



Earth



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Wildfire in Fort McMurray, Alberta, Canada

On May 1, 2016, a wildfire began southwest of Fort McMurray, Alberta, Canada. On May 3, it swept through the community, destroying approximately 2,400 homes and buildings and forcing the largest wildfire evacuation in Albertan history. By May 19, the wildfire had moved into Alberta's neighboring province of Saskatchewan. It may become the costliest disaster in Canadian history.

Historic Wildfires in Canada

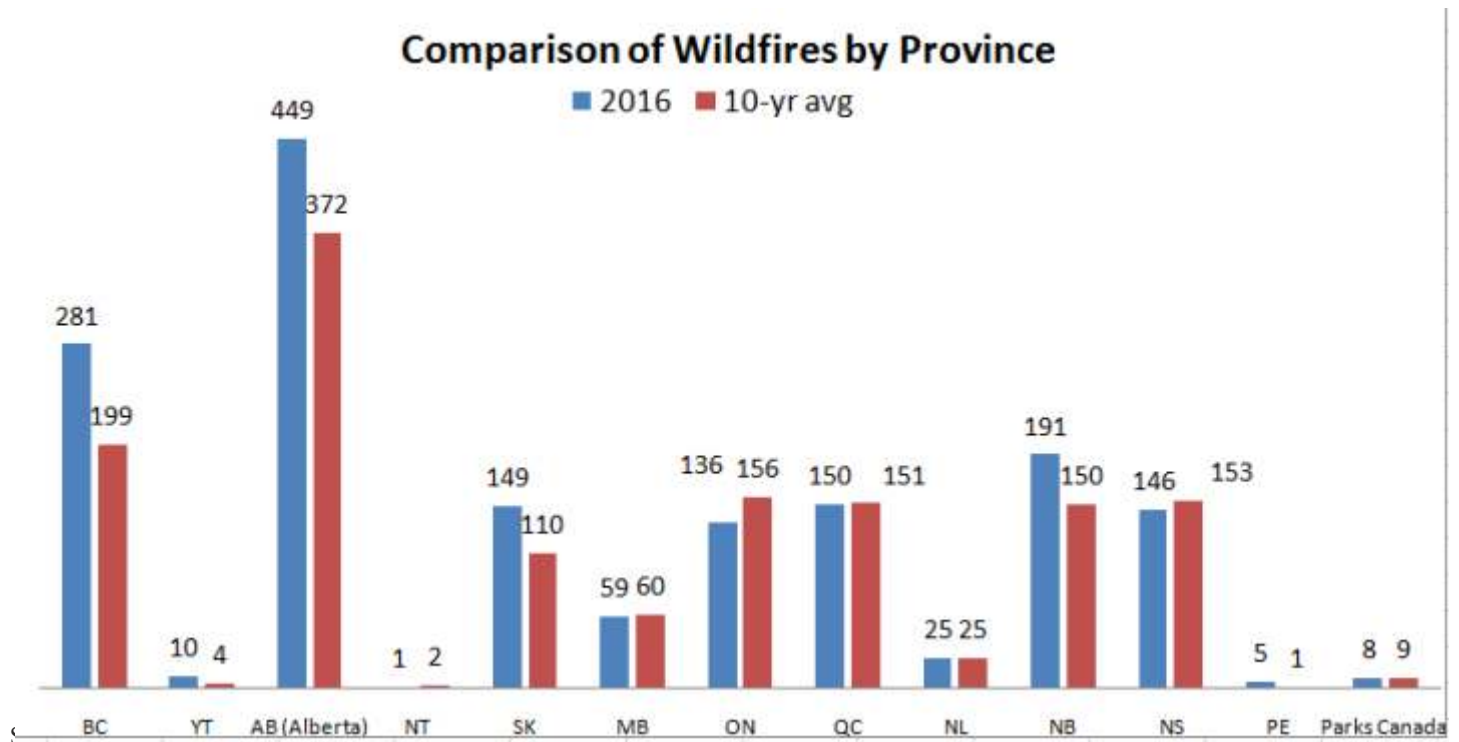
Table below shows historic wildfires occurred in various states in Canada.

