November. 25 2024

In the First place I was partnered but we both decided to go solo.

Down below there is a list and these are topics I am interested in specific

- Why/How do people get sick
- How does WildFires happen
- How does Artificial Intelligence work
- Genetics

Those were some topics I have seen/thought of. I have asked a parent for some advice. I noticed that detail and being specific is one of the two keys. I got help from a teacher to help me decide what my topic was. The Decision was: How does WildFires happen? This topic is Research data analysis.

Key Questions (on my opinion):

- What Human-Kind things cause
- What the Nature causes itself
- Animals/Plants/Etc in the Forest
- Stuff that we can try to prevent from happening

November. 28 2024 My Jot-Notes

- In 2023 93% was cause by lighting
- 7% from Humans in 2023
- They get out of control really quickly/easily
- As an example of 2024 in Jasper in South and North in the town was an Report of Wildfires, also did evacuation
- Things that cause it in Man Made is fireworks, campfires, cigarettes, industrial activity, agriculture, powerlines, off-roads vehicle, ammunition (bullets and shells)

The Site's/Resources Google

https://parks.canada.ca/pn-np/ab/jasper/visit/fe u-alert-fire/feudeforet-wildfire#updates

https://climateinstitute.ca/news/fact-sheet-wildfires/#:~:text=Ninety%2Dthree%20per%20cent%20of,of%20control%20much%20more%20easily

https://cwfis.cfs.nrcan.gc.ca/report

https://thenarwhal.ca/canada-wildfires-cause/#:~: text=The%20B.C.%20government%20says%20the.ye ars%20it's%20not%20even%20close.

November, 29 2024

I asked a teacher and a parent for more advice and it was should I continue with research or should I switch to experimental? The advice I got back was not only science fair is to do what you know but also is a learning opportunity. I decided to do an experimental one.

December, 12024

I talked with a friend who has done science fair before. This was advice because how would you do fire which is dangerous.

There were props and she would switch out the props, thinking like a tree then switch to a tree on fire using drawings like paper.

December, 3 2024

Sites might be useful

https://natural-resources.canada.ca/our-natural-resources/forests/wildland-fires-insects-disturbances/forest-fires/13143

December.4 2024

Breaking down the question

How does WildFires happen?

You have to be specific on what your question is.Rational means why are you doing this.

Need Introduction. Experimental comes on wednesday. Proper research.

Break the question down

Find Connections/Impact in the Researching Who? When? How long? Where?

The word How do/does.

Wildfires are like something outside the City.
Improve = Getting better.Different Types of
WildFires maybe. Examples. Seems Like you are
breaking down every single word. Comparing
without wildfires or with.

Idea's other people have given How does WildFires spread in different environments

Thinking of Colors

Color: Orange, Purple

My Opinion : Bright colors , Red , Orange , Yellow

In Google Scholar search up WildFire https://scholar.google.ca/scholar?hl=en&as_sdt=0 %2C5&q=Wildfires&btnG=

Other Key Questions

The Goods/Bads of WildFires

The Cysf Website 2024 Projects https://platform.cysf.org/project/browse/

Site's

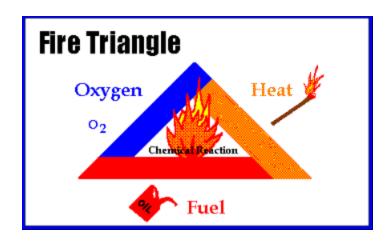
https://www.gov.nt.ca/ecc/en/services/wildfire-operations/common-wildfire-terms

https://www.sc.edu/ehs/training/Fire/01_triangle.htm#:~:text=Oxygen%2C%20heat%2C%20and%20fuel%20are,the%20fire%20will%20be%20extinguished.

Information

There are Elements in a Wildfire and they are Oxygen, Fuel (Oil), Heat. Also referred to as the Fire Triangle. Then by putting all of these elements together which makes a Chemical Reaction, this is called a Tetrahedron. A Tetrahedron (teh-truh-hee-druhn) is the best/specific way to call a pyramid. The Example





December. 5 2024

Well WildFires are quite Dangerous but there are some bad things to it and some goods. Some people may find Wildfires scary and yes it is, then there are also the good things.

