Historical wildfire data dictionary

2006–2023

Alberta

Contents

Introduction

The information in this dictionary relates to the historical wildfire database for Alberta generated between 2006 and 2021.

Wildfires have a point of origin inside the Forest Protection Area (FPA) – either provincial lands or federal lands covered by agreement with the province.

Fires having a point of origin outside the FPA are referred to as Mutual Aid (MA) fires are not covered by this dictionary.

Data Dictionary

1. field name: fire_year

The wildfire year runs from 00:00 hours on April 1 until 23:59 hours on March 31. The fire year is named for the year in which April 1 falls. For example, the 2013 fire year begins April 1, 2013 and ends March 31, 2014.

2. field name: fire_number

Ex: CWF001

The first letter of the wildfire number indicates the forest area in which the ignition area is located.

C–Calgary

E–Edson

H–High Level

G–Grande Prairie

L–Lac La Biche

M–Fort McMurray

P–Peace River

R–Rocky

S–Slave Lake

W–Whitecourt

WF indicates that this is a wildfire.

Three digits (with leading zeros) number wildfires consecutively within each forest area starting April 1 and terminating March 31 of each year.

Wildfire numbers are assigned based on the ignition area and do not change if the wildfire crosses the Forest Protection Area or provincial boundaries. For example, a wildfire starting in the Forest Protection Area burns into the non-protection area – numbered as an Area wildfire. A wildfire that starts in the border zone agreement area and burns back into the province is assigned a border zone number.

Wildfire numbers that are assigned in error or turn out not to be a valid wildfire are to be reused so may show out of date sequence.

3. **field name: fire_name**

 Wildfires of provincial significance are assigned a geographic name for ease of recognition. For example: Mosquito Lake Fire.

If the wildfire is part of a wildfire complex, the complex name would be recorded here. For example: Burnt Hill Complex

If both names have been assigned to a wildfire they are recorded as fire name then complex name. For example: Mosquito Lake Fire Burnt Hill Complex.

4. **field name: current_size**

This is the final area burned of the wildfire. This size will not necessarily match the sizes from the fire status fields. If an updated size is determined after a wildfire has already been extinguished, the revised size is recorded in the Area Burned field of FIRES and the extinguished size recorded on the fire status line will not change.

Wildfires that have had aerial photography flown will generally not have the area burned updated until the following spring when the interpolation is complete. This interpolation includes removal of waterbodies, unburnt islands and man-made infrastructure.

5. **field name: size_class:**

This is a grouping of wildfires into classes based on final area burned. Size class can change as the wildfire grows until the final area burned is determined after extinguishment.

The breakdown is as follows:

A class = 0 to 0.1 ha

B class > 0.1 ha to 4.0 ha

C class > 4.0 ha to 40.0 ha

D class > 40.0 ha to 200 ha

E class > 200 ha

6. **field name: fire_location_latitude**
7. **field name: fire_location_longitude**

Location of the ignition area of the wildfire recorded as a GPS (recorded as decimal degrees (DD).

The location is originally captured during the assessment but may be further investigated as the wildfire progresses. The final location is the confirmed ignition area of the wildfire.

8. **field name: fire_origin**

This indicates who owns or administers the land the wildfire is burning on. If the wildfire covers more than one origin, this will be the land where the ignition area of the wildfire is.

Provincial	Private	Indian Reserve
Provincial Park	Daprtment of National Defence	Metis Settlement

9. **field name: general_cause_description**

Classification of the wildfire cause according to the general group, individual industry or ignition source (for lightning) that started the wildfire.

For wildfires that are currently being investigated, the temporary general cause of UNDER INVESTIGATION is used.

AGRICULTURE INDUSTRY: A wildfire resulting from an agricultural or farming activity performed by either people or machines (livestock or crop).

This general cause was introduced in 2012. For 2011 and earlier wildfires, Agriculture Industry was captured under the Resident cause.

FOREST INDUSTRY: A wildfire caused by people or machines used in any activity associated with forest fiber production. This category includes pulp mills, sawmills and plywood/panel/post operations related to resource industry inspection, surveying, protection, scaling, silviculture, etc.

