

Canadian Wildland Fire Information System

The 2023 Wildfire Season contributed to increased research on effects of climate change on wildfires. Increasingly climate change can be linked to these events. Canada's 2023 wildfire season was the most destructive ever recorded. In 2023, 15 million hectares of land were consumed by wildfires, as compared with the Canadian average of 2.5 million hectares.

Yan Boulanger, research scientist in forest ecology at Natural Resources Canada and Canadian Forest Services scientists, Jonathan Boucher and Sandy Erni, along with an international team of 16 scientists involved in a study by World Weather Attribution (WWA), focused on Quebec's wildfire season. Their finding was that climate change more than doubled the likelihood of extreme fire weather conditions in Quebec.

The research looked at how the intensity and likelihood of an extreme weather event is linked to climate change. The WWA published results soon after the event, instead of waiting for a long review process, so that they could provide context and lessons learned quickly after such extreme events.

Due to warm and dry conditions in early May, the 2023 wildfire season began early, and continued on into June and July. These researchers used Natural Resources Canada's Fire Weather Index (FWI), a metric combining temperature, wind speed, relative humidity and precipitation to estimate the level of fire danger. The scientists also calculated the Cumulative Daily Severity Rating from the FWI, to assess the effects and contribution of hot and dry weather conditions from January to July.

The conclusion was that extreme weather, record high temperatures and dry conditions caused by climate change intensified the 2023 wildfires. Researchers found *"wildfire-prone weather conditions in Quebec were 50 percent more intense because of climate change caused by human activity, while the peak intensity recorded was 20 percent higher"*.

Weather data and computer model simulations are an important tool needed for the planning of mining projects, such as the Troilus Mining Project. Studies like the one here indicate that this data can contribute and assist in 'de-risking' a mining project, related to wildfires.

Long-term consequences of the increasing risk of wildfires warrants are that mining companies must adapt and prepare for these changes, using a proactive approach and these changes must be included in any ESIA, including ERPs based on these increased risks.

<https://natural-resources.canada.ca/stories/simply-science/canada-s-record-breaking-wildfires-2023-fiery-wake-call>

Fire Danger maps – sequence May 1, 2023 to the end of June 30, 2023

This sequence of Fire Danger maps illustrates how in the first weeks of May 2023 the Fire Danger is relatively low. The first week of June, however, indicates a very rapid increase in Fire Danger. Going forward, according to much research, this trend will very likely not reverse. This demonstrates that in one of the most severe wildfire seasons in Quebec history, precautions set out in detailed ERP manuals must be closely adhered to. Regular ERP training for employees and staff is essential so that no time is lost when setting in motion rapid responses to any impending danger.

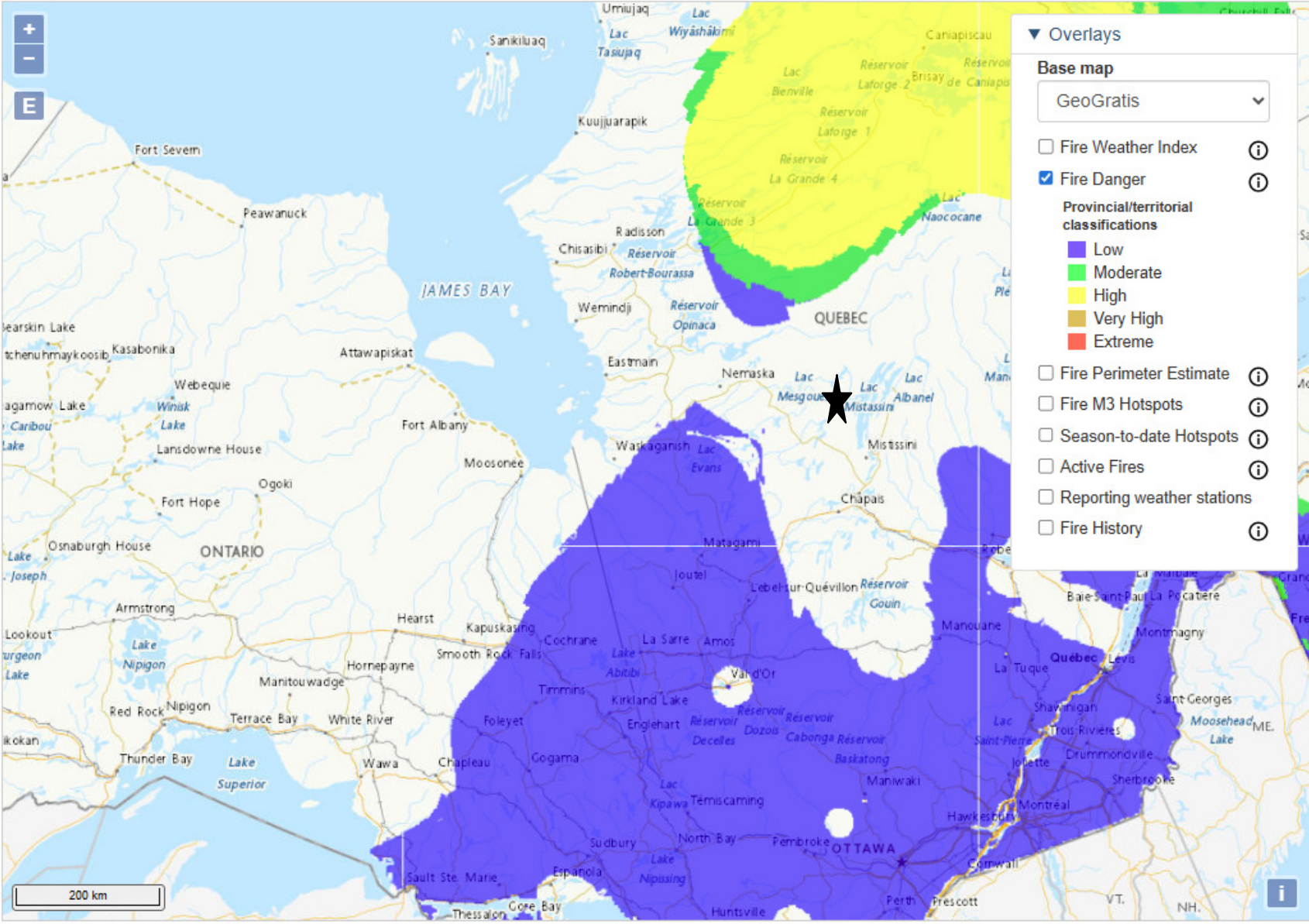
The Troilus Mining Project is indicated by a black star on these sequence of maps.



The large increase in the 'severe Fire Danger' begins to be seen on May 27th, 2023 and covers the entire area of Troilus Mining Project on May 30th, 2023 and continues on from this point until June 7th 2023, occurring again from June 21 to June 27, 2023.

May 1 2023 Retrieve Map

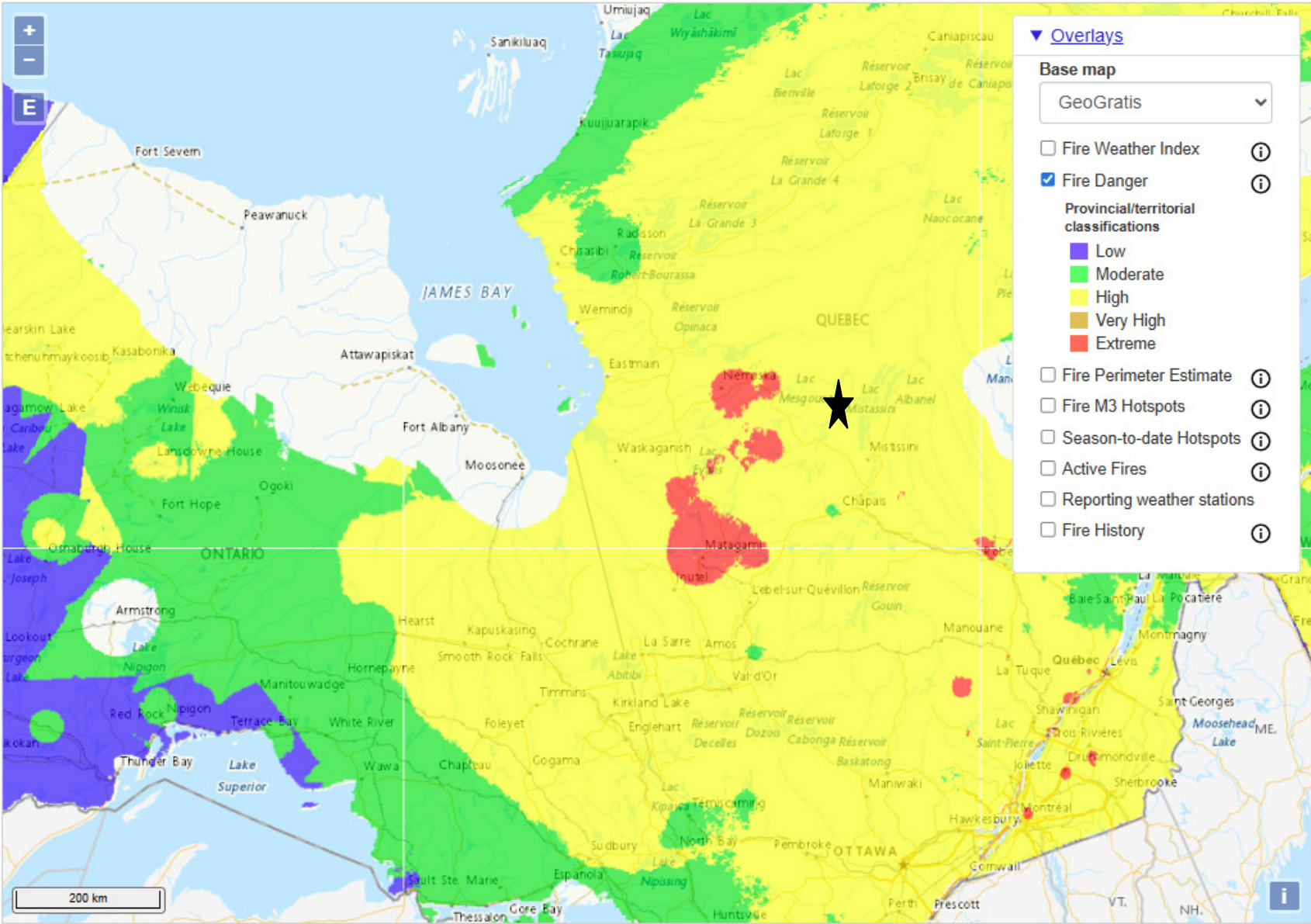
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Troilus Mining Project ★

May 10 2023 Retrieve Map

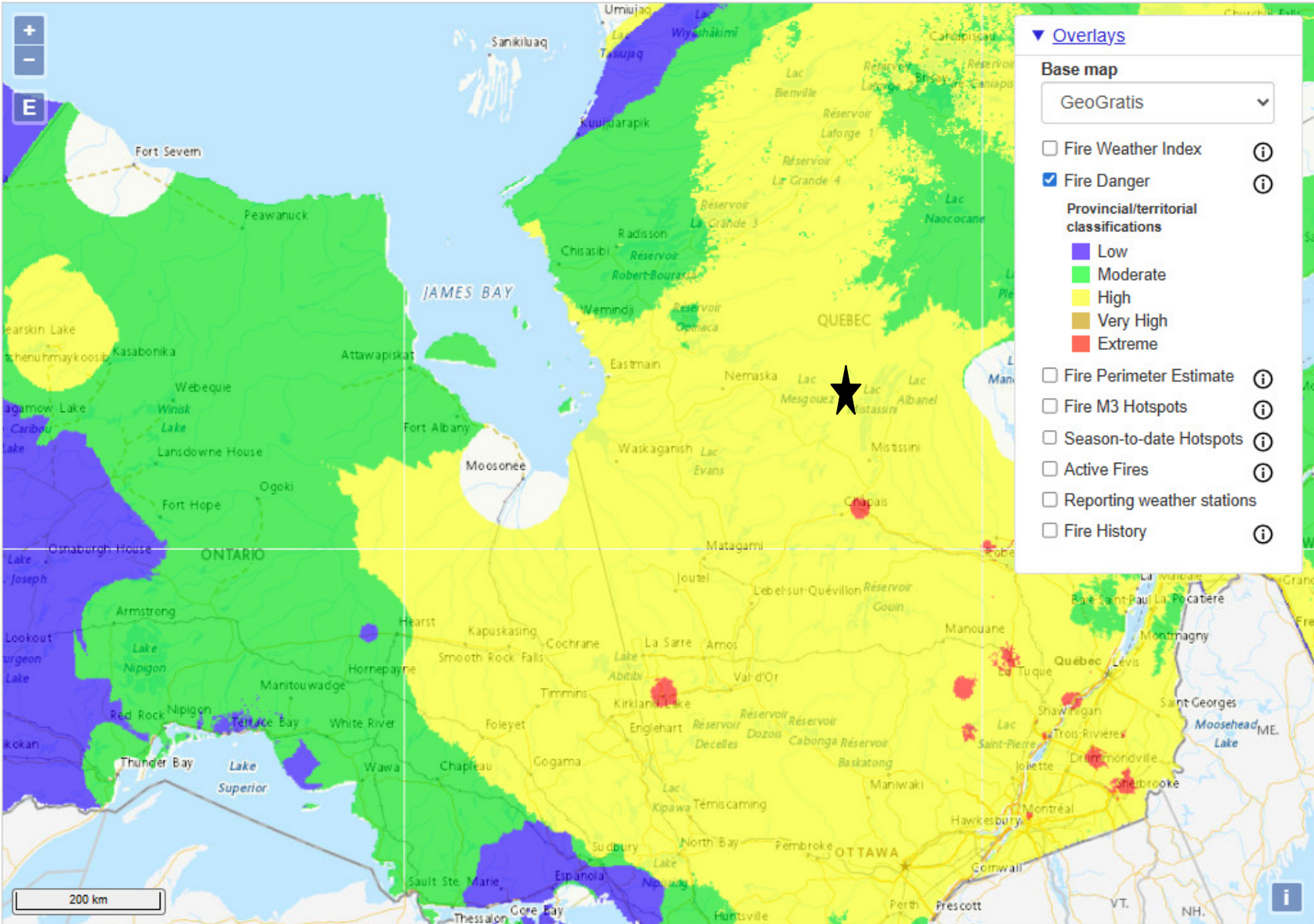
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Troilus Mining Project ★

May 11 2023 Retrieve Map

« Previous day : Today : Next day »



Troilus Mining Project ★

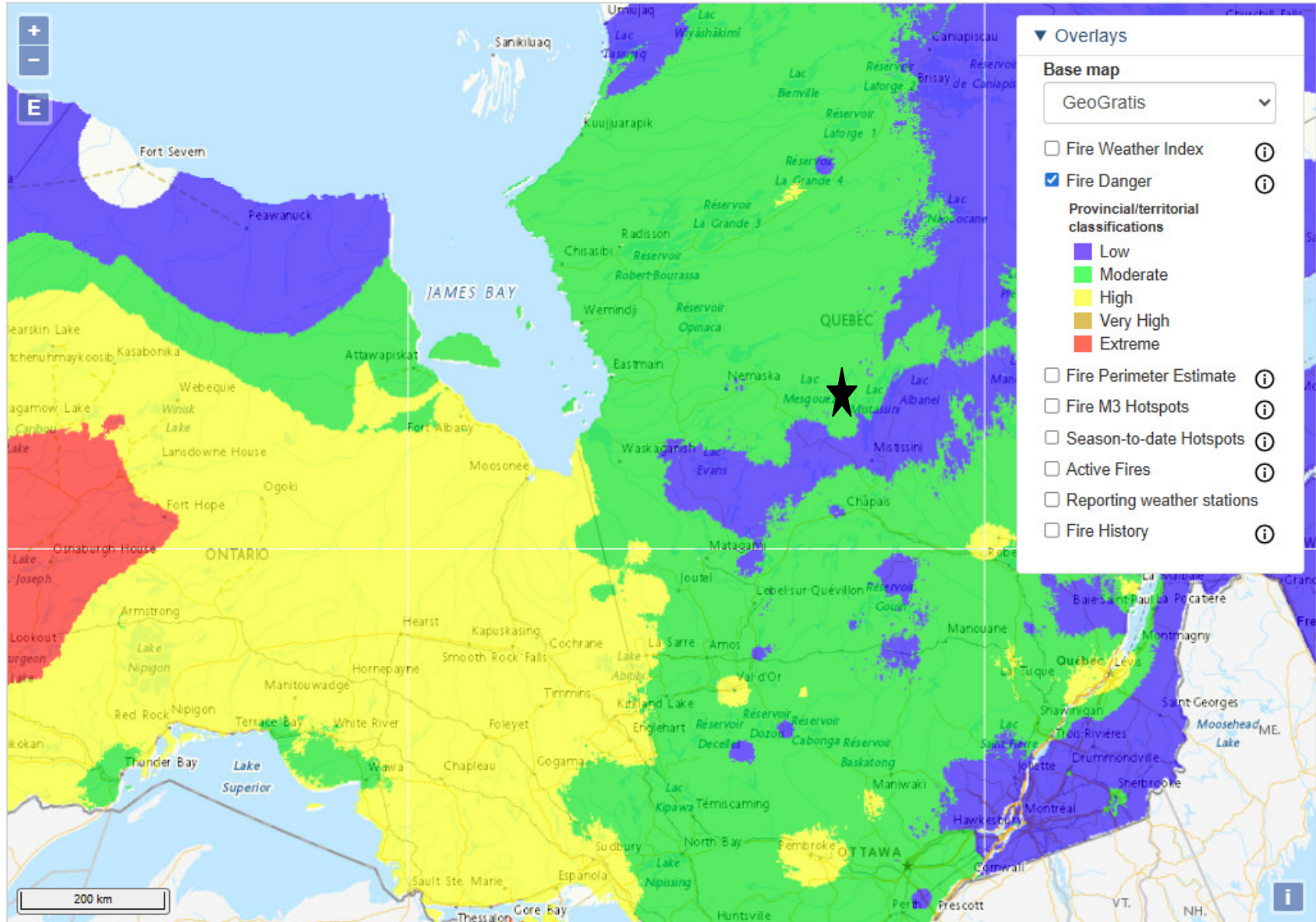
May

26

2023

Retrieve Map

« Previous day : Today : Next day »