December. 7 2024 Information

The Good thing is when a WildFire happens there is valuable nutrients stored/in the litter on the Forest floor.

Sites

https://natural-resources.canada.ca/our-natural-resources/forests/insects-disturbances/why-forests-need-fires-insects-and-diseases/13081

December. 8 2024 Information They open the Forest Canopy to sunlight, Forest Canopy is the layer of where most of the crowns forest tree meet up and creates a thick layer. Crowns mean the Branches and leaves of a tree. When that happens it creates new growth. They allow new tree species. WildFires usually stimulate growth.

Other Sites

https://natural-resources.canada.ca/our-natural-resources/forests/state-canadas-forests-report/disturbance-canadas-forests/16502#fires

December. 10 2024 Let's Break down the question. How do WildFires Happen? How long are WildFires

 WildFires can spread up to 14.27 miles per hour

Sites

https://wfca.com/wildfire-articles/how-fast-do-wild fires-spread/

December. 11 2024 Actually there is nothing to experiment so research it is. I got help from a teacher. December, 15 2024

Continue of breaking down the Question Wildfires are in Forest areas, grassland, and shrubland. A shrubland is a habitat that has the most common plants that are shrubs (a shrub is also a bush). That is a small to medium never-ending woody plant. WildFires happen between April and September. How do/does meaning like how it is created/form. Improve (getting better).

Sites

https://www.redcross.ca/how-we-help/emergenciess-and-disasters-in-canada/types-of-emergencies/wildfires/wildfires-information-facts#:~:text=Most%20wildfires%20occur%20between%20April,a%20fire%20hits%20your%20community.

I know I used Wikipedia but in another one they say "shrub or bush" and that was the only way for me to make sense. Also when I searched before it sayed from "Wikipedia"

https://en.wikipedia.org/wiki/Shrub#:~:text=A%20shrub%20or%20bush%20is,20%E2%80%9333%20ft)

https://www.biokids.umich.edu/guides/michigan_h
abitat/terrestrial/shrubland/#:~:text=Shrublands

<u>%20are%20habitats%20where%20the,are%20also%</u> <u>20sometimes%20called%20bushes</u>

https://wfca.com/wildfire-articles/where-do-wildfires-occur/#:~:text=Wildfires%20occur%20all%20over%20the.of%20drought%20and%20high%20temperatures.

I asked my mom for things that maybe people wanted to know

My moms questions and a little info.

Wanna know how to protect the environment because WildFires are out of control. How we can stop from happening. Every year we have a lot of wildfires and cities, forest that are burned. Is there a way to have the forest back?

I believe that so far I have some background research. I answered some questions that I did on December 4th.

December. 18 2024

On December 16 and 17, I was asking other people if they had any questions about WildFires. The Questions I got back was:

- How do they Start
- Could trees collect smoke from the air

• How are they caused

December, 26 2024

The continue of questions

- How do they start
- Why do people make the wildfires happen
- How do they affect
- Why does it exist
- How do they spread
- Why do they pour the random red stuff instead of the water(the stuff that helicopters drop the red powder on the wildfire)
- How does a WildFire start
- How does Wildfires affect the environment
- How do Wildfires affect surrounding area (like environment
- How do they Start

I was asked 13 questions. The grades that I asked were grade 5 and Grade 6. Sadly I don't remember exactly which questions were asked by who.

January. 1 2025

Aside from the above questions, I have made a board of things I have and things that are missing.



Jan. 3 2025

Since I really need help on breaking down the question and is a month old, I decided on getting help from my mom.

- How Does WildFire Happen in Canadian Forests?
- How Does WildFire Happen in Alberta?
 My Mom said that How Does WildFire happen in Alberta.

How Does WildFire Happen in Alberta? Since I have gotten this questioned I will break it down when I have time to do it again.

Mom What if question

What if someone asked you a questioned but you don't know the answer , how do you handle that question

Mom wrote:

I didn't include this topic in my research, so I don't have the information available.

I have updated my brain storming (the white board thingy).

Jan. 4 2025

The Reason why I did that board is because to see what I need to do or what's missing.

