

FIRE AND ROCK WEATHERING IN SPINIFEX DESERTS

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ABSTRACT

A series of experimental Spinifex Fires adjacent to granitic rock surfaces in the Pilbara region of Western Australia have demonstrated that very high temperatures (600 to 900°C) can be generated at the rock surface. These temperatures can be maintained for periods of time from 2 or 3 minutes to over 20 minutes depending upon the fuel load involved. Extensive exfoliation of the rock surface occurred when temperatures in excess of 600°C were maintained for more than 4 minutes. The experiments showed that damage was not dependent on rock moisture content.

The findings have implications for the management of rock art sites where there is a risk of wild fire. They also indicate that fire may be a major rock weathering factor in arid environments.