



Geological data digitised after Cannon, 1978; Wedmore et al., 2019. Other spatial data provided by Malawi Government.

References:
 Cannon, R.T. Geological Atlas of Malawi, 1st ed.; Government of Malawi: Lilongwe, Malawi, 1978.
 Wedmore, L.N.J.; Biggs, J.; Williams, J.; Fagering, A.; Dulanya, Z.; Mphoo, F.; Motta, H. Active Fault Surges in Southern Malawi and Their Implications for the Distribution of Strain in Inherent Continental Rifts. *Tectonics*, 2020, 39.

Basement Geology and Consolidated Sedimentary Rock

- Town/City
- ▭ National International Border
- ▭ Waterbody
- ▭ Fault
- Lithology**
- (CA) Carbonatite and agglomerate vents
- (C) Dinosaur beds
- (D) Dolerite
- (G) Granite
- (G) Dolerite dyke
- (G) Granite
- (G) Biotite-granite
- (G) Alkaline Granite (undifferentiated)
- (GB) Aegirine-rebeck-granite (Manje Massif)
- (G) Hornblende-biotite-granite (Manje Massif)
- (G) Biotite granite (late to post-tectonic)
- (K) Undifferentiated, sandstones, conglomerates and shales
- (K) Chivwondo Beds
- (K) Intermediate beds (arkosic sandstones, mudstones and siltstones)
- (K) Calcareous siltstones and yellow mudstones
- (K) Chivesa Beds
- (K) Basal Beds
- (K) Coal measures and basal beds
- (K) Dolerite dykes and associated intrusives
- (K) Coal shales; Coal shales, carbonaceous mudstones and sandstones
- (K) Mwanza gnlis and shales; Gnlis, sandstones and calcareous shales
- (K) North Rufuna sandstones and shales
- (K) Red Beds: Red marls and calcareous sandstones
- (K) Lower Sandstones: Massive gnlis and sandstones
- (K) Lower Sandstones: Horizon of faggy sandstones
- (K) Upper Sandstones: Gnlis and sandstones
- (L) Basalt lava flows
- (L) Lamprophyre
- (L) Calcareous pebbly sandstones, conglomerates and marls
- (M) Classic Sequence (undifferentiated)
- (N) Nepheline-syenite
- (P) Pegmatite
- (P) Chilmwe Beds
- (P) Chivwondo Beds
- (S) Timbiri beds (gravelly sands and clays)
- (S) Phylitic muscovite schist
- (S) Biotite-hornblende quartz syenite
- (S) Syenite and quartz-syenite
- (T) Sungwa Beds
- (X) Marble
- (Xa) Hornblende-biotite-gneiss, including undifferentiated gneiss
- (Xa) Amphibolite gneiss with amphibolite dykes (hornblende-rich)
- (Xa) Biotite gneiss with Sillimanite
- (Xa) Biotite-muscovite and graphite-gneiss and schist
- (Xap) Pelite: Muscovite and graphite schist and calc-pelitic schist
- (Xb) Basic rocks; metagabbro, melanorite and metadiorite
- (Xba) Anorthosite and anorthositic gneiss (90% Na-Ca feldspars)
- (Xb) Cataclastites, mylonites and phylionites from Mafingi Group
- (Xc) Cordierite gneiss
- (Xc) Metagabbro
- (Xe) Marble and calc-silicate granulite
- (Xg) Granite-gneiss & granite
- (Xg) Granite (Dzanjama)
- (Xg) Migmatite
- (Xg) Hypersthene granite (charnockitic)
- (Xg) Migmatitic gneiss and granulite
- (Xh) Amphibolite, variable amounts of garnet and pyroxene (hornblende)
- (Xh) Hornblende-biotite-gneiss (graphite and garnet locally)
- (Xh) Hornblende and pyroxene-biotite gneiss, partly garnetiferous
- (Xh) Charnokitic gneiss and granulite, including undifferentiated gneiss
- (Xg) Granitic dykes
- (Xn) Perthite Augen Gneiss
- (Xn) Augen Gneiss
- (Xny) Biotite-nepheline-gneiss and nepheline-syenite
- (Xp) Pegmatitic gneiss and massive pegmatite
- (Xq) Quartzite
- (Xq) Quartzofeldspathic psammite, granulite and gneiss, garnetiferous
- (Xq) Quartzofeldspathic gneiss with hornblende
- (Xq) Siliciclastic-cordierite-garnet gneiss
- (Xq) Ultrabasic rocks: Melaproxenite and peridotite
- (Xq) Metaproxenite
- (Xq) Cataclastites, mylonites and phylionites (unknown origin)
- (d) Aegite (alkali feldspar & muscovite)
- (d) Dolerite dyke
- (mG) Microgranite, porphyritic/sheared microgranite and microgranodiorite
- (mG1) Biotite-microcline-microgranite (in part sheared or folded)
- (mG2) Microgranite dykes
- (mS) Microgranite, porphyritic/sheared microgranite, and microsyenite
- (mSy) Microsyenite
- (q) Quartz reef
- Basement Rock of Unknown Lithology (overtain by unconsolidated sediments)

Notes

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