On the Brain storming Board I have 17-19 things missing that I have on there that are needed. Missing

- Making pages for trifold Done
- Ways to engage the audience
- Speech
- Breaking Question Done
- Do you have all the info
- Intro
- Rational Done
- Using Log Book as my tri-fold
- Highlight words
- Have Subtitles
- Clear/Understandable
- Explain Project
- Glossary (words and definitions)
- Index (important words highlighted)

Acknowledgment

This is actually 15 but on the Brainstorming Board it is 19 somehow because they are not that important.

Now I am gonna fix those mistakes now.
Since this is not a really good order to start off of , I will start in places that are right for me.

- (Also to HighLight the info into sections)
 I am going to start with Highlighting. Also while
 doing those things my mom is helping me.
 While I was looking for things to highlight I
 realized that I don't have that much info sadly.
- Some animals die in the fire of the WildFire Mostly elderly and very little animals who can't get out of it.

Site

https://www.nationalforests.org/blog/what-happens-to-wildlife-during-a-wildfire#:~:text=Some%20animals%20do%20die%20in,sources%20burned%20in%20the%20fire.

In Alberta WildFires are Mostly Caused by Humans.

Well since I can't really figure out a lot on how much info I have, I have decided to make google

slides. Not only for the Tri-Fold but to help me out a little.

Jan. 5 2025

Here is the link to Google Slides

https://docs.google.com/presentation/d/1TkQdzk _WQ84LbM324mqBq5-TsZEQ9pXD-OQP6byZYx8/e _dit#slide=id.p

Jan. 6 2024

While I am planning I realized that I need one key question as BackRound research.

I have

- What Human-Kind things cause
- What the Nature causes itself
- Animals/Plants/etc in the Forest
- Stuff that we can try to prevent from happening
- The Goods/Bads of WildFires
- Background Research

Jan. 8 2025

I will continue doing research and planning in the Zaynab's WildFires.

At Lunch time taking Notes

We have 3 weeks till Science in School Add more connections to like Alberta so then people feel more connected.

I am in a good place:)

Expecting to have 25-35 pages.

Need some Diagrams

Need to work on Ethic Due 2A.

I was looking at Some examples in the classroom and I looked at Maryam.Q's project and she had great things. I noticed that there are a lot of " what is this "things.

Ways to engage the Audience

- Sound exciting but not to much
- Add juicy words or good words
- Make it brief (it has detail but is small)
- Sound confident

I have a lot more notes in my Duo-tag log-book.

Human activity in 2024, 620 wildfires were caused by Human activity. While 560 wildFires were caused by lightning. In 2024.

Citation

https://www.cbc.ca/news/canada/edmonton/alberta-wildfire-2024-season-over-1.7369601#:~:text=The

<u>%20agency%20suspects%20620%20fires,than%202.</u> 2%20million%20hectares%20combined.

Jan.11 2025

How does WildFire Happen in Alberta is actually good. I don't think I need to break it down that much but moving on. In the Zaynab's Wildfires I added fun facts so you know kids don't get that bored. I also just made a Backup Log-Book in case.

The Doc to back up

https://docs.google.com/document/d/1dWk7oAM TMKcfkcGjBZ60oYhpP0J5f-3pWa0AvYshLEA/edit?t ab=t.0

The subjects I have accomplished so far

- Breaking the question
- Making pages for tri-fold

That is really bad. I don't have a lot of time left.

Jan.12 2025

I am gonna start typing in the Zaynab's Wildfires. I started off on my Rational. Also my friend Brooklynn told me that for doc the amount of pgs you would need is 15-25 so my goal is to get 25ish. I also added problem to the google slides.

Jan.14 2025

Gather information into Zaynab's WildFires. Hectare means a unit of area measurement, 1 Hectare is 10,000 square meters. (got it from google).



Image from google This is 10,000 square meters (1 hectare)

Ways to prevent from happening.
When you are selecting a campground, if you are at a campground, there are designated stoves, fire rings and fire pits. Avoid using sites that have dry grass near heavy bushes, leaves, logs, peat areas or over hanging branches.

Citation

https://www.alberta.ca/agri-news-albertans-can-do-their-part-to-prevent-wildfires#:~:text=If%20you%20are%20at%20a,peat%20areas%20or%20overhanaina%20branches.

