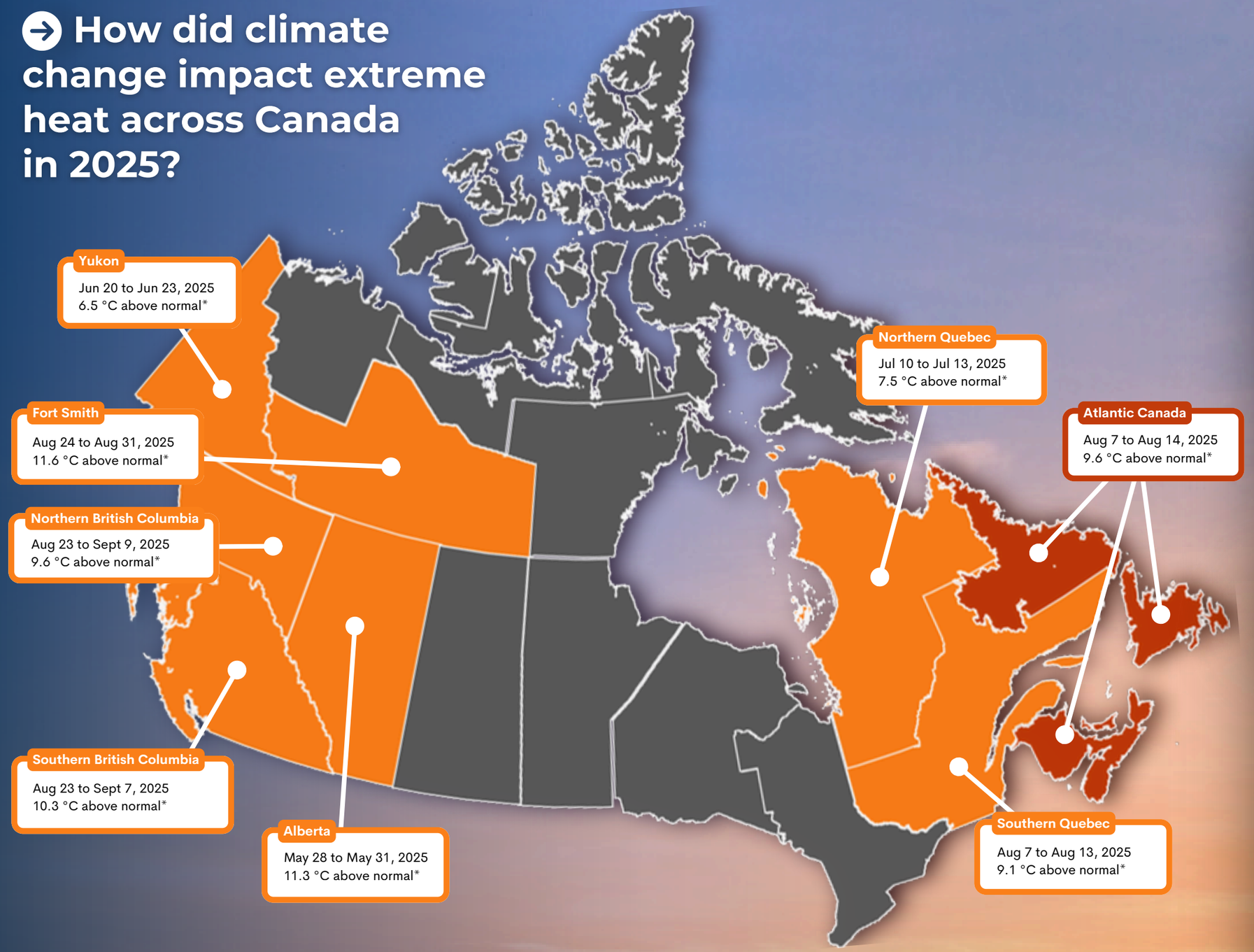
How did climate change impact extreme heat across Canada in 2025?



Environment and Climate Change Canada | Environnement et Changement climatique Canada

Rapid Extreme Weather Event Attribution system: top heat events of 2025

Extreme weather event attribution is a climate science approach that explores how events like heat waves, floods, and wildfires are linked to human-caused climate change. By modelling a pre-industrial climate and comparing it to today's climate, scientists can calculate the influence of human activity on extreme events.

Environment and Climate Change Canada's ***Rapid Extreme Weather Event Attribution*** pilot system determines the link between human-caused climate change and heat events across Canada shortly after they occur. These insights aim to enhance response planning, decision-making, and public understanding of climate impacts.

Learn more by visiting the Rapid Extreme Weather Event Attribution web page.

Understanding the Map

The map highlights observed heat events in 2025. The ***statement of likelihood****, denoted by the map's colours,* describes whether the heat event was made more or less likely due to human influence on the climate.

The ***probability range*** quantifies the likelihood statements, with "much more likely," for example, meaning an event is at least 2x to 10x more likely to occur today compared to a pre-industrial climate.

Change in likelihood of event due to human caused climate change

far less likely	much less likely	less likely	no change	more likely	much more likely	far more likely
10x	2x	1x	1x	2x	10x	

** This value represents the degrees above normal for the peak high temperature observed during the heat event. "Normal" is defined as the average high temperature over a 31-day period centered on the peak temperature day (15 days before and 15 days after), calculated using 1991–2020 climate data for the region.*

In most cases, the likelihood of a heat event happening in your region will further increase in the future. Visit **ClimateData.ca** to learn more about future climate changes, explore interactive maps, and analyze how extreme heat events become more frequent and severe.