▼ Overlays

Base map
GeoGratis

Fire Weather Index ⓘ

Fire Danger ⓘ

Provincial/territorial classifications

- Low
- Moderate
- High
- Very High
- Extreme

Fire Perimeter Estimate ⓘ

Fire M3 Hotspots ⓘ

Season-to-date Hotspots ⓘ

Active Fires ⓘ

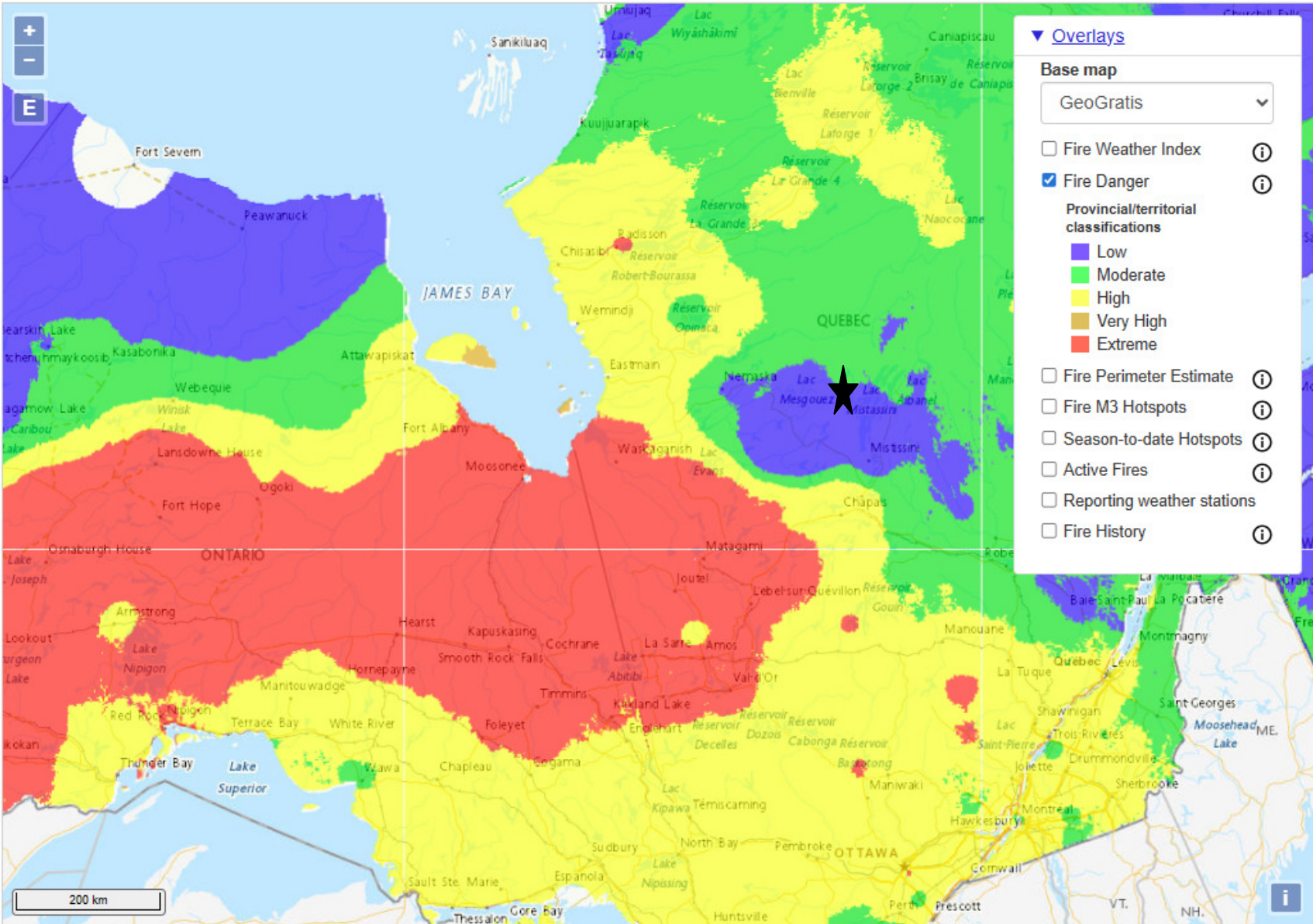
Reporting weather stations

Fire History ⓘ

Troilus Mining Project ★

May 27 2023 Retrieve Map

« Previous day : Today : Next day »



Overlays

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Provincial/territorial classifications

- Low
- Moderate
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- Extreme

Fire Perimeter Estimate

Fire M3 Hotspots

Season-to-date Hotspots

Active Fires

Reporting weather stations

Fire History

Troilus Mining Project ★

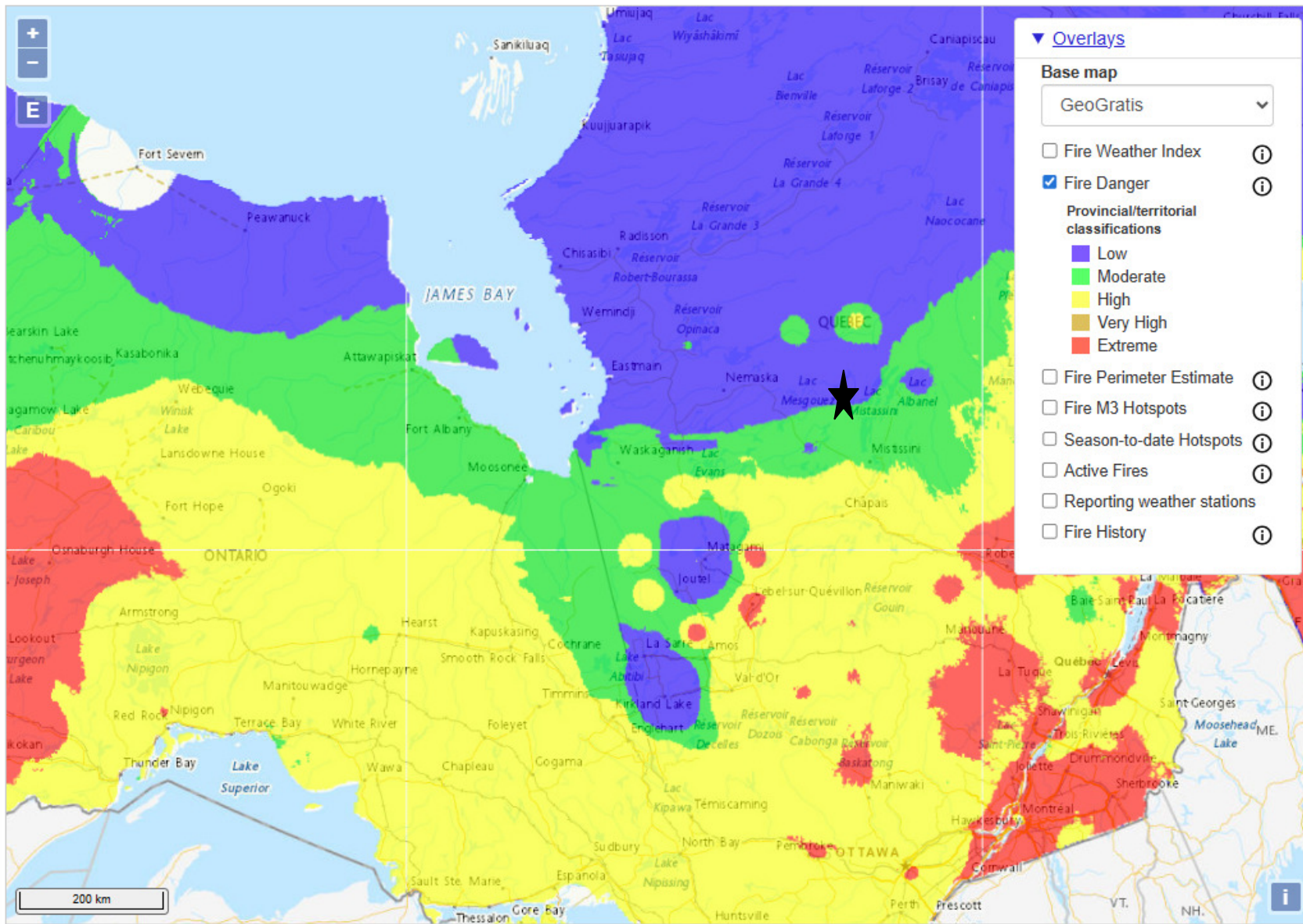
May

28

2023

Retrieve Map

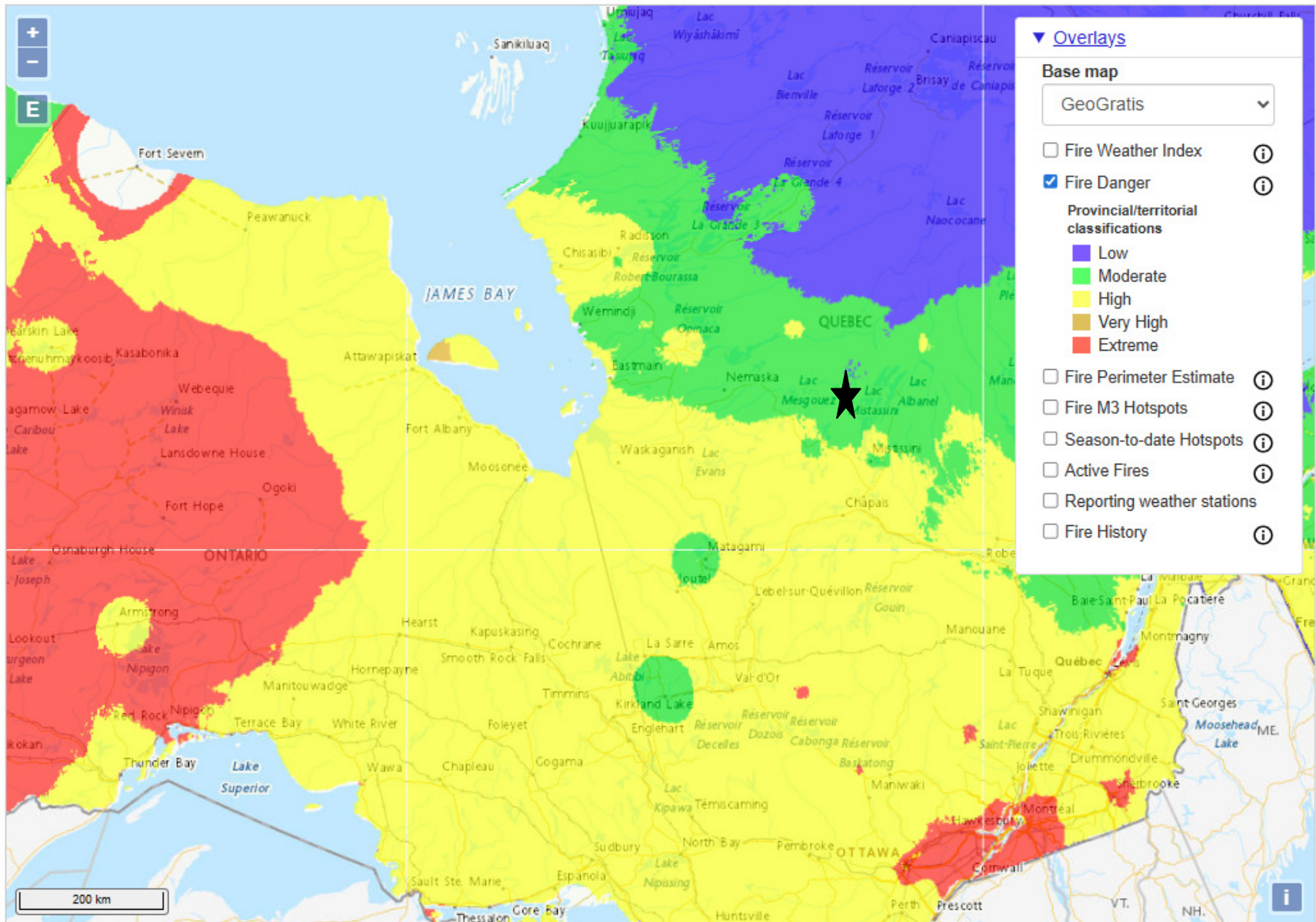
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Troilus Mining Project ★

May 29 2023 Retrieve Map

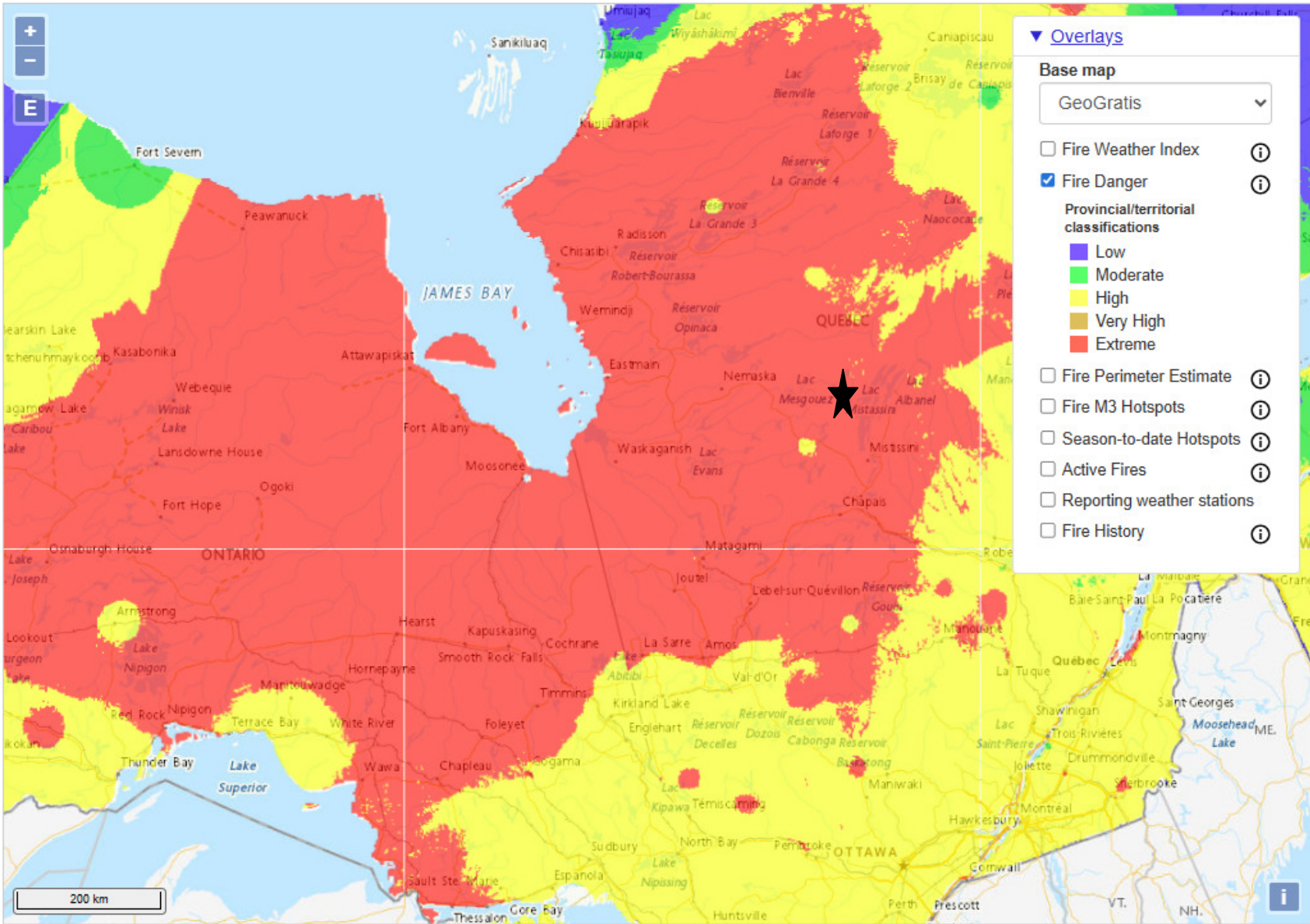
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Troilus Mining Project ★

May 30 2023 Retrieve Map

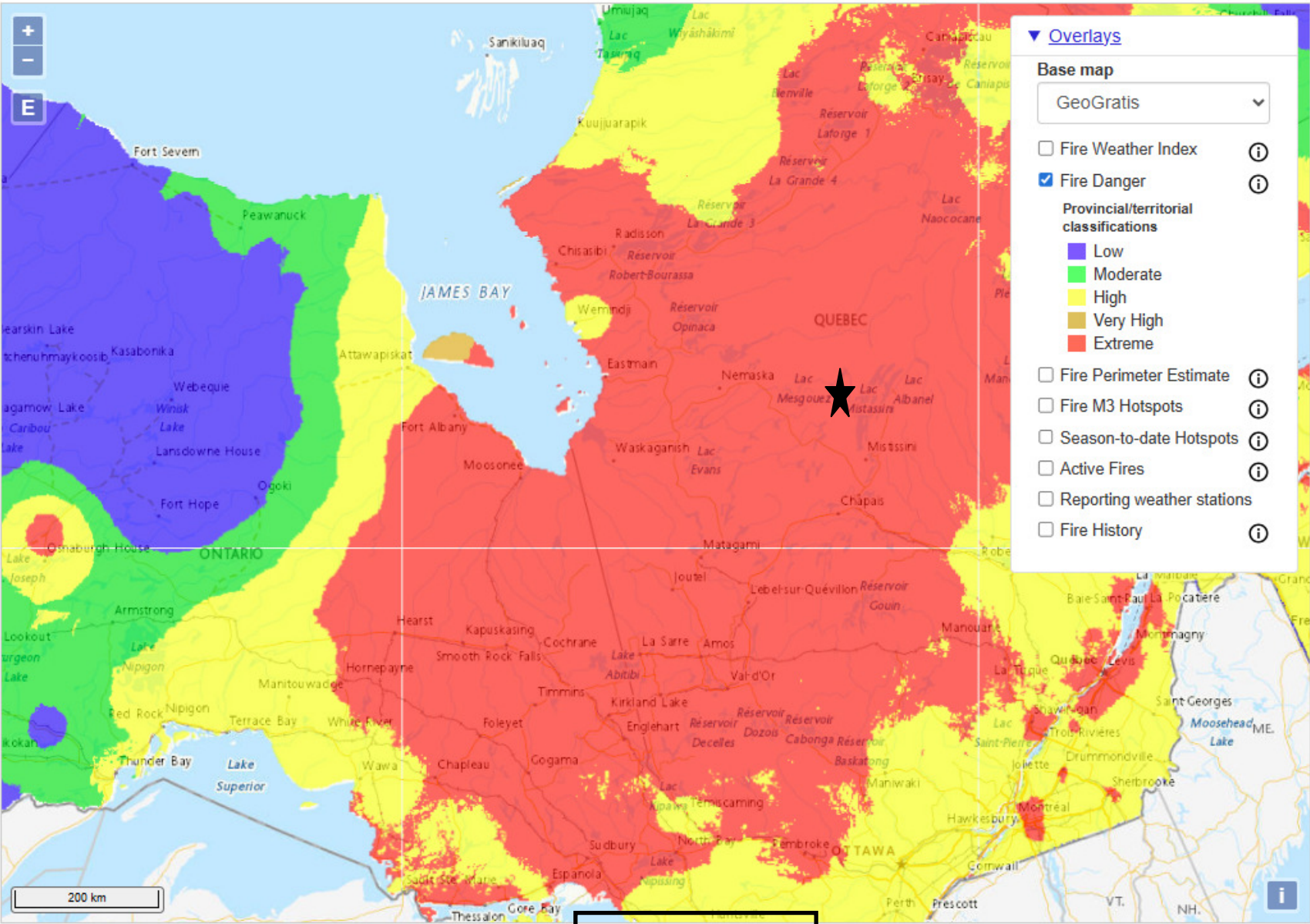
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Troilus Mining Project ★

