Environment and Climate Change Canada
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EXTREME HEAT EVENTS

CANADIAN ENVIRONMENTAL SUSTAINABILITY INDICATORS

Canada

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CANADIAN ENVIRONMENTAL SUSTAINABILITY INDICATORS

EXTREME HEAT EVENTS

February 2025

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Extreme heat events

Extreme heat events (commonly known as "heat waves") are one of the known impacts of climate change. In this indicator, extreme heat events are defined as weather events during which daily temperatures have reached heat warning thresholds on 2 or more consecutive days with no relief overnight. Given Canada's vast and varied geography, temperature thresholds have been defined for different regions.[1] As climate change continues, occurrences and intensities of extreme heat events are expected to increase, with adverse impacts on human health, the environment and the economy.

This indicator reports trends in the cumulative number of days per year and in the average number of degrees Celsius per year of extreme heat conditions at weather stations across Canada from 1948 to 2023.

Cumulative number of days of extreme heat conditions

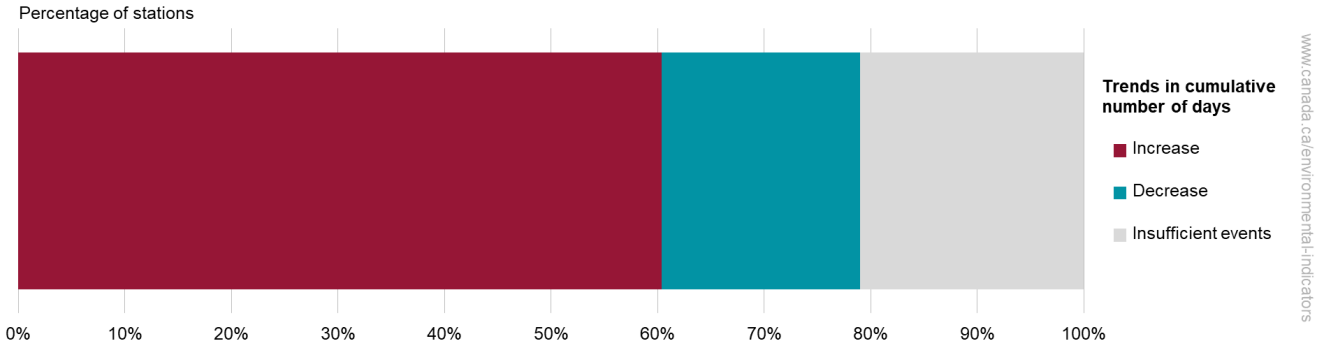
This indicator shows the proportion of stations with observable trends in the cumulative number of days in a year experiencing extreme heat conditions.

Key results

Overall, the number of days each year under extreme heat conditions has increased since 1948. Over the period from 1948 to 2023, of the 681 stations that have at least 30 years of observations:

- 60% (411 stations) experienced an increase in the number of days of extreme heat events
- 19% (127 stations) experienced a decrease in the number of days of extreme heat events
- 21% (143 stations) did not experience enough extreme heat events for a trend analysis

Figure 1. Percentage of stations with trends in the cumulative number of days under extreme heat conditions, Canada, 1948 to 2023



Data for Figure 1

Note: The analysis does not include stations for which there are less than 30 years of temperature observations. The figure does not distinguish between trends that are statistically significant at the 95% confidence level and those that are not. Insufficient events refers to stations that did not experience enough years with extreme heat events to perform a trend analysis. For more information, please refer to the Methods section, and Table A1 in Annex A. To see trends at monitoring stations, refer to Figure B1 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

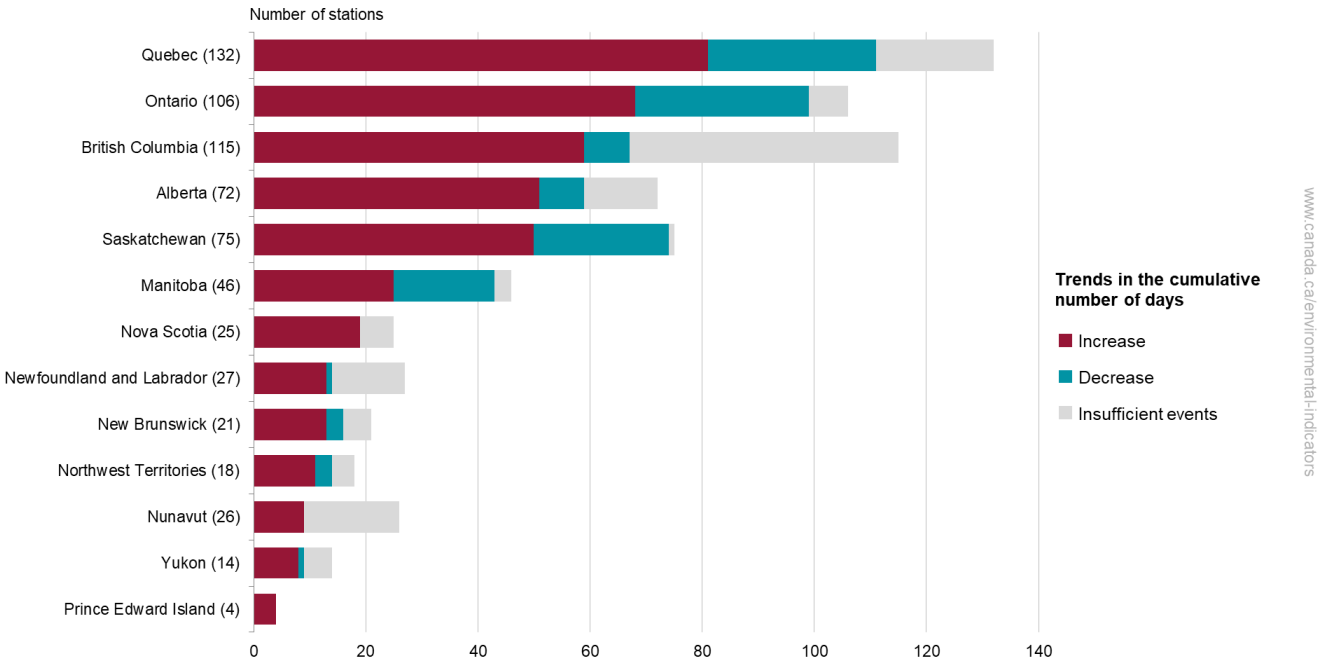
Overall, the cumulative number of days under extreme heat conditions has increased from 1948 to 2023. Due to the rarity of extreme heat events, natural climate variability (patterns such as El Niño and La Niña), large year-to-year variability at individual stations, and the limited number and uneven distribution of reporting stations, not all of the detected trends are statistically significant. A statistically significant increasing trend was detected at

[1] Thresholds are defined based on the Heat warning criteria developed by the Meteorological Service of Canada.

