

How have wildfire occurrences and sizes in Alberta changed annually (2020–2023)?



Filters

Problem 1

Problem 2

Problem3

Problem 4

Problem 5

Total Fires

4140

Avg Fire Size (Ha)

437.68

Total Area Burned

1.81M

YoY Area Burned
Change (2022-2023)

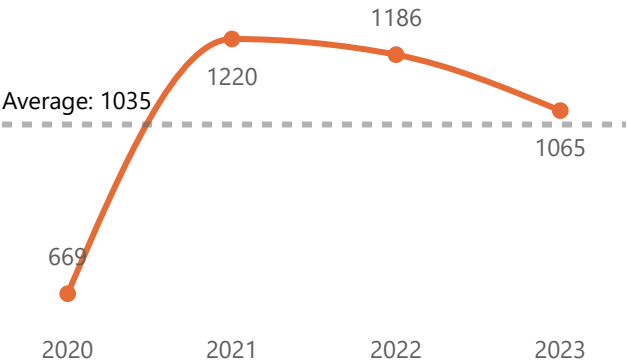
12.39x

YoY Wildfire % Change

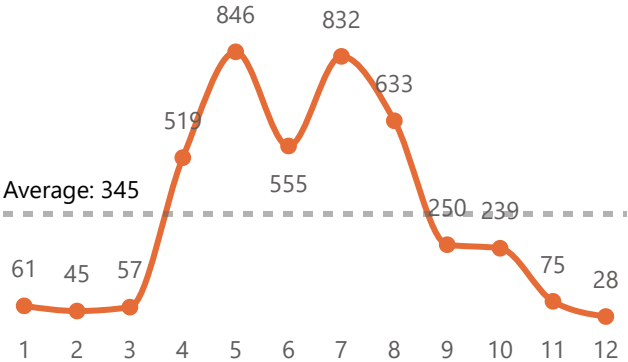


10.20%

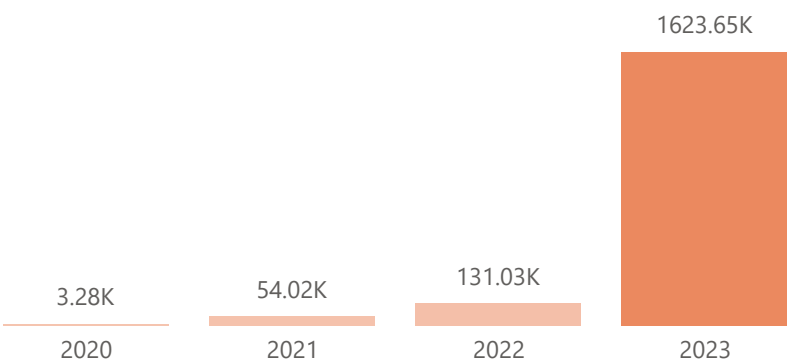
Wildfires by Year



Wildfires by Month



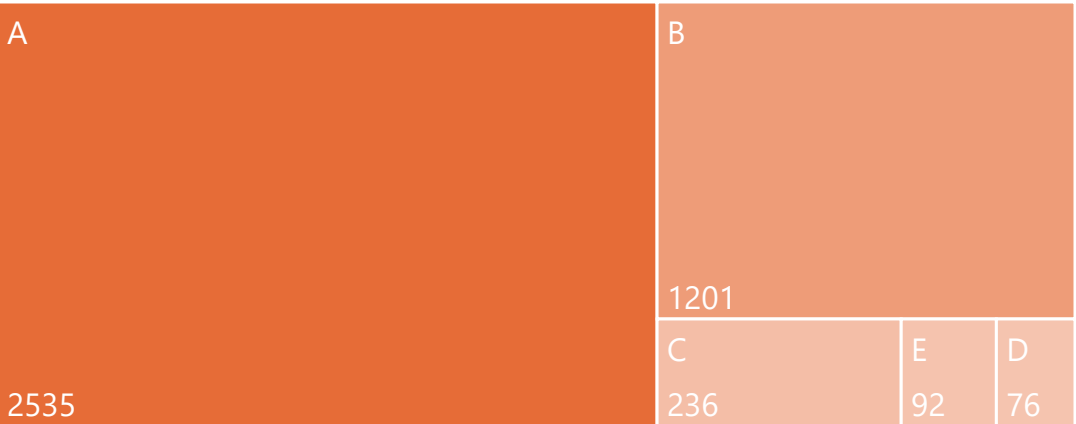
Total Area Burned (Ha) by Year



Wildfires by Fire Size Class

Fire Size Class:

- A
- B
- C
- E
- D



Wildfires by Fire Size Class over Years

Fire Size Class	2020	2021	2022	2023	Total
A	517	744	689	585	2535
B	131	378	365	327	1201
C	17	63	83	73	236
D	1	21	21	33	76
E	3	14	28	47	92
Total	669	1220	1186	1065	4140

What are the leading causes of wildfires across Alberta's regions and seasons?