The amount of wildfires that were in 2024 is over 1,210 Wildfires.(in my phone)

Citation (meaning of fire rings)

https://campnab.com/camping-glossary/fire-ring #:~:text=A%20device%20that%20contains%20a,for %20cooking%20over%20the%20fire.

(ways to prevent wildfires and maybe useful)
https://www.alberta.ca/wildfire-prevention-and-mitigation

How I gotish 705,000 hectares and 1,210 Wildfires https://globalnews.ca/news/10847595/2024-record-breaking-wildfire-season-alberta/

Animals in Alberta

- White-tailed deer
- Mule deer
- Elk
- Bobcat
- American Bison
- Bushy-tailed woodrat
- Boreal woodland caribou
- North American river otter
- Wood bison

And so much more.

Citation of that.

https://animalia.bio/alberta-region?page=1

Jan.15 Checking detail, expecting a lot of information. Engaging Tri-fold. Simple. Subtitle. Detail but summarized. Visual/Image.

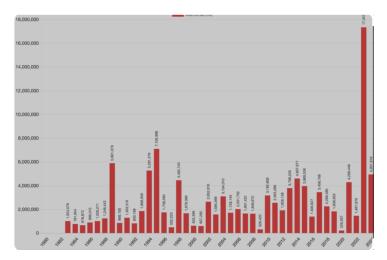


Image from the Yahoo! News

The amount of WildFires over the years (including 2024)



This one is from The Alberta WildFires Blog

Citation

https://srd.web.alberta.ca/grande-prairie-area-update/page/97

Also Maybe useful. 2 more meetings. Finish Ethic due 2A.

How Jasper WildFire started, it was caused by lightning.

Citation

https://www.cbc.ca/news/canada/edmonton/jasper-wildfire-how-did-it-get-so-out-of-control-1.7282633#:~:text=Officials%20believe%20the%20fire%20that,can%20create%20its%20own%20weather.

The Goods/Bads of WildFires

They help clear litter on the forest floor. Also recycling nutrients back into the soil/dirt, opens up gaps in the tree stands to nurture new growth. Kills invasive plants/species and forest pests. Citation

https://climateatlas.ca/forest-fires-and-climate-change#:~:text=Wildfire%20is%20a%20natural%20part,invasive%20species%20and%20forest%20pests.

The Action Alberta takes is using a combination of air tankers, helicopters and other air operations.

Citation

https://www.alberta.ca/how-we-fight-wildfires#:~:te xt=Alberta%20Wildfire%20uses%20a%20combinati on,information%2C%20see%20the%20 Pilot%20Handbook



An Image of an Air Tanker (a variety of them) Cysf Ethics Due Care 2A

Why do I want to do WildFires? Well in Alberta we are in 2nd place for the amount of WildFires in Canada. Us Humans and Animals including our land, we are all affected in various ways. How are they caused? They are mostly caused by Human Activity in 2024. For example, the Jasper WildFire in 2024, it was a big deal and losses of homes etc but not caused by Human Activity. I want to raise awareness of this to be careful and try to prevent them from happening. Well WildFires aren't such a negative side but there are also a positives side too! I like helping people and this is raising awareness to them!

There are elements in a Wildfire, Oxygen, Fuel (Oil) and Heat. This is called the Fire Triangle, when all of these elements go together which creates a chemical reaction. Wildfires can spread up to 14.27 miles per hour. Wildfires are in Forest areas, grassland and shrub land. Wildfire Season happens between April and September.

In 2023 7% were caused by humans. Things that are also caused are fireworks, campfires, cigarettes, industrial activity, agriculture (crops), power lines, off-road vehicles, ammunition (bullets and shells). Human Activity in 2024, 620 wildfires were caused by Human Activity in 2024.

In 2023 93% was caused by lighting. In 2024 560 wildfires were caused by lightning. In 2024 560 Wildfires were caused by lightning.

Animals in Alberta is White-tailed deer, Mule deer, Elk, Bobcat, American Bison, Boreal woodland caribou, North American river otter, Wood Bison. There are a lot more animals.

When you are Selecting a campground, if you are at a campground, the are designated stoves, fires rings and fire pits, Avoid using a site that has dry grass near or heavy bushes, leaves. logs, peat area or over hanging branches.