128 stations (19%). Moreover, the stations with increasing trends are spread across Canada and are more numerous than those with decreasing trends, beyond what can be attributed to chance.

The majority of provinces and territories across Canada have experienced an increase in the cumulative number of days of extreme heat conditions. British Columbia has the most stations with statistically significant increasing trends (35 of the 128 stations with statistically significant increasing trends).

Figure 2. Trends in the cumulative number of days under extreme heat conditions by province and territory, Canada, 1948 to 2023



Data for Figure 2

Note: The analysis does not include stations for which there are less than 30 years of temperature observations. The figure does not distinguish between trends that are statistically significant at the 95% confidence level and those that are not. Insufficient events refers to stations that did not experience enough years with extreme heat events to perform a trend analysis. For more information, please refer to the Methods section and Table A1 in Annex A. To see trends at monitoring stations, refer to Figure B1 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Intensity of extreme heat conditions

The indicator looks at whether daytime or overnight temperatures during extreme heat events have been getting hotter since 1948. Daytime intensity is the maximum number of degrees above the regional extreme heat daytime threshold. Overnight intensity is the maximum number of degrees above the regional extreme heat overnight threshold.

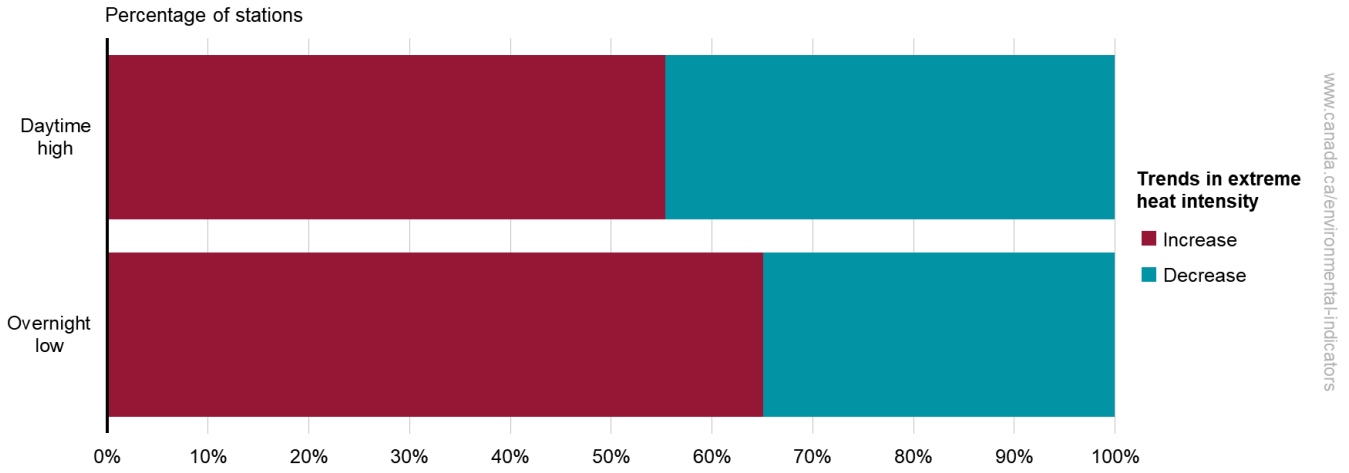
Key results

While daytime intensity did not show a clear change over time, overnight temperature intensity has increased since 1948.

Of the 538 stations that experienced extreme heat conditions and have enough observations to calculate a trend:

- 55% (298 stations) experienced an increase in daytime intensity
- 65% (350 stations) experienced an increase in overnight intensity

Figure 3. Trends in daytime and overnight intensity during extreme heat events, Canada, 1948 to 2023



Data for Figure 3

Note: The analysis does not include stations for which there are less than 30 years of temperature observations, or the 143 stations that did not experience enough years with extreme heat events to perform a trend analysis. The figure also does not distinguish between trends that are statistically significant at the 95% confidence level and those that are not. For more information, please refer to the Methods section and Table A3 in Annex A. To see trends at monitoring stations, refer to Figure B2 and Figure B3 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

While slightly more than half of the stations that observed extreme heat events experienced an increase in daytime intensity, too few of these observations were statistically significant for a conclusion to be drawn with a 95% confidence level. However, nearly two-thirds of stations experienced an increase in overnight intensity since 1948, and there were twice as many stations with statistically significant increases as with statistically significant decreases.[2] Therefore, there has been an increase in the overnight intensity since 1948.

In the last decade, the highest daytime intensity was 16°C above the extreme heat threshold in 2021 in Vavenby, British Columbia. The highest overnight intensity was 17.7°C above the threshold in 2022 in Tuktoyaktuk, Northwest Territories.

Note that the above analysis only considers rare multi-day extreme heat events. When the temperature of the hottest day each year is considered, daytime intensity has increased in Canada.

[2] For overnight intensity, 65% of stations experienced increases (of which 8% were calculated to be statistically significant), and 35% experienced decreases (of which 3% were calculated to be statistically significant). The proportion of statistically significant trends is low, but this is expected, given the rarity of extreme heat events, natural climate variability, large year-to-year variability at individual stations and the limited number and distribution of reporting stations.