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Fires in Winter Season CAGR

(2020 - 2023)

43.22%

Debris Disposal Fires

(2020 - 2023)

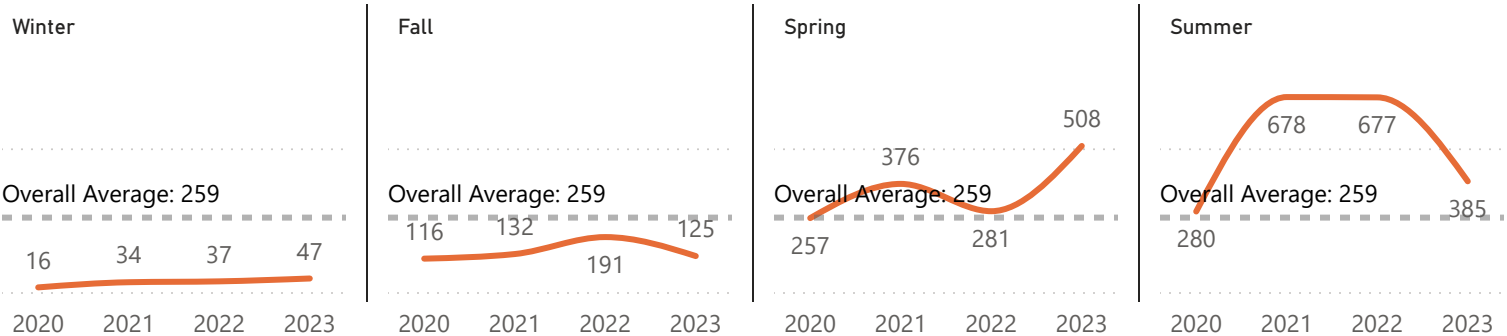
1.6x increase

Indian Reservation

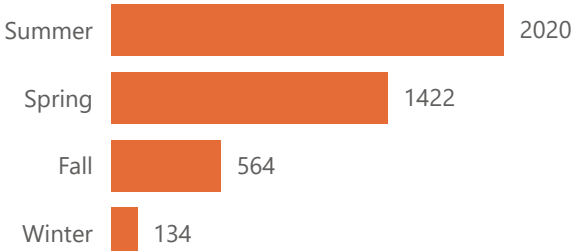
Region with highest growth rate (2020 - 2023)

89.0%

Total Wildfires by Year and Season



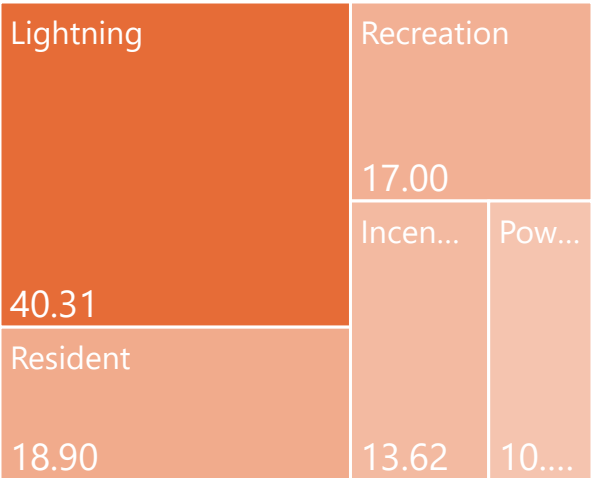
Total Wildfires by Season



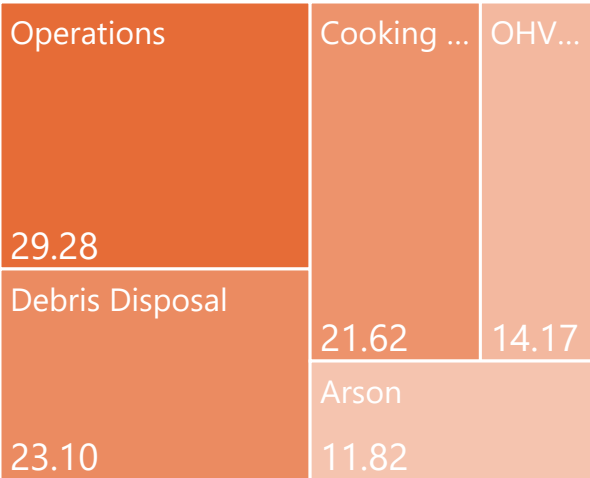
Total Wildfires by Year and Administrated Region