When a WildFire happens there is ashes and in those ashes is valuable nutrients stored in it. They Open the forest Canopy to sunlight. When that happens it creates new growth which allows new tree species. WildFires usually simulate growth. They help clear litter on the forest floor. Also recycling nutrients back into the soil/dirt, opens up gaps in the tree stands to nurture new growth. Kills invasive plants/species and forest pests. The Action Alberta takes is using a combination of air tankers, helicopters and other air operations.

Some Animals even die. Most elderly and very young animals who can't get out of it. They get out of control really quickly/easily. The Environment has co2 released which is like the greenhouse effect. The smoke affects our Health. For example the Jasper Wildfire, people evacuated.

Hectare = a unit of area measurement, 1 Hectare is 10,000 square meters.

I am doing Research about Wildfires in Alberta.

Jan.16 2025

Fact in Alberta

Burning debris can be thrown up to 2 kilometres ahead of a Wildfire.

They say that this is WildFire basic Citation

https://www.redcross.ca/how-we-help/emergenciess-and-disasters-in-canada/types-of-emergencies/wildfires/wildfires-information-facts#:~:text=Wildfire%20Basics&text=Burning%20debris%20can%20be%20thrown,is%20at%20risk%20of%20wildfires.

Jan.18 2025

Wildfire Season happens between March 1st to October 31.

Request from Reet.
I survived the deadliest Chicago wildfire.

Citation

https://www.alberta.ca/agri-news-preventing-wildfires-always-season#:~:text=Wildfire%20season%20runs%20from%20March,their%20local%20forest%20area%20office.

Jan.22 2025 Problem

In Alberta the Wildfires are historically high in the spring months after the snow melted and the moisture evaporated. Before Trees and grass had even started growing (green up).

Citation

https://www.alberta.ca/agri-news-preventing-wildfires-always-season#:~:text=year%20in%20February.-,',started%20growing%20(green%20up).

Jan.25 2025

Putting the New Info into the Zaynab's wildfires and Also got another info.

How Wildfires Affect our Health is Burning eyes , a Runny Nose, Coughing , Trouble Breathing.
Citation

https://myhealth.alberta.ca/Alberta/Pages/wildfire-smoke-health.aspx#:~:text=The%20biggest%20health%20risk%20comes,burning%20eyes

Feb. 4 2025 Working on the Cysf platform

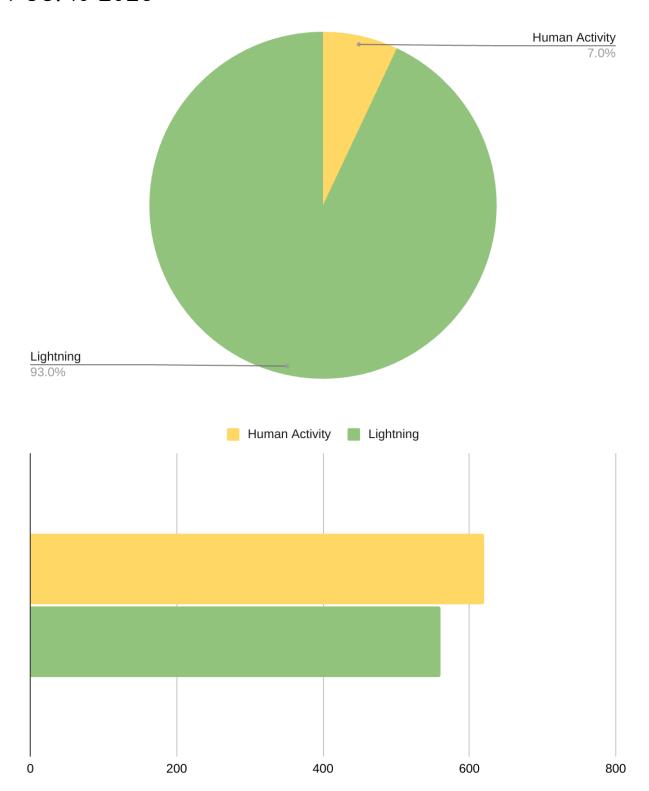
Feb.8 2025

Scanning through the Log-Book gathering info to the Zaynab's Wildfires. The Slides that need more info is:

- Problem
- Little bit more Background Research
- What Human-Kind Causes
- What the Nature Causes
- Animals in the Forest
- Stuff that we can try and prevent
- Glossary
- Index
- Acknowledgment

Looking back at the old checklist. Info is important.