GOVERNMENT: A wildfire started by employees, agents or contractors of the government. Mountain pine beetle control burns that become wildfires would fall in this category with the provincial government as the industry identifier. This general cause also requires an industry identification.

This general cause was introduced in 2012. For 2011 and earlier wildfires, Government was captured under the Other Industry cause.

INCENDIARY: A wildfire that has been intentionally ignited in an area or under circumstances where and when there should not be a fire.

LIGHTNING: A wildfire ignited by lightning.

OIL AND GAS INDUSTRY: A wildfire caused by any machine, employee, agent or contractor performing work associated with exploration, construction, production or transmission by an oil and gas company, including oil sands companies.

OTHER INDUSTRY: A wildfire caused by an industry other than power line, oil and gas, forest, agriculture, or railway. This general cause also requires an industry identification.

POWER LINE INDUSTRY: A wildfire caused by any machine, employee, agent or contractor performing work associated with a power line company, any animals or trees interacting with a power line, or any power line hardware or mechanics.

RAILROAD: A wildfire caused by any machine, employee, agent or contractor performing work associated with a railway operation.

RECREATION: A wildfire caused by any person or equipment engaged in a recreation activity (e.g., camper, hunter, fisherman, biker, picnicker, berry picker, etc.). This general cause also requires a responsible group.

RESIDENT: A wildfire resulting from an activity performed by either people or machines on residential land or any wildfire caused by an activity associated with normal living in a forested area (e.g., residence/building

fires, debris burning, smoking, vehicle accidents that cause wildfires, etc.).

| UNDERETERMINED: | A wildfire that has been investigated but the cause cannot be determined. |
| | Upon further evidence or new information, the final cause may be determined and this cause may be updated. |

The wildfire year runs from April 1 – March 31. The fire year is named for the year in which the first of April falls. For example, the 2023 fire year begins April 1, 2023 and ends March 31, 2024.

The assessment date and time determines the fire year in which the wildfire occurred.

10. field name: industry_identifier_desc

Two of the above mentioned general cause categories require further detail through the industry identifier.

Government - identify the branch of government responsible for the wildfire. Options are:

Municipal government	Provincial government	Federal government

Other Industry – identify the industry (other than those with their own general cause) who is responsible for the wildfire. Options are:

Commercial fishery	Mining
Commercial outfitting	trapping
Commercial tourism	Utility (water and gas service)
Commercial transportation	Waste disposal (municipal and indisutry)

11. field name: responsible_group_desc

For the general cause of Recreation, identify the recreational group responsible for causing the wildfire.

- campers (includes day use)
- hunters
- other

12. field name: activity_class

Identifies the specific activity that was going on when the wildfire was started.

Arson	A wildfire set intentionally or recklessly to cause damage by fire or explosion to property.
	This activity class does not require a true cause.
Cooking and Warming	A fire lit for the purpose of cooking or warming. This means by use of campfire, wood stove, smokehouse, sweat lodge or sauna.
Debris Disposal	A wildfire resulting from the disposal of any debris including:

- all brush or other forest cover burned while still "standing", including standing brush burned for the purpose of land clearing,
- piles of brush or timber (whether hand or machine piled),
- slash,
- windrows, and
- grass or stubble (can be standing, mowed or piled).

Flaring Gas	A wildfire caused by the flaring of petroleum and natural gas, or their associated by-products.
OHV Operation	A wildfire caused by an off-highway vehicle (OHV) or by its operator (dirt bikes, quads or track units). For example, embers falling from the exhaust, no spark arrestor, etc.
Operations	A wildfire caused by any construction, maintenance or day-to-day operations conducted by industry or a government agency.
Prescribed Fire	A wildfire caused when a prescribed fire or hazard reduction burn escapes its containment unit boundary and suppression is required, or is thought to be extinguished but flares up (regardless of whether it burns outside the containment unit boundary or not). This activity class does not require a true cause.
Refuse Disposal	A wildfire caused by the disposal of waste/garbage resulting from domestic, industrial, agricultural, or municipal sources, sawmill burners, etc. Fires solely within a municipal refuse site, in which Wildfire Management is required to assist with suppression, are mutual-aid fires not wildfires.
Restart	A restart of a wildfire thought to be previously extinguished. This activity class does not require a true cause.
Structure Fire	A wildfire caused by the spread of a fire to the surrounding forest fuels from a structural facility (e.g., outbuilding, house, oilfield building, temporary residence [not recreational]). This activity class does not require a true cause.
Transportation	A wildfire resulting from the operation of an aircraft or vehicle excluding OHVs (e.g., trucks, cars, buses, camping trailers, motorhomes, rotor wing, fixed-wing).
Unclassified	A wildfire caused by any activity class not classified or listed. Specify in remarks the details of how the wildfire started (e.g., spontaneous combustion, discarded cigarette. For wildfires with a general cause of incendiary, unclassified refers to a wildfire that is purposely lit but not thought to be arson. Beginning in 2018, for wildfires with a general cause of recreation or resident, unclassified is used for wildfires caused by exploding targets and fireworks (with the true cause of incendiary device).

