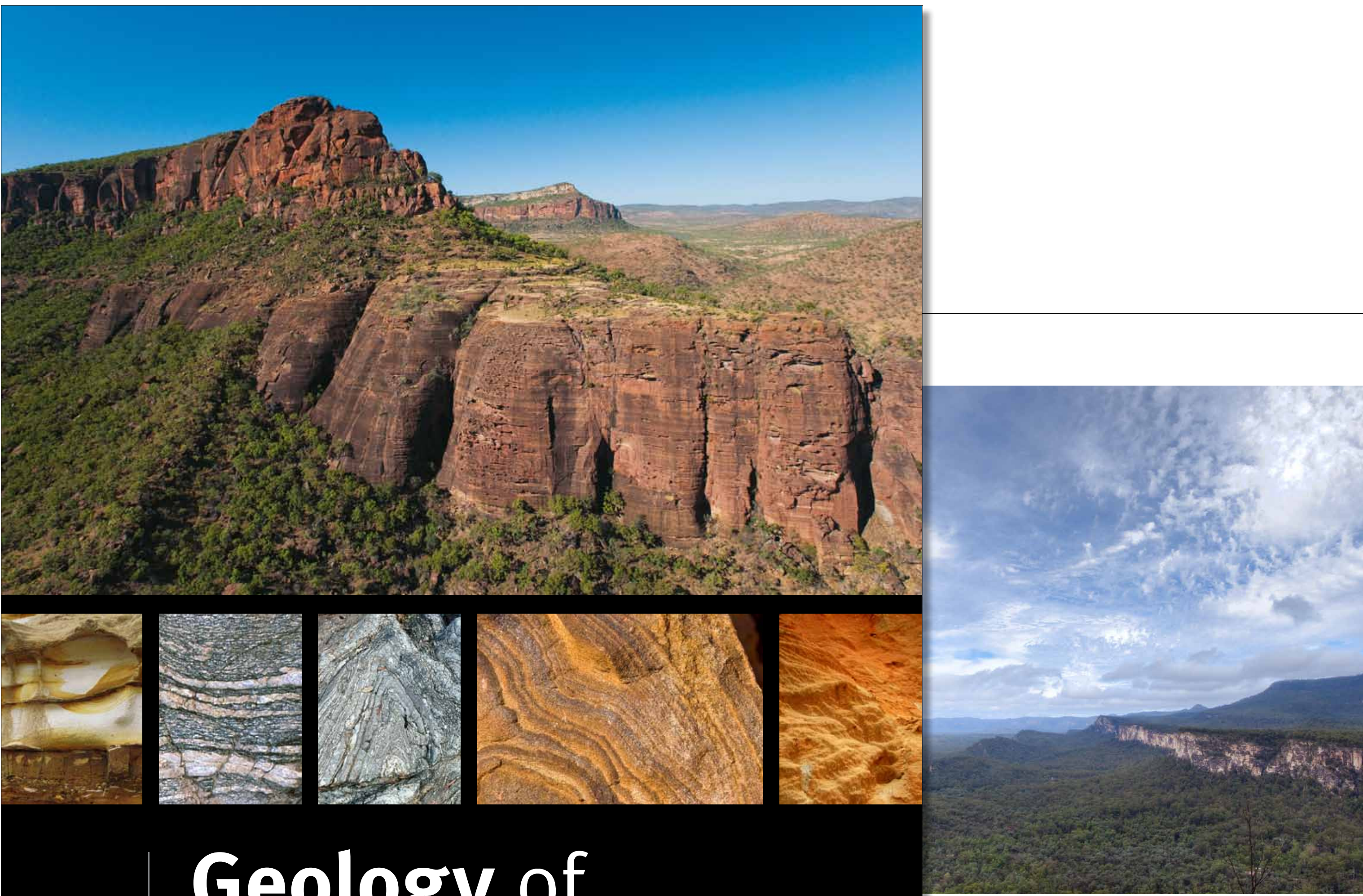


Geology of Queensland

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Edited by Peter Jell

Geological Heritage

The geological sciences, have traditionally focussed on the collection of significant geological sites or features which are research or education. More recently such studies have included explanation of geological features to enhance public understanding of surrounding landscapes and to develop a sense of place. In so doing they have begun to form part of a tourism industry providing more educational experiences to visitors.

