

Geological map of Ataúro, Timor-Leste

Legend

Qa Latest Pleistocene–Holocene alluvium
Alluvial sediments deposited in river valleys and on small coastal plains. Coastal beach deposits.

Pleistocene limestone

Limestone, conglomerates, sands, and muds. Massive coral reef limestone in reef crest and reef flat zones. Beach conglomerate deposits are well rounded and carbonate cemented. Bioturbated muds and sands in the back reef facies often with fossil molluscs. Much of the limestone sequence forms a series of terrace levels. Where present, the reef crest facies marks the highest elevation of each terrace. Terraces often have a thin regressive beach conglomerate deposit overlying the reef and sediment facies. The limestone surfaces weathers to pale grey in colour, and is hard and cavernous. The development of limestone terraces correspond to sea level highstands, with the oldest terrace occurring at the highest elevation. Limestone occurs at up to 700 mASL; individual terraces have been defined to a maximum elevation of 600 mASL. Several terrace levels can be subdivided into 2 secondary terraces.

- Ql** Undifferentiated limestone, conglomerates, sands and muds; unassigned terrace level.
- Qlt1a** Youngest limestone terrace, dated at ~100 ka (Chappell & Veeh, 1978).
- Qlt1**
- Qlt2** Terrace dated at ~125 ka (Chappell & Veeh, 1978).
- Qlt3a** **Qlt3**
- Qlt4**
- Qlt5** Volcanic boulder beach conglomerate forms terrace surface. Limestone cover eroded.
- Qlt6**
- Qlt7**

Faults

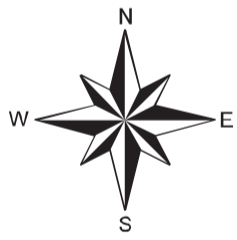
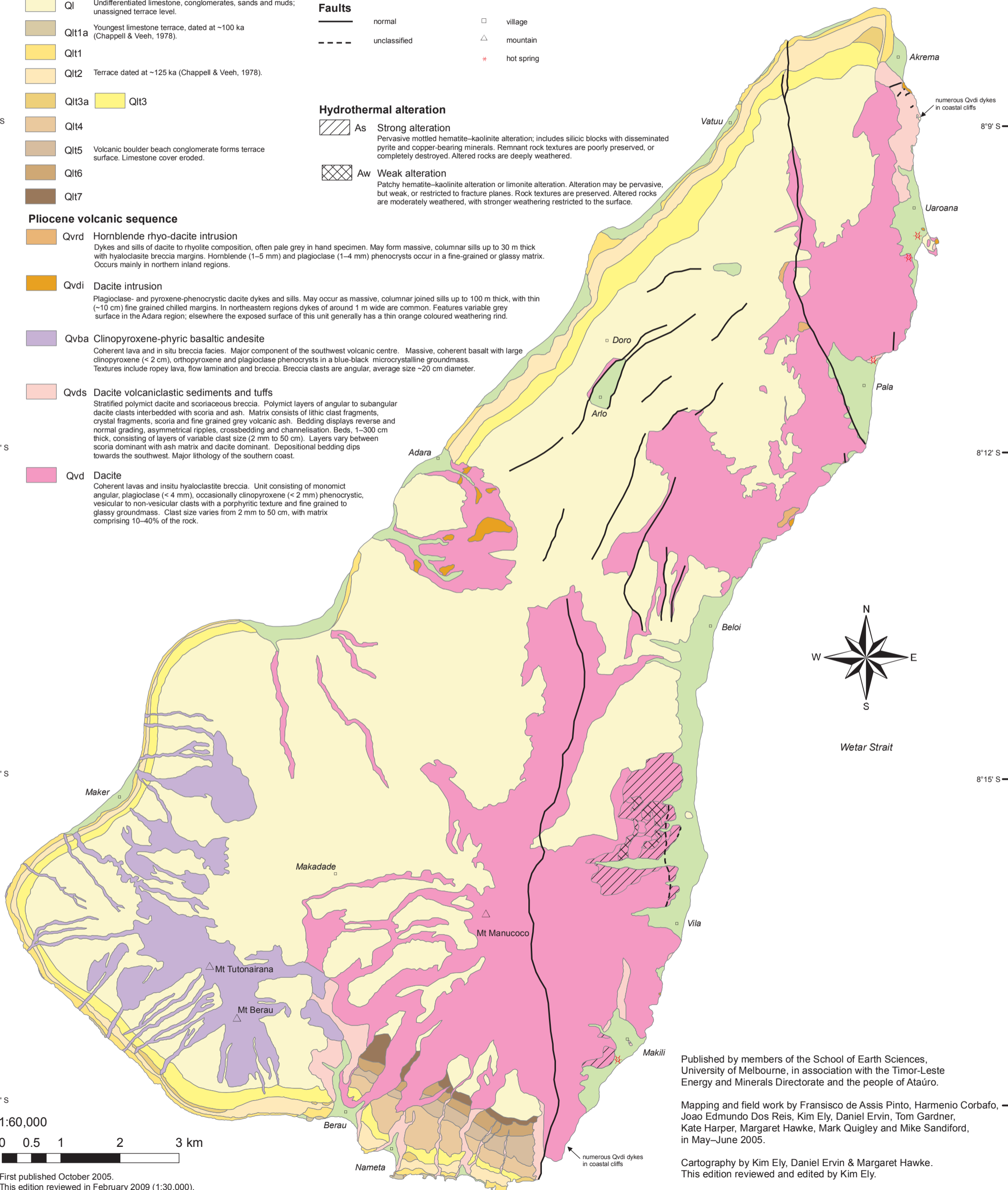
- normal
- - - unclassified
- village
- △ mountain
- * hot spring