Tracking daytime and overnight intensities is important in studying the dangers of extreme heat events. Temperatures are hottest during the day, which can cause various heat-related illnesses and threaten human health. Normally, cooler temperatures at night allow indoor environments and our bodies to release this heat and provide relief, but the relief effect is diminished if overnight intensity increases, which puts human health at greater risk.[3,4] This is not limited to humans; heat stress can also negatively impact plants and animals. For example, during the 2021 heat wave, various shellfish species such as barnacles, mussels, clams and oysters in the Salish Sea were affected differently based on their location. Populations that were able to find refuge from extreme temperatures by burrowing deep in the sediment or by being close to surface and ground water experienced lower mortality rates.[5]

Various factors influence how hot extreme heat events can be. Extreme heat events in urban areas are likely to be exacerbated by the urban heat island effect. This is the phenomenon where artificial surfaces, such as concrete and asphalt, absorb solar energy and release it as heat. Natural patterns of climate variability, like El Niño and La Niña, as well as human-caused climate change can also influence the intensity of extreme heat events in Canada, although the impact may vary regionally.

About the indicator

What the indicator measures

The indicator reports the percentage of stations with trends in:

- the cumulative number of days per year under extreme heat conditions
- the daytime and overnight intensity (number of degrees above the extreme heat threshold)

Why the indicator is important

Extreme heat events pose a direct risk to public health. They can cause severe symptoms, such as heat exhaustion and heat stroke, and can result in heat-related hospitalizations and deaths. They can also increase the presence of air pollutants and allergens in the air, increasing the risk of cardiovascular and respiratory illnesses.[6]

In addition, heat events can impact our economy. Extreme heat can lead to an increase in health care costs because of the adverse impacts to public health described above. Through the increased risk of droughts and wildfires, it can adversely impact certain economic sectors, such as agriculture and forestry. Extreme heat events can also trigger infrastructure problems, especially for Northern communities built on permafrost and ice.[7] Prolonged periods of extreme heat events can strain the power grid as the demand for air conditioning and fan use increases. This can cause local heat-related outages (PDF; 4.1 MB).

Extreme heat events also influence the environment. They exacerbate the intensity of other natural disasters influenced by climate change, such as droughts and forest fires. Extreme heat events also alter resource and habitat availability of affected ecosystems, which can impact species population and distribution, and ecosystem health and integrity.

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[3] Smoyer-Tomic KE, Kuhn R and Hudson A (2003) Heat wave hazards: an overview of heat wave impacts in Canada. *Natural Hazards* 28: 463-485. Retrieved on September 13, 2024.

[4] Henderson S, McLean K, Lee M and Kosatsky T (2022) Analysis of community deaths during the catastrophic 2021 heat dome: Early evidence to inform the public health response during subsequent events in greater Vancouver, Canada. *Environmental Epidemiology* 6(1): p e189. Retrieved on September 13, 2024.

[5] Raymond WW, Barber JS, Dethier MN, Hayford HA, Harley CDG, King TL, Paul B, Speck CA, Tobin ED, Raymond AET & McDonald PS (2022) Assessment of the impacts of an unprecedented heatwave on intertidal shellfish of the Salish Sea. *Ecology* 103(10): e3798. Retrieved on September 13, 2024.

[6] Statistics Canada (2024) The impacts of extreme heat events on non-accidental, cardiovascular, and respiratory mortality: An analysis of 12 Canadian cities from 2000 to 2020. Retrieved on September 13, 2024.

[7] Maadani O, Shafiee M and Egorov I (2021) Climate change challenges for flexible pavement in Canada. *Journal of Cold Regions Engineering* 35(4). Retrieved on September 13, 2024.

Related initiatives

This indicator supports the measurement of progress towards the 2022 to 2026 Federal Sustainable Development Strategy Goal 13: Take action on climate change and its impacts.

Hazards caused by extreme heat events will continue to worsen unless climate adaptation measures are implemented. Refer to Canada's National Adaptation Strategy to learn more about what the Government of Canada is doing to address the impacts of climate change.

Related indicator

The Forest management and disturbances indicator reports the number of forest fires and the area burned in Canada since 1990.

The Population exposure to outdoor air pollutants indicator tracks the proportion of the population living in areas where outdoor concentrations of air pollutants are less than or equal to the 2020 Canadian Air Ambient Quality Standards.

The Precipitation change in Canada indicator measures annual and seasonal precipitation departures.

The Sea ice in Canada indicators provide information on variability and trends in sea ice in Canada during the summer season.

The Snow cover indicators provide information on spring snow cover extent and annual snow cover duration in Canada.

The Temperature change in Canada indicator measures yearly and seasonal surface air temperature departures in Canada.

Data sources and methods

Data sources

The Extreme heat events indicator is based on Environment and Climate Change Canada's Third generation of homogenized surface air temperature data.

More information

The Third generation of homogenized surface air temperature datasets include daily maximum, minimum and mean temperatures collected at weather stations across Canada from 1948 to 2023.

The dataset contains daily data from 780 weather stations: 508 active stations with long record (dating back to before 1990); 53 active stations with short record (starting in or after 1990); and 219 locations with no current observations (station is no longer operational) but with more than 30 years of data.

This dataset was prepared for use in climate trend analysis in Canada. The list of stations was revised to include observations from a larger number of surface monitoring stations, particularly those collected at Reference Climate Stations and at some Canadian Aviation Weather Services stations. The methodologies used to produce the Third-Generation datasets are described in the publication A third generation of homogenized temperature for trend analysis and monitoring changes in Canada's climate.

Methods

In the indicator, an extreme heat event is defined as a period of 2 or more consecutive days when the daily maximum temperature and the overnight minimum temperature exceed the criteria based on the Meteorological Service of Canada's (MSC) Heat warning system. In regions where there are no established criteria, the 95th percentiles of summer[8] maximum and minimum temperatures were used for criteria development.