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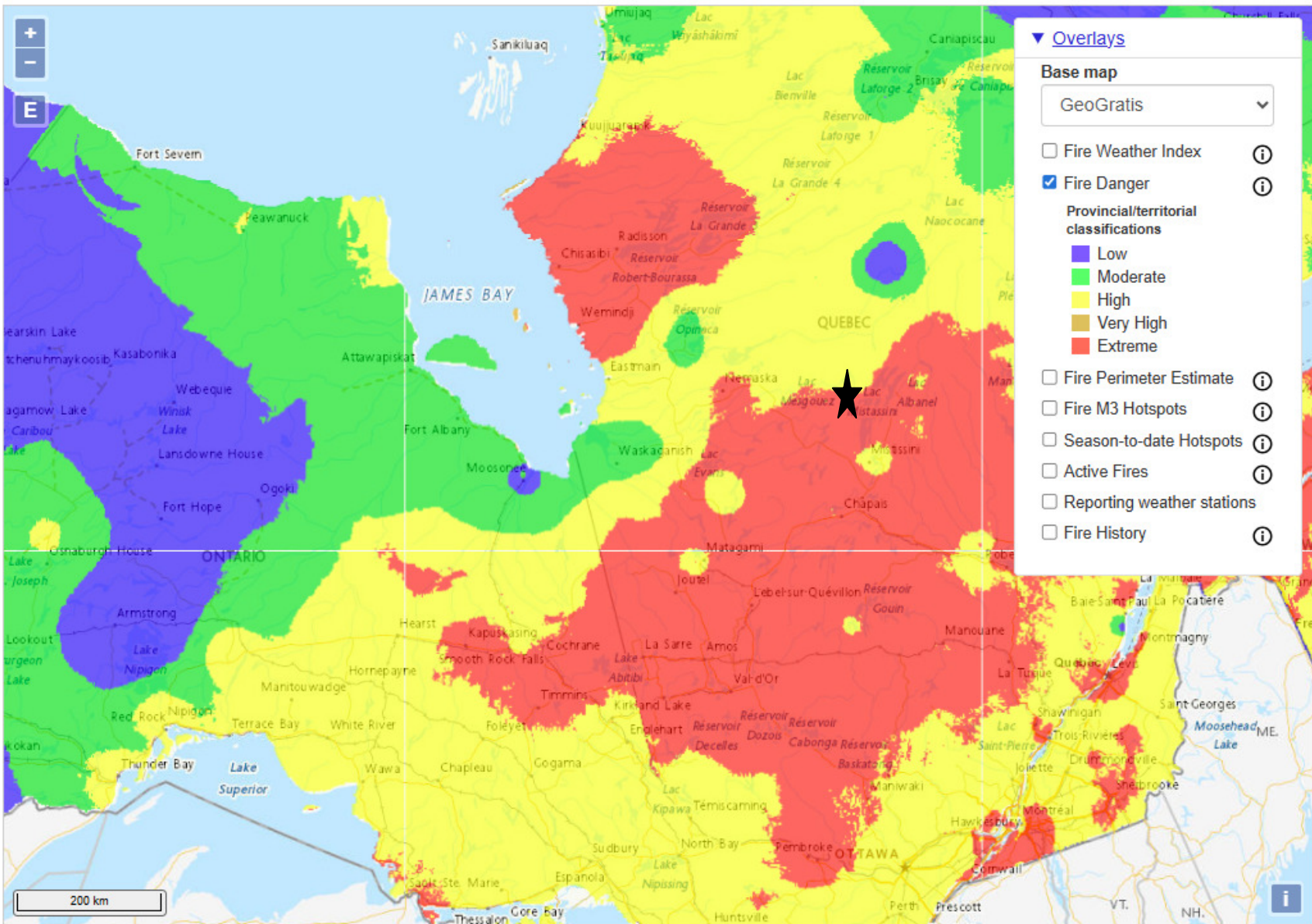
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Troilus Mining Project ★

June 1 2023 Retrieve Map

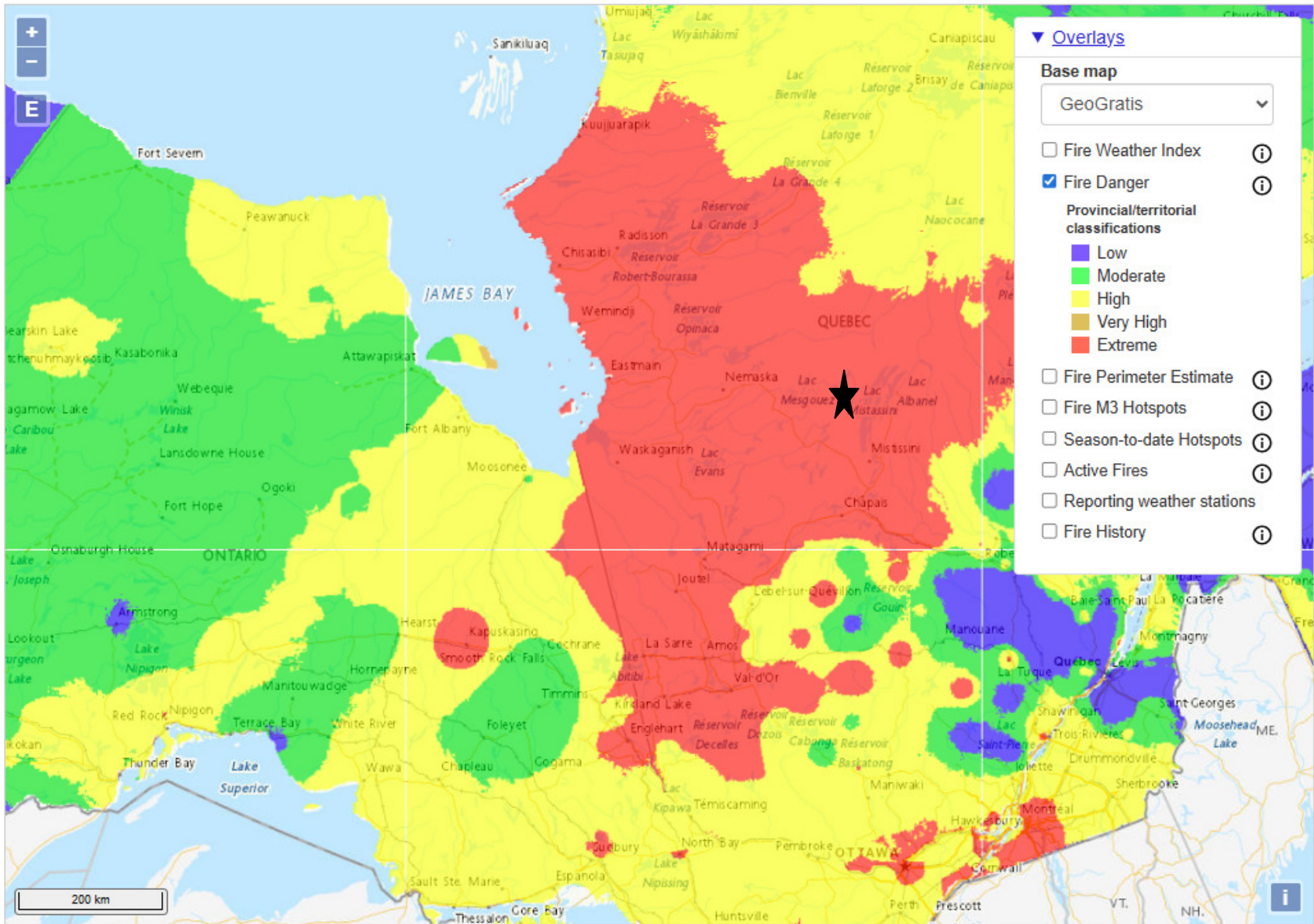
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Troilus Mining Project ★

June 2 2023 Retrieve Map

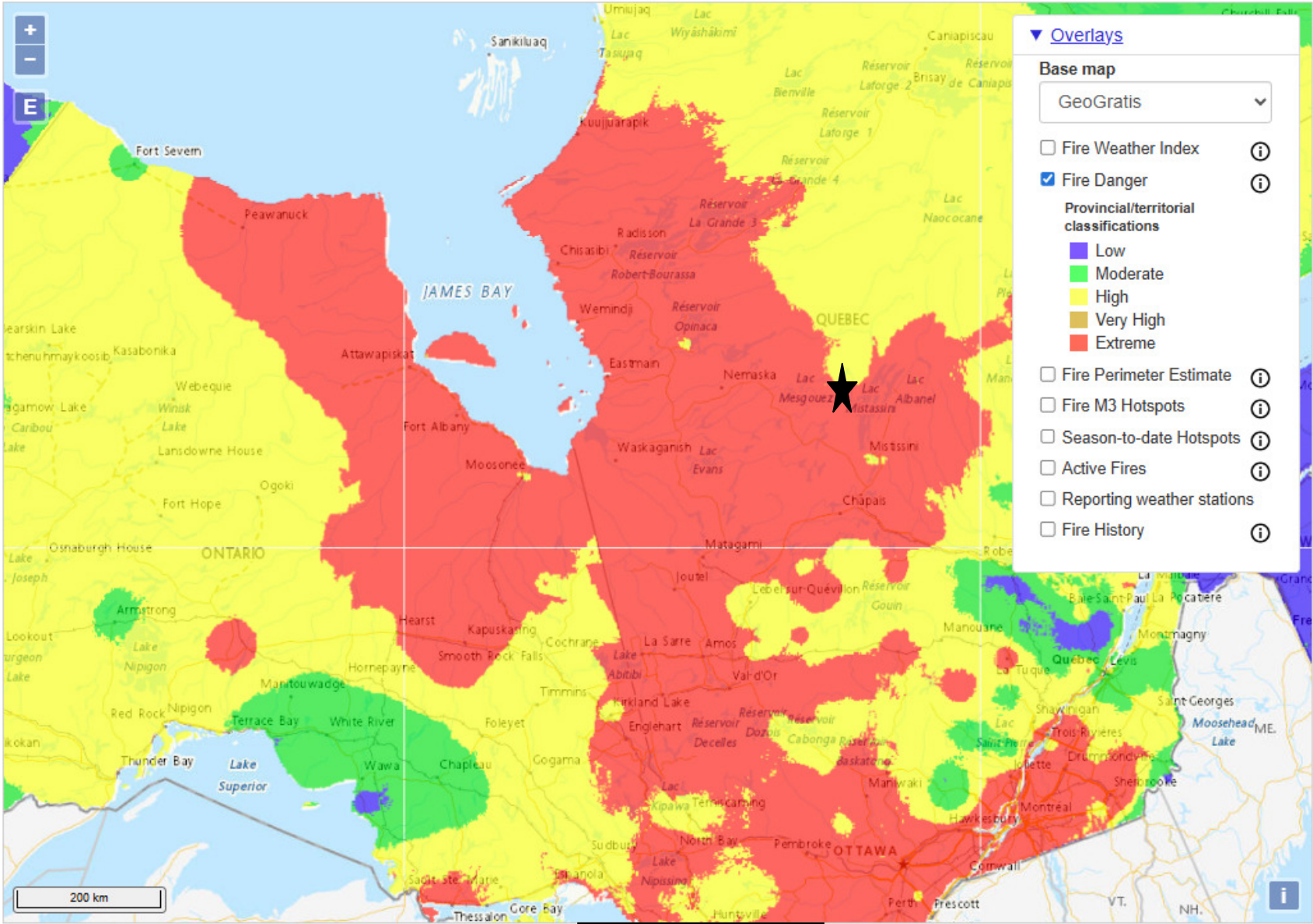
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Troilus Mining Project ★

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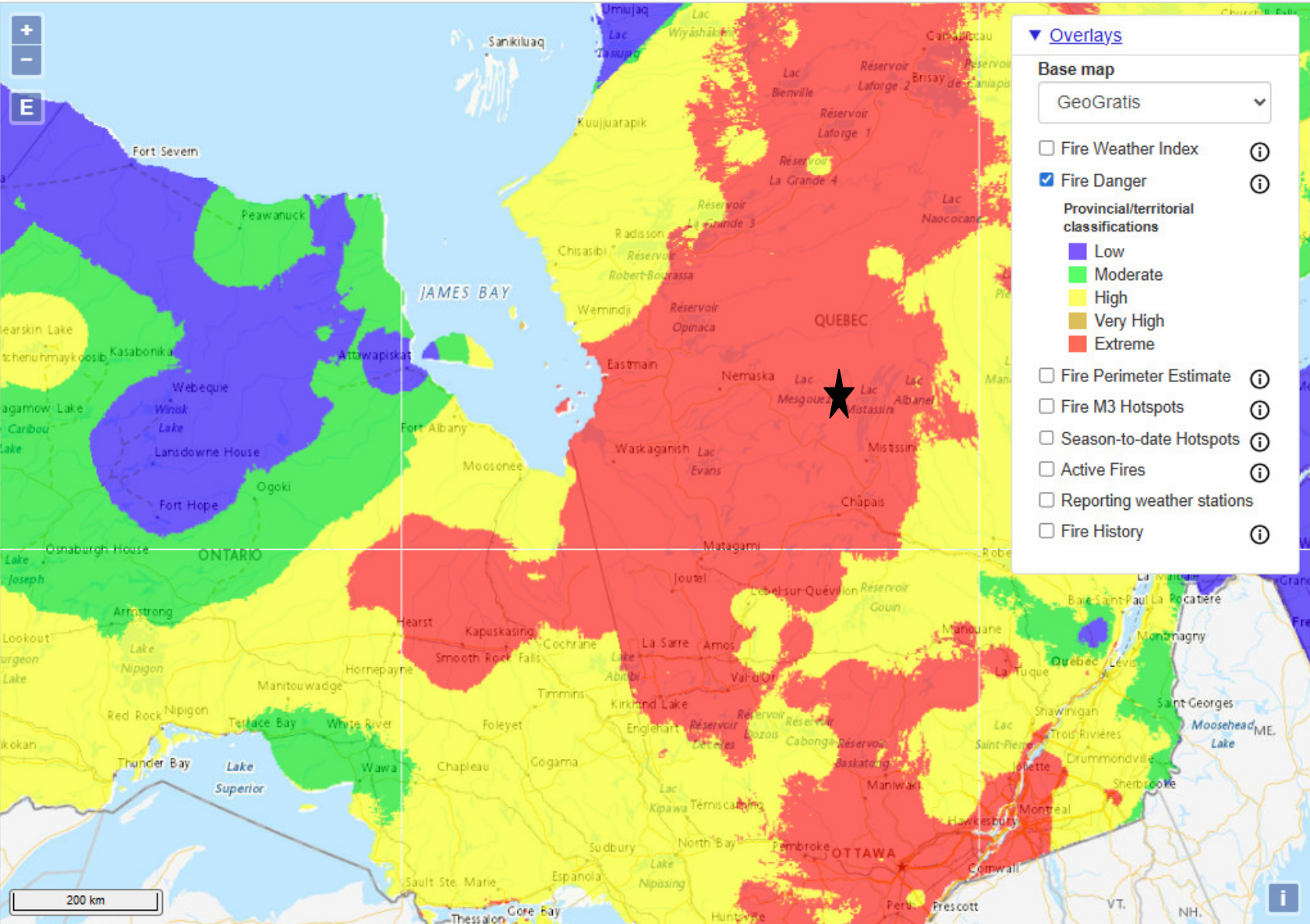
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Troilus Mining Project ★

June 4 2023 Retrieve Map

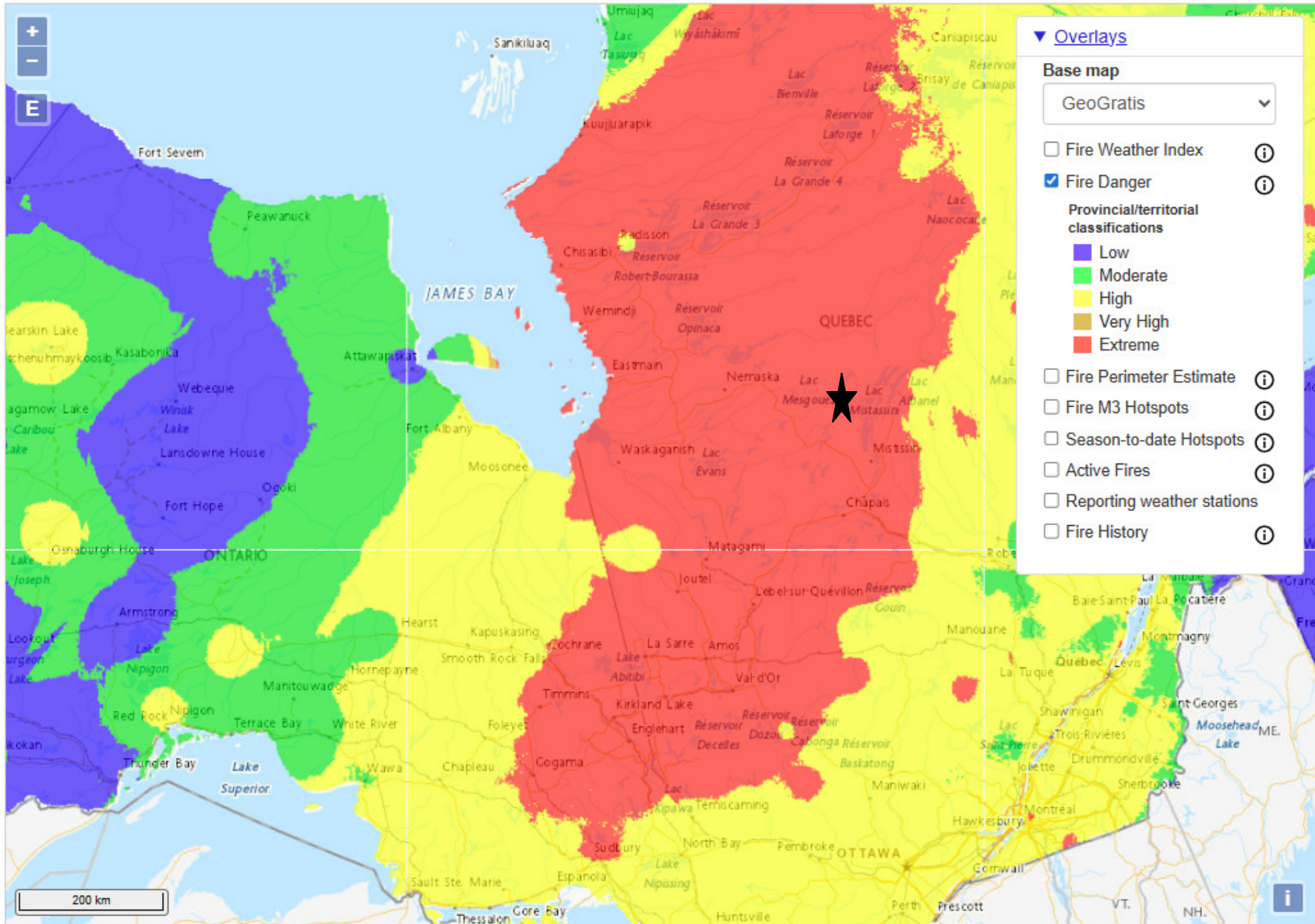
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Troilus Mining Project ★