Sr. No.	Name of Event	Place	Year	Damage	Area Affected
1	1825 Miramichi Fires	New Brunswick, Lower Canada	1825		More than 1,000,000 hectares
2	Saguenay Fire	Lac-Saint-Jean, Quebec (United Province of Canada)	1870		15,000 hectares (37,000 acres)
3	Black Tuesday	Cochrane, Porquis, Goldlands, South Porcupine and parts of Timmins, Ontario	1911		200,000 hectares
4	Matheson Fire	Black River-Matheson	1916		500,000 hectares
5	The Great Fire	Saskatchewan and eastern Alberta including Lac La Biche, Alberta	1919	Around CAD 200,000	2.8 million hectares
6	Great Fire of 1922	Timiskaming District, Ontario	1922	CAD 2,000,000	168,000 hectares (420,000 acres)
7	Chinchaga fire	Northern British Columbia and Alberta	1950		1,400,000 to 1,700,000 hectares
8	The Manitoba Fires	Over 1,200 fires throughout Manitoba	1989		More than 2.5 million hectares
9	Okanagan Mountain Park Fire	Central Okanagan, British Columbia, Southwestern Alberta	2003	CAD 33.8 Million	25,912 hectares (64,030 acres)
10	West Kelowna Wildfires	West Kelowna, British Columbia	2009	CAD 403 million	9,877 hectares (24,410 acres)
11	2011 Slave Lake wildfire	Slave Lake, Alberta	2011	Insured losses of CAD 750 million	4,700 hectares (12,000 acres)
12	2016 Fort McMurray wildfire	Fort McMurray	2016	Initial Insured Loss: CAD 4.4 - 9 billion (USD 3.4 - 6.9 billion)	525,390 hectares (522,894 hectares in Alberta; 2,496 hectares in Saskatchewan)

Source: *Natural Resource Canada*

A wildfire may start naturally due to extreme heat and dry weather or by mistake and by arson.

Chart 1 below shows comparison of wildfires.



Provinces in Western Canada have experienced more wildfires this year than the average of fires occurred in past 10 years.

Is El Nino the reason?

According to scientists of Natural Resources Canada, an El Nino in the Pacific disrupted weather patterns to bring northern Alberta a dry fall and very little snow throughout the winter. A mild winter in Canada saw the fire season start some four weeks earlier than usual and helped created the tinder-dry conditions. Then, in the last week, record temperatures along with dry air and winds added to the tinderbox environment. Scientists observed similar phenomenon during the 1997-98 El Nino.

The scientists also think the Amount of Day Light be a reason for the wildfires. In Fort McMurray, more than 500 miles north of the U.S. border, it starts getting light at around 4:45 a.m. and does not get dark till 10 p.m. With the sun in the sky longer, temperatures stay higher for more hours of the day and it keeps the air dry.

The area around the oil town of Fort McMurray, worst hit by the fire, gets most of its rain in the summer months, so snow is important to give the ground a drink in spring when it melts off.