13. field name: true_cause

Identifies the specific reason why the wildfire started.

Animals	A wildfire caused by an animal making contact with a power line.
Burning Substance	A wildfire caused when a burning substance is placed on flammable forest fuels. For example: • hot exhaust or carbon from an OHV, train or heavy equipment, • sparks from a chimney,

- children playing with matches or lighters, and
- cigarette butt.

Friction Spark	A wildfire caused by friction sparks from a vehicle, heavy equipment, farm equipment or train (e.g., grater on gravel road, train, etc.).
Incendiary Device	A wildfire caused by an incendiary device or ammunition (e.g., flares, fireworks, exploding targets, fusees, etc.).
Line Impact	A wildfire caused by any object contacting a power line (e.g., tree, tarp, truck, beaver cuts tree down and tree strikes power line).
Mechanical Failure	A wildfire caused by the failure or malfunction of an engine or mechanical component (e.g., a blown fuse on a power line, a bearing/hotbox on a train).
Unclassified	A wildfire caused by any true cause not classified or listed. Specify the cause in the remarks (e.g., spontaneous combustion, smudge, discarded cigarette).
Unsafe Fire	A wildfire caused by any action or conditions that deemed the burning as unsafe. For example: - an abandoned or unattended fire, - burning without a permit or not following permit conditions, - high hazard, - insufficient buffer/fireguard between fire and forest fuels, - high winds, spotting, extremely dry conditions, - insufficient resources on site, and - a fire that was started during the fire season and was not extinguished.
Vehicle Fire	A wildfire caused by the spread of fire to the surrounding forest fuels from a vehicle fire.
Winter Burning	A wildfire that was lit outside the fire season and was not extinguished.

14. field name: fire_start_date

The time and date the wildfire started.

If the exact time and date is unknown, an estimate is made of the wildfire start time.

Actual start time can be obtained by storm tracking, a witness or statement from the responsible party. Start time for lightning-caused wildfires can be estimated from lightning map data.

15. field name: det_agent

A more specific description of the detection agent that discovered the wildfire.

Lookout (LKT) - two digit code identifying the lookout tower. Click here for provincial lookout list.
Air Patrol (AIR)
RAP – rappel crew
HAC – helitack crew
ASU – unit crew
MD – man up rotor wing
FW – fixed wing patrol
RW – rotor wing patrol

Ground Patrol (GRP)

FRST – forest officer
CREW – wildfire crew
PATR – patrolman
PIND – industry patrol

Unplanned (UNP)

310 – called in on 310 FIRE phone line
GOVT – other government agencies
LFS – other department personnel
PUB – general public
UAA – unplanned department aircraft
UIND – unplanned industry aircraft
UPA – unplanned public aircraft

16. field name: discovered_date

The time the detection agent first discovered the wildfire.

This field is mandatory for all detection agents except unplanned, therefore, this field may be blank on those wildfires.

17. field name: det_agent_type

The general type of detection agent responsible for discovering the wildfire.

LKT – lookout
AIR – air patrol
GRP – ground patrol
UNP - unplanned

18. field name: discovered_size

The size of wildfire when first discovered by the detection agent.

19. field name: reported_date

The time and date the wildfire was first reported to Wildfire Management. This is generally the time the discovery agent calls the Area dispatch.

The report time can be the same as the discovery time.