To ensure that the indicator is based on stations for which there is a sufficient number of observations, only stations with at least 30 years of data and at least 5 years for which extreme heat events were observed were

[8] Summer months are defined as June, July, and August. However, depending on the region, 2 of 3 consecutive months are used.

used in the trend analysis.[9] Stations for which no extreme heat events were observed were also reported. This amounted to 681 stations altogether reported in the indicators.

For each weather station with sufficient data, the days meeting the extreme heat event criteria for the summer months from 1948 to 2023 were identified based on the Third generation of homogenized surface air temperature data. The annual cumulative number of days under extreme heat event conditions and annual maximum and minimum intensity were then calculated for each.

To calculate trends at the stations, the least squares method was used at a 95% confidence level. To calculate a national summary based on the calculated station-level trends, a field significance test was used based on methods outlined in Livezey and Chen (1983). This method tests if the number of stations with significant trends is a result of internal factors, such as climate variability or random chance. If it is not a result of these factors, then we can interpret that the changes in the number of days and the intensity of extreme heat events are a result of changes in Canada's climate.

More information

Extreme heat event criteria

Environment and Climate Change Canada's Heat warning criteria were developed by MSC in partnership with Health Canada and provincial and territorial partners. The criteria were developed taking into consideration 3 important factors: duration, lack of overnight relief from heat, and recognition that air temperature was the best modelled predictor of heat-health effects. Therefore, all health-based criteria were developed to require a minimum of 2 consecutive days of reaching Heat warning conditions (daytime maximum temperature) with no relief from heat overnight between these days (overnight minimum temperature).

Both climatological and heat-health analyses were completed to determine the criteria. To account for regional climatic differences, specific criteria were developed for 18 different regions across Canada (

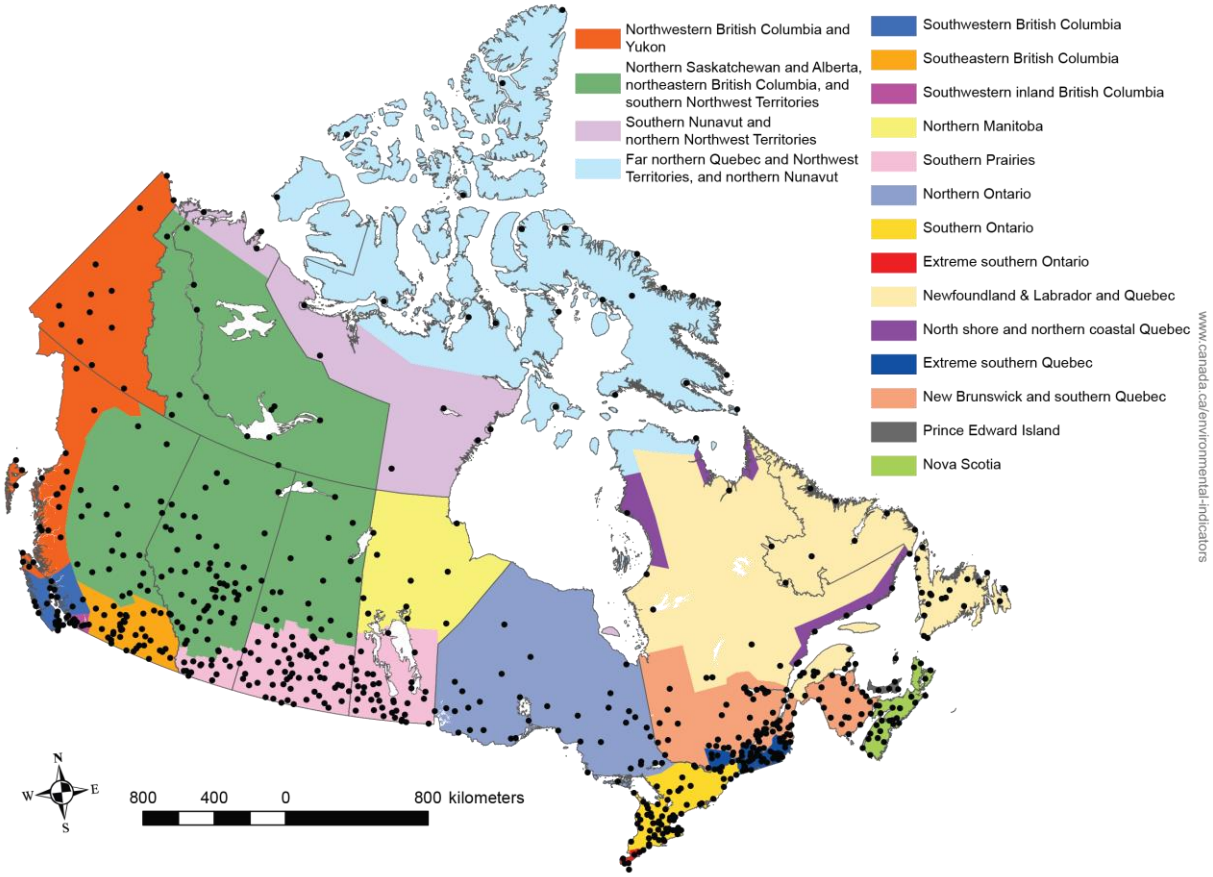
[9] Vincent LA, Zhang X, Mekis É, Wan H & Bush EJ (2018) Changes in Canada's climate: Trends in indices based on daily temperature and precipitation data. *Atmosphere-Ocean* 56(8): 332-349. Retrieved on September 13, 2024.

Figure 44 identifies the regions; Annex C lists the criteria for each region). In regions with no or minimal health data available, the 95th percentiles of summer[10] maximum and minimum temperatures were used to develop the criteria. This approach is based on guidance on the development of heat warning systems from the World Meteorological Organization and the World Health Organization.

As of the indicator's publication, MSC did not have an established heat-health based criteria for the province of Quebec. The criteria used in the indicator was developed using analysis of the 95th percentile of maximum and minimum summer[10] temperatures, as well as neighbouring provincial heat-health analyses.

