2023 Canadian Wildfire Season Case Study

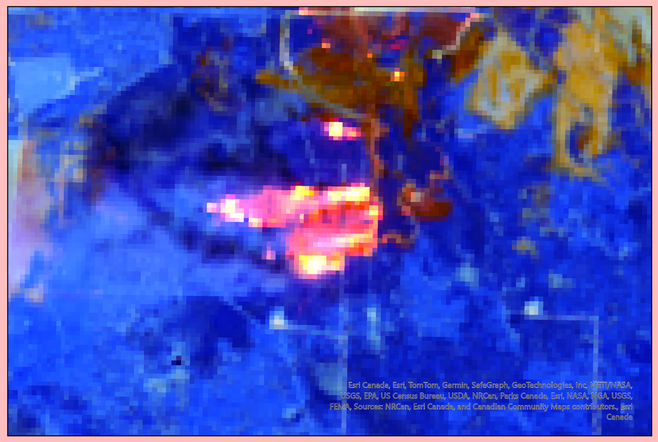
Area of Interest

Source:
Landsat, USGS, Catalyst, ESRI, Earth Explorer

Datum: WGS84
Projection: UTM Zone 11N

Platform: Landsat 8
Scene Path/Row:
WRS-2

Acquisition Date:
June 8th, 2023

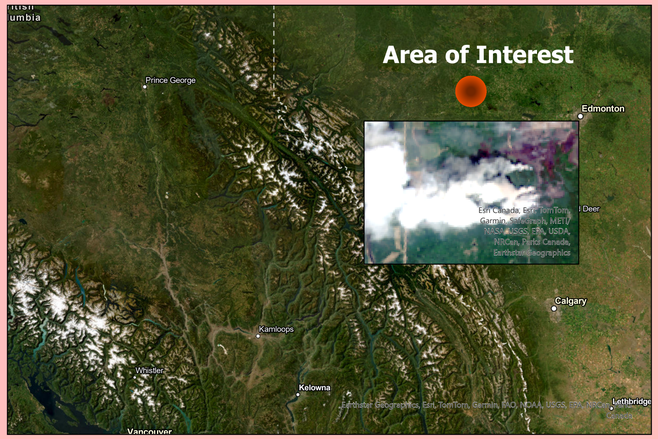


Standard Enhancement (Bands: 7,6,5)

The 2023 Canadian wildfire season was one of the most devastating ones yet. Using Landsat 8 satellite imagery taken from the USGS Explorer, standard and custom enhancements have been made to "see through" the smoke in order to analyze the size and ignition points of the wildfires in Yellowhead County, Alberta approximately 200km outside of the urban centre of Edmonton.

Bands 7,6,5 are used to penetrate the atmosphere to distinguish between active fires, burned areas, and vegetation. Active fires are yellow and red or pink, brown areas are bare or burned lands, beige patches are cleared or agricultural lands and healthy vegetation is blue.

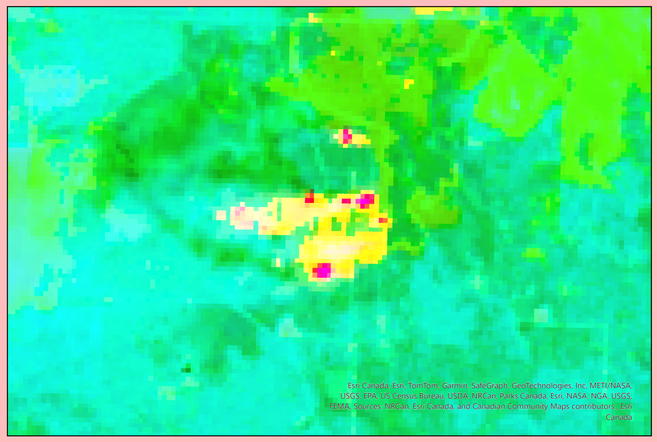
Further enhancements were made highlighting wildfire temperature differences. The red band was manipulated to enhanced contrast in light and dark tones while the green band now shows greater detail in dark regions. The pink zones inside the yellow areas are the hottest areas of the fire known as ignition points. Studying these areas is instrumental for wildfire mitigation strategies.



Inset map of northern Alberta

Disclaimer: This map is produced by Enrie Sala as a portion of the requirements of the GIS Certificate program at the Centre of Geographic Sciences, NSCC, Lawrencetown, Nova Scotia.

This project is unedited, unverified, and intended for education purposes only.



Custom Enhancement (Bands: 7,6,5)