

2.21 RgB3 RISES – gently undulating, BASALTIC, type 3

This complex unit on basalt in the south of the study areas essentially comprises a gently undulating plain formed by episodic extrusion of lava from numerous volcanoes. The plain is now variously eroded by stream dissection. The volcanic hills have been mapped separately in unit VB, and the poorer-drained lower-lying areas of the plain have been mapped into a separate unit – PgB4. Where stream dissection is marked, such as by Creswick and Tullaroop Creeks, the narrow valleys have been mapped in EB.

A gradual increase in elevation to the south accompanies an increase in annual rainfall. In the south the map unit merges with unit RgB1, which describes the red cropping soils occurring mainly to the east of Creswick.

The soils vary greatly and largely reflect their hydromorphic condition: red to brown gradational soils frequently occur on the better-drained rises and colluvial slopes flanking the volcanic hill; uniform soils occupy the lower-lying and poorer-drained areas; and yellow brown duplex soils, often containing buckshot in the upper horizons, are found on the plain. Soil depth is also variable, with occasional surface stone on the gentle slopes, but more common on the scarps.

The native vegetation has been removed, and land use is predominantly grazing.

Geology Qvn – Quaternary olivine basalt

Rainfall 500-750 mm per annum

Slope Average 2%; range 0-10%, occasionally precipitous on scarps

Dominant landform element (60%) Gently undulating plain

Minor landform elements (40%) Rocky rise, broad drainage depression, scarp, closed drainage depression

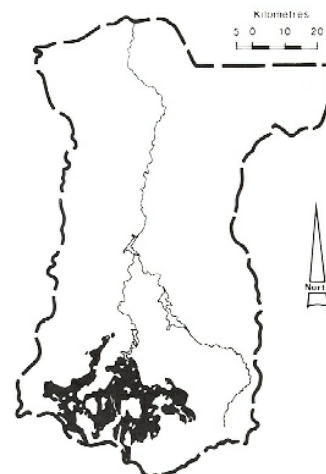
Soils Dominant: Ug5.1, Ug5.2, Ug5.3. Grey, brown or less commonly black uniform clay soils on poorer parts of the plain and in the depressions; relatively impermeable, these frequently crack during the summer months, causing a gilgaied micro-relief in some areas: they are usually whole-coloured, although reddish brown rootline mottling is common, especially in the upper horizons: soil depth is extremely variable, and occasionally basalt stones occur at the soil surface

Gn3.22, Gn3.32. Brown gradation soils, common throughout the plain, are moderately deep and well structured with silty loam to clay loam surface textures and clayey subsoils; in some instances the B horizons are mottled and an A₂ horizon is present; buckshot is common in the upper horizons: the brown gradational soils appear to be slightly poorer-drained variants of the red gradational soils, which are restricted to the better-drained crests, the slopes flanking the volcanic hills and the scarps

Dy3.22, Dy3.12, Dy3.32, Db. Yellowish grey, yellowish brown and brown duplex soils are common on the flatter parts of the plain, with the topsoils typically brown loams to silty loams, and a pale to sporadically bleached silty loam A₂ horizon often present; the upper horizons usually contain abundant buckshot: subsoils are neutral and often mottled

Minor: Gn3.72, Gn3.95. Deep, well-structured, yellowish gradational soils, with brown, silty loam topsoils containing buckshot in the lower part, occasionally occur on the plain: subsoil colour reflects the soil's hydromorphic condition, with grey colours predominating in poorer-drained areas, and yellowish-brown to reddish-yellow colours in better-drained areas

Gn3.1, Gn4.12. Red gradational soils, often with buckshot in the upper horizons, on the better-drained slopes and crests; they are usually well structured and, on steeper slopes such as scarps, may be shallow and stony



Uf. Shallow, stony, well-structured, dark-uniform clay soils occasionally occur on the scarps

Native vegetation Almost totally cleared, apart from isolated specimens of *E. camaldulensis*, *E. viminalis*, *E. melliodora*, *acacia melanoxylon*, *A. dealbata* and, near Allendale, *E. rubida*; original community composition and structure could not be determined

Stone-rock outcrop Average 1%; range 0-2%, but 10% on scarp

Pans Nil or not observed

Land use Grazing on introduced pastures dominates, and limited cropping occurs, especially in the south on the better-drained and well-structured red gradational soils: soil conditions that frequently limit productivity include rock outcrops, shallow soils, poor drainage, and disruption of plant roots by the seasonally cracking clays

Observed land deterioration The little deterioration observed consists largely of compaction of the silty loam topsoils of the plain, with slight gully erosion in the more dissected areas and a small area of salting north of Mount Cameron

Susceptibility to land deterioration

Compaction (moderate to high)

Salting (low)

Gully erosion (low)

Sheet erosion (low to moderate on scarps)



This unit involves the land between the volcanic hills in the south.