[10] Summer months are defined as June, July, and August. However, depending on the region, 2 of 3 consecutive months are used.

Figure 4. Extreme heat event regional criteria and monitoring stations



Note: Refer to Annex C to see the extreme heat event criteria used for each region.
Source: Environment and Climate Change Canada (2024) Meteorological Service of Canada.

Note that for some regions, a humidex criterion had been established by MSC's Heat warning system. However, for the purpose of the indicators, this parameter was not considered in the criteria as previous case studies and analysis have shown that air temperature conditions are most often met (over 95%) in all cases. The use of the overnight low in the criteria accounts for associated humidity that is experienced during these events. When humidity is high, both overnight lows and humidex will be higher.

Cumulative number of days of extreme heat events

For each year, the cumulative number of days meeting or exceeding the local criteria was calculated. As per the extreme heat event criteria, single days exceeding the temperature threshold were not considered. For example, if the extreme heat threshold is met for 1 day, but the temperature cooled overnight and is lower than the threshold the next day, this would not qualify as an extreme heat event.

Reporting the cumulative number of days paints a holistic picture of how often extreme heat conditions have been met and how it has changed over time.

Extreme heat event intensity

The extreme heat event intensity for a given year is comprised of 2 metrics: the highest daytime and overnight temperature departures that meet or exceed the local extreme heat thresholds. For example, the highest daytime temperature measured during an extreme heat event at Toronto Pearson International Airport was 37.5°C in 2011. As the daytime threshold is 31°C for the Southern Ontario region where this station is located, the maximum daytime intensity for the station was calculated to be 6.5°C in 2011. Likewise, at the same station for the same year, the highest overnight temperature during an

extreme heat event was 26°C. Given that the overnight temperature threshold is 20°C, the highest overnight intensity is defined as 6°C.

Reporting the intensity of extreme heat events can illustrate their severity and how it has changed over time.

Trend analysis

Trend analysis was performed only at stations with at least 30 years of observations and at least 5 years of recorded extreme heat event occurrence. This amounts to 538 stations (Table 1).

The least squares method was used to detect trend presence and orientation (positive or negative) at the 95% confidence level of the cumulative number of days and the maximum and minimum intensity of extreme heat events from 1948 to 2023. A field significance test was then used to determine if the proportion of significant trends is statistically significant at the 95% confidence level based on the methods outlined in Livezey and Chen (1983). This provides an indication of the national trajectory of the cumulative number of days and intensity of extreme heat events for Canada.

Table 1. Data availability of weather stations considered in the Third generation of homogenized surface air temperature datasets

Data availability at stations	Number of stations	Used in the indicator?
At least 30 years of data and at least 5 years of recorded extreme heat event occurrence	538	Yes
Insufficient events (no heatwaves observed)	62	Yes
Insufficient events (1 to 5 years with recorded heatwaves[A])	81	Yes
Less than 30 years of temperature observations	92	No
Located in microclimates not representative of their region[B]	7	No

Note: [A] These stations have insufficient observations of extreme heat events to perform a statistical trend analysis. [B] These stations are in Newfoundland and Labrador (1), Nova Scotia (1), Quebec (2), and British Columbia (3).
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Caveats and limitations

Monitoring stations are not equally dispersed across Canada and throughout the heat warning regions. As such, there may be biases in the data.

As the indicator is limited to multi-day extreme heat events, the intensity of single-day events is not captured, even though it may exceed the intensity of events analyzed and reported in the indicator.

The rarity of extreme heat events, climate trend variability, large year-to-year variability at individual stations, and the limited number and distribution of monitoring stations limit the ability of statistical tests to determine if observed trends are statistically significant. As such, the number of stations demonstrating statistically significant trends is expected to be low.

The humidex criteria outlined in MSC's Heat warning criteria are not considered in the indicator as past studies have indicated that surface air temperature criteria are met in most of the cases (over 95%). Other metrics that were not considered in the indicator that could influence the health impact of extreme heat events include wind speed and radiant load.

There is currently no method to summarize trend magnitudes in extreme heat events at a regional and national scale (based on the Heat warning system). As such, the impact of extreme heat events at different geographic scales and rates of change are not completely captured in this indicator.

Resources

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Smoyer-Tomic KE, Kuhn R and Hudson A (2003) Heat wave hazards: An overview of heat wave impacts in Canada. *Natural Hazards* 28: 463-485. Retrieved on September 13, 2024.

Statistics Canada (2024) The impacts of extreme heat events on non-accidental, cardiovascular, and respiratory mortality: An analysis of 12 Canadian cities from 2000 to 2020. Retrieved on September 13, 2024.

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Vincent LA, Zhang X, Mekis É, Wan H and Bush EJ (2018) Changes in Canada's climate: Trends in indices based on daily temperature and precipitation data. *Atmosphere-Ocean* 56(8): 332-349. Retrieved on September 13, 2024.

Related information

Adapting to climate change in Canada

Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy

Climate change: Adapting to impacts and reducing emissions

Extreme weather event attribution

Annex

Annex A. Data tables for the figures presented in this document

Table A.1. Data for Figure 1. Percentage of stations with trends in the cumulative number of days under extreme heat conditions, Canada, 1948 to 2023

Trends	Number of stations	Percentage
Increase	**411**	**60%**
Statistically significant	128	19%
Not statistically significant	283	42%
Decrease	**127**	**19%**
Statistically significant	3	<1%
Not statistically significant	124	18%
Insufficient events	**143**	**21%**

Note: Percentages may not add up to 100 due to rounding. The analysis does not include stations for which there are less than 30 years of temperature observations. Insufficient events refers to stations that did not experience enough years with extreme heat events to perform a trend analysis. For more information, please refer to the Methods section. The proportion of stations with statistically significant trends is low, but this is expected, given the rarity of extreme heat events, climate trend variability, large year-to-year variability at individual locations, and the limited number and distribution of reporting stations. To see trends at monitoring stations, refer to Figure B1 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Table A.2. Data for