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(Head et al. 1994) showed that the earliest were deposited about 13 700 and 9300 years ago, respectively. Analysis of fossil pollen suggests that a more open forest predominated at the time, and that the rainforest took over only after 7500 years ago (Kershaw 1990). To the north, the road through Daintree National Park passes Lake Euramo (Fig. 4) which is dumbbell-shaped, suggesting a double steam explosion. Dating of the earliest sediments there gives an age of 13 000 years (Dabbe 2005).



Figure 5: Lake Euramo

Hypipamee Crater, hidden in rainforest just off the highway between Alton and Ravenshoe, in Mount Hypipamee National Park, is a very narrow vertical hole cut in solid granite. It is a volcanic pipe or diatreme, a crater blasted through the granite when rising basalt magma readily encountered groundwater and caused a violent explosion of steam. The crater is just north of the edge of the basalt lavas. It is a popular tourist feature, and a signboard explains its origin.

Numerous interesting volcanic features occur throughout the Alton and Ravenshoe area, and these could possibly be documented and signposted in a Geopark concept in the future.

15-6-4 Porcupine Gorge National Park, Hughenden

This elongate park, north of Hughenden, covers a narrow gorge gouged out of sandstones beneath a Cenozoic basalt cap. Its geological interest comes from the cross-section of much of the geology of north Queensland well displayed in the gorge walls (Fig. 6).

The basalt cap is part of a broad plateau of lavas from the late Cenozoic. Surgeon Volcanic Province. Beneath it are Mesozoic sediments of the Carpentaria/Eromanga Basin. At the top, white marine siltstones of the Cretaceous Mollumbilla Formation, part of the Rolling Downs Group, overlie reddish brown sandstones of the marginal marine to fluvial Gilbert River Formation, which in turn overlies brown fluvial sandstones of the Jurassic Blantyre Sandstone.



Figure 6: Porcupine Gorge

Beneath an obvious unconformity are rocks of the Galilee Basin. Stark white Waring Sandstone was deposited under fluvial conditions in the Triassic towards the end of sedimentation in that basin. In the upper gorge, softer rocks of the Permian Betts Creek beds were deposited under swampy conditions, and elsewhere these contain coal seams. Beneath these are the early Permian Boondaroo beds, deposited under glacial conditions. In the uppermost gorge are black banded gneisses of the Cape River Metamorphics that are part of the latest Proterozoic to Cambrian Charters Towers Province. The Parks Service has constructed a lookout over the lower gorge where a signboard describes the formation of the gorge and the rocks of the Mesozoic Carpentaria Basin. Visitors descending to the base of the gorge on the track from the campground see the junction between the white Waring Sandstone and the brown Blantyre Sandstone in the eroded cliff of The Pyramid. The older rocks of the upper gorge are unfortunately inaccessible without an overnight hike, but fragments of the old gneisses are strewn along the length of the gorge in the stream bed.

15-6-5 Carnarvon Gorge – Carnarvon National Park

The great blanket of white, cliff-forming Precipice Sandstone at the base of the Surt Basin sequence is one of the most remarkable geological features of Queensland, outcropping as it does in cliffs from near the coast at Rockhampton to as far west as Tumbo. It is most prominently exposed in the dramatic Carnarvon Gorge (Fig. 8) in the Central Queensland Highlands, where the Carnarvon National Park and commercial lodges provide access. However, the environs of the gorge also provide an excellent illustration of the geological development of the broader region and subsequent landscape development (Beeston & Gray 1993, Willmott 2006). From a lookout near the gorge entrance, the blanket of sub horizontal white sandstone can be seen lying on steeply inclined folded strata of the underlying Bowen Basin to the east (red-brown sandstone of the Clematis Group). High above, the major ridge is capped by black basalt lavas of the southeastern flank of the Buckland Volcano, one of a series of hot-spot shield volcanoes which erupted about 27Ma. Carnarvon Creek began as a radial stream on the flank of the volcano, and the gorge was carved into the sandstone only after the creek cut through the basalt cap. Within the lower gorge and its side chasms, the unconformity



