



*climate extreme events*

*Climate Drivers and bushfires?*

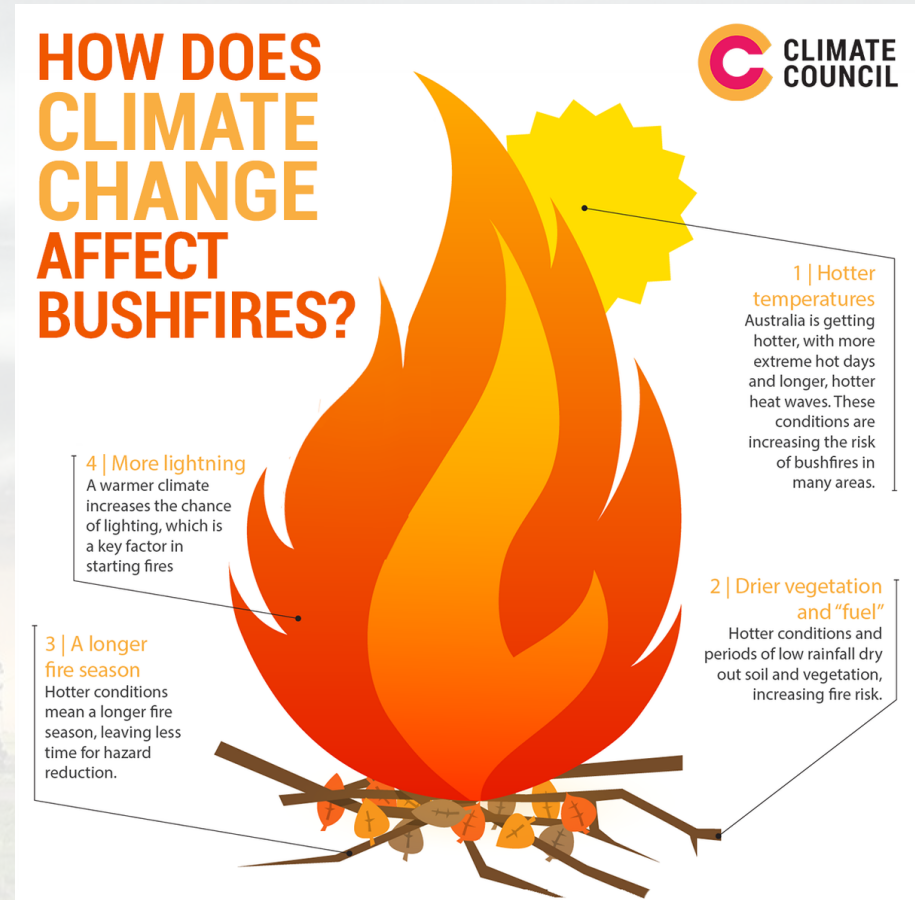
A dramatic landscape featuring a road that curves through a green field under a heavy, stormy sky. A bright lightning bolt is visible in the upper right corner. The scene is captured in a cinematic style with high contrast between the dark clouds and the bright light on the horizon.

## *Outline*

- *Climate Drivers*
- *What is a bushfires?*
- *References*

## Climate Drivers

A climate Drivers is a change imposed on the planetary energy balance that, typically, causes a change in global temperature. Drivers imposed on the climate system may be falling into two separate categories. External drivers are caused by variations in agents outside the climate system such as solar radiation fluctuations. On the other hand, internal forcing, such as volcanic eruptions, ice-sheet changes, CO2 increases, and deforestation are variations in components of the climate system. Longer-term internal drivers occurring as a result of continental drift and mountain building have an effect may also influence the upper atmosphere and thus, perhaps, the whole climate.



## *What is a Bushfires?*

A bushfire is a fire in the bush . It can be in scrub ,woodland or grassland, there are bushfires in summer and autumn when there is no rain. can be made by lightning or by people not being careful with fire.

## *Bushfire prevention*

- Do not go to the mountains and BBQ when it is hot or the temperature is high because you might start a bushfire.
- No smoking in the dry grassland or in the dry.
- Night We should often clean leaves and cut long grass.
- Keep the fire away from dry grass.

## *Bushfire events*

- China had a bushfire on 1986.
- Australia had a bushfire on 2009.

# ARE WILDFIRES REALLY GETTING WORSE? THE VICIOUS CYCLE

Increasing pollution from industry and traffic leads to increased carbon emissions from human sources



Hotter, drier climates cause snowpacks to melt months earlier, reducing areas natural moisture in high-risk areas



Deforestation reducing trees so less CO<sub>2</sub> is absorbed and less oxygen is produced



Higher global temperatures means less humidity and less rain, resulting in hotter wildfire season and risk



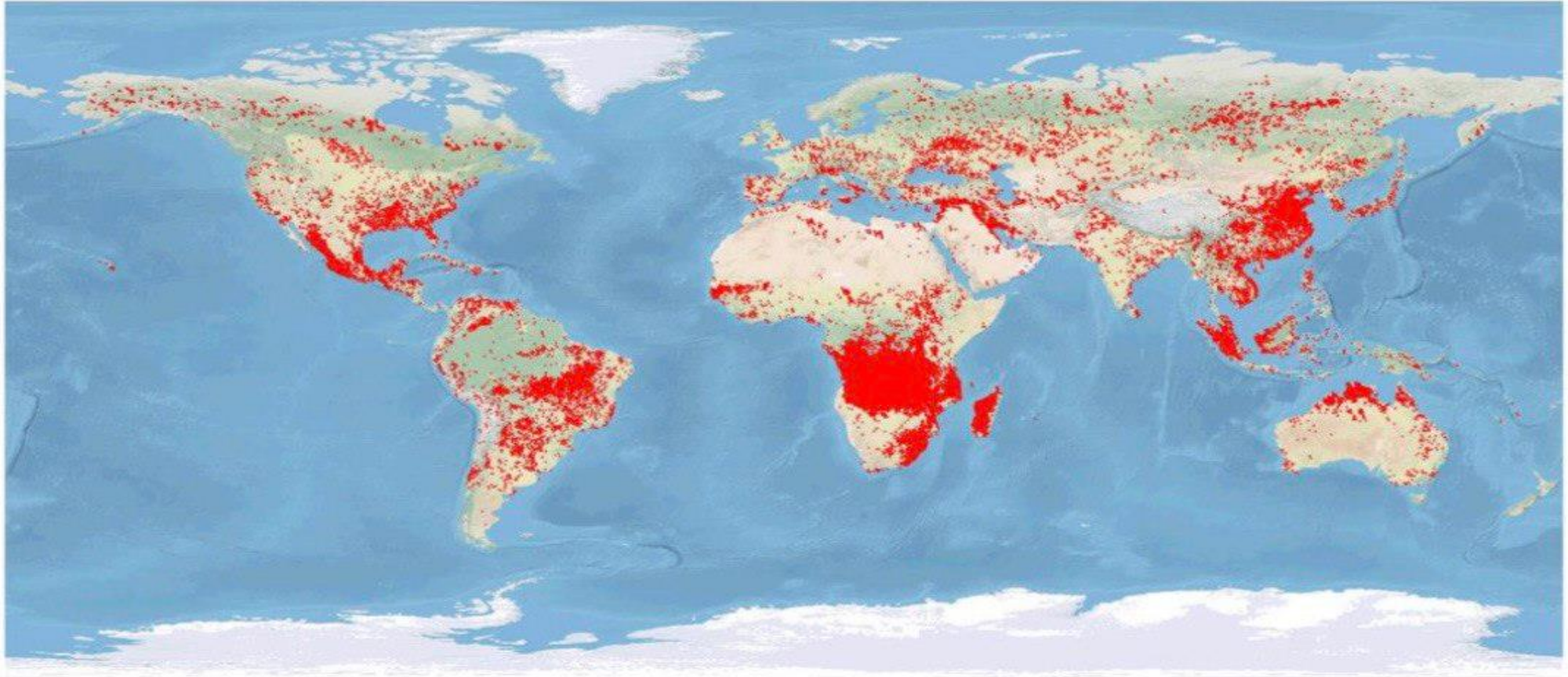
Rise in CO<sub>2</sub> levels and other greenhouse gases leads to higher global temperatures



Rise in global temperatures has melted Arctic ice and reduced Rossby waves that help cool down dry climates



## 2013 MODIS Active Fire Detections from the Aqua and Terra satellites



January February March April May **June** July August September October November December

Active fires, shown in red, are detected using MODIS data from the Aqua and Terra satellites.  
Source: NASA Fire Information for Resource Management System (FIRMS) <https://earthdata.nasa.gov/firms>



A dramatic landscape featuring a paved road that curves through a green field. The sky is filled with dark, heavy clouds, and a bright lightning bolt is visible in the upper right corner. The overall atmosphere is one of a storm brewing.

## References

- **Clarke, H. (2015). Climate change impacts on bushfire risk in NSW. NSW Office of Environment and Heritage, Sydney.**
- **Sharples, J. J., Cary, G. J., Fox-Hughes, P., Mooney, S., Evans, J. P., Fletcher, M. S., ... & Baker, P. (2016). Natural hazards in Australia: extreme bushfire. Climatic Change, 139, 85-99.**



*Thank you*