Figure 2. Trends in the cumulative number of days under extreme heat conditions by province and territory, Canada, 1948 to 2023

Province or territory	Increase: statistically significant (number of stations)	Increase: not statistically significant (number of stations)	Decrease: statistically significant (number of stations)	Decrease: not statistically significant (number of stations)	Insufficient events (number of stations)
British Columbia	35	24	0	8	48
Ontario	18	50	1	30	7
Alberta	14	37	1	7	13
Nova Scotia	13	6	0	0	6
Quebec	11	70	0	30	21
Saskatchewan	8	42	1	23	1
Newfoundland and Labrador	7	6	0	1	13
Manitoba	5	20	0	18	3
Northwest Territories	5	6	0	3	4
Prince Edward Island	4	0	0	0	0
New Brunswick	3	10	0	3	5
Yukon	3	5	0	1	5
Nunavut	2	7	0	0	17

Note: The analysis does not include stations for which there are less than 30 years of temperature observations. Insufficient events refers to stations that did not experience enough years with extreme heat events to perform a trend analysis. For more information, please refer to the Methods section. The proportion of stations with statistically significant trends is low, but this is expected, given the rarity of extreme heat events, climate trend variability, large year-to-year variability at individual locations, and the limited number and distribution of reporting

stations. To see trends at monitoring stations, refer to Figure B1 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Table A.3. Data for

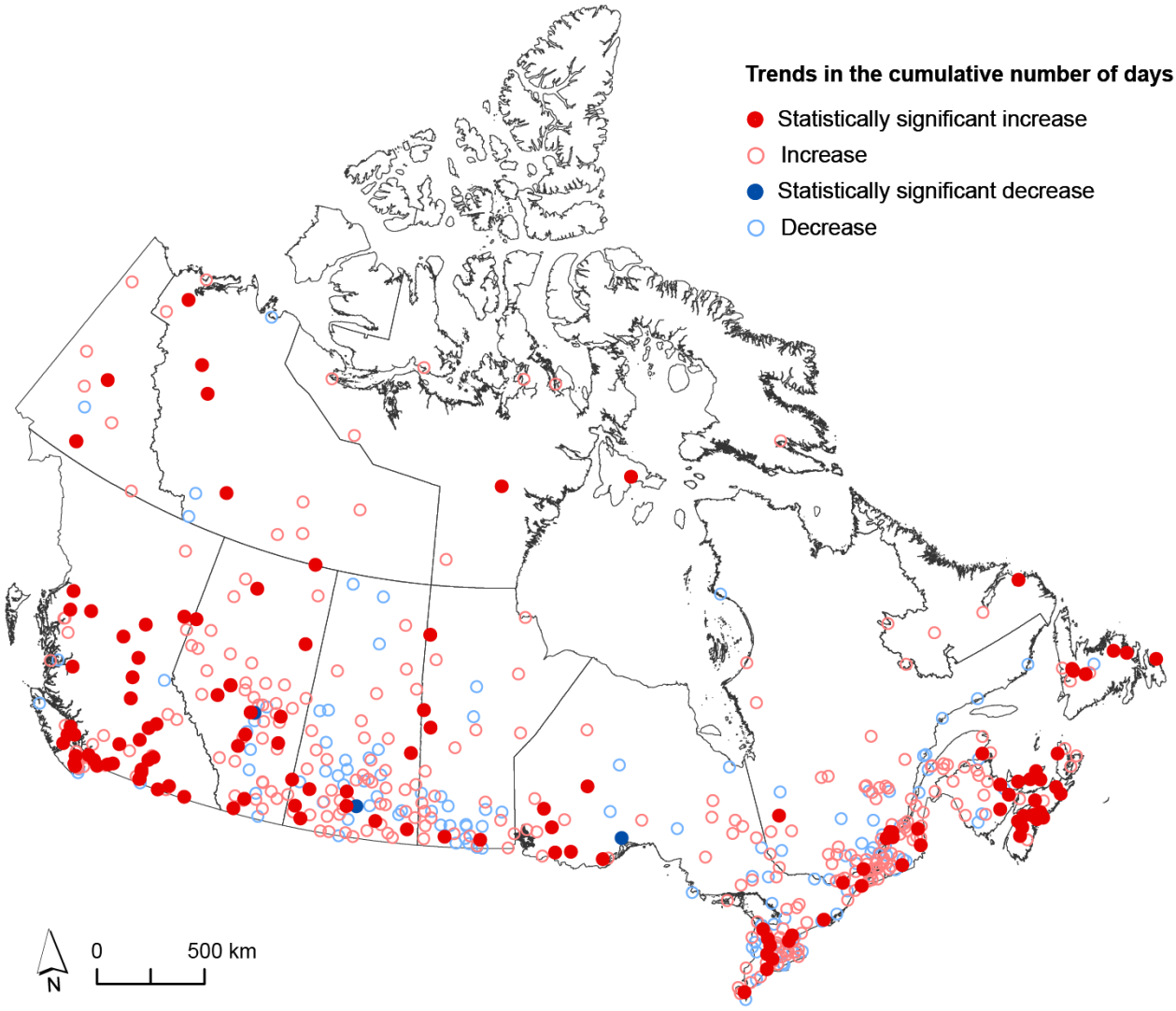
Figure 3. Trends in daytime and overnight intensity during extreme heat events, Canada, 1948 to 2023

Trends	Daytime high (number of stations)	Daytime high (percentage)	Overnight low (number of stations)	Overnight low (percentage)
Increase	**298**	**55%**	**350**	**65%**
Statistically significant	27	5%	42	8%
Not statistically significant	271	50%	308	57%
Decrease	**240**	**45%**	**188**	**35%**
Statistically significant	18	3%	16	3%
Not statistically significant	222	41%	172	32%
Insufficient events	**143**	**n/a**	**143**	**n/a**

