



Freycinet Peninsula

400 Million Years Ago

Off one edge of the continental shelf, layers of sand and mud accumulated, sometimes by underwater landslides, and at other times slowly, in still water. Eastern Tasmania was quite close to the equator at this time.

380 Million Years Ago

Collision of two continental plates compressed these rocks, dramatically folding and faulting them. A high mountain range was the result, slowly drifting southwards.

370 Million Years Ago

Folding and faulting produced weaker areas in the crust into which enormous masses of molten granite pushed upwards, melting the sedimentary rocks. When this cooled, solid granite remained, deeply covered and surrounded by the baked sediments. Much of the overlying material was then eroded away, exposing granite at the surface.

290 Million Years Ago

As continental drift moved Tasmania close to the Polar Regions, the East Coast sank beneath the sea, and glaciers dropped large stones into fine sediments which built up on the sea floor. The granite was eventually covered by hundreds of metres of siltstone and sandstone.

170 Million Years Ago

Instead of being compressed, up welling magma began to force the crust apart all along the East Coast of Tasmania. Masses of molten dolerite were forced in between horizontal layers deposited previously. The Tasman Sea began to open up as the crust slowly rifted.

60 Million Years Ago

As the Tasman Sea opened further, large blocks of land were uplifted whilst others sank. What is now the Freycinet Peninsula became a low range, whilst Great Oyster Bay opened up as earthquakes caused the underlying rocks to sink downwards. Surface streams eroded the ranges to form The Hazards which we see today.

2 Million Years Ago

The earth entered an Ice Age. A series of glacial periods covered much of Western Tasmania with ice. However, even in glacial times, there was not enough precipitation on the East Coast to build up deep snow banks.

Today and Onwards

Weathering and erosion of the granite mountain areas continues today. This can be seen by the discolouration on rock surfaces where water emerges from joints on large rock surfaces. This is due to deposition of iron oxide and other minerals, originally dissolved as water moved slowly between granite blocks.

The Freycinet Peninsula has formed over 400 million years as shown by the timeline. The tectonic (mountain building) activity below the Earth's surface resulted in the separation of a large granite mass. The extent of this granite can be seen from Wilsons Promontory in Victoria, then down to the Kent Group, Flinders Island, the East Coast of Tasmania, with the most southerly signs being two rocks at Deep Glen Bluff and Hippolyte Rocks off the Tasman Peninsula.

Freycinet is effectively two eroded blocks of granite joined by a sand isthmus. These are the Hazards and the Mt Graham/Mt Freycinet sections of the peninsula. The low lying isthmus joining these areas was built from accumulated gravels that eroded from the mountains and washed into their current place by higher sea levels. When the sea receded the isthmus was exposed.

Thinking pink?

The most common minerals in the granite consist of feldspar (orthoclase), which is pink or cream, micas (black mineral) and quartz (white and glassy mineral). These can be easily seen in the boulders and outcrops throughout the park.