June 5 2023 Retrieve Map

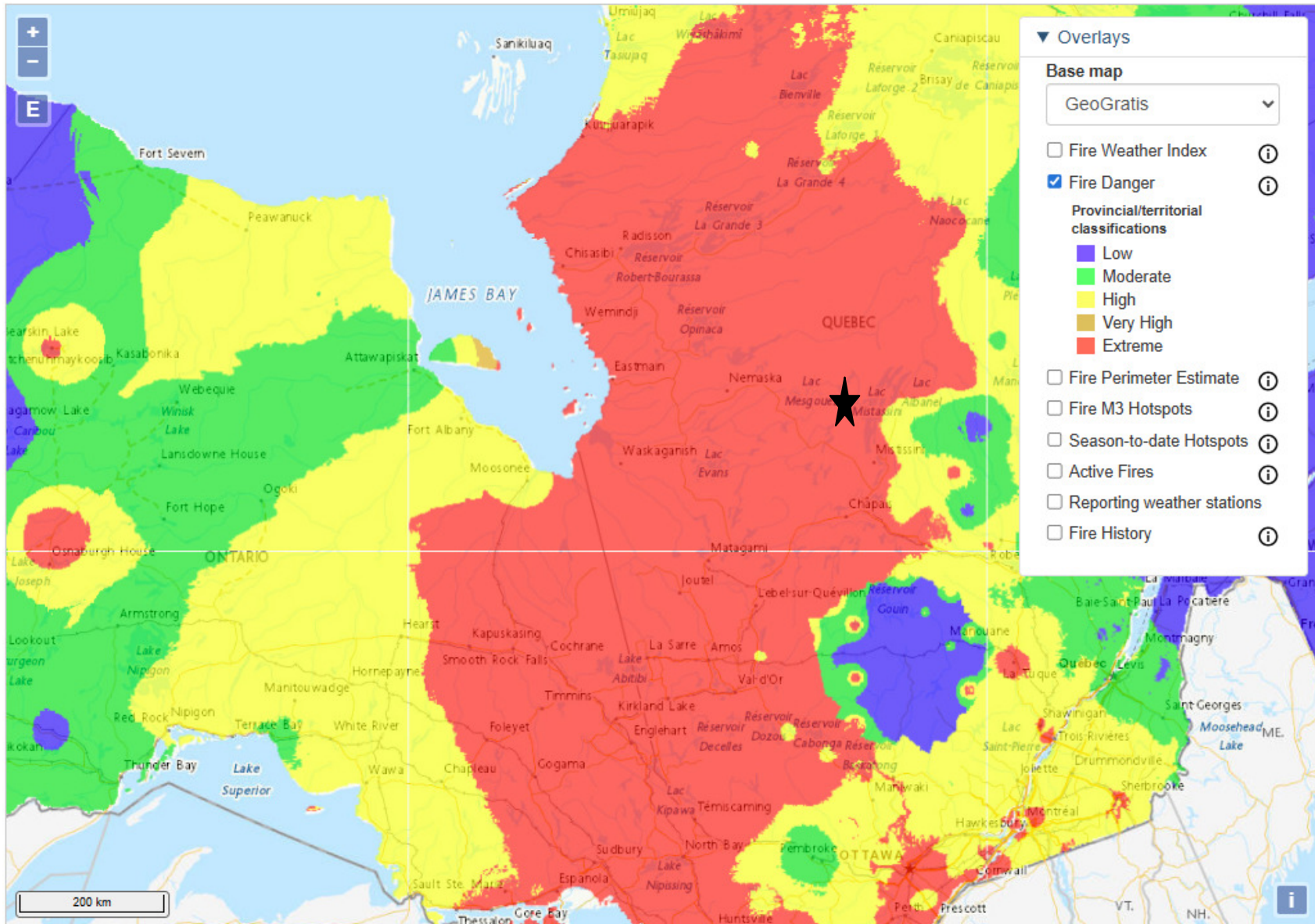
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Troilus Mining Project ★

June 6 2023 Retrieve Map

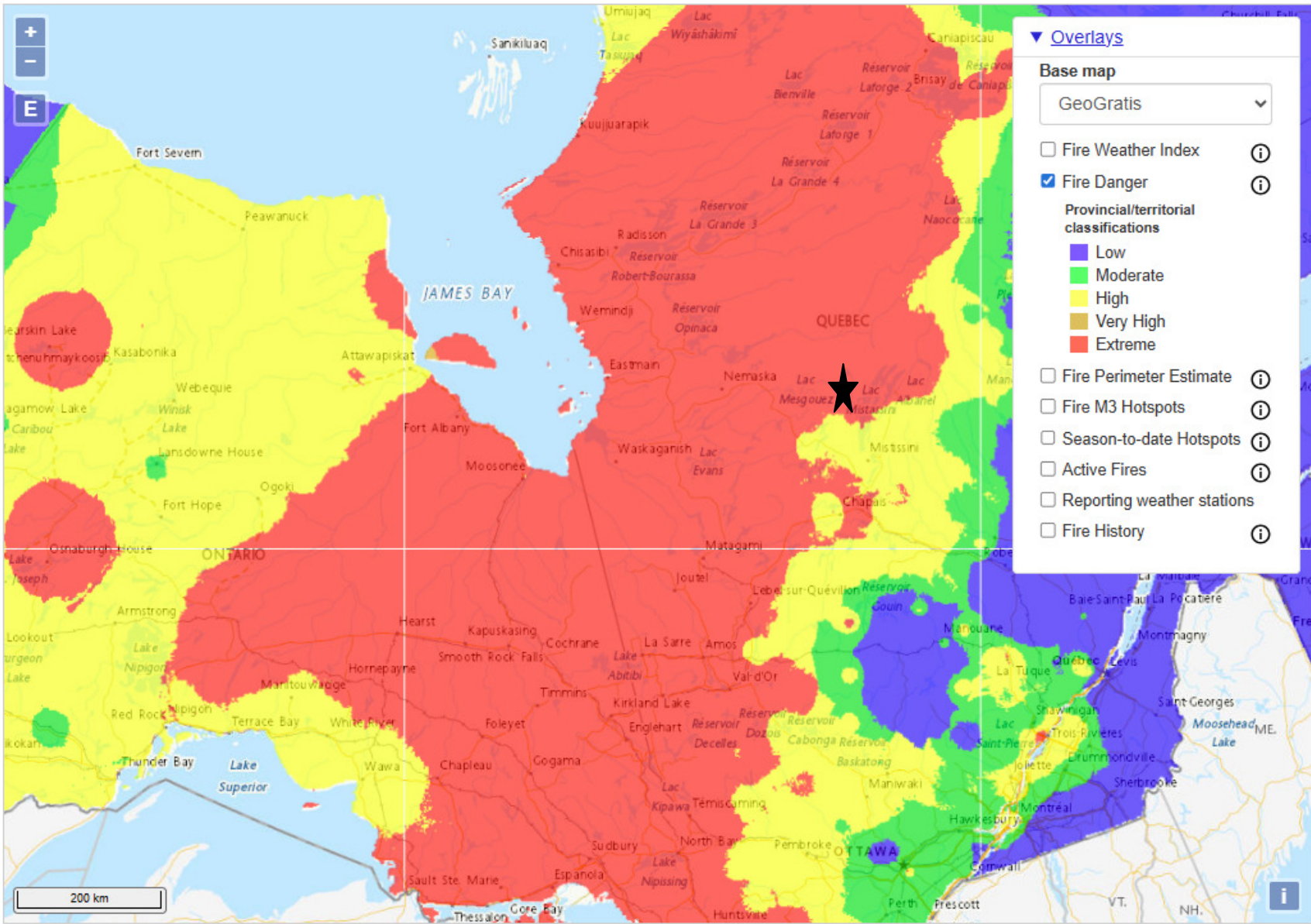
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Troilus Mining Project ★

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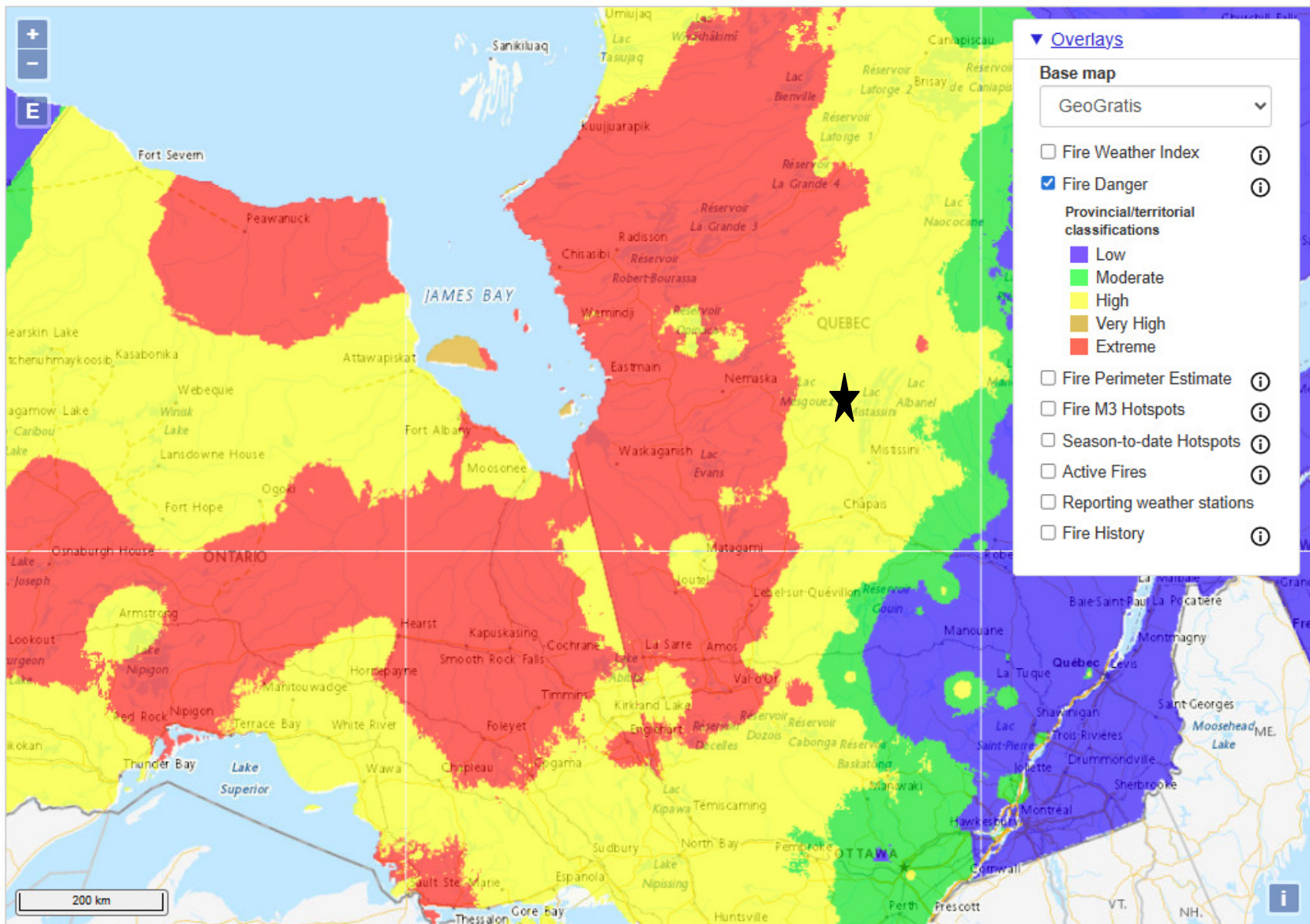
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Troilus Mining Project ★

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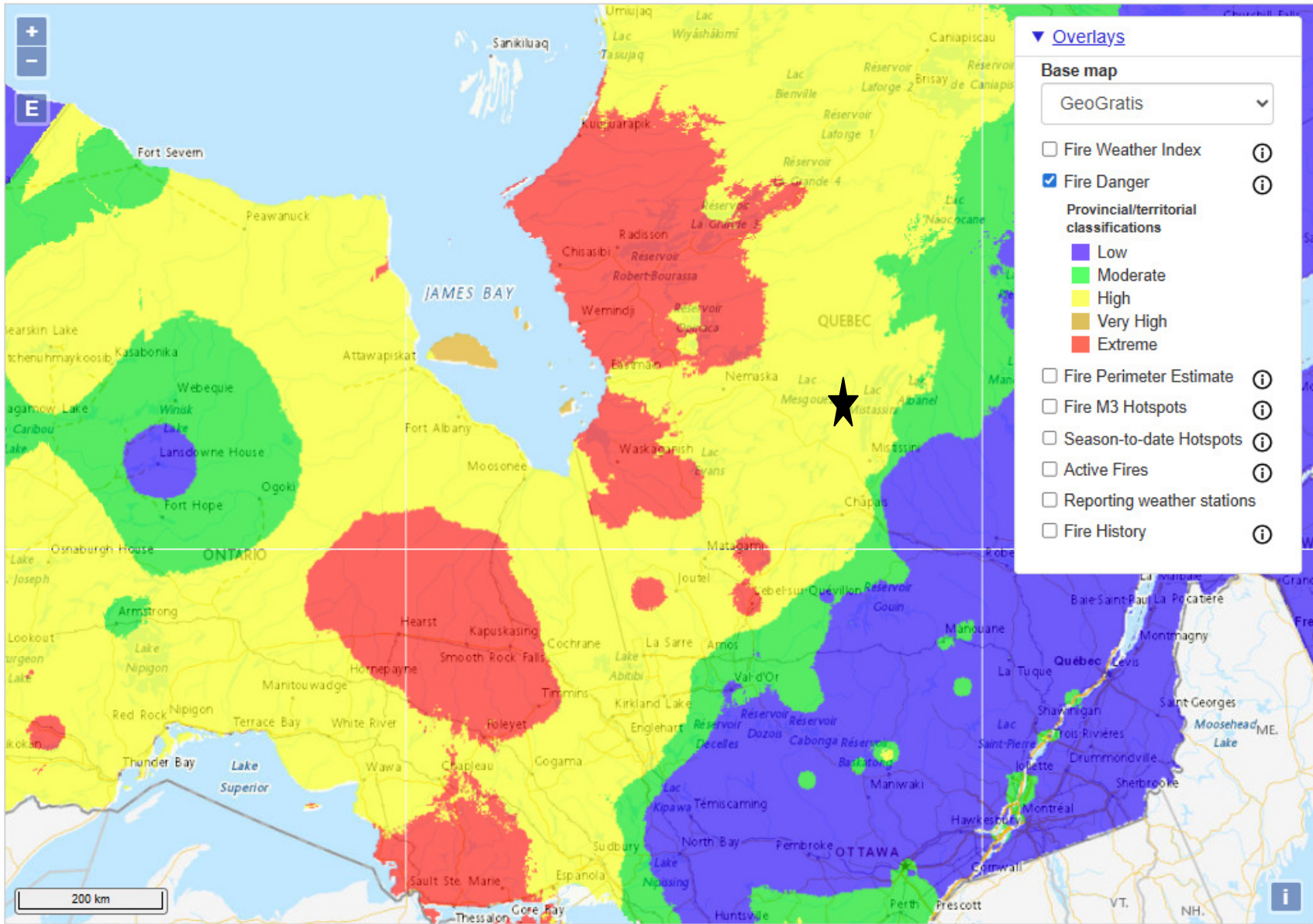
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Troilus Mining Project ★

June 9 2023 Retrieve Map

« Previous day : Today : Next day »



Overlays

Base map
GeoGratis

Fire Weather Index ⓘ

Fire Danger ⓘ

Provincial/territorial classifications

- Low
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Fire Perimeter Estimate ⓘ