Fire Origin	2020	2021	2022	2023	Total
Provincial Land	428	876	869	677	2850
Private Land	135	193	177	192	697
Indian Reservation	95	129	110	180	514
Provincial Park	8	9	14	12	43
Metis Settlement	3	7	10	2	22
DND		6	6	2	14
Total	669	1220	1186	1065	4140

Top 5 General Causes (%)



Top 5 Activity Causes (%)



How do Alberta's weather conditions influence wildfire size and spread?



Filters

Problem 1

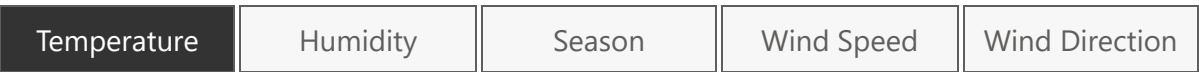
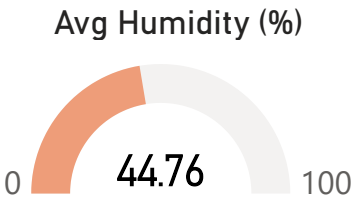
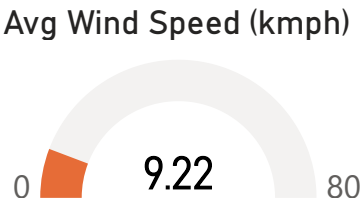
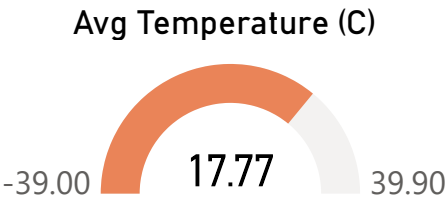
Problem 2

Problem3

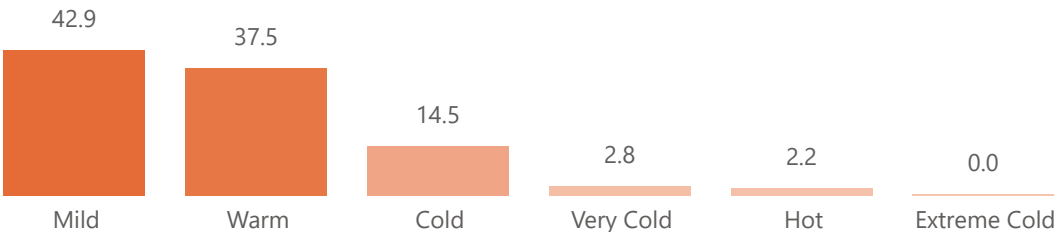
Problem 4

Problem 5

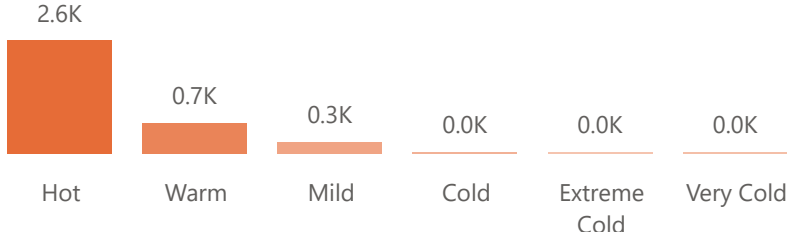
Wildfires often spread faster when humidity is low and temperature is high.



Wildfires (%) by Temperature



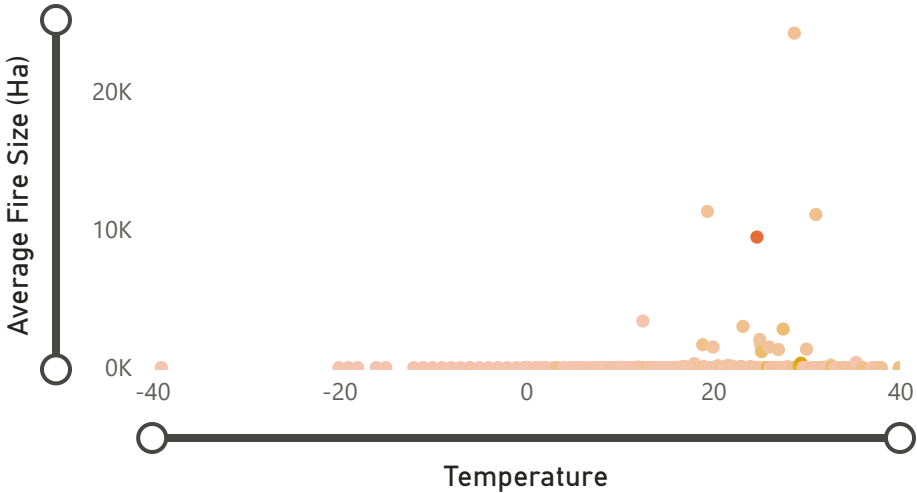
Average Fire Size (Ha) by Weather Condition