20. field name: dispatched_resources

The first Wildfire Management resource that started for the wildfire.

21. field name: dispatched_date

The date and time the first Wildfire Management resource was dispatched to the wildfire.

22. field name: start_for_fire_date

The time and date that the first Wildfire Management resource started for the wildfire.

For a rotor wing this would be skids up. For an airtanker group, this would be wheels roll on the birddog aircraft. For a vehicle, it would be the time the vehicle departed the base/compound/home for the wildfire (after the briefing, picking up personnel or loading of equipment if any of these are done after resource was dispatched).

If the discovery agent took initial action on the wildfire, the started for fire time may be the same as the dispatch time.

23. field name: assesment_resource

This is the name (first and last) of the Wildfire Management person who first assessed the wildfire. This assessment could be a quick assessment or the full assessment on the FP41.

The position recorded is the is the position the "assessed by" resource was filling at the time of assessment.

Choose one of the following options to describe the position the "assessed by" resource was filling at the time of the assessment.

Air Attack Officer	Indicates that an airtanker group was the first Wildfire Management resource at the wildfire and the Air Attack Officer provided the assessment.
Initial Action forces	Indicates that a resource was dispatched to do initial action on the wildfire, was the first Wildfire Management resource at the wildfire and that the Crew Leader, Sector Leader, Forest Officer etc. provided the assessment.
	This would still be the choice if a HAC crew assessed the wildfire then moved on to a wildfire of higher priority rather than fighting the original wildfire.
Wildfire Assessor	This indicates a Wildfire Assessor, may or may not be Incident Commander 2 certified, who is on for assessments and was the first Wildfire Management resource at the wildfire and provided the assessment
Other	The "other" category is only to be used to describe situations where the Wildfire Management resource that assessed the fire was not acting in any of the listed positions.

For example:

- a Forest Area Manager who is not an Incident Commander 2 assesses the wildfire
- a patrolman or guardian assesses a wildfire but does not action the wildfire
- an aerial observer doing assessments by fixed-wing aircraft,
- a Helicopter Coordinator

If the only assessment of a wildfire comes from a pilot working with our personnel, but is temporarily separated from them, the Duty Officer must take responsibility for that assessment so "other" would be entered here. This situation must be detailed in the remarks. Assessments provided by pilots should be the exception and not the rule.

24. field name: assessment_datetime

The date and time the wildfire was originally assessed by Wildfire Management employees.

This date determines the fire year in which the wildfire occurs.

25. field name: assessment_hectares

The size of the wildfire at the time of assessment is recorded to the nearest hectare or hundredth (0.01) of a hectare.

26. field name: fire_spread_rate

The rate of spread of the wildfire at the time of initial assessment, capture in metres per minute.

27. field name: fire_type

This is the predominant fire behaviour that was observed when the fire was originally assessed.

Ground Fire	A fire that burns in the ground fuel layer.
Surface Fire	A fire that burns in the surface fuels and involves less than 10% of the trees torching.
	Campfires, brush piles and windrows that have not burned into the duff layer would be considered surface fires.
Crown Fire	A fire that advances through the crown fuel layer and involves more than 10% of the tree crowns.

28. field name: fire_position_on_slope

The position of the wildfire relative to the slope it is travelling on at the time of initial assessment.

Bottom Flat   Lower 1/3   Middle 1/3   Upper 1/3

29. field name: weather_conditions_over_fire

Description of the weather conditions over the wildfire at the time of initial assessment.

CB dry   CB wet   Clear   Cloudy   Rain showers

30. field name: temperature

The temperature at the wildfire site at the time of initial assessment, captured in degrees Celsius.

31. field name: relative_humidity

The relative humidity at the wildfire site at the time of initial assessment.

32. field name: wind_direction

The wind direction at the wildfire site at the time of initial assessment.

33. field name: wind_speed

The wind speed at the wildfire site at the time of initial assessment, captured in kilometers per hour.

34. field name: fuel_type

The <u>predominate</u> fuel type (vegetation cover) in which the wildfire is burning, at the time of initial assessment.