Impact of Wildfire

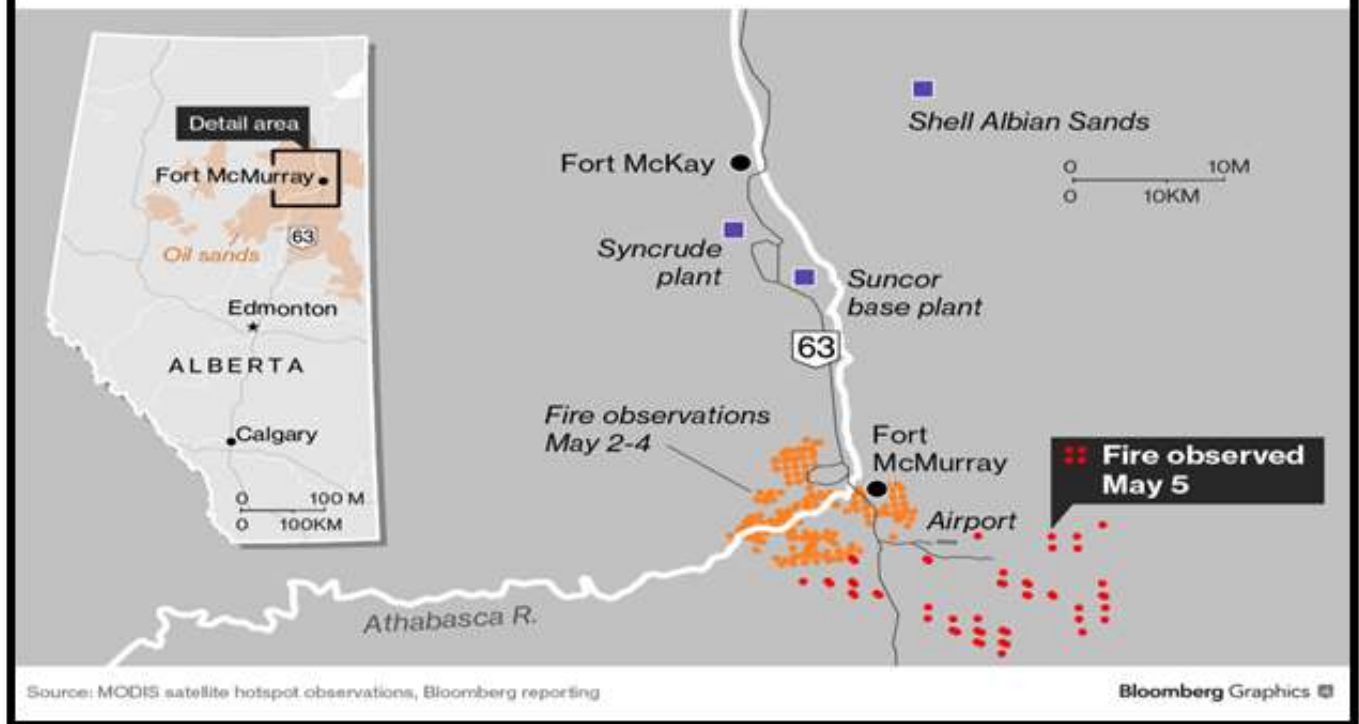
As on Monday May 23, 2016 9:45 p.m. UTC, the blaze covered 522,894 hectares (1.29 million acres) in state of Alberta and 2,496 hectares (6,167 acres) in state of Saskatchewan. A total of 16 wildfires are burning, with one out of control.

On Tuesday May 17, the wildfires burnt a 655-room lodge for oil sands workers about 35 km (20 miles) north of Fort McMurray and threatened other housing.

The Alberta oil sands have the third-largest reserves of oil in the world behind Saudi Arabia and Venezuela. The wildfire was taking a toll on the province's economy, with one study estimating the lost oil production would cut gross domestic product (GDP) by more than CAD 70 million a day.

Alberta Fire Forces Evacuation

Oil sands operators are reducing production as the Fort McMurray wildfire spreads.



Fires observed during first week of May. Source: *Bloomberg*

According to cat modeling firm AIR, initial industry insured losses from the Fort McMurray wildfire is estimated at CAD 4.4 billion to CAD 9 billion (USD 3.4 - 6.9 billion). These figures include losses to Insured physical damage to property (residential, commercial), both structures and their contents, auto as well as direct business interruption losses (except for those related to the oil industry). However, as the fires are still not controlled, the insured losses might be higher.