Feb. 10 2025



Feb. 11 2025

Trying to gather information to fill in the spots. Founded sources

Citation

https://www.nwfirescience.org/sites/default/files/publications/FIREFACTS_Triangles.pdf

Feb.16 2025

In 2023 across the whole province the species lost 3-6% of their habitats. The most burned part of Alberta is the Canadian Shield and the Northern Mixwood, about 1 in 8 species lost their habitat which is more than 10%. Various animals get affected. There were scattered effects throughout the province.

Woodland Caribou. Where most of them live, their habitat is burned. Lost 5.2% of their habitat. In the northern caribou range the losses of habitats were higher. 13.7% in the Caribou Mountains and 12.7% in Bistcho herds.

Greater effects for the Caribou is that the shrubs may quickly regrow in the burnt areas. Shrubs provide food for deer or moose. Bad part is that wolves can threaten them, making it at risk.

Increaser Species

Black-backed Woodpecker is a burn specialist. Woodpeckers live on insects (eat insects). Burnt trees are where they live. Their species increased by 12.9% from 2023 fires of Albereta, and 38.1% in the Foothills region.

Bicknell's Geranium is a beautiful purple-flowered plant that thrives (grow/opportunities) in burned areas. Their seeds are strong, surviving in the soil for decades. Cope well with the after results of wildfires. The increase is 22.2% across the province and 50% or more in the northern, foothills areas.

Decreaser Species

Boreal Chickadees live in Alberta year-round (all seasons) using their spherical shape to survive the Alberta winters. These birds were predicted to have losses of 4.3% of their habitat because of 2023 fires. Losses of 7.5% in Foothills, 23.9% in the Canadian Shield.

Clasping Twisted Stalk, this plant produces red berries which makes old forests more motivated to create plants/etc. Loss of prediction is 5.8% of habitat loss. 8.9% in the foothills where it is most abundant (plentiful).

Citation

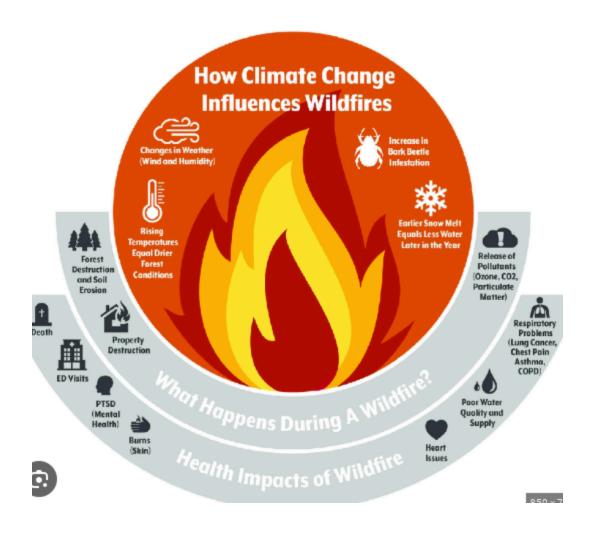
https://ftp-public.abmi.ca/home/publications/documents/642_ABMI_2024_EffectsOf2023WildfiresInAlberta_ScienceLetter_Issue8.pdf

Feb. 19 2025
Putting the info on-to Zaynab's Wildfires from yesterday.
By Friday be done.

Citation

https://www.sciencedirect.com/science/article/pii/ S0048969720320192





Making a Script Doc https://docs.google.com/document/d/1a4IY_1ELT
OW_rJr5t9efdXxiBrnsQJKPNlw3ev7oq2s/edit?tab=t
.0

A good site to use. Citation https://www.wonderopolis.org/wonder/are-all-forest-fires-bad

Feb.20 2025



Cause to Human Health
School closures and a threat to the health of
millions of people. They mostly affect
children, seniors and people with lung or heart
disease (etc).

The blazing hot wildfires release dangerous levels of tiny particles in the air. This is an increased risk of problems that are heart disease, cardiovascular disease (kaar-dee-ow-va-skyuh-lr),lung cancer, and brain cancer.