Coniferous	Slash
C-1 Spruce-Lichen Woodland	S-1 Jack or Lodgepole Pine slash
C-2 Boreal Spruce	S-2 White Spruce-Balsam slash
C-3 Mature Jack or Lodgepole Pine	
C-4 Immature Jack or Lodgepole Pine	
Mixedwood	Deciduous
M-1 Boreal Mixedwood-Leafless	D-1 Leafless Aspen
M-2 Boreal Mixedwood-Green	
Other fuel type	Grass
	O-1a Matted Grass
	O-1b Standing Grass

35. field name: initial_action_by

The resource that took the first physical suppressive action directly on the wildfire.

Airtanker	this indicates that an airtanker group based in Alberta dropped on the wildfire.
Fire Department	this would include fire departments from the city, town, county, municipal district, Indian reserve or Metis settlement.
FPD Staff	this could be a Ranger, Fire Guardian, Patrolman, Strike Team Leader, etc.
FTAC	Firetack crew
HAC	Helitack crew
Industry	includes forest, oil and gas and utility industries.
Land Owner	private landowner upon whose land the wildfire started.
Other Agency	this would include a county, municipal district, other division or department of the provincial government, other federal government agency and Metis settlement.

If a wildfire is actioned by, for example, a Saskatchewan based airtanker or a British Columbia based Helitack crew, this would be "other agency". However, if a resource from another division or department of our provincial government, another provincial government or the federal government is assigned to Wildfire Management on manup or a wildfire, they would be considered FPD staff, airtanker, helitack, etc. and not "other agency".

Public	members of the general public.
RAP	Rappel Crew
UNIT	Unit Crew

36. field name: ia_arrival_at_fire_date

This is the date and time that the initial action resource (first physical suppression) arrived at the wildfire.

If the intitial action resource is also the resource that assessed the wildfire, this will be the same date and time as "arrival date and time" on the FP41. If the wildfire was assessed by a different resource then this would be a later date and time

37. field name: ia_access

This is only completed and captured in FIRES for wildland firefighting crews (HAC, UNIT, FTAC). All resources can record this information on the FP41.

Record the method of access that the initial action resource used.

Ground	indicates the initial attack resource accessed the site by ground e.g., vehicle, ATV, walk, etc.
	If ground, include information on the type of road, conditions, directions, etc. (this field is preferred but not mandatory)
Conventional RW	indicates the initial attack resource flew to the site in a helicopter, landed the helicopter and accessed the wildfire.
Hover Exit	indicates the initial attack resource accessed the wildfire via a helicopter but by hover exit rather than landing

38. field name: fire_fighting_start_date

The time and date that the initial action resource began physical suppression on the wildfire.

39. field name: fire_fighting_start_size

The size of the wildfire at the time the initial action resource began physical suppression, recorded to the nearest hectare or hundredth (0.01) of a hectare.

40. field name: bucketing_on_fire

If a helicopter with a bucket was used during the initial action of the wildfire, choose 'yes'.

41. field name: distance_from_water_source

If a helicopter with a bucket was used during initial action of the wildfire, record the distance in kilometers (to the nearest tenth) that the rotor wing flew from the water source to the wildfire.

42. field name: first_bucket_drop_date

If a helicopter with a bucket was used during initial action of the wildfire, record the date and time of the first bucket drop on the wildfire.

43. field name: bh_fs_date

The date and time the Incident Commander (IC) determined the wildfire to be at the fire status of being held (BH).

A wildfire that is being held is where the resources are currently committed and sufficient action has been taken, such that the wildfire is not likely to spread beyond existing or predetermined boundaries under prevailing and forecasted weather and fire behaviour conditions.

A wildfire is not required to have a being held status. If at the initial assessment of the wildfire, the IC determines the wildfire to be under control, the date and time for being held will be the same as the date and time for under control.

44. field name: bh_hectares

The size of the wildfire at the time the Incident Commander changed the status to Being Held (BH), recorded to the nearest hectare or hundredth (0.01) of a hectare.

If the wildfire is assessed as under control (UC) without the BH stage, the BH size will be the same as the UC size.

45. field name: uc_fs_date

The date and time the Incident Commander determined the wildfire to be at the fire status of under control (UC).