Fire M3 Hotspots ⓘ

Season-to-date Hotspots ⓘ

Active Fires ⓘ

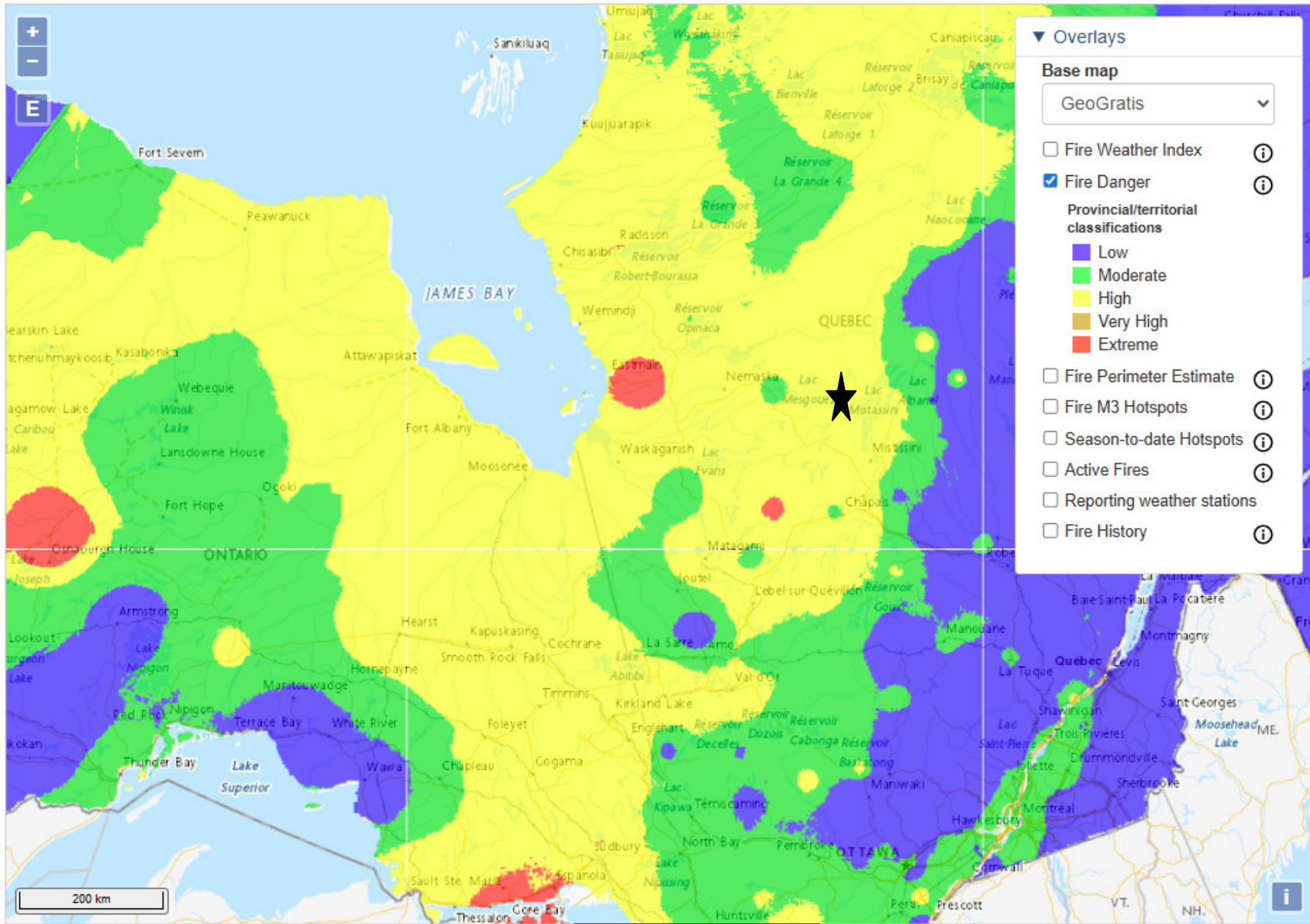
Reporting weather stations

Fire History ⓘ

Troilus Mining Project ★

June 10 2023 Retrieve Map

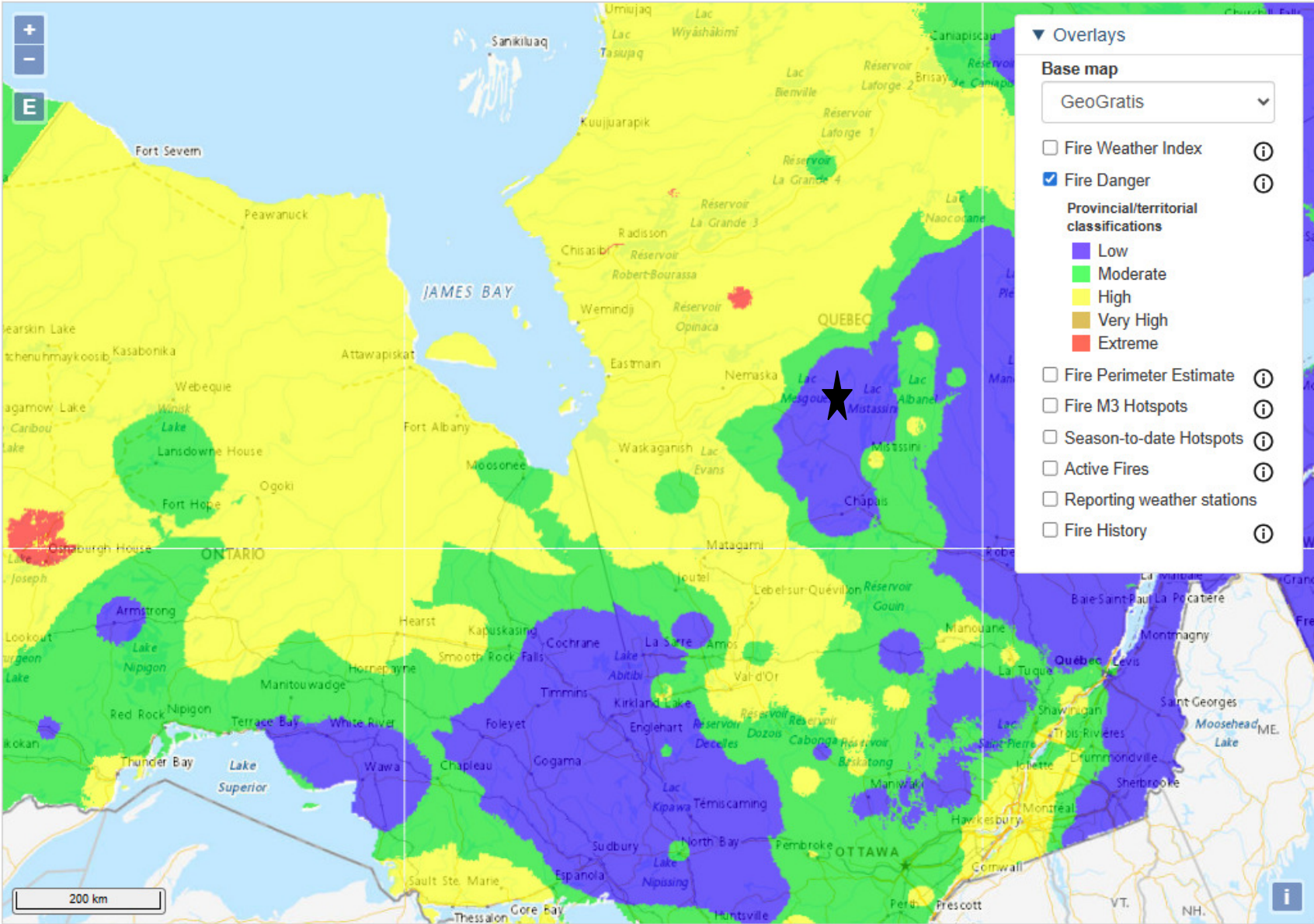
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Troilus Mining Project ★

June 11 2023 Retrieve Map

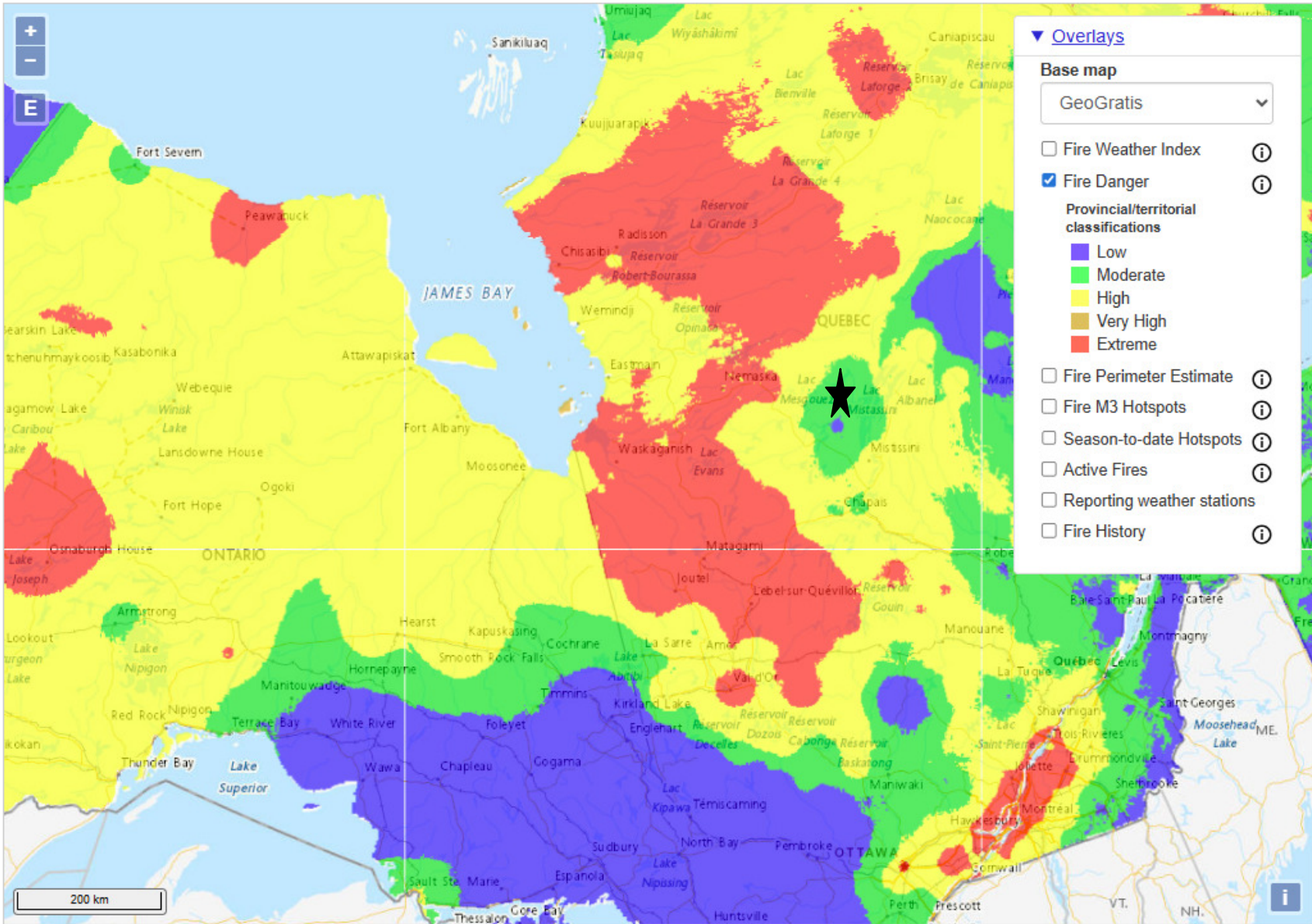
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Troilus Mining Project ★

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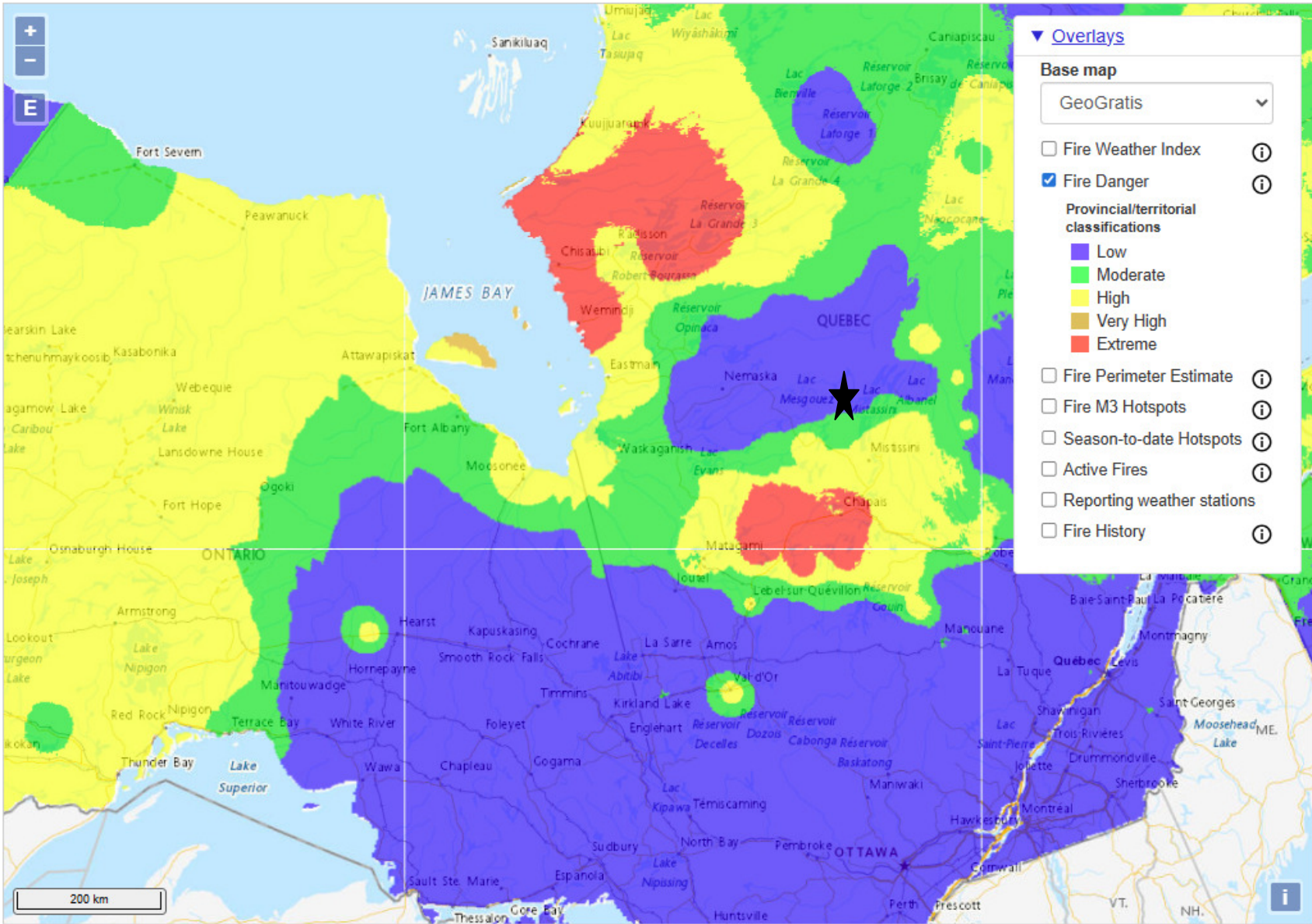
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Troilus Mining Project ★

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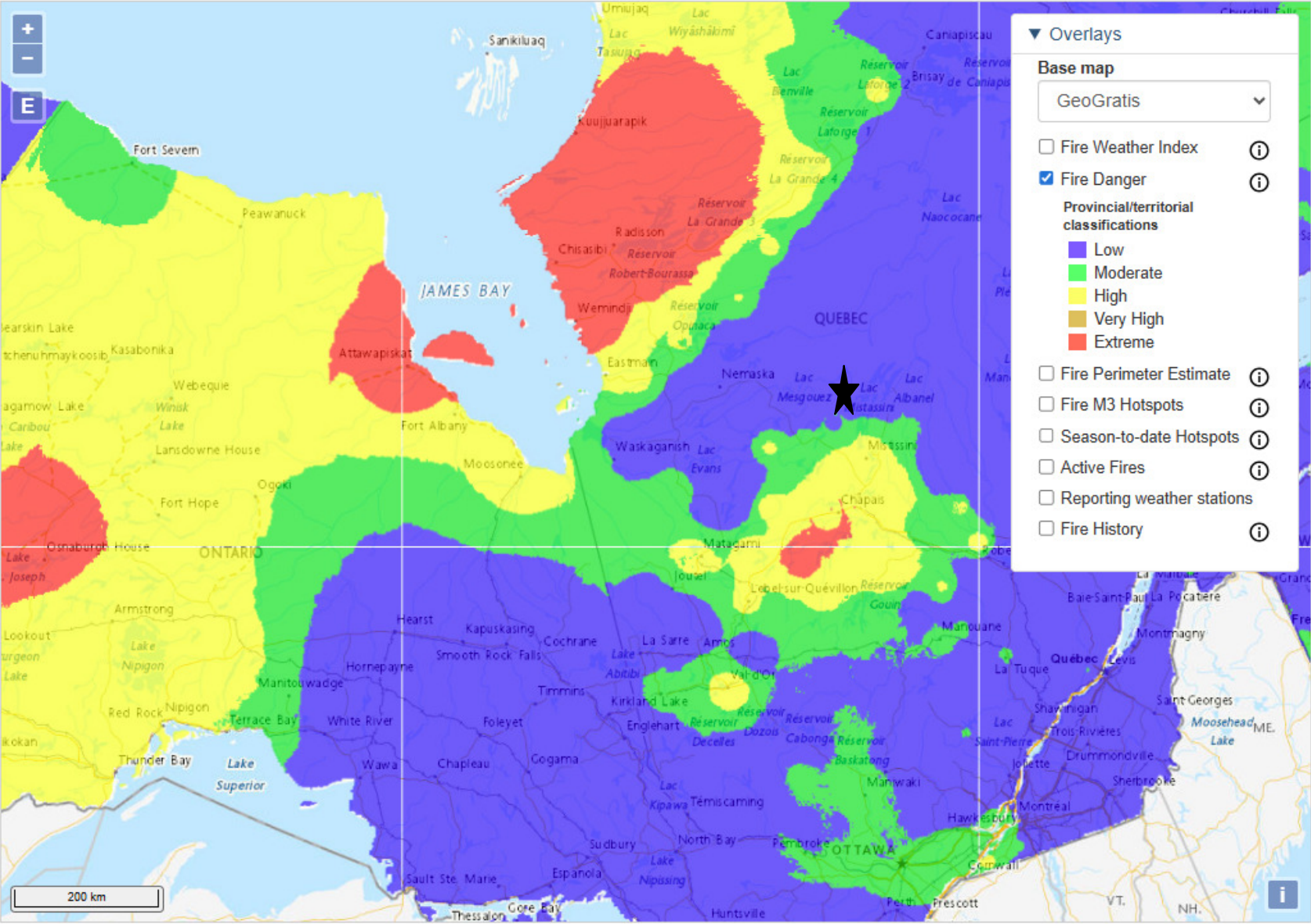
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Troilus Mining Project ★