Note: n/a = not applicable. Percentages may not add up to 100 due to rounding. The analysis does not include stations for which there are less than 30 years of temperature observations. For more information, please refer to the Methods section. The proportion of stations with statistically significant trends is low, but this is expected, given the rarity of extreme heat events, climate trend variability, large year-to-year variability at individual locations, and the limited number and distribution of reporting stations. To see trends at monitoring stations, refer to Figure B2 and Figure B3 in Annex B.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

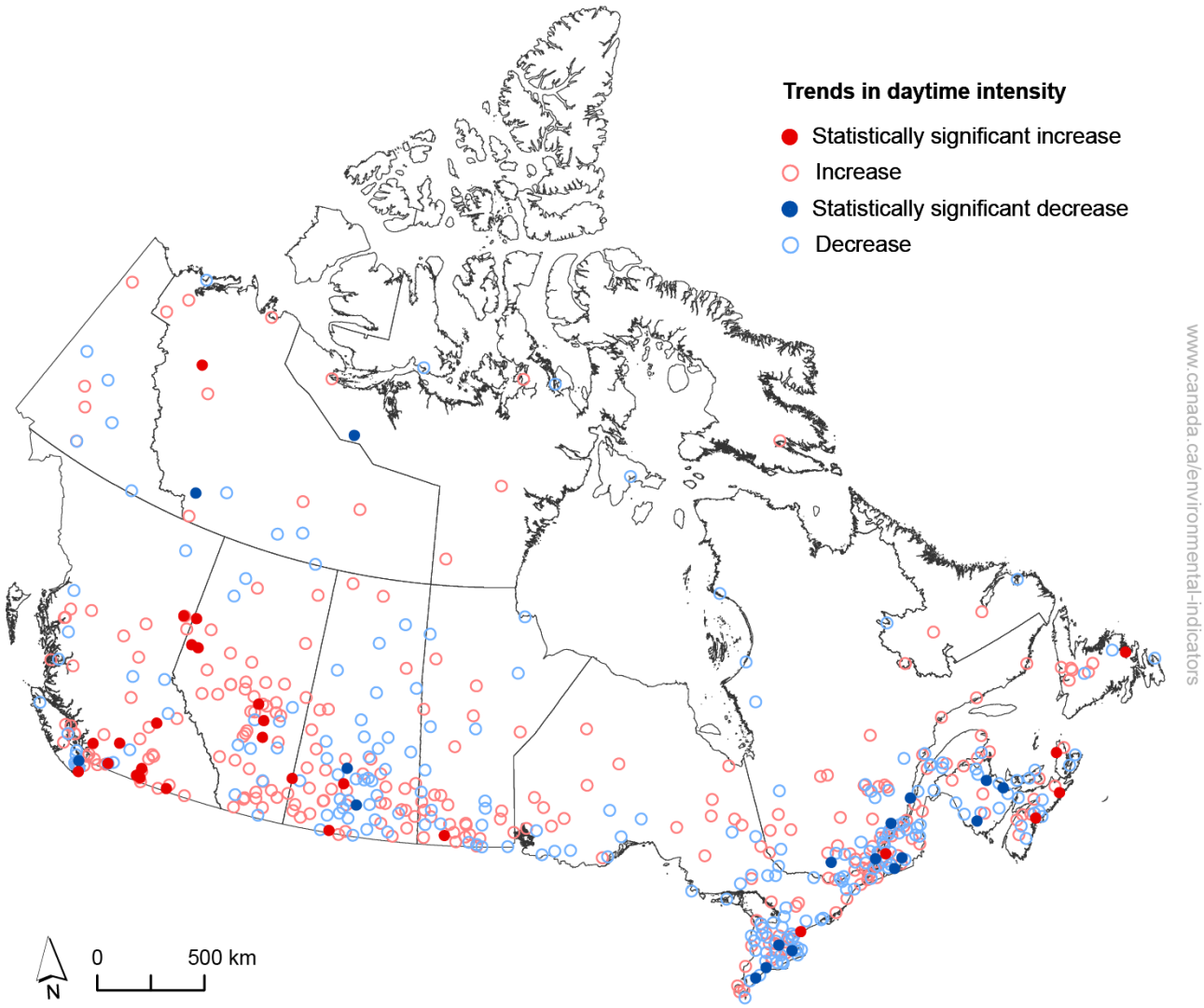
Annex B. Maps displaying trends at monitoring stations

Figure B.1. Trends in cumulative number of days at monitoring stations, Canada, 1948 to 2023



