjoyable warm showers with multiple cold ones throughout the day. Canadians are no strangers to growing heat; summer 2023 brought along record-breaking temperatures and an intense wildfire season across the country. Less than a month into summer 2024, many of these records have been surpassed.



As worry and debate grow alongside this heat, Environment and Climate Change Canada (ECCC) has taken strides to shed insight into Canada's climate situation. This insight takes the form of a new pilot program using rapid extreme weather attribution.



“AN ACT OF GOD, OR JUST BAD LUCK WITH NATURE?”

-Frederike Otto, co-founder of World Weather Attribution (WWA)

INFORMATION AND SIGNIFICANCE

Weather attribution uses climate simulations to compare the climate of the pre-industrial 1870s with today's climate. Analysis of these simulations gives researchers a description of the connection between recent extreme weather and climate change. The current study of the June heatwave revealed that human-caused climate change made this high heat much more likely, increasing the chance of these extreme temperatures by two to ten times. The ECCC simulation also categorized the discussed heat wave by abnormally high daytime temperatures, high humidity, and warmer nighttime lows, characteristics that make the heat impossible to escape.

While it is the first in Canada, this study is not the first of its nature. The pilot program adds to a more extensive network of rapid attribution studies, a system based on peer-reviewed techniques. While the process does not definitively state whether climate change solely produced a weather event, the statistical result shows to what extent human activity increased the likelihood of this event. While other countries have performed similar attribution studies for their own worrisome weather events, Canada is reportedly the first country to commit to continuing these studies on an ongoing basis. The ECCC has also committed to moving beyond extreme heat and studying the sources of extreme precipitation and cold temperatures in the near future.

To learn more and read the full article, visit our website Blog Page.

Atlantic Canada Fish at Risk from Rising Emissions

Author: Sanuli Wijayasundara

Date: July 18, 2024

Link to Blog Post:

<https://climafacts.ca/atlantic-canada-fish-at-risk-from-rising-emissions/>

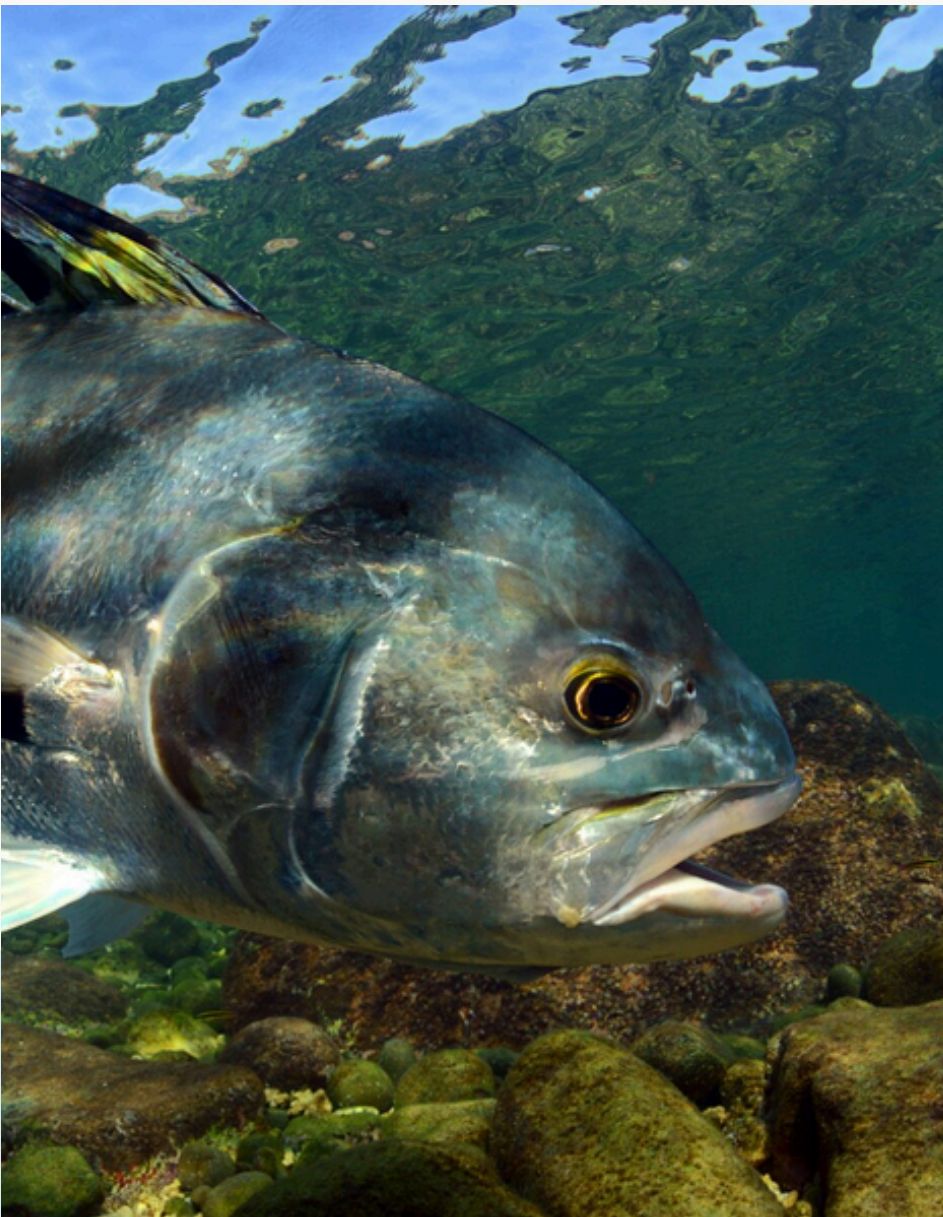
As the world heats up, the fish in our oceans are swimming into troubled waters. A recent study from the Food and Agriculture Organization of the United Nations(FAO) warns that unchecked greenhouse gas emissions could lead to a dramatic 30% drop in global fish populations by the end of the century. This chilling projection includes species in Atlantic Canada, where rising temperatures are threatening marine biodiversity and the livelihoods of local fishers.