Hydrothermal alteration

- As** Strong alteration
Pervasive mottled hematite–kaolinite alteration; includes silicic blocks with disseminated pyrite and copper-bearing minerals. Remnant rock textures are poorly preserved, or completely destroyed. Altered rocks are deeply weathered.
- Aw** Weak alteration
Patched hematite–kaolinite alteration or limonite alteration. Alteration may be pervasive, but weak, or restricted to fracture planes. Rock textures are preserved. Altered rocks are moderately weathered, with stronger weathering restricted to the surface.

Pliocene volcanic sequence

- Qvrd** Hornblende rhyo-dacite intrusion
Dykes and sills of dacite to rhyolite composition, often pale grey in hand specimen. May form massive, columnar sills up to 30 m thick with hyaloclastite breccia margins. Hornblende (1–5 mm) and plagioclase (1–4 mm) phenocrysts occur in a fine-grained or glassy matrix. Occurs mainly in northern inland regions.
- Qvdi** Dacite intrusion
Plagioclase- and pyroxene-phenocrystic dacite dykes and sills. May occur as massive, columnar joined sills up to 100 m thick, with thin (~10 cm) fine grained chilled margins. In northeastern regions dykes of around 1 m wide are common. Features variable grey surface in the Adara region; elsewhere the exposed surface of this unit generally has a thin orange coloured weathering rind.
- Qvba** Clinopyroxene-phyric basaltic andesite
Coherent lava and in situ breccia facies. Major component of the southwest volcanic centre. Massive, coherent basalt with large clinopyroxene (< 2 cm), orthopyroxene and plagioclase phenocrysts in a blue-black microcrystalline groundmass. Textures include ropey lava, flow lamination and breccia. Breccia clasts are angular, average size ~20 cm diameter.
- Qvds** Dacite volcanoclastic sediments and tuffs
Stratified polymict dacite and scoriaceous breccia. Polymict layers of angular to subangular dacite clasts interbedded with scoria and ash. Matrix consists of lithic clast fragments, crystal fragments, scoria and fine grained grey volcanic ash. Bedding displays reverse and normal grading, asymmetrical ripples, crossbedding and channelisation. Beds, 1–300 cm thick, consisting of layers of variable clast size (2 mm to 50 cm). Layers vary between scoria dominant with ash matrix and dacite dominant. Depositional bedding dips towards the southwest. Major lithology of the southern coast.
- Qvd** Dacite
Coherent lavas and in situ hyaloclastite breccia. Unit consisting of monomict angular, plagioclase (< 4 mm), occasionally clinopyroxene (< 2 mm) phenocrystic, vesicular to non-vesicular clasts with a porphyritic texture and fine grained to glassy groundmass. Clast size varies from 2 mm to 50 cm, with matrix comprising 10–40% of the rock.



Wetar Strait

1:60,000
0 0.5 1 2 3 km

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