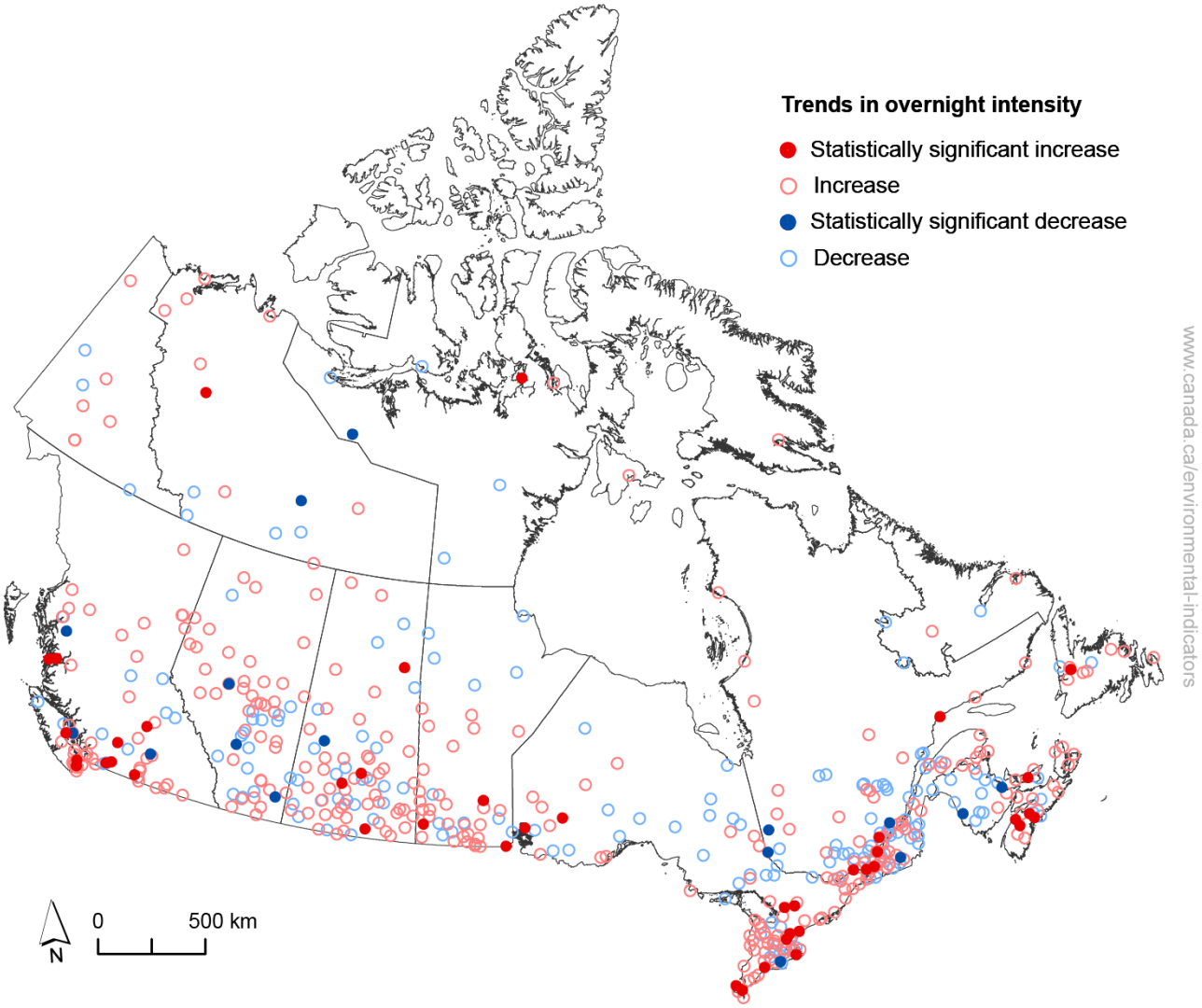
Note: The map shows only the stations for which trends were calculated. Consult the supplementary data for more information.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Figure B.2. Trends in daytime intensity at monitoring stations, Canada, 1948 to 2023



Note: The map shows only the stations for which trends were calculated. Consult the supplementary data for more information.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Figure B.3. Trends in overnight intensity at monitoring stations, Canada, 1948 to 2023



Note: The map shows only the stations for which trends were calculated. Consult the supplementary data for more information.
Source: Environment and Climate Change Canada (2024) Third generation of homogenized surface air temperature data.

Annex C. Extreme heat temperature thresholds

Table C.1. The extreme heat temperature thresholds used to develop the indicator

Region	Daytime maximum temperature (°C)	Nighttime minimum temperature (°C)
Newfoundland and Labrador, and Quebec (including Gaspé, Kuujjuarapik, Tasiujaq, and Kuujjuaq)	28	16
Nova Scotia	29	16
Prince Edward Island	28	18
New Brunswick and southern Quebec (including Quebec City, Lake Saint-Jean, Maurice, Waskaganish, and Rivière-du-Loup)	30	18
Extreme southern Quebec (including Greater Montreal, Gatineau, and the Eastern Townships)	32	20
North shore and northern coastal Quebec (including Puvirnituq, Kangirsuk, and Kangiqsualujjuaq)	26	12
Extreme southern Ontario (Essex and Chatham-Kent Counties)	31	21
Southern Ontario (including the District of Parry Sound)	31	20
Northern Ontario	29	18
Southern Prairies (Southern Manitoba, Southern Saskatchewan, and Extreme Southern Alberta – including Pincher Creek, Cardston, Lethbridge, and Medicine Hat)	32	16
Northern Manitoba	29	16
Northern Saskatchewan (including Meadow Lake, The Battlefords, Prince Albert, and Hudson Bay), northern Alberta (the remainder of Alberta - including the Cities of Edmonton, Red Deer and Calgary), northeastern British Columbia (Northern Interior and Central Interior - including Chilcotin, Cariboos, Prince George, North Thompson, and North Columbia, BC Peace, Bulkley Valley and the Lakes and Fort Nelson), and southern Northwest Territories (Mackenzie River and Great Slave Lake communities)	29	14
Southeastern British Columbia (Southern interior - including South Thompson and Okanagan, Kootenays, and Columbias – south)	35	18
Southwestern inland British Columbia (Eastern Metro Vancouver including Coquitlam and Surrey, and the Fraser Valley)	33	17
Southwestern British Columbia (Western Metro Vancouver - including the North Shore, City of Vancouver and Richmond, Howe Sound, Whistler, Sunshine Coast, Vancouver Island - except northern sections)	29	16
Northwestern British Columbia (Central and Northern Coast - inland and coastal regions, Northern Vancouver Island, and northwestern BC) and Yukon	28	13
Southern Nunavut (Southern Kivalliq region – including Kugluktuk) and northern Northwest Territories (Mainland Inuvialuit Settlement Region – including Tutoyaktuk and Paulatuk)	26	n/a[A]

Region	Daytime maximum temperature (°C)	Overnight minimum temperature (°C)
Far northern Quebec (North coast Nunavik – including Akulivik) and Northwest Territories (Northern Inuvialuit Settlement Region – including Sachs Harbour and Ulukhatok), and Nunavut (Arctic Archipelago, Baffin Island, and the Kitikmeot - except Kugluktuk)	22	n/a[A]

Note: [A] No nighttime minimum temperatures are established as duration is insufficient to provide significant cooling and relief overnight.
Source: Meteorological Service of Canada (2024) Criteria for public weather alerts.

Additional information can be obtained at:

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