The heavy smoke has an incredible impact on the Canadian healthcare system. Single week of a wildfire in June 2023, the estimation of cost in

Ontario was over \$1.2 billion of health impact. Which were too early deaths, increase of hospital visits and health emergencies.

Poor air quality affects people such as those who work outdoors ,children, seniors, pregnant people, etc.

Feb.21 2025

Smoke and more frequent wildfires make issues for people who have asthma across western parts in Canada. The after effects of climate-related floods and fires have an incredible impact on human mental health.

Wildfire does/can destroy homes and communities, ruin fragile ecosystems, and threaten economic security. All of these effects has been linked to post-traumatic stress disorder, depression, anxiety, and supersing suicidal thoughts.

Citation

https://climateinstitute.ca/news/fact-sheet-wildfires/

Feb. 21 2025

Taking info of human impact and animal impact, put it into Zaynab's Wildfires.

Feb.22 2025

When a wildfire or an emergency happens they send out AMBER Alerts. The alert systems are on TV, radio, social media, and a compatible smartphone. Or the Alberta Emergency Alert mobile app.

Then various organizations in Alberta issue alerts that are based on the problem/emergency. Local authorities can handle floods, fires, and hazardous materials. Etc.

Citation

https://www.alberta.ca/about-emergency-alerts#:~:text=Alerts%20are%20sent%20out%20on,criminal%20events%20including%20AMBER%20Alerts.

Feb. 23 2025

The supplies needed for a Wildfire in Alberta are food, water, battery-powered or a crank radio, flashlight, extra batteries or a Weatheradio. These are the things you should include in your emergency kit.

Citation: https://www.alberta.ca/wildfire-preparedness#:~:text=Maintain%20an%20emergency%20kit%20stocked,flashlight%2C%20extra%20batteries%20or%20Weatheradio.

How to prepare

- Download the Alberta Wildfire app for mobile devices.
- See <u>Alberta Wildfire</u> for the status and location of wildfires, fire bans and restrictions, and learn more about wildfire prevention.
- Maintain an emergency kit stocked with supplies such as water, food, battery-powered or crank radio and flashlight, extra batteries or Weatheradio

The animals up above are ok but these animals might be more common.

Wolves, grizzly bears, black bears and mountain lions!

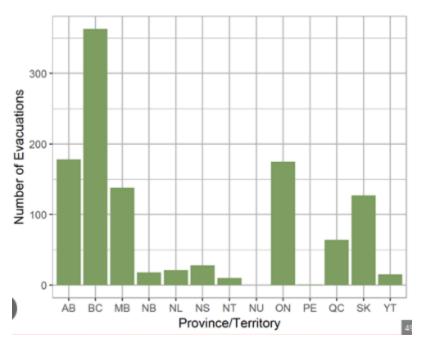
Citation

https://animalia.bio/alberta-region?gpp=&gpp_sid=#:~:text=Alberta%20is%20home%20to%20many,%2C%20Canada%20lynx%2C%20and%20bobcats.

The Jasper Wildfire was the second most expensive event in Canadian history! The damage was about \$1.23 billion! Citation:

https://www.canada.ca/en/parks-canada/news/20

25/02/government-of-canada-funding-for-2024-wildfire-season-in-parks-canada-administered-places-including-jasper-national-park-wildfire-response-recovery.html



From the Government of Canada, Wildland fire evacuations - Natural Resources Canada Citation

https://natural-resources.canada.ca/climate-cha nge/climate-change-impacts-forests/wildland-fire -evacuations

Pictures to go on the Slides



Citation

https://www.freepik.com/premium-vector/summercamp-concept-with-people-having-fun-togethernear-campfire-illustration_26558593.htm?sign-up= google



Citation

https://www.freepik.com/premium-ai-image/illustration-campfire-burning-brightly-night-with-starry

<u>-sky-moon-background-surrounded-by-pine-trees</u> <u>238331298.htm</u>



I forgot Citation (it's free)

Feb. 25 2025
Editing Zaynab's Wildfires Edit
The pictures of Animals are from
Citation: https://animalia.bio/alberta-region
BorealChickadee



https://www.allaboutbirds.org/guide/Boreal_Chickadee/id