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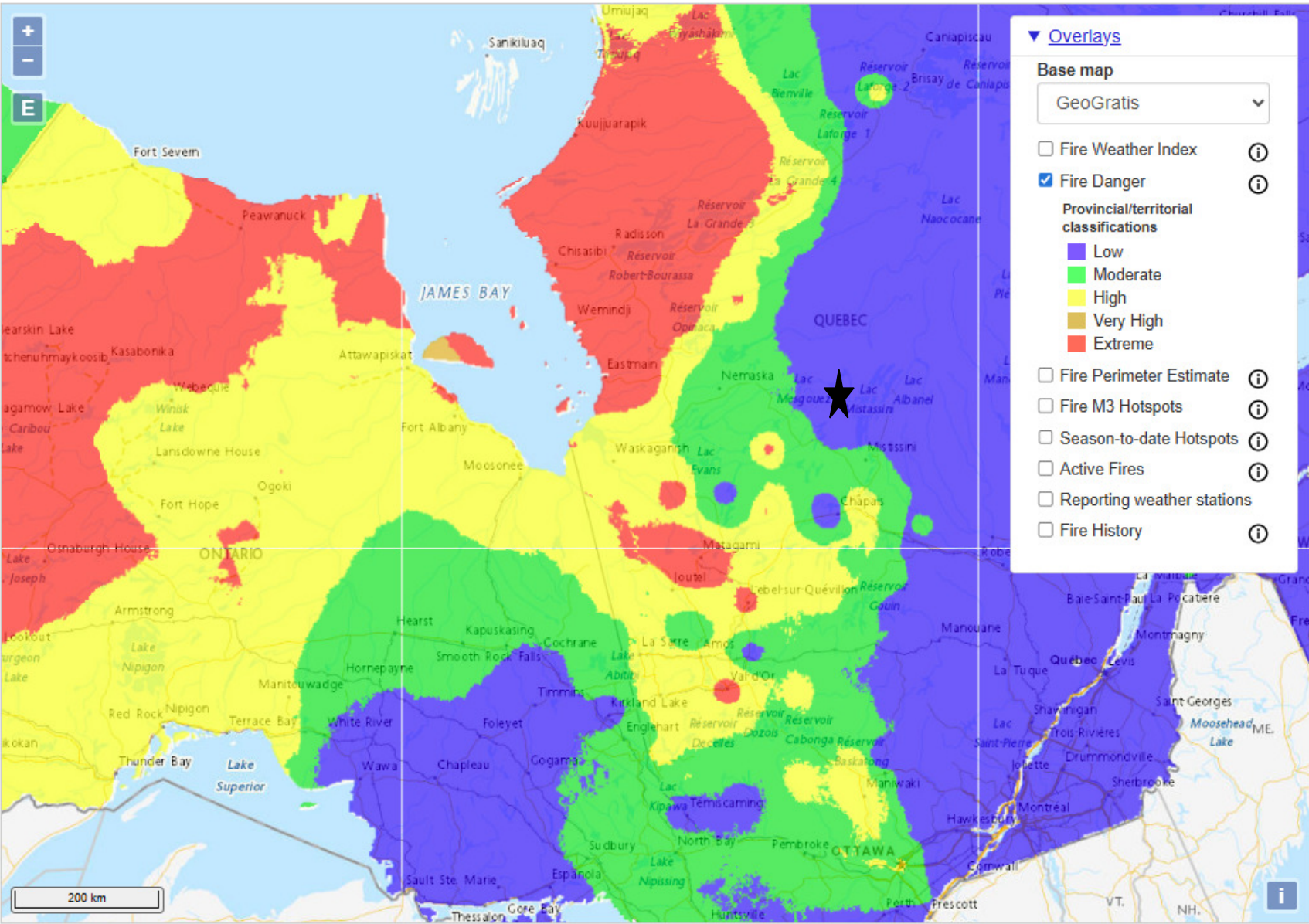
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Troilus Mining Project ★

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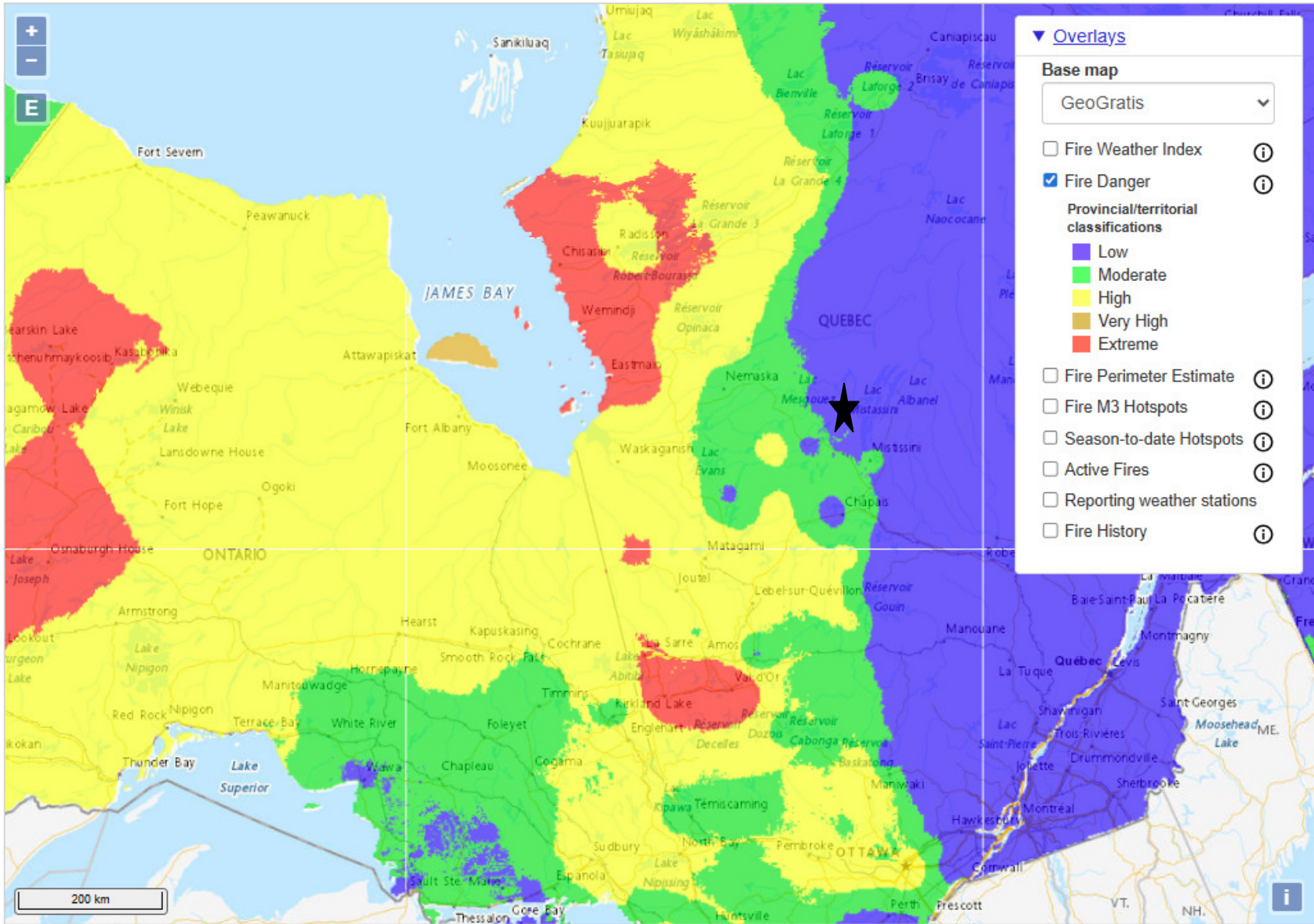
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Troilus Mining Project ★

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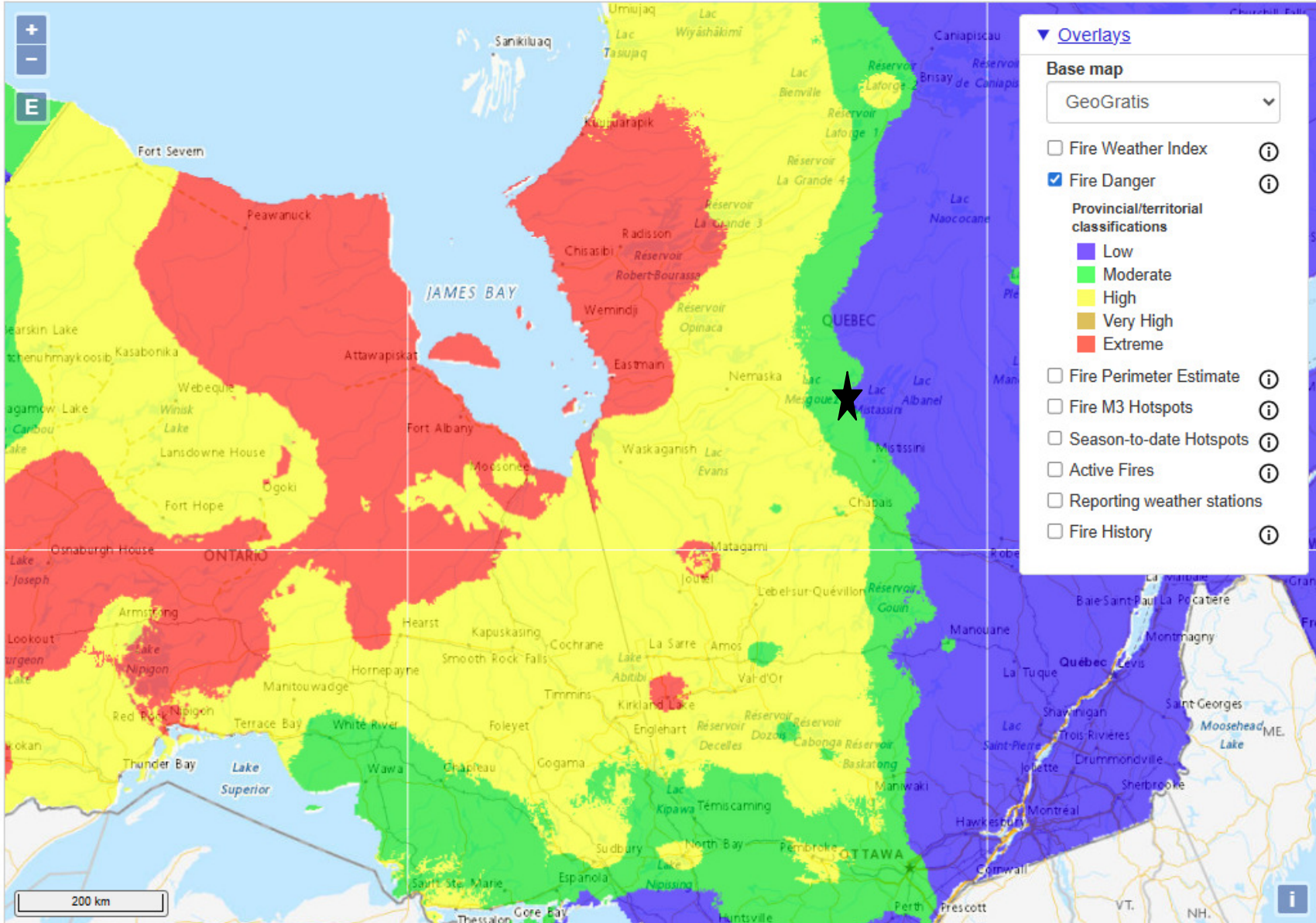
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Troilus Mining Project ★

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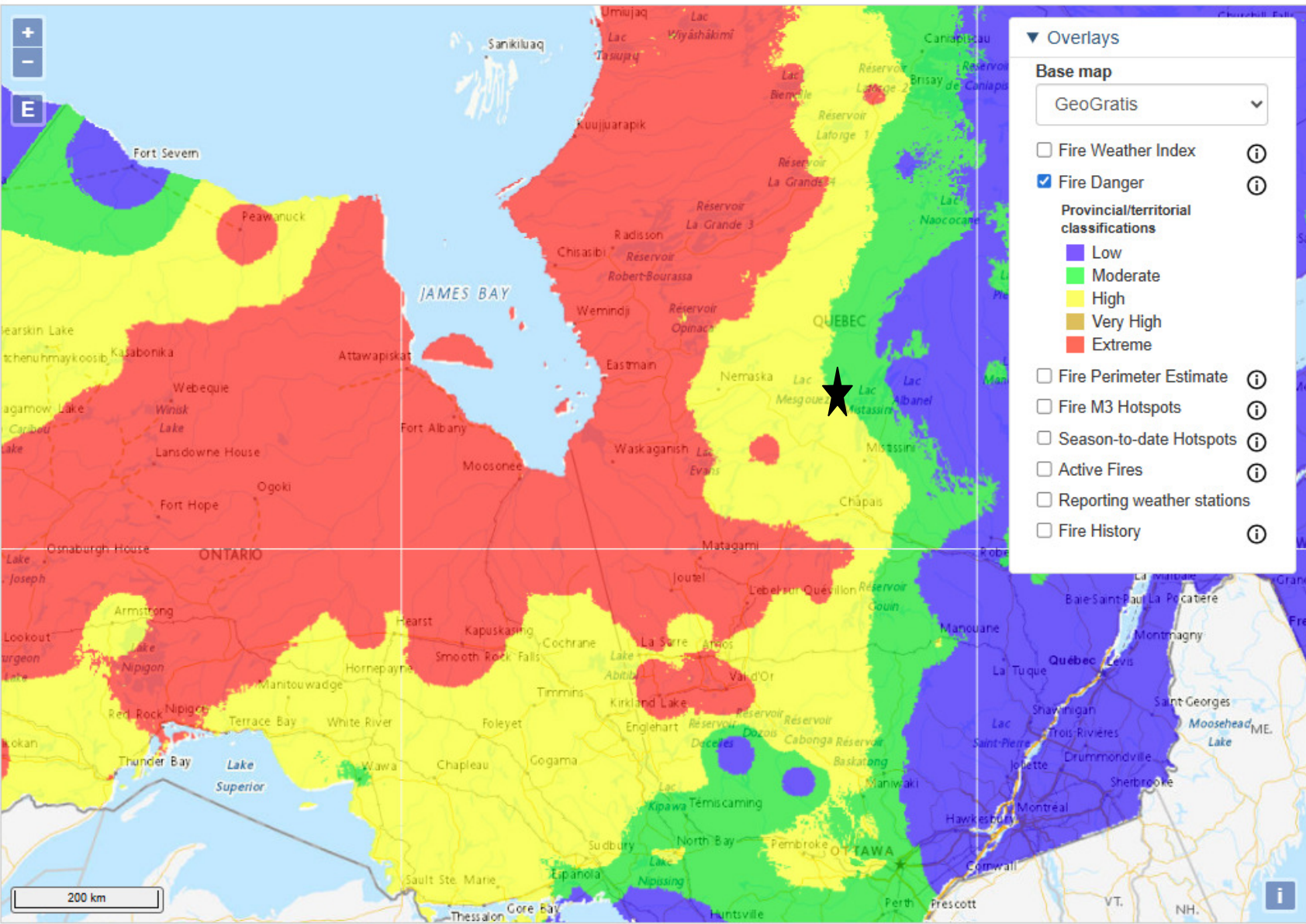
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Troilus Mining Project ★

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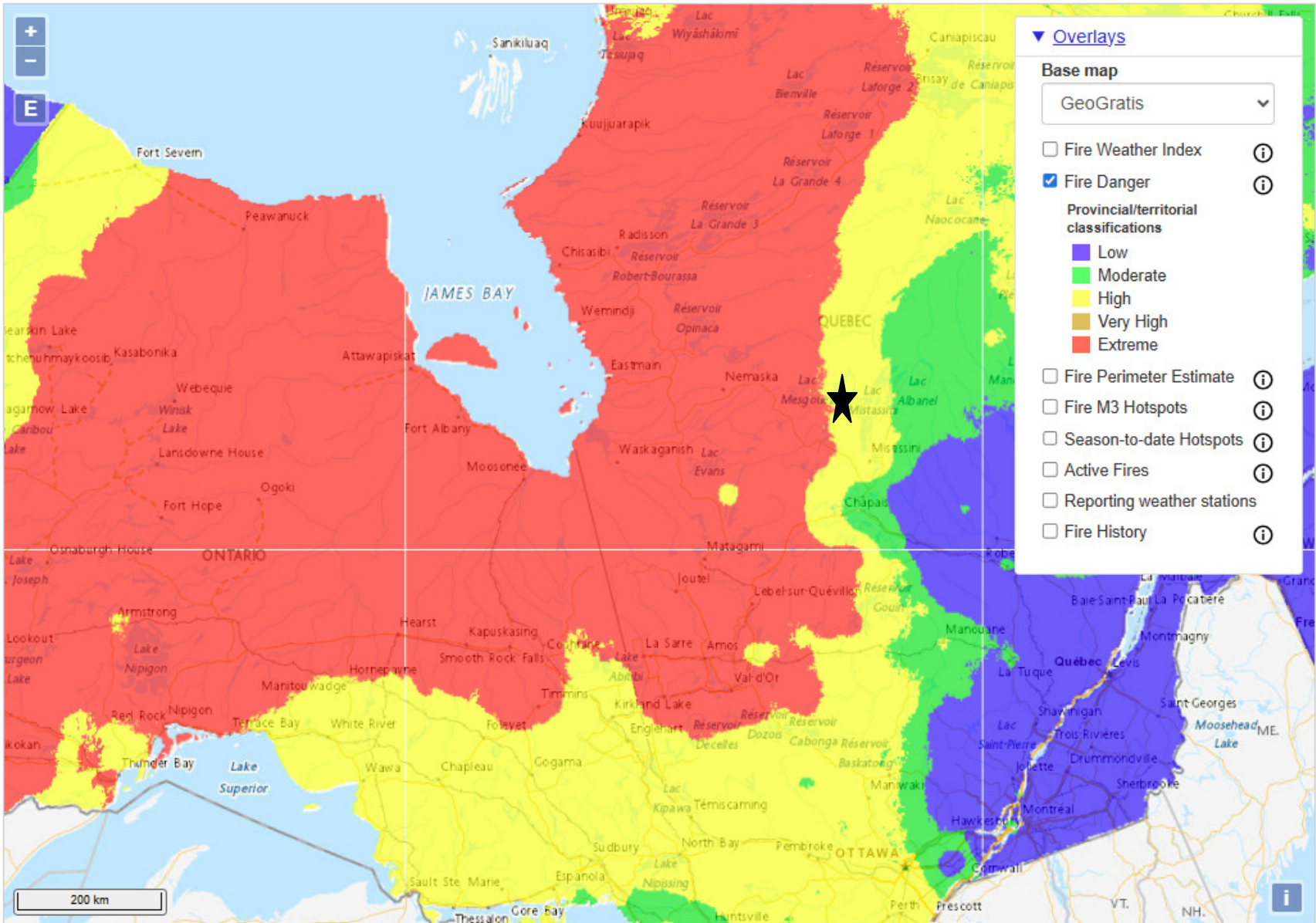
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Troilus Mining Project ★