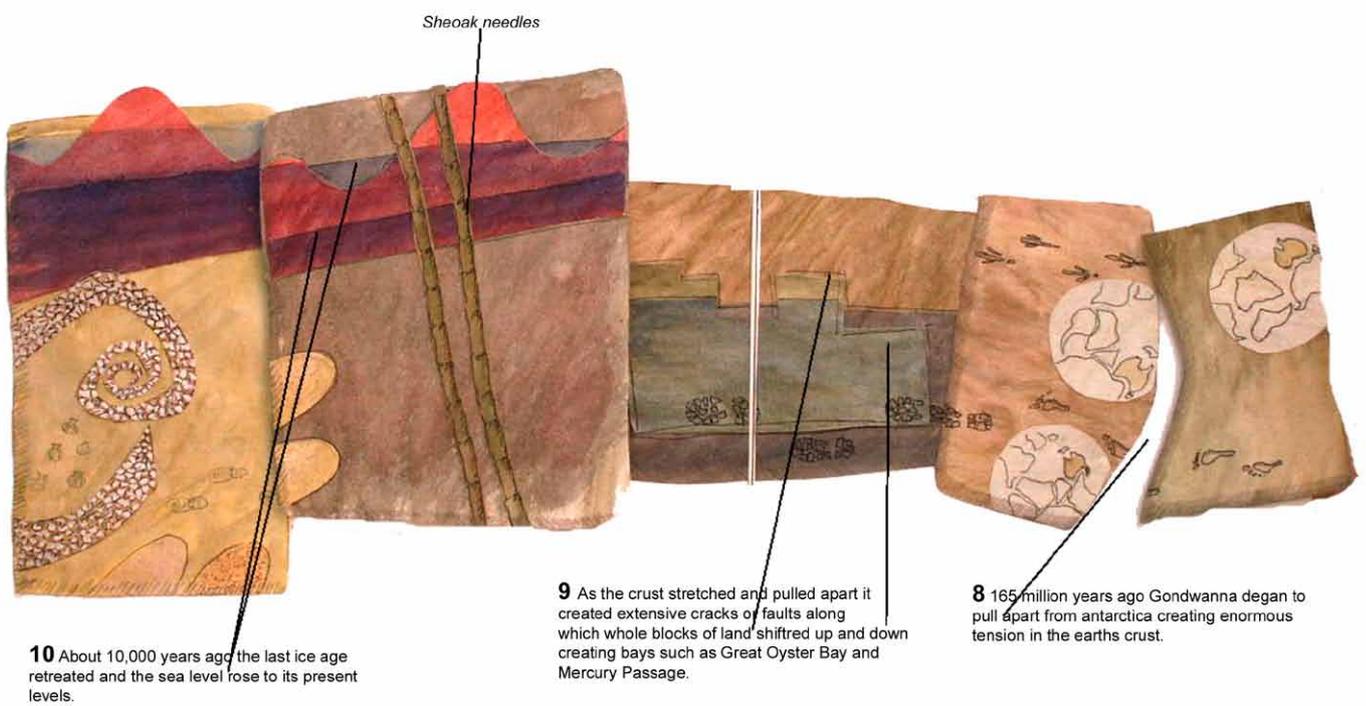
The pink tint of 'The Hazards' is caused by iron oxide impurities in feldspar, which is a component of granite. There is also an orange lichen cover on many of the rocks. Combined, these give a pink tint to 'The Hazards' and other areas which are dominated by granite.