Wildfires by Weather Condition Category Over Years

Temperature	2020	2021	2022	2023	Total
Mild	409	457	468	432	1766
Warm	152	493	474	426	1545
Cold	89	184	171	154	598
Very Cold	12	30	44	31	117
Hot	4	51	18	16	89
Extreme Cold			2		2
Total	666	1215	1177	1059	4117

Average Fire Size (Ha) vs Temperature (C)



Which Alberta regions are most at risk based on historical data?



Filters

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Main Region Affected

Provincial Land (2020 - 2023)

~69% of Fires

Rising Extreme Wildfires CAGR

(2020 - 2023)

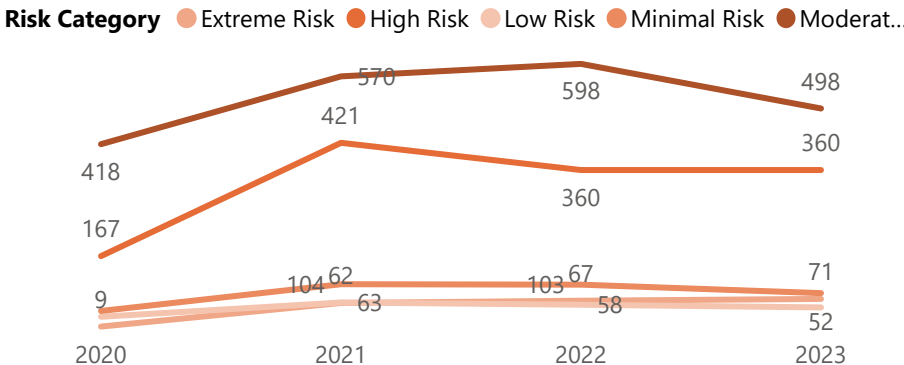
99.07%

Highest CAGR in Risk Score

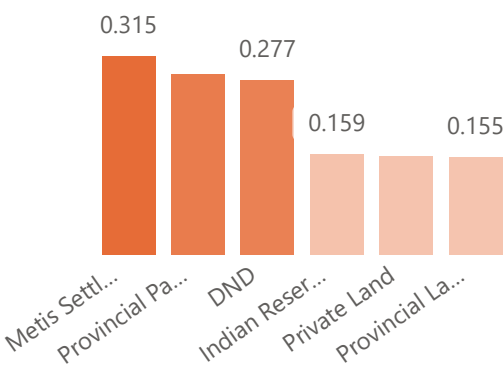
Metis Settlement (2020 - 2023)

52.59%

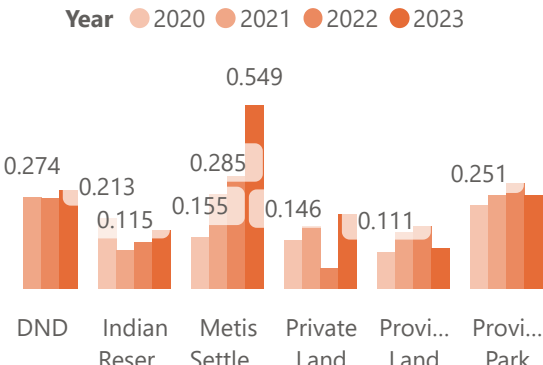
Wildfires by Risk Category by Year



Average Risk Score by Region



Average Risk Score by Region over Years



Risk by Region

Fire Origin	Extreme Risk	High Risk	Low Risk	Minimal Risk	Moderate Risk	Total
Provincial Land	168	955	130	256	1341	2850
Private Land	19	192	51	46	389	697
Indian Reservation	10	133	21	29	321	514
Provincial Park	6	17	1	3	16	43
Metis Settlement	4	7		1	10	22
DND	2	4	1		7	14
Total	209	1308	204	335	2084	4140

Risk Over Month

Risk Category	1	2	3	4	5	6	7	8	9	10	11	12	Total
Moderate Risk	23	20	33	334	448	234	341	305	160	158	18	10	2084
High Risk	12	7	6	114	268	224	343	233	66	26	7	2	1308
Minimal Risk	10	4	10	34	47	44	73	43	9	25	25	11	335
Extreme Risk	5			8	48	39	65	40	4				209
Low Risk	11	14	8	29	35	14	10	12	11	30	25	5	204
Total	61	45	57	519	846	555	832	633	250	239	75	28	4140

How do detection agent, resources and containment vary across Alberta's regions?