Fort McMurray Fire Sends Up Huge Column of Smoke on May 17, 2016. Source: *NASA*

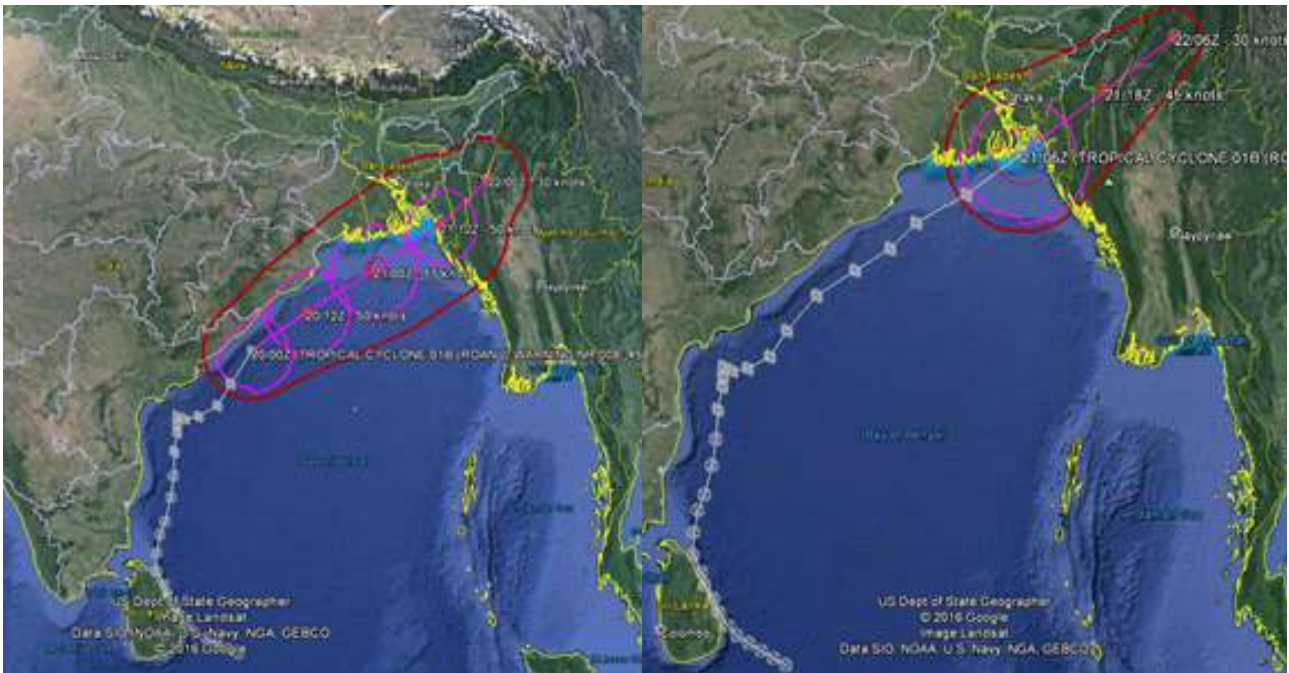


Source: *BBC, Bloomberg, Edmonton Journal, Natural Resources Canada, Reuters, and the Telegraph*

Cyclone Roanu becomes the first event of 2016 North Indian Ocean Cyclone Season

Roanu, name of cyclone suggested by the Maldives, is the first event of the annual cyclone season. It originated from a low-pressure area that formed south of Sri Lanka on May 14. It gradually drifted north and intensified into a cyclonic storm* by May 19 and Indian Meteorological Department (IMD) named it Roanu. It continued to travel towards North- Northeast. On May 21, Roanu made landfall near Chittagong, Bangladesh and kept moving inland. It steadily weakened and degenerated into a remnant low on May 22, 2016.

Pictures below show tracks of Cyclone Roanu as at 8:30 a.m. on May 20, 2016 and 2:30 p.m. on May 21, 2016.



Track of Cyclonic Storm Roanu as at 8:30 a.m. May 20, 2016. Source: JTWC

Track of Cyclonic Storm Roanu as at 2:30 p.m. May 21, 2016. Source: JTWC

It brought unexpected heavy rainfall in Sri Lanka and states of Tamil Nadu and Andhra Pradesh in India. In Sri Lanka, 58 people died because of the floods and landslides triggered by the 3 days of incessant in week starting from May 16.

Parts of Tamil Nadu including the capital city Chennai received heavy rains on May 17-18. Chennai experienced 11.7cm of rainfall as on May 18, which is the highest it received in month of May in last two decades. Roanu made landfall in Bangladesh at 6:00 a.m. UTC on May 22, 2016, causing floods, landslides and submerging homes. Southern Chittagong district was worst hit. Half a million people were evacuated.

Source: IMD, BBC, CNN, Deccan Chronicle

*Classification of Cyclones

Cyclone Category	Windspeed (Knots)		Windspeed kilometers/hour (kmph)		Condition of Sea	Wave Height (meter)
Depression	17	27	31	50	Moderate to rough	1.25-4.0
Deep Depression	28	33	52	61	Very Rough	4.0-6.0
Cyclonic Storm	34	47	62	88	High	6.0-9.0
Severe Cyclonic Storm	48	63	89	118	Very High	9.0-14.0
Very Severe Cyclonic Storm	64	89	119	166	Phenomenal	Over 14.0
Extremely Severe Cyclonic Storm	90	119	167	221	Phenomenal	Over 14.0
Super Cyclonic Storm	Above 120 knots		222 KMPH and above		Phenomenal	Over 14.0

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