

What is a Wildfire?

Wildfires are large fires which occur in rural areas and can be caused by lightning, overheating vegetation, arson and cigarettes.

Fact #1

Wildfire Causes

Humans are the cause of four out of five wildfires with ignitions commonly caused by campfires, cigarettes and vehicle sparks.



Fact #2

Wildfire Travel

Wildfires move faster when travelling uphill than downhill because heat rises.



Fact #3

Secondary Perils

Wildfires can cause pollution, landslides, mudslides and flash floods.



Fact #4

Influence on Weather

As heat from large wildfires rises, the air cools and condenses to form clouds which can produce rainfall. This rain is sometimes enough to extinguish the fires.



Fact #5

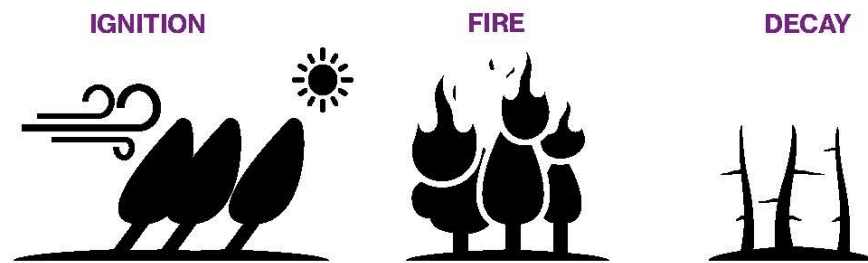
Firenadoes

Large fires can spawn "firenadoes" which can extend hundreds of feet tall and measure more than 1000 °C/1832F. This is 25% hotter and 100x higher than a standard wildfire.



Wildfire

Lifecycle of a Wildfire



Fire temp	~ 100°C	~ 1000°C	~ 500°C
Air temp	Hot	Very Hot	Warm
Humidity	Dry	Dry	Dry
Fuel	Plenty	Some	Scarce
Oxygen	Wind starts	Strong winds	Wind reduces
Duration	Days	Weeks	Months

Wildfire insight:

- A wildfire can spread up to 14mph on flat grasslands and even faster upslope.
- Having a particularly wet winter can enhance the risk of wildfire as more plants grow, creating more fuel.
- The highest wildfire risk is found at the boundary of the wild and urban areas (known as the Wild-Urban Interface 'WUI') where 1/3 of US homes are located.
- Wildfires can occur anywhere where the conditions are right. Even the Arctic circle experienced wildfires in the summer of 2018.
- There are over 100,000 lightning strikes around the world each day, with 10-20% causing a fire.
- A large wildfire is known as a 'conflagration'

Wildfire

Case Studies

	California Late 2017	Greece July 2018	Australia Summer 2019-2020*
Cause	A wet winter and spring allowed the plants to flourish, followed by a very hot and dry summer with consistent winds.	A heatwave saw temperatures exceed 40C before wind gusts greater than 55mph affected the region.	After a period of prolonged drought, the summer season saw extreme temperatures and strong winds.
Intensity	13 major wildfires burned over 2,000km ² in Northern and Southern California.	Almost 50 wildfires were reported across the country, burning nearly 13km ² .	A significant number of fires have affect the country, burning more than 100,000km ²
Major disaster zone	California	Attica	New South Wales and Victoria
Losses	Estimated US\$18.4bn of economic losses including up to US\$12bn in insured losses.	An estimated €34m in insured losses, with economic losses set to be much higher.	As the bushfire season continues, the final losses will not be clear for some time. Estimates exceed the AU\$4.4bn experienced in 2009.
Primary Impacts	Deadly fires caused 46 fatalities. More than 9,500 structures were destroyed with a further 1,700 damaged.	A fire impacted the town of Mati causing at least 90 fatalities and 200 people injured. Approx. 1220 destroyed buildings and 305 burnt vehicles.	Deadly fires have caused at least 26 fatalities. More than 1,800 homes have been destroyed.
Secondary Impacts	The October fires caused significant air pollution around the North Bay area of California. Heavy rainfall the following month led to devastating flooding and mudslides due to the burnt landscape.	The fire came to a stop at the coast, trapping people who had run into the sea to escape the flames. The fire spread quickly, causing evacuees to be diverted towards the fire.	It is estimated that over 1 billion animals have been killed by the fires. There were reports of firenadoes caused by the extreme heat and strong winds within the fires.

*As of 9th January 2020