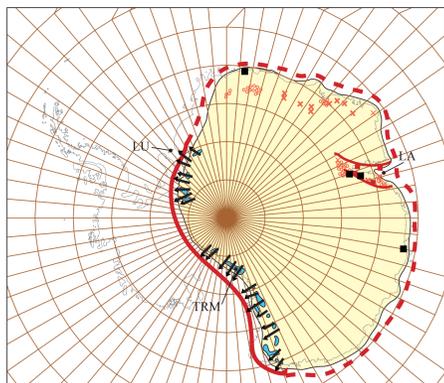


Distribution of Grenville rocks were compiled from: Bauer and others, 2003; Dawson and others, 2003; Fitzsimons, 2000a; Gower and others, 1991; Hanson, 2003; Higgins and Leslie, 2000; Jacobs and others, 1998; Jacobs and Thomas, 1994; Kelling and others, 1985; Ramos and Aleman, 2000; Restrepo-Pace and others, 1997; Rickers and others, 2001; Trettin, 1991; Van Schmus and others, 1993; Yoshida and Vitnanage, 1993.

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Explanation



ANTARCTICA

-  CARBONATE AND SILICICLASTIC ROCKS (middle and late Neoproterozoic, includes some Cambrian rocks in Antarctica). Widely distributed. Fragmentary continental margin deposits circumscribing or lying near the boundaries of Laurentia, west Africa, Baltica, Siberia, south China, India and adjacent Himalayas. Includes miogeoclinal shelf deposits on continental margins, as well as intracratonic deposits
-  DIAMICTITE-BEARING UNIT (middle and late Neoproterozoic, includes glaciogenic rocks of Sturtian (ca. 700 Ma), Marinoan (ca. 635 Ma), and Gaskiers (ca. 580 Ma) ages. Rock consists of a mixture of small to large clasts set in a mud and sand matrix (diamictite). Commonly associated with clastic and carbonate rock including fine-grained turbiditic rocks with large-sized clasts. Diamictite is generally considered to be glaciogenic. On map, the diamictite-bearing unit is shown within areas of the carbonate and siliciclastic unit as well as in small areas outside of these map areas. In these small areas, the diamictite-bearing map unit includes both the carbonate and siliciclastic unit and the diamictite-bearing unit
-  EVAPORITE-BEARING UNIT (middle and late Neoproterozoic, may include Cambrian rocks). Widespread surface and subsurface deposits in the Arabian Peninsula, Iran, and to a lesser extent in Pakistan and India. Consists mainly of evaporate rocks interstratified with dolomite, sandstone, shale, and local volcanic rocks
-  PAN-AFRICAN, BRASILIANO, AND RELATED ROCKS (middle and late Neoproterozoic, mostly considered to be 870 to 550 Ma). Widespread rocks in Gondwana continents (Africa, South America, Madagascar, Arabian Peninsula, India, and Sri Lanka). Predominantly medium- to high-grade gneiss, metasediments, migmatites, and sparse granitoids intruded by voluminous granitoids. Mostly remobilized older Precambrian rocks. Small circle pattern indicates high-grade metamorphic rocks and granitoids and x's indicate relatively small post- or syn-metamorphic granitoids. Major belts of sedimentary rock, such as that of the Congo belt of west Africa, are not here grouped with the dominantly high-grade metamorphic rocks but with sedimentary rock of the carbonate and siliciclastic unit
-  RELATIVELY LARGE, GRANITOID BODIES ASSOCIATED WITH PAN-AFRICAN, BRASILIANO, AND RELATED ROCKS (middle and late Neoproterozoic)
-  MAFIC DIKE SWARMS (middle and late Neoproterozoic). Major dike swarms and associated intrusives: 723 Ma Franklin dike swarm and intrusives in Canada; 827 Ma Gardner dike swarm in Australia; and lesser dike swarms along the southern margin of Siberia, in Norway, in the northwestern United States, and locally elsewhere
-  MAFIC AND ULTRAMAFIC ROCKS (middle and late Neoproterozoic). Large area of outcrops in central Asia and East Africa Orogenic Belt and sparse elsewhere, mainly at continental margins
-  MAGMATIC ARC ROCKS (middle and late Neoproterozoic). Structurally complex assemblages of mafic to felsic, generally calc-alkaline meta-igneous and meta-volcanoclastic rocks associated with intercon, back-arc, and continental margin settings. Commonly contains slivers of mafic or ultramafic rock
-  AREAS INFERRED TO BE UNDERLAIN BY CRATONS AND SHIELDS OF PRE-NEOPROTEROZOIC AGE
-  NEOPROTEROZOIC AULACOGEN OR INTRACONTINENTAL RIFT. Boxes on downtown side
-  NEOPROTEROZOIC CONTINENTAL MARGIN. Dashed where inferred
-  MAJOR NEOPROTEROZOIC CONTINENTAL MARGIN DEPOSIT (Miogeoclinal). Arrows indicate extent and direction of thickening of the miogeoclinal. Neoproterozoic rocks in Scotland, Ireland, and Svalbard are considered to be continental margin deposits, but facing direction of presumed miogeoclinal is uncertain
-  GRENVILLE-AGE (Mesoproterozoic) IGNEOUS AND METAMORPHIC ROCKS. Post-Grenville continental margins commonly follow trend of Grenville-age rocks
-  LINE ALONG TREND OF NEOPROTEROZOIC CONTINENTAL MARGIN THAT FOLLOWS TREND OF MESOPROTEROZOIC MARGIN

- LOCALITY NAMES
- AD, Adelaide geosyncline; AL, Alexander terrane; ALB, Albany-Fraser belts; AM, Amadeus basin; ANS, Arabian-Nubian Shield; AR, Arabian Peninsula; AU, Austroalpine of the eastern Alps; BA, Baltic Basin; BAV, Baikal-Vitim; CAM, Caman-Moqui Fault; CAN, Canadian Arctic; CAP, Cape of Good Hope; CAR, Carpathians; CAS, Caspian Sea; CC, Canadian Cordillera; CE, Central Asia mobile belt; CEI, Central India tectonic zone; COR, Cordillera de Merida; CU, Curamona craton; DA, Damara belt; EAG, Eastern Gnat's Belt; EAO, East Asia Orogenic Belt; EAS, East Africa Orogenic Belt; GA, Gariep belt; GE, Georgina basin; HEL, Helvetic and Penninic basement in western Alps; HER, Herat Fault; HI, High Himalaya; IG, Igarka Uplift; KAL, Kalahari; KAN, Kangdian; KAO, Kaok belt; KH, Kharaulakh Mountains; KI, Kingan-Burega; KM, Klamath Mountains; KO, Kolyma; KOP, Kopet Dagh Fault; LA, Lambert Glacier-Prydz Bay; LH, Lesser Himalaya; LI, Lillitani; LU, Luzon-Holm Bay; LUB, Lublin slope; MO, Mozambique belt; NA, Nanhua; NG, Ngalla basin; NI, Nixon Fork terrane; NAP, Northern Appalachia; OSOI, Officer-Savory basin; OL, Olenek uplift; OS, Ossa-Morena; OT, Otavi Platform; OTT, Ottawa graben; PAT, Paton highland; PE, Pechora; PRA, Pranhita-Godavari; QI, