Climate

Fire danger weather

SA trend and condition report card 2020

STATEWIDE

Trend
Getting worse

Condition
Poor

Reliability
Good

Trend

Fire danger weather conditions have increased in both occurrence and severity since the late 1970s, with the highest rates of increase in the east of the state.

The Forest Fire Danger Index (FFDI) is a measure of fire weather conditions. It reflects longer-term rainfall and temperature patterns and shorter-term weather. Daily FFDI values can be summed over longer periods of time to determine the accumulated FFDI.

This assessment uses FFDI values calculated from observed weather data from Bureau of Meteorology (BOM) monitoring stations distributed across South Australia.

The increase in FFDI has been variable across the state. The far north-west has seen the lowest increases (top figure).

The highest rates of increase in the FFDI (and corresponding Grass Fire Danger Index) are observed in the mid-north, south-east and far north-east.

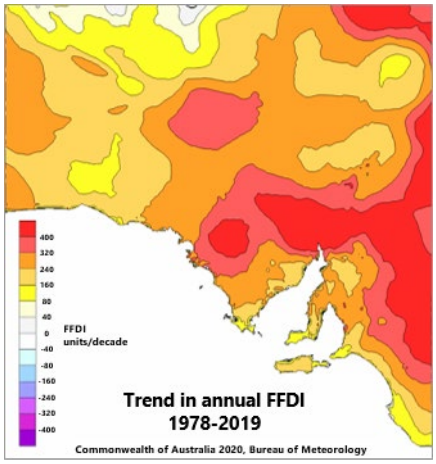
Condition

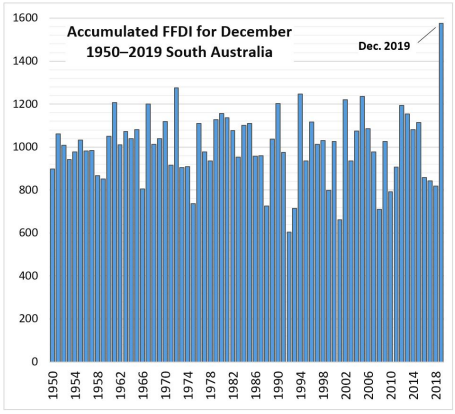
The condition is rated as poor. Low rainfall and high temperatures have exacerbated spring and summer fire weather conditions in recent years.

Through 2018 to 2019, the persistence of below-average rainfall led to increasingly high FFDI values across much of the state.

During December 2019 into early January 2020, hot conditions combined with a dry landscape and strong winds to produce particularly dangerous fire weather conditions. In December 2019, the area-averaged accumulated FFDI values for South Australia were the highest for any December since records began in 1950. This was 24% higher than the previous highest December on record in 1972 (bottom figure).

Fire danger weather has increased in occurrence and severity across the state since the 1970s.





Why is climate important?

Climate affects almost every part of our lives. Communities, industries, landscapes and ecosystems all develop with a tolerance for a range of climate variation. If the climate changes beyond that range of tolerance, then they must either adapt, migrate, transform or decline.

The observed changes in the occurrence of severe and extreme fire weather increase the likelihood of bushfires affecting lives, property and the environment in South Australia.

What are the drivers?

The overall risk of bushfires and grass fires is driven by a range of factors, including the vulnerability of people and assets, weather, fuel availability and dryness, ignition sources, and the viability of fire suppression measures.

The likelihood of fires starting and spreading is strongly affected by weather conditions. Climate model projections indicate increasing temperatures and declining rainfall in parts of the state due to higher concentrations of atmospheric greenhouse gases.

What is being done?

State agencies, including the Country Fire Service and the Department for Environment and Water, contribute to a range of measures to manage and reduce the overall risk of bushfires, including the management of fuel loads, fire suppression and planning regulations for areas of high risk.

A new Australian Fire Danger Rating System is in development; this will combine the latest science, experience and data to strengthen the ability of fire authorities to accurately communicate bushfire danger to the community.

For further information, see Technical information