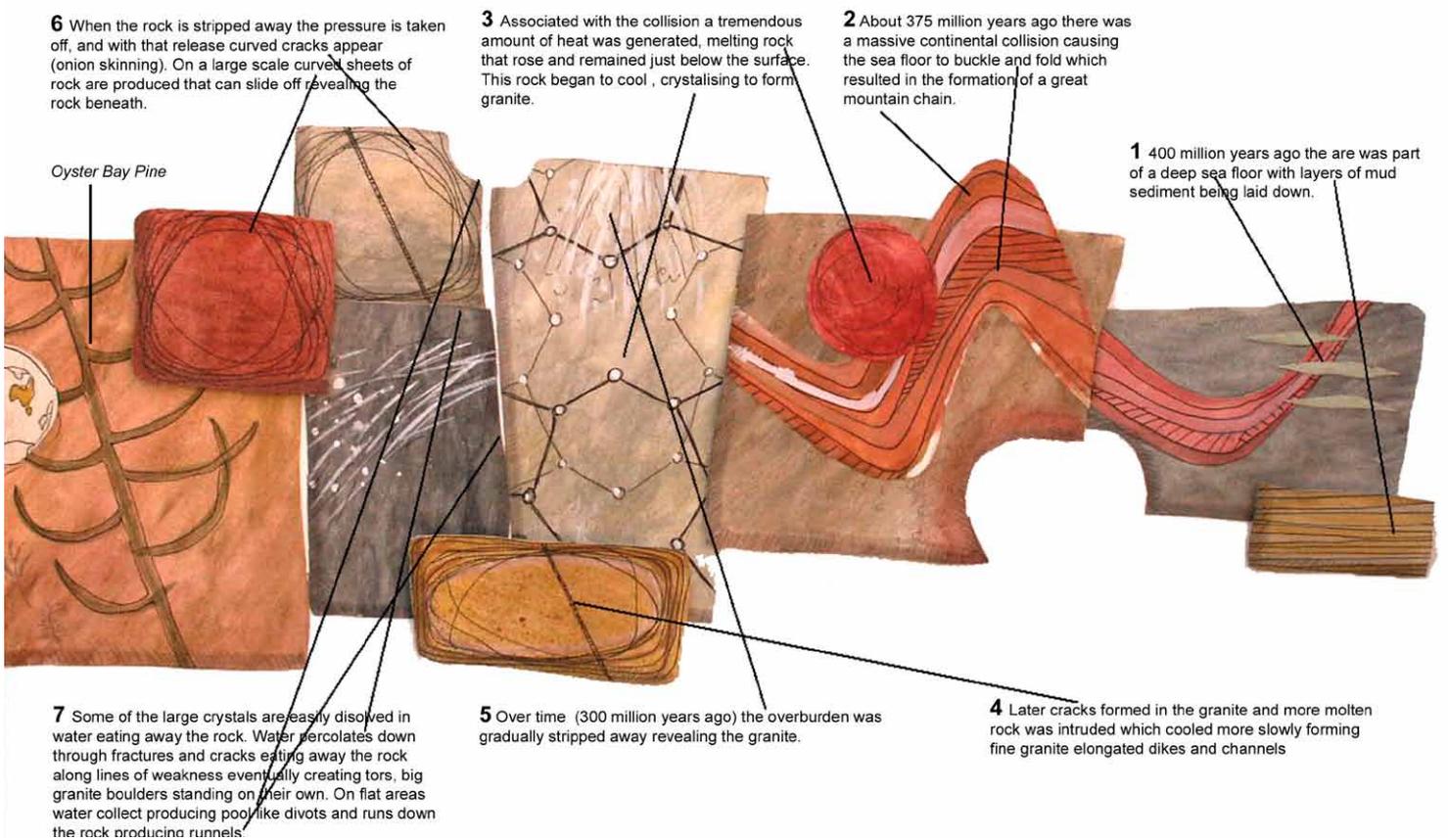
Many beaches, different sands

Sands are eroded and weathered by water and wind, then sorted and shifted by the same natural forces. This has resulted in differences between sands of various beaches within the park. Other factors contributing to the creation of sands include a range of coastal processes including the bedrock type, the energy of the coast and the amount of longshore drift.

Entrance Mural at the Freycinet Visitor Centre

By Artist Steve Hilliard





Sleepy Bay's gravelly sand is almost new as pebbles of granite have recently eroded from The Hazards with the pink feldspar colouring still fresh and bright.

The sand at Friendly Beaches is much older because it began as quartz bearing rock, weathered into quartz sand, was buried and compacted into sandstone, then eroded again and again to produce finer sand. Silica, one of the most common minerals in the Earth's crust is a component of the sand at Friendly Beaches. The high purity of the sand led to several companies investigating the possibility of mining the sand for glass. The silica in the sand at Friendly Beaches also leads to the question...

Why does sand squeak when you walk on it?

It only occurs when a certain type of sand (e.g. silica), with grains of a certain size, create layers from the wind and moisture. The sand also needs to be well weathered, smooth and fairly rounded.

The squeaking noise is caused by friction of the layers rubbing against each other. Polluted sands will not squeak because of foreign matter mixed in with the sand. Therefore, a beach with squeaky sand is a clean beach.

What's significant about Schouten Island?

Although well over 80 per cent of Freycinet is composed of granite, Schouten Island has a very different geology to the majority of the peninsula. A fault line bisects Schouten Island from north to south through its centre, with dolerite to the west and granite to the east of the fault line. The dolerite soils of Schouten Island made it viable for farming during the 1800s. On closer inspection, it is possible to see the differences in the vegetations of a dolerite and granite environment. The dolerite soils of Schouten Island produce eucalypt forest, whereas the granite environments tend to be bare rocks amongst some scattered heath communities.

Commercial use of granite

Freycinet granite is highly sought after as a feature material in architecture. Some buildings which feature Freycinet granite include the Commonwealth Bank Head Office and Marine Board buildings in Hobart, as well as New Parliament House in Canberra.

But how was the granite originally quarried?

The granite quarry located near The Fisheries started operating in 1934 by Italian stonemasons who recognised the unique decorative value of Freycinet granite. Explosives were used to break down large blocks of rock, which were broken down further using drills, plugs and hammers. However, in the 1970s the quarry was closed due to high running costs as well as environmental concerns.

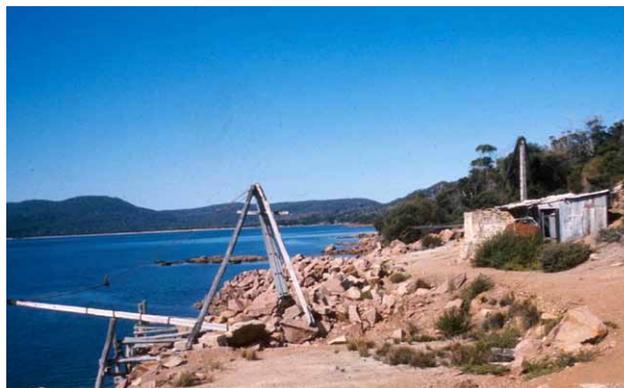


Photo: former Coles Bay Quarry