The FAO’s report highlights that a rise in global temperatures would severely impact fish biomass across almost 50 countries, with marine ecologists revealing that Maritime fisheries are particularly vulnerable.



To mitigate these effects, the FAO calls for tailored, region-specific strategies, emphasizing that immediate action is needed to protect both marine ecosystems and the communities that depend on them.

To learn more and read the full article, visit our website Blog Page.



*“IN NATURE THERE ARE NEITHER REWARDS NOR PUNISHMENTS; THERE ARE CONSEQUENCES.”
— Robert Green Ingersoll*



Climate Justice is Climbing to New Heights in Halifax

Author: Rachel Wadden

Date: Aug 18, 2024

Link to Blog Post:

<https://climafacts.ca/climate-justice-is-climbing-to-new-heights-in-halifax/>

Nova Scotians are no strangers to water. Labeled ‘Canada’s Ocean Playground’, visitors and locals alike are never more than 56 kilometers from the ocean at any given time. Featuring some of the highest tides in the Bay of Fundy and tallest ships at the Halifax Harbour, water can certainly be placed as a trademark for the small fishing province. However, as global warming continues melting ice caps, Nova Scotia’s closest acquaintance has begun stirring trouble.



While taking the coastal drive to Peggy’s Cove, a staple landmark for anyone visiting Nova Scotia, visitors will notice a new bridge near Blind Bay. This one-lane bridge was constructed as a temporary solution to the destruction of the July 2023 floods; a section of the road was washed away, leaving a new river in its wake. Unfortunately, this flooding was not a novel event. As the earth warms, heavy rain falls and flooding are becoming more familiar each year. Halifax, the province’s capital city, is at an increased threat of flooding as its urban streets do not feature many green spaces to absorb the water. With an average of 1.35 meters of rain each year, the Halifax municipality has started brainstorming possible ways to combat the threat of floods. A popular solution: green roofs.

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Temperature	Great White	Tiger Shark
Nova Scotia	Migration	Ecosystem
Blacktip	Warming	Marine
Sightings	Climate	Canada
Shark	Ocean	Coast



Climate Change & Increased Canadian Wildfire Intensities

Author: Abby Marsden

Date: August 1, 2024

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<https://climafacts.ca/climate-change-increased-canadian-wildfire-intensities/>

Wildfires are a significant threat to Canada’s boreal forests, affecting ecosystems, air quality, and public health. Climate change is expected to make these environments even more prone to fires, requiring a reassessment of current land management practices.

Potential climate change impacts on fire intensity and key wildfire suppression thresholds in Canada discusses how future climate conditions might alter fire intensity and current suppression capabilities in Canada’s boreal forests. This research is important as it addresses the increasing difficulty in managing wildfires .

The study hypothesizes that, with climate change, there will be more frequent high intensity fires that surpass current wildfire suppression capabilities. Previous studies have shown that climate change affects fuel moisture and ignition, leading to increased fire activity. This study extends past research by focusing on how these changes impact fire suppression efforts.

To gather data, researchers used General Circulation Models (GCMs) and carbon emission scenarios to create future fire environment projections. These were analyzed using the Canadian Forest Fire Behaviour Prediction System (FFBPS) to understand potential changes in fire behaviour and suppression thresholds.

RESULTS AND DISCUSSION

Overall, the study identified consistency regarding future temperature scenarios from General Circulation models with geographical variable temperatures across Canadian forests. One of the most important factors concerned the change in rainfall, which affects overall dryness. Climate change projections suggest that an increase of 15% in seasonal precipitation is needed to offset every 1°C rise in temperature. However, projected precipitation increases are typically around 10%. This increased dryness with a severe lack of precipitation will generate a higher likelihood of fire ignition and spread, particularly in the boreal forest.

Additionally, data insights predict substantial increases in fire intensity, and are expected to frequently exceed suppression effectiveness thresholds.

Days with fireline intensity above 10 MW m-1, where even heavy air tankers become ineffective, are projected to double in eastern Canada by as soon as the end of the century. This trend is consistent across various GCMs, demonstrating an increased potential for crown fires and larger, uncontrollable wildfires with large-scale impacts on Canadian communities.

“AND INTO THE FOREST I GO, TO LOSE MY MIND AND MY SOUL.”
—John Muir

Strengths of the study include the use of multiple GCMs and emission scenarios, providing important projections. However, the inherent uncertainty associated with General Circulation Models (GCMs) and their projections is a limitation. While these models are essential tools for understanding potential future climate scenarios, they come with a range of uncertainties, particularly regarding precipitation patterns and their spatial variability. The study overall suggests that increased fire suppression capacity alone may not suffice, and broader strategies will be necessary as temperatures continue to rise.

The findings from this study clearly show the need for enhanced fire management strategies and preparedness, as climate change will likely lead to more frequent and intense wildfires. This has significant implications for public safety, infrastructure, and ecosystem health.

To learn more and read the full article, visit our website Blog Page.