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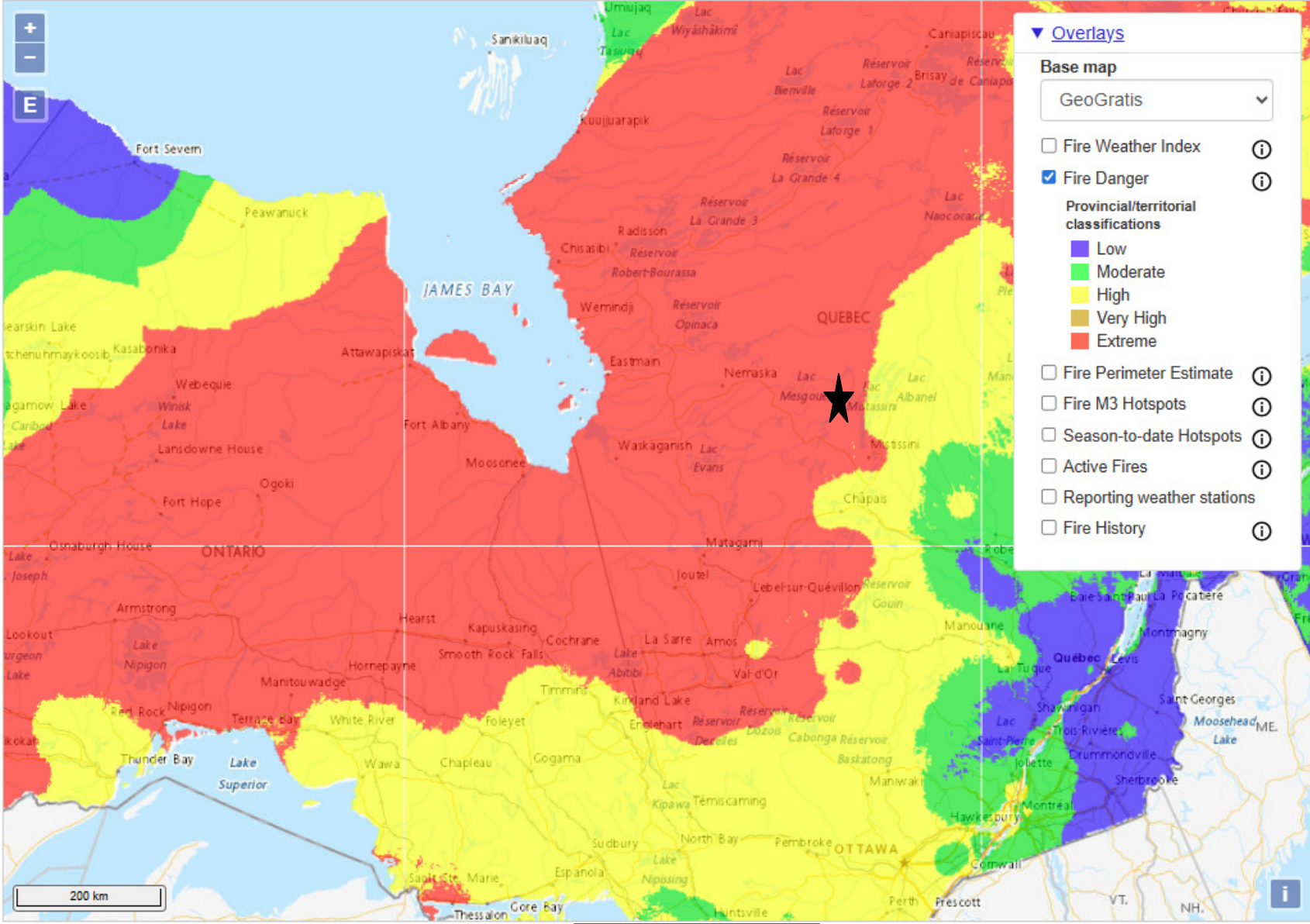
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Troilus Mining Project ★

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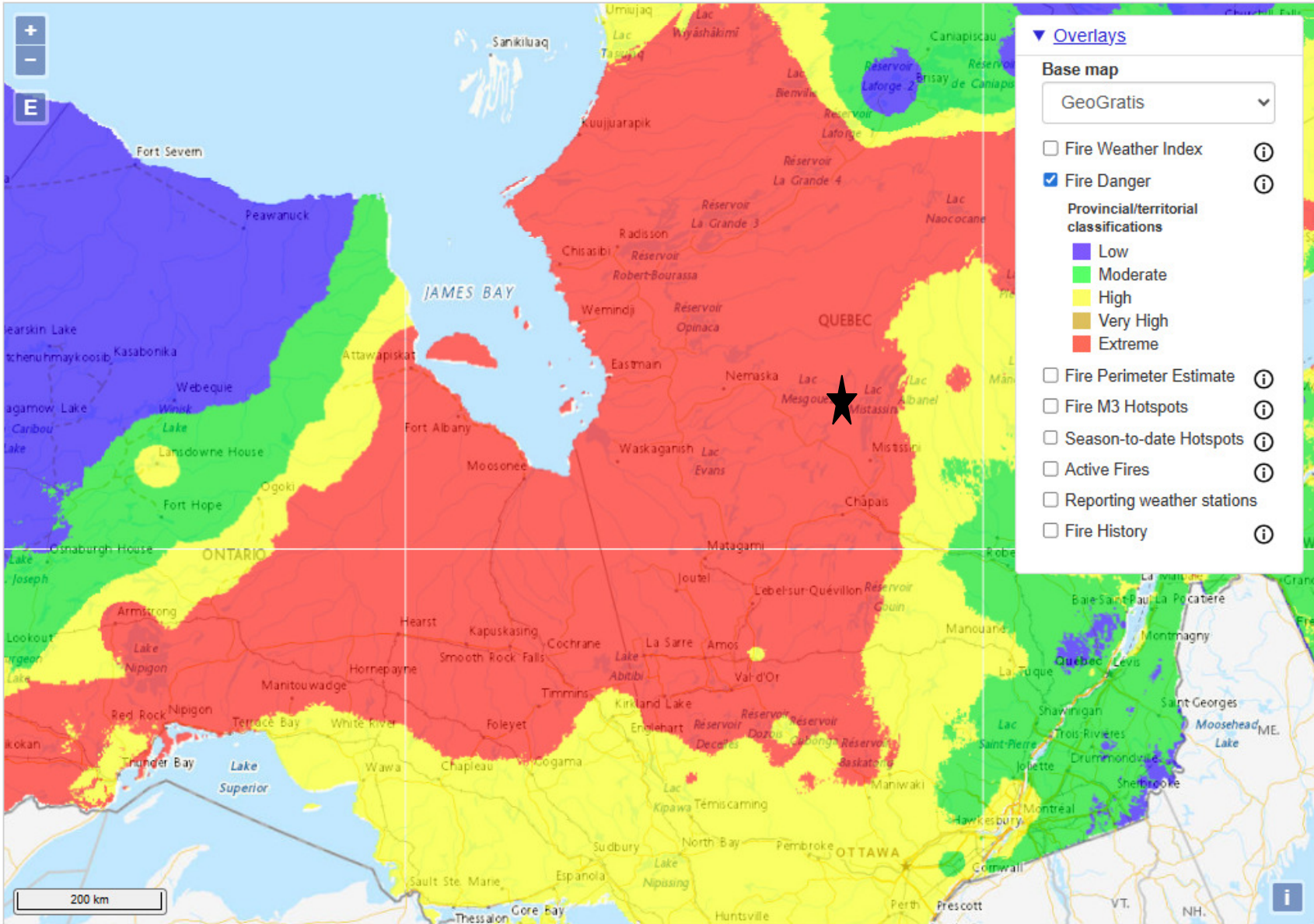
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Troilus Mining Project ★

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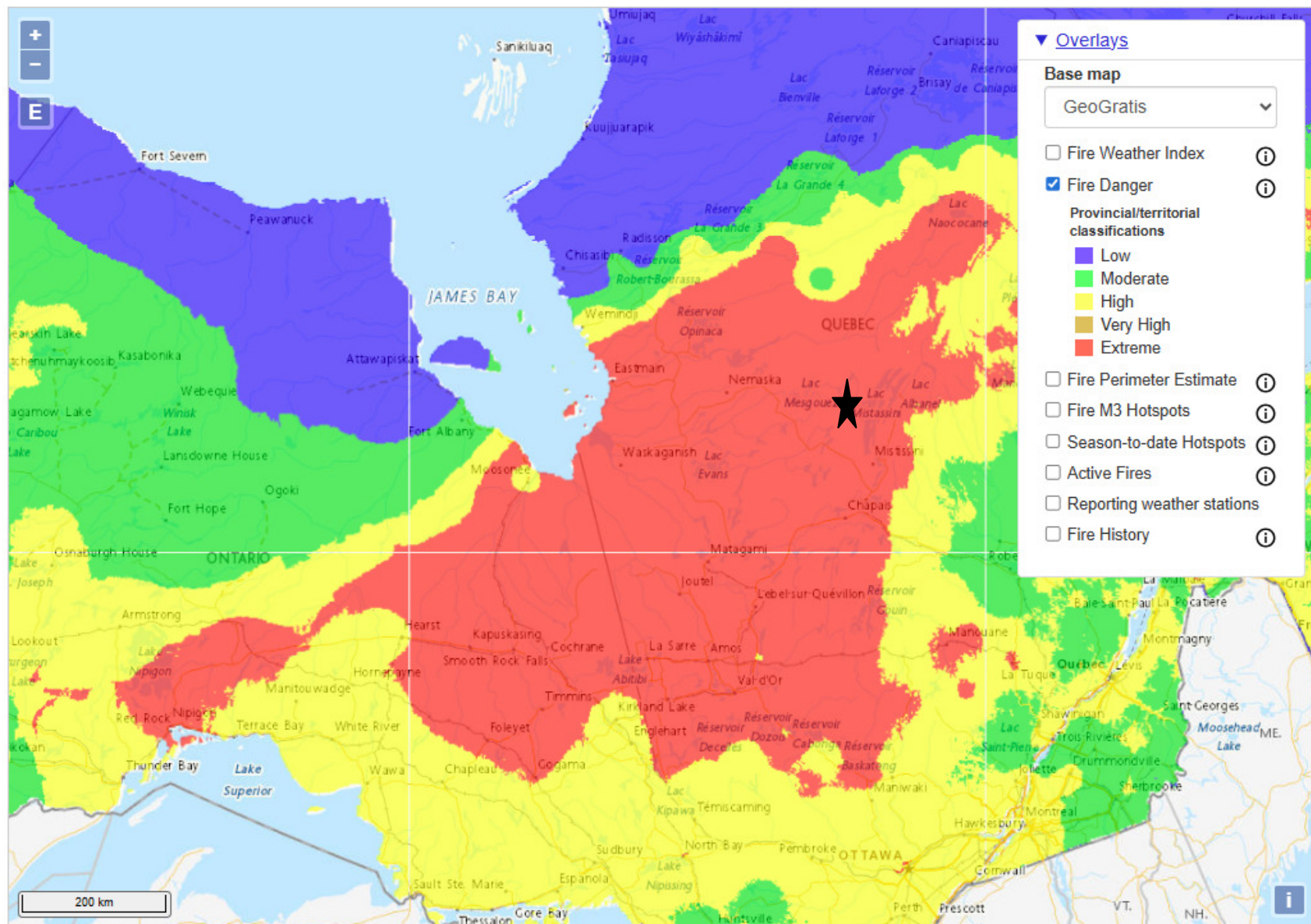
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Troilus Mining Project ★

June 23 2023 Retrieve Map

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Troilus Mining Project ★

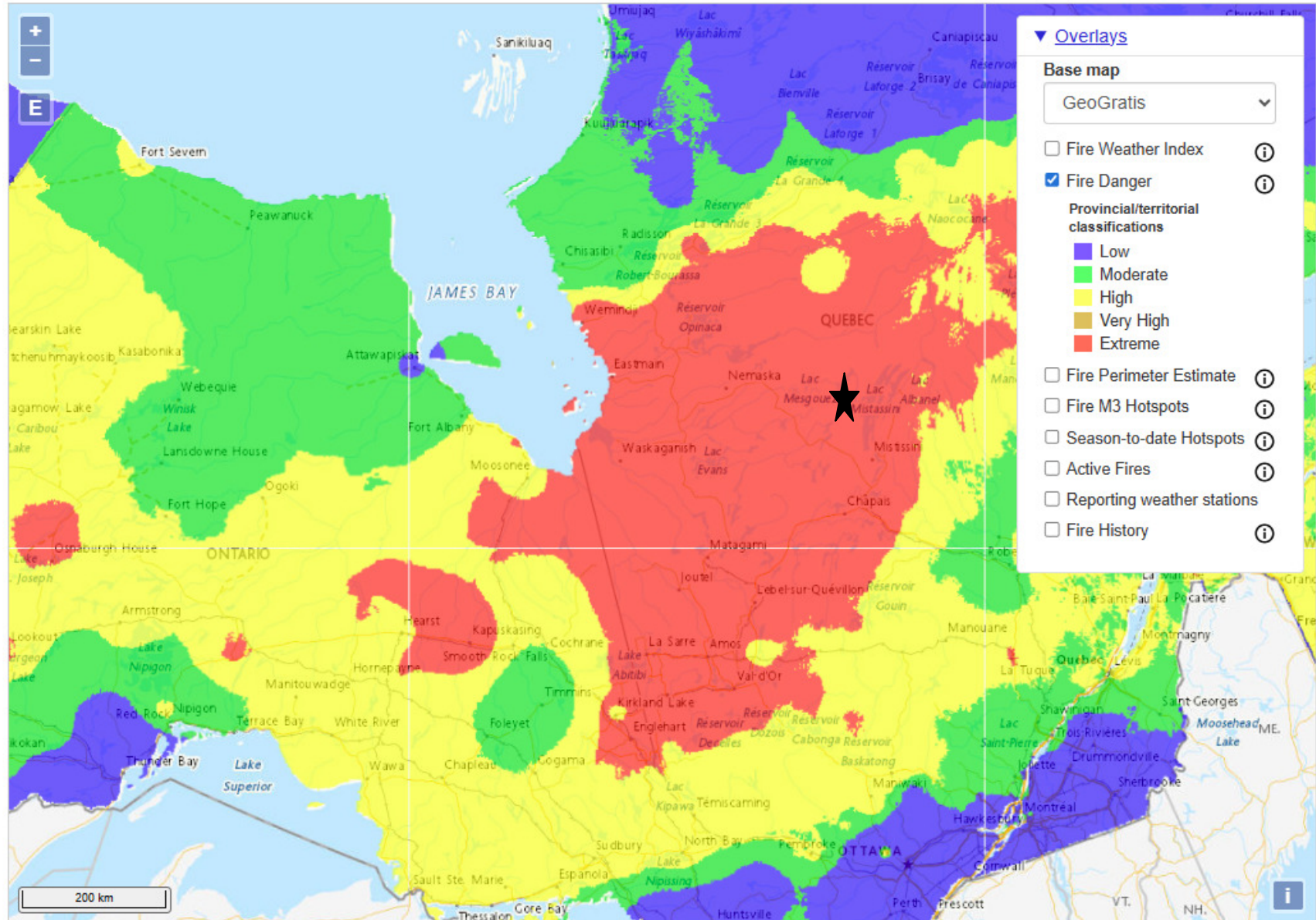
June

24

2023

Retrieve Map

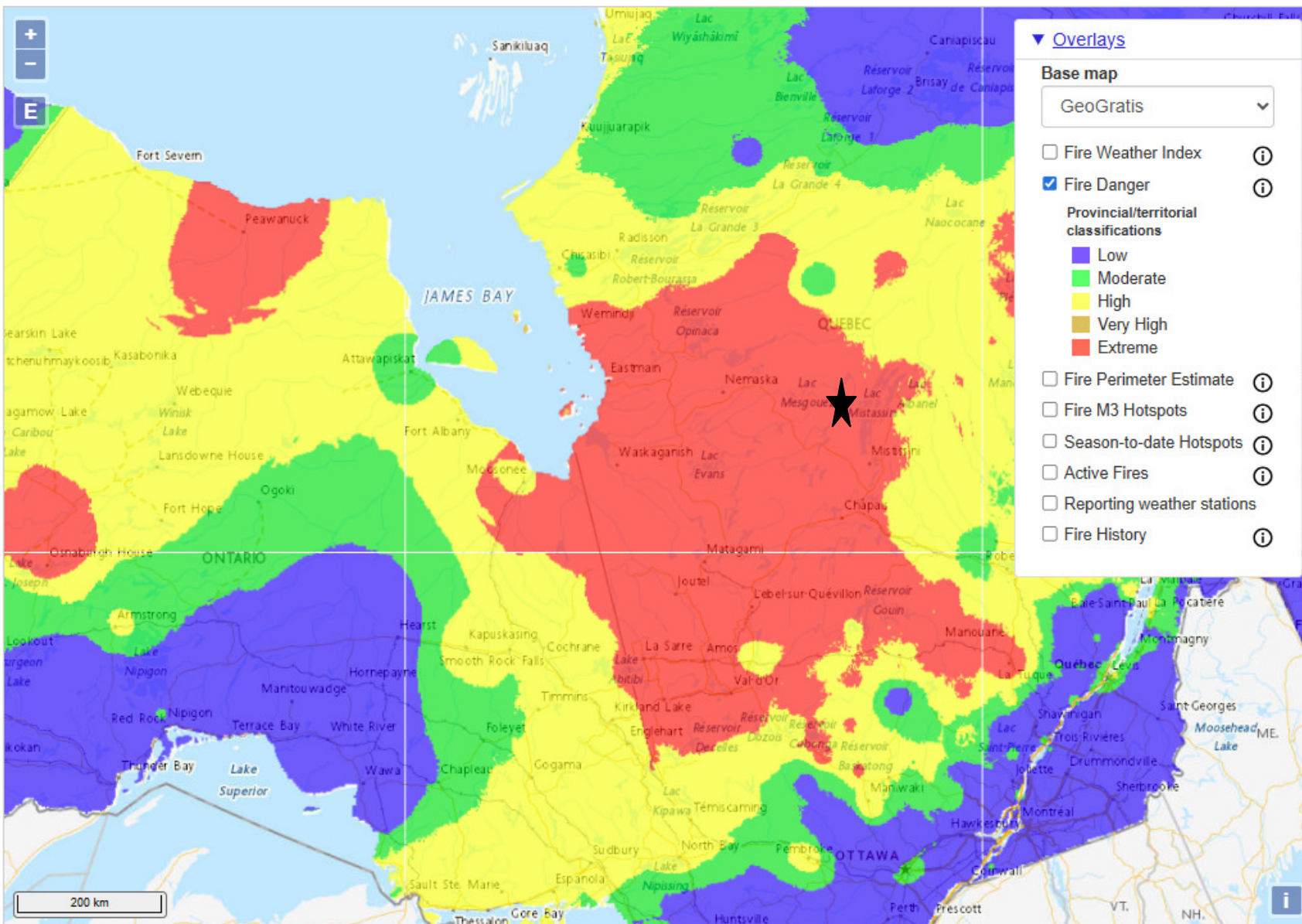
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Troilus Mining Project ★