A wildfire that is under control has sufficient suppression action and the entire fire perimeter is secured from further spread. The fireline perimeter has mechanical, handline, or natural barriers with a high confidence level of no further hectare loss through predicted weather and present resources.

46. field name: uc_hectares

The size of the wildfire at the time the Incident Commander changed the status to Under Control (UC), recorded to the nearest hectare or hundredth (0.01) of a hectare.

47. field name: to_fs_date

This is the date and time the Incident Commander determined the wildfire to be at the fire status of turned over (TO).

A turned over wildfire status is when Wildfire Management turns over the responsibility for extinguishment of a wildfire to another agency or individual. Before a wildfire can be "turned over, Wildfire Management must ensure that the agency or individual is willing and has the capability and resources to completely extinguish the wildfire.

48. field name: to_hectares

The size of the wildfire at the time the Incident Commander turned over the extinguishment of the wildfire to another agency or individual, recorded to the nearest hectare or hundredth (0.01) of a hectare.

49. field name: ex_fs_date

This is the date and time the Incident Commander determined the wildfire to be completely extinguished (EX).

50. field name: ex_hectares

The size of the wildfire at the time the Incident Commander changed the status to Extinguished (EX), recorded to the nearest hectare or hundredth (0.01) of a hectare.

Lookout Identifiers

AC	Adams Creek	FL	Falls	PA	Panny
AD	Adair	FO	Fontas	PD	Petitot
AL	Algar	FT	Flat Top	PL	Porcupine
AM	Amber	GE	Grande	PO	Ponton
AN	Ansell	GF	Grave Flats	PS	Pass Creek
AT	Athabasca	GL	Gordon Lake	PT	Pinto
AU	Aurora	GM	Goose Mountain	PU	Puskwaskau
BC	Basset	GT	Gift Lake	RA	Ram
BD	Bald Mountain	HA	Hammel	RE	Red Earth
BE	Berland	HB	Hailstone Butte	RH	Round Hill
BF	Buffalo	HH	Hawk Hills	RK	Rock Island Lake
BH	Blue Hill	HK	Hotchkiss	RR	Raspberry Ridge
BI	Birch Mountain	HL	Heart Lake	RT	Rainbow
BL	Baseline	HM	House Mountain	RY	Rocky
BN	Buckton	HU	Huckleberry	SA	Saddle Hills
BP	Barrier Lake	IM	Imperial	SD	Swan Dive
BR	Battle River	IS	Ironstone	SG	Sugarloaf
BS	Bison Lake	JE	Jean Lake	SI	Simonette
BT	Blackstone	JM	Junction Mountain	SK	Smoky
BY	Baldy	JO	Johnson Lake	SN	Snuff Mountain
BZ	Brazeau	KA	Kakwa	SP	Salt Prairie
CA	Chinchaga	KE	Keg	SQ	Sandy Lake
CB	Carbondale	KK	Kananaskis	SR	Sand River
CC	Carrot Creek	KM	Kimiwan	ST	Stony Mountain
CE	Cline	KB	Kirby Lake	SV	Steen
CF	Cambrian	LG	Legend	SW	Sweathouse
CH	Clear Hills	LI	Limestone	TM	Trout Mountain
CK	Conklin	LK	Livock	TO	Tom Hill
CM	Chisholm	LO	Lovett	TP	Teepee Lake
CP	Cowpar Lake	LV	Livingstone	TR	Torrens
CT	Copton	MB	Mayberne	TT	Talbot Lake
CU	Cadotte	MH	Mockingbird Hill	TY	Tony
CY	Chipewyan Lakes	MN	Meridian	VG	Vega
DG	Doig	MO	Moberly	WC	Whitecourt
DM	Deer Mountain	MQ	Muskwa	WD	Whitemud
DW	Deadwood	MR	Marten Mountain	WF	Whitefish
EA	Eagle	MS	Moose Mountain	WM	White Mountain
EC	Economy Creek	MU	Muskeg Mountain	WT	Watt Mountain
ED	Edra	MY	May	WU	Wadlin
EH	Enilda	NM	Nose Mountain	YA	Yates
EL	Ells River	NO	Notikewin	YH	Yellowhead
FG	Foggy Mountain	OB	Obed	ZA	Zama
		OL	Otter Lakes		