Figure 8: Carnarvon Gorge

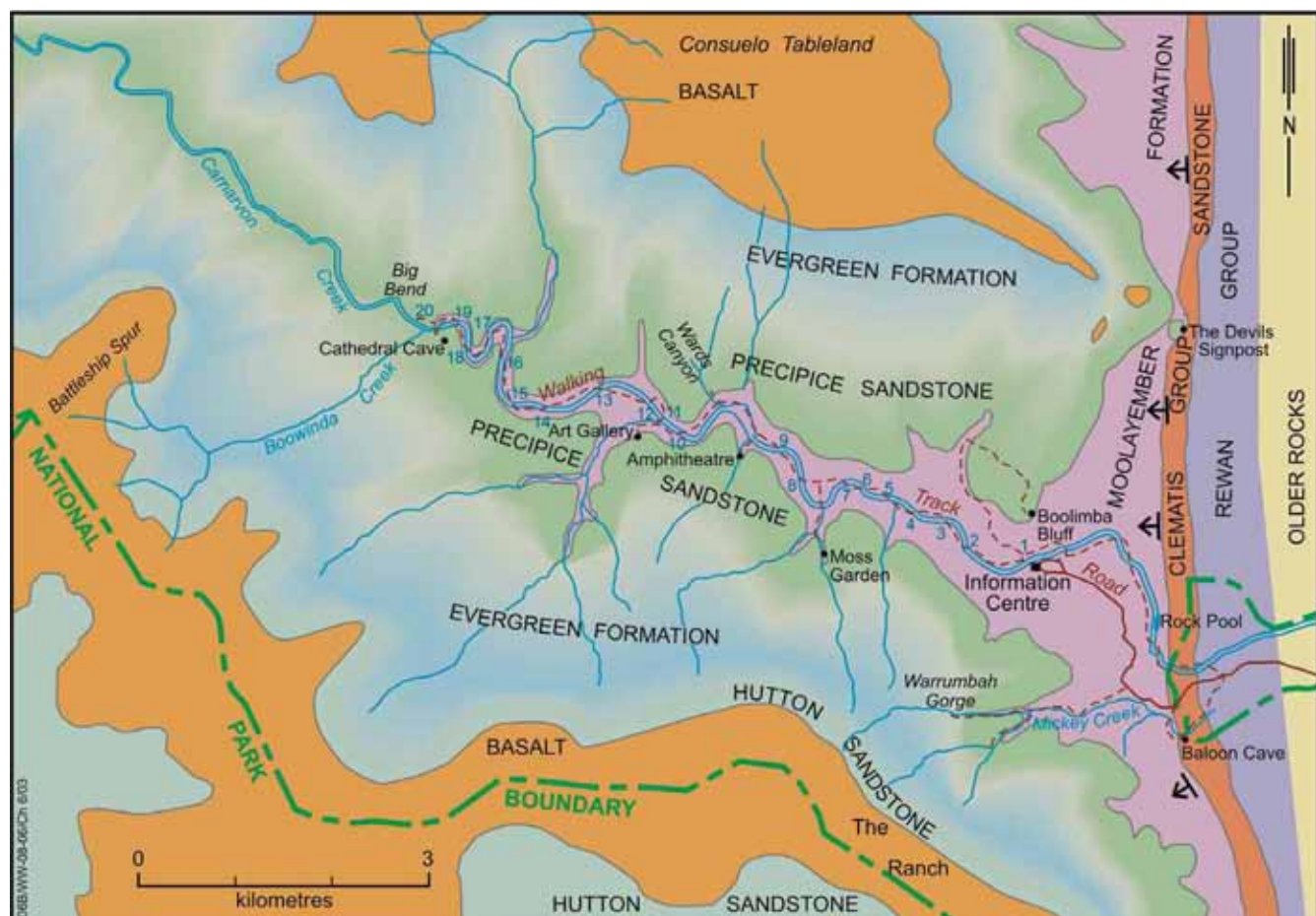


Figure 9: Carnarvon Gorge

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