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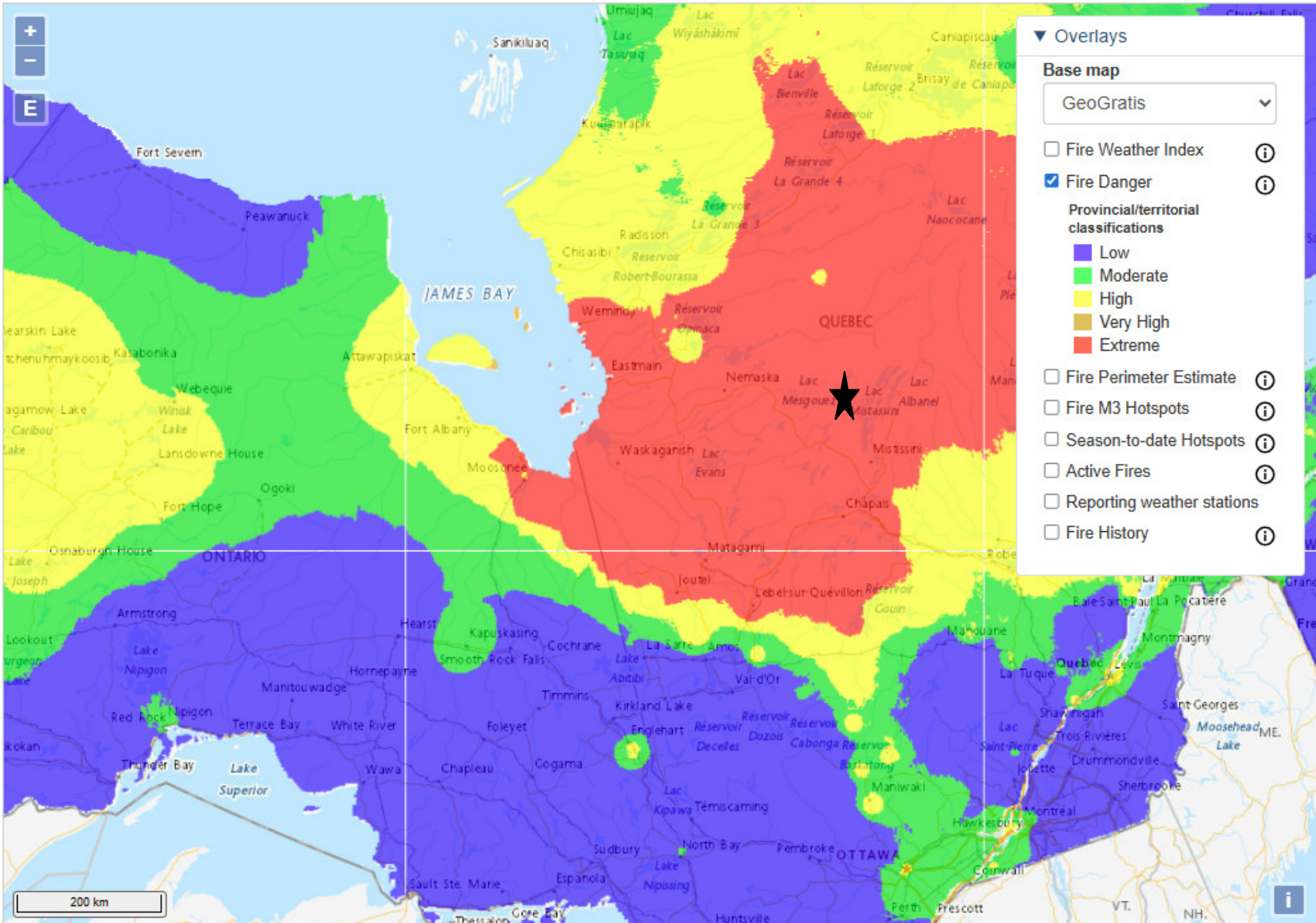
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Troilus Mining Project ★

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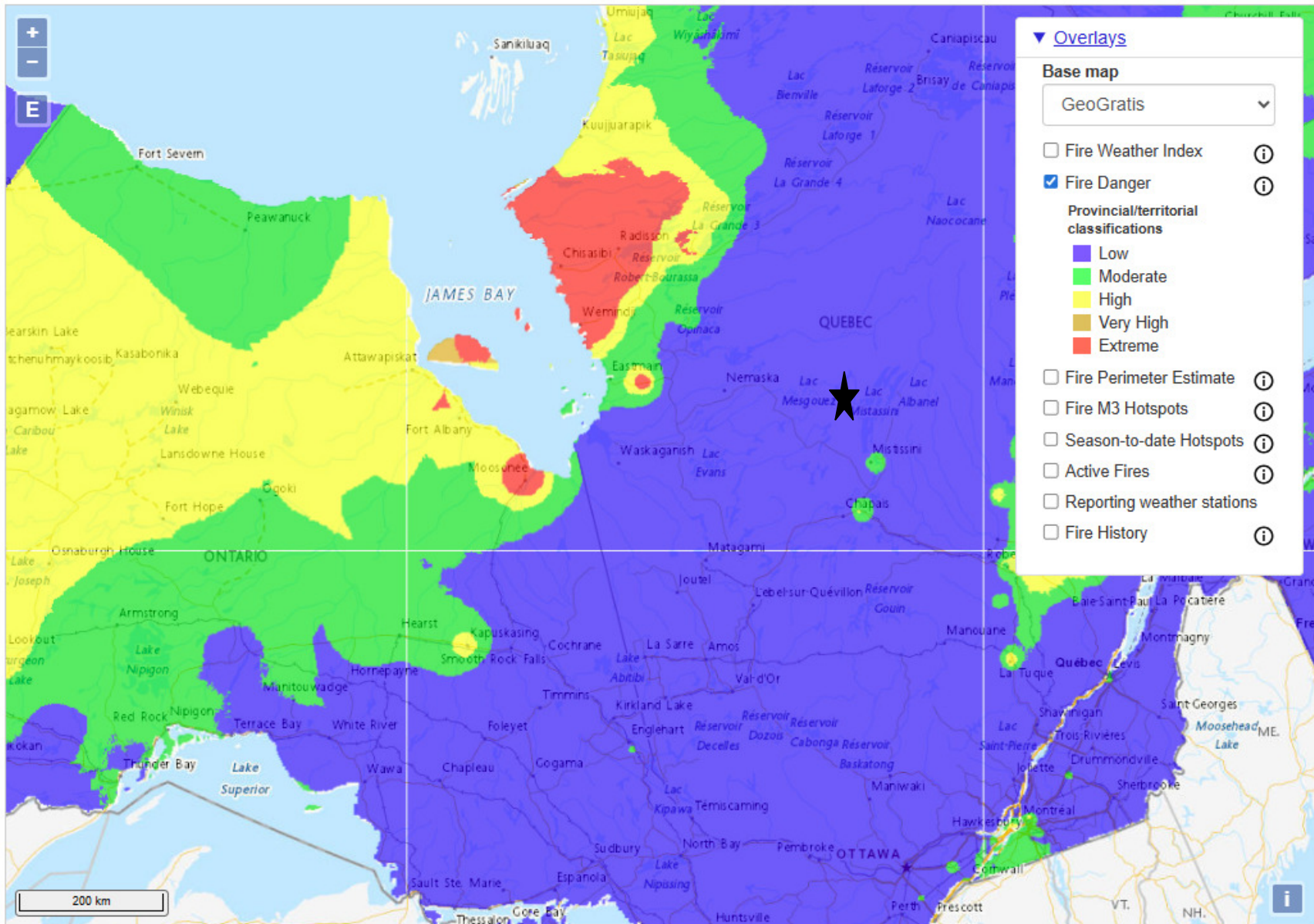
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Troilus Mining Project ★

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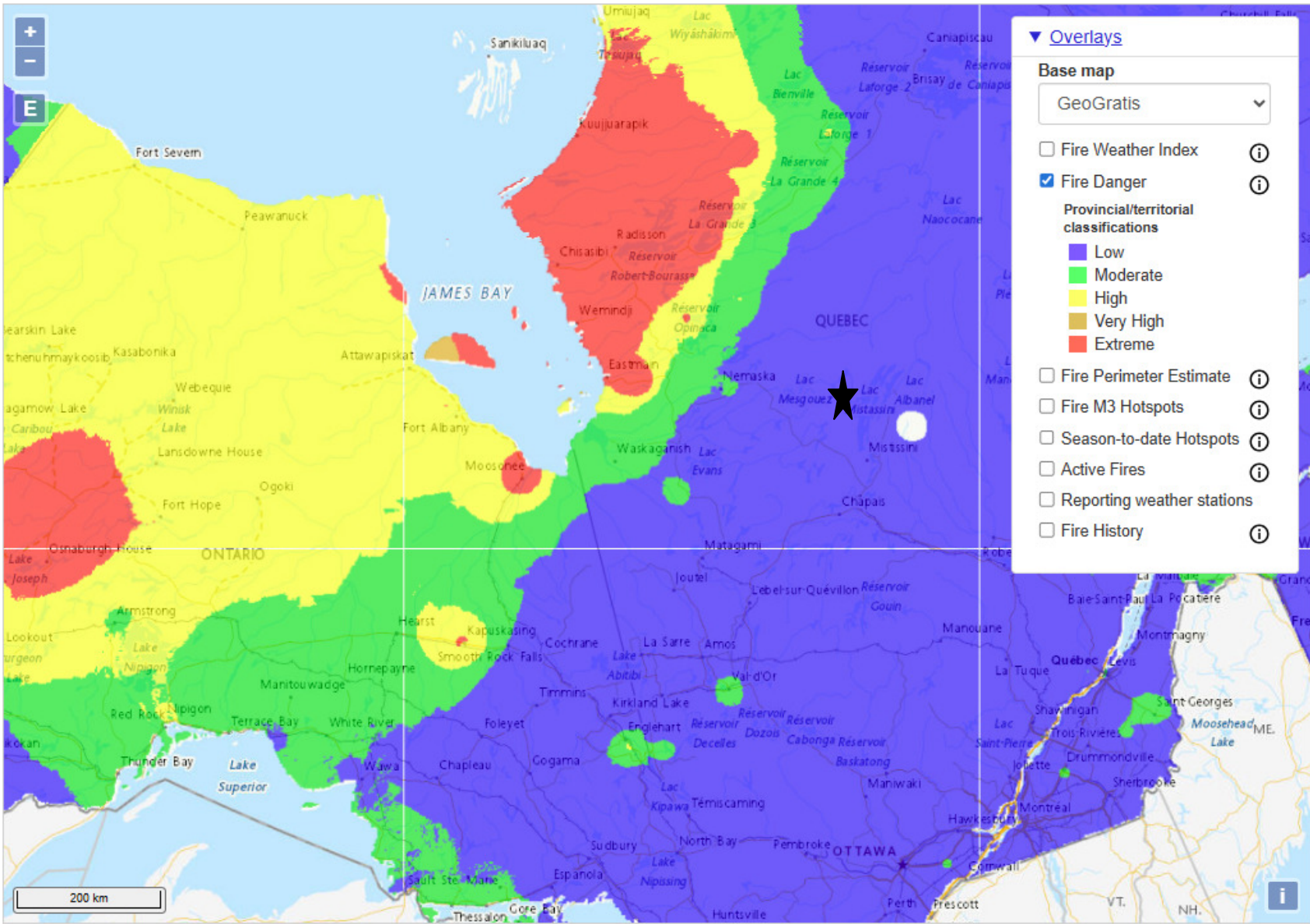
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Troilus Mining Project ★

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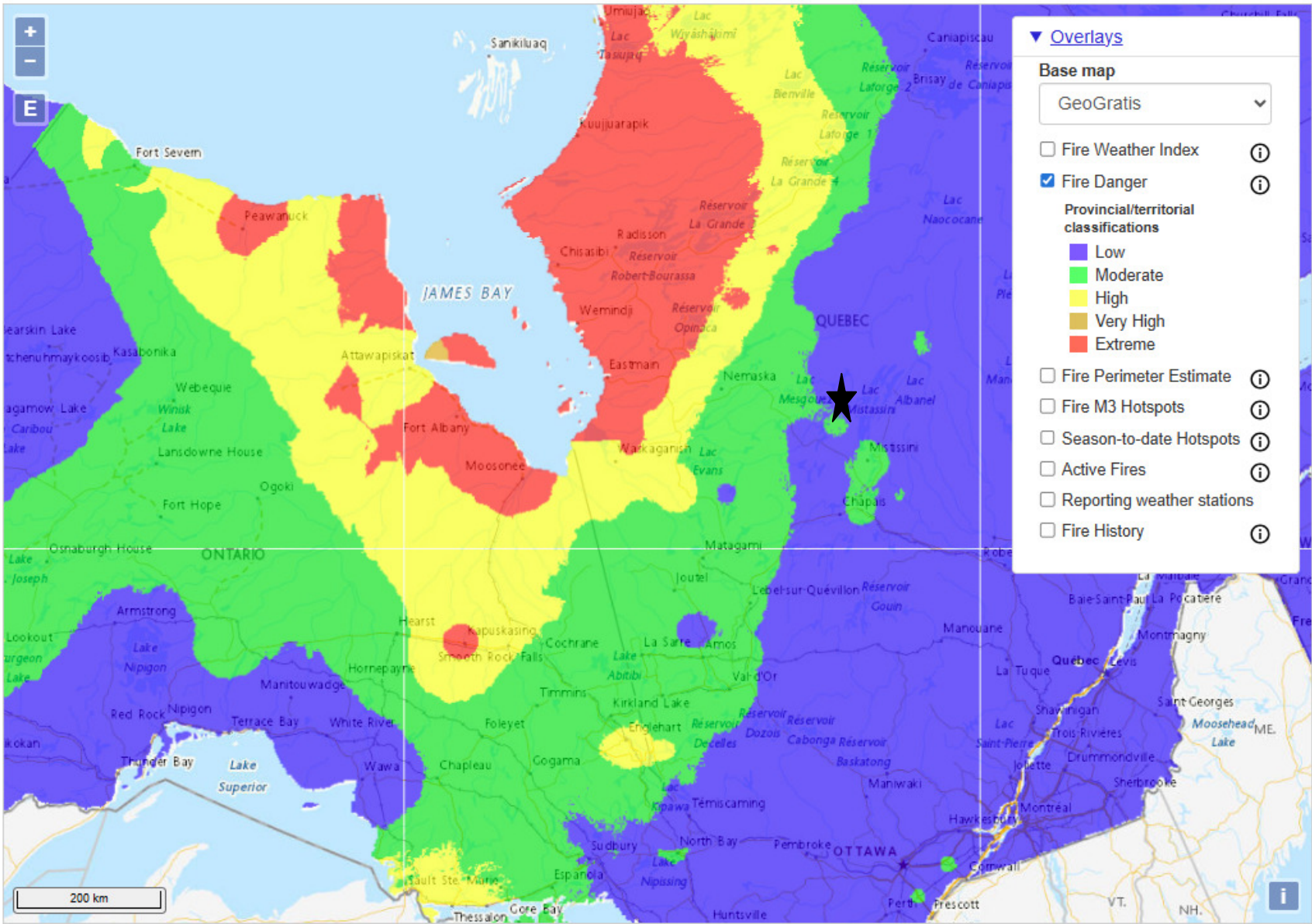
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Troilus Mining Project ★

June 29 2023 Retrieve Map

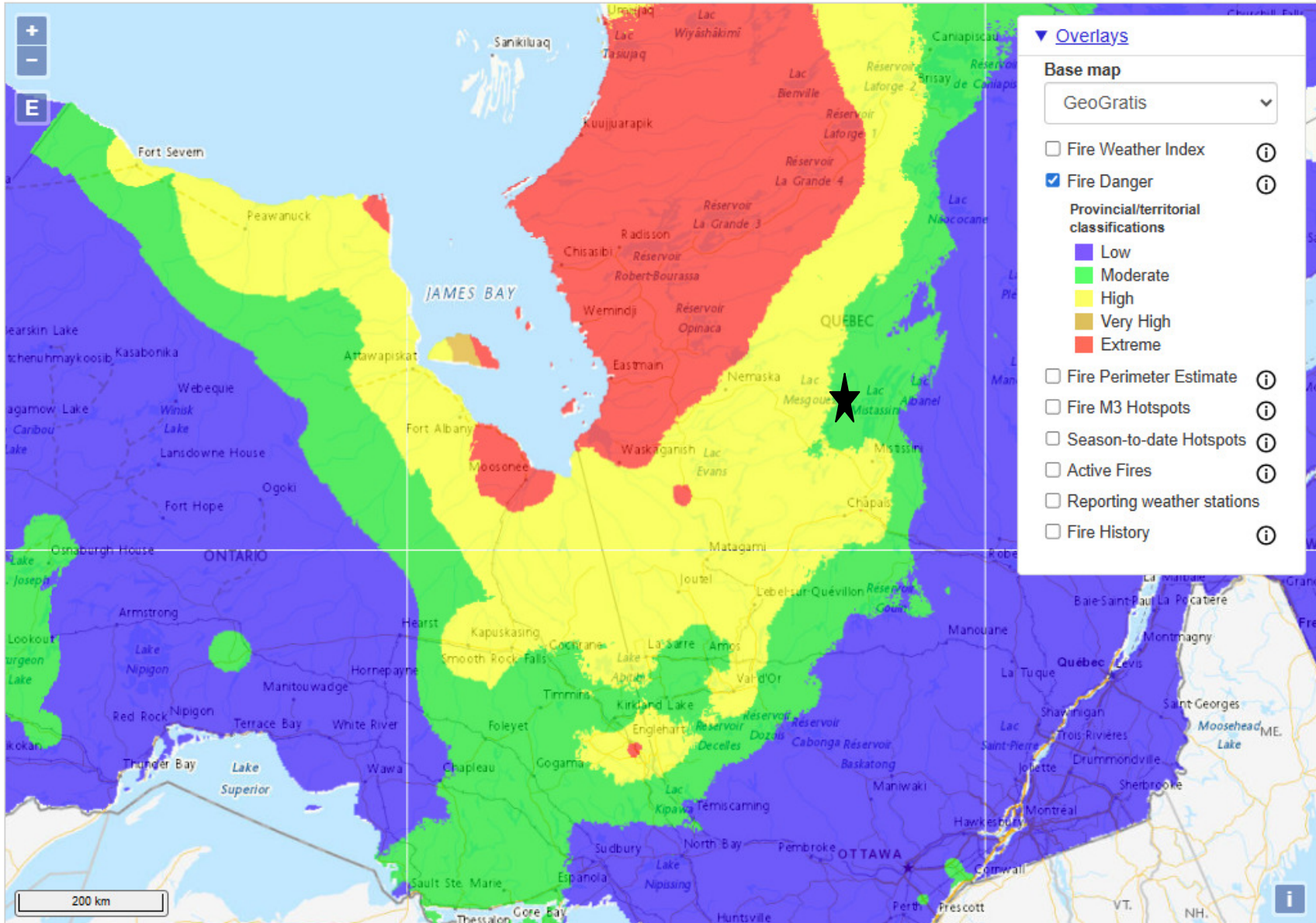
« Previous day : Today : Next day »



Troilus Mining Project ★

June 30 2023 Retrieve Map

« Previous day : Today : Next day »



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