

GEOGRAPHY

Stage 3 Factors that Shape Places

Investigate the impact of a contemporary bushfire hazard in Australia

Drought - Bushfire – Erosion – Water Quality



This resource supports the Georges Riverkeeper Stage 3 Education Module 3: Rainfall, Droughts & Floods

Outcome: Explains interactions and connections between people, places, and environments GE3-2

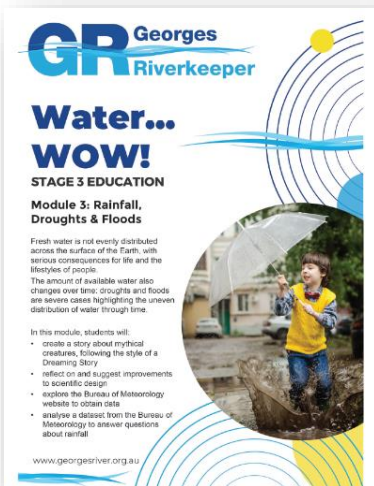
Key Inquiry Questions: How do people and environments influence one another? How do people influence places and the management of spaces within them? How can the impact of bushfires on people and places be reduced?

Learning Intentions: I can describe the impacts that drought and bushfires have on people and places.

Success Criteria: I can recall how Aboriginal people (or First Nations people) used fire as a tool. I can recall how fires have affected the Georges River. I can explore the Bureau of Meteorology website to obtain data.

Overview:

The Georges River is considered one of the most severely flood-prone rivers in NSW. Aboriginal people, with thousands of years of experience, would have lived through severe natural catastrophes. There is a dreaming story of the Dharawal people, whose nation stretched from the southern bank of the Georges River and beyond, describing the creation of the Gynea Lily following a huge storm that caused the death of a band of people ([source](#)). More recently bushfires have dominated the Australian landscape. Climate change may affect fire regimes across the Australian landscape through changes to temperature, rainfall, humidity, wind, and carbon dioxide in the atmosphere ([source](#)). Aboriginal Fire Management as a tool used to help reduce the impact of bushfires on people, places and the environment. Fire management is a key part of how Aboriginal people take care of country and is often called 'cultural burning' ([source](#)).



Aboriginal & Torres Strait Islander Histories & Cultures



Bushfires have always been part of the Australian natural environment. Aboriginal people learned to manage the land in ways that met their needs. Their main tool was low-intensity fire to keep the country more open and easier to travel through, to promote the growth of fresh green grass and herbs that would attract animals, as a means of signalling and hunting, and for the more obvious purposes such as warmth and cooking. They deliberately used fire to clear out some heavy bush areas and burnt the areas around fire-sensitive vegetation communities as a form of protection for the plants they used for food. As a result of Aboriginal fire use practices, large intense bushfires, such as those that occur today, were uncommon ([Source](#)). Aboriginal people used fire carry out a 'cool burn' as depicted in the [video by John Daly Aboriginal Ranger](#).

Fire-making was hard work, and to be avoided where possible, so fire was carried about when collecting food, when moving camp, and on fishing expeditions at night ([source](#)).



Photo of burning forest



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Georges River/Holsworthy Bushfire in April 2018

How did the Georges River bushfire impact the people & places?

April 2018 was the second warmest April on record and the eighth driest on record. The bushfire broke out on Saturday 14 April on the banks of the Georges River, near the Casula railway station. By the following day, more than 500 firefighters were battling the blaze, with almost 100 fire trucks and 15 aircraft. Three thousand, eight hundred hectares had burnt before the fire was brought under control several days later. Firefighters and residents saved 888 homes, six facilities and one outbuilding from destruction ([source](#)). However, many thousands of animals and plants were affected by this fire and it has a huge impact on the whole Georges River catchment. Rain events after bushfires can transfer huge amounts of ash, burnt material, soil and dead animals into our rivers ([source](#)), as demonstrated by the suggested Activity 1. The Bureau of Meteorology (BOM) has climate datasets and predictions to help us work out the likelihood of drought, bushfire and flooding events. For the latest data set for Holsworthy Military site on the Georges River refer to the [BOM website](#). Check out the [Georges Riverkeeper fact sheet on flooding](#) for further information on flooding.

ACTIVITY 1: How do bushfires help seed germination?

Not all seeds germinate easily. Some seeds have a physical or chemical inhibitor to germination designed so that the seed will only germinate in natural habitats when conditions are favourable ([Fact sheet](#)). Banksia seeds need smoke to germinate. Check out the [Gardening Australia video](#) on how to smoke seeds. You could always just buy the [seed starter granules](#) from Bunnings that are infused with smoke. Try growing some native plants for your garden or school to help regenerate the bush, and help reduce soil erosion in the catchment that leads to lower water quality.



ACTIVITY 2: How does bushfire affect the soil and water quality?

When a bushfire goes through an area of bushland there is very little vegetation left to protect the soil from erosion during rainfall. This can be demonstrated in a simple experiment seen in this [video](#). This outside experiment shows the less vegetation protecting the soil, the more runoff, which occurs more quickly, and it contains more sediment. Try this out.



ACTIVITY 3: Bird spotting “Firehawks”



Information dating back over a century reports the indigenous peoples of Australia's Northern Territory maintain that birds they call “Firehawks” can control fire by carrying burning sticks to new locations in their beaks or talons. These birds use fires to help find food—making easy meals out of insects and other small animals trying to flee the blaze ([source](#)). “Firehawks” like Black Kites and Whistling Kites inhabit Western Sydney. Use the [Birds of Western Sydney ID chart](#) and go outside to see if you can spot these birds where you are.



These are free water education resources for teachers and students about water in the Georges River catchment in South Sydney, and more generally, in Australia. These education modules have been prepared for Stage 3 in primary schools.

They cover facts for kids about drinking water, water uses, the water cycle, water pollution, water conservation, rainfall, drought, floods, aquatic food webs, and how to measure water conditions using waterbugs, plus much more.

www.georgesriver.org.au/learn-about-the-river/schools

There are many different stakeholders and landowners in the Georges River Catchment who all have a responsibility to manage their land in a way that ensures there is a minimal impact on the river and its ecosystems.

Georges Riverkeeper's Members:



Georges Riverkeeper's Partners:

