

Australia's Volcanoes

Lesson Map: <http://esriaustralia.com.au/education/SpatialActivity34>

Engage

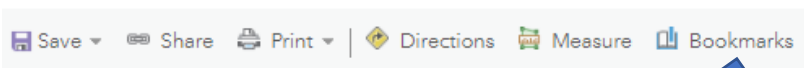
Renewable vs nonrenewable

- Unless you live near these distinct landforms, you probably aren't aware of Australia's volcanic history. Australia's mainland is scattered with dormant and extinct volcanoes, lava fields and vents. There are no active volcanoes on our mainland, but active volcanoes located on Heard and McDonalds Island.
- The last volcano eruption occurred before European settlement, in what is known as the Newer Volcanics Province, which are mostly located in Victoria. The latest eruption occurred in Mount Gambier, about 5000 years ago.
- Indigenous Australian's have passed down stories of Australia's volcanic past. One significant example is the [Gugu Badhun People](#), in Northern Queensland, who tell the story of Numunali and Bunbunda who set the ground on fire.

Explore

Where are they located?

- Click on the Lesson Map URL above to open the map. In the 'Details' pane, under 'Content', tick the first checkbox to turn on the layer 'Volcanoes in Australia'. Turn off all other layers.
- Each of the symbols represents a volcano, vents, and lava fields. They are mostly located in Australia's mainland, but there are some located in deep seamounts off the coast of Australia.
- A seamount is a mountain under the sea, typically formed by volcanoes. Click the Bookmark tab, then click 'Gascoyne Seamount'. This is a seamount that was formed by a volcano.



- ? Where are most of the volcanoes located in Australia? **Most of the volcanoes are located on the East coast, from Queensland, New South Wales then down to Victoria.**

Download student worksheet [here](#).

Time

20 minutes

Activity

Investigate Australia's explosive history

Learning Outcome

Students will be able to:

- Locate Australia's volcanoes, including where the active volcanoes are
- Identify the types of landforms created by volcanic activity
- Analyse how Australia's volcanic landforms were created, including plate movement over hot spots

ACARA Curriculum Link

[Year 8 Geography: Landforms and Landscapes](#)

[ACHGK048](#) | [ACHGK050](#)

Teacher Feedback:

To share your feedback on this, or any Spatial Activity, please contact education@esriaustralia.com.au

Explain

How were they made?

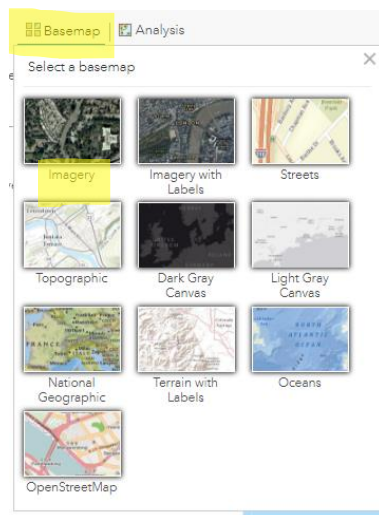
- Turn on the layer 'Earth's Tectonic Plates' and turn off all other layers.
- ? What plate is Australia located on? **Australia is located on the Indo-Australia plate.**
- Turn on the layer 'World hotspots'. This layer contains information on volcanic hot spots, which are made from plumes in the mantle.
- ? Where is Australia's hot spot located? **In Victoria, near the Newer Volcanics Region.**
- ? Turn on the layer 'Indo Australia Plate Movement'. Which direction is the plate moving? **The plate is moving in a North-East direction.**
- ? How does this explain Australia's volcanoes? **As the plate moved, the hot spot created volcanic areas over millions of years.**

Extend

Water on Maars

- One of the most common features of Australia's volcanic landforms is a maar. As a large portion of Australia contains extensive groundwater, when the hot spot rushed lava to the surface, the hot magma mixed with ground water creating a *phreatomagmatic eruption*. This often forms a shallow water crater, commonly called a maar.

- ? Click the Bookmark button, and this time go to 'Mount Gambier'. Due to it's volcanic nature, the water is a cobalt blue colour, and consequently a popular tourist attraction. Change the Basemap to 'Imagery' to see satellite footage.



Next Steps:

Request a free ArcGIS Online Account for your school:

Australian schools can request a free ArcGIS Online account as part of Esri Australia's Classroom GIS Initiative. A school subscription provides additional map layers, content, features and privacy.

Learn more about ArcGIS Online, and apply for your ArcGIS Online School subscription at <http://esriaustralia.com.au/education>