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Problem3

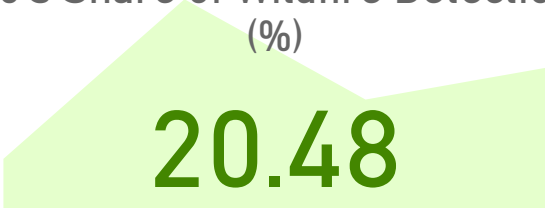
Problem 4

Problem 5

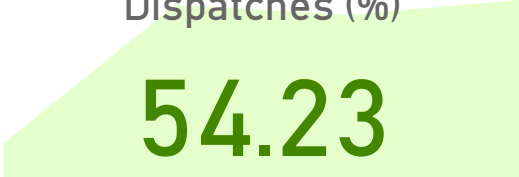
Fire Containment Success Rate (%)



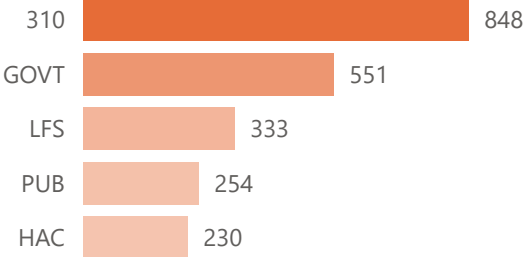
310's Share of Wildfire Detections (%)



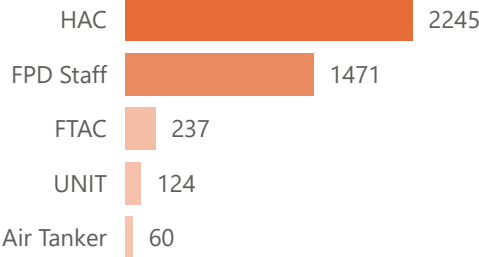
HAC's Share of Resource Dispatches (%)



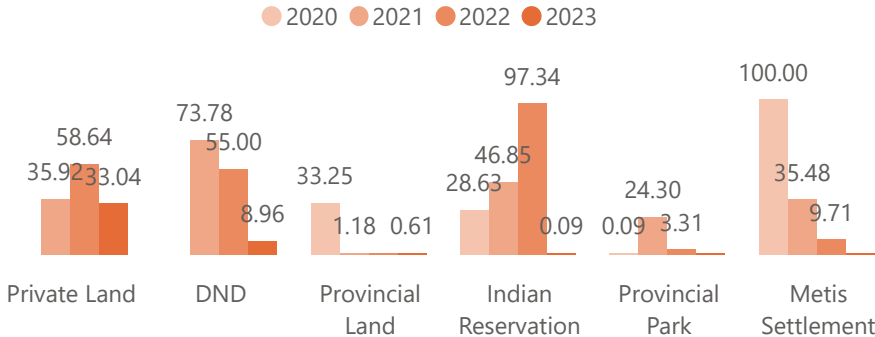
Top 5 Agents who Detected Wildfires



Top 5 Resource Dispatched Teams



Fire Containment Rate (%) by Region



Fires Detected by Detection Agent by Region

Fire Origin	AIR	CAM	GRP	LKT	UNP	Total
Provincial Land	339	3	285	651	1572	2850
Private Land	74		27	161	435	697
Indian Reservation	29		70	175	240	514
Provincial Park	4		2	10	27	43
Metis Settlement	1		1	4	16	22
DND	2			3	9	14
Total	449	3	385	1004	2299	4140

Fire Containment Rate by Detection Agents by Region

Fire Origin	AIR	CAM	GRP	LKT	UNP	Total
Private Land	28.79		99.69	81.84	46.29	57.41
DND	100.00			17.39	76.50	34.04
Provincial Land	1.33	34.68	60.58	0.72	0.54	0.67
Indian Reservation	46.52		80.84	0.11	43.32	0.22
Provincial Park	0.76		100.00	0.15	0.29	0.18
Metis Settlement	100.00		100.00	6.09	0.11	0.11
Total	1.37	34.68	78.24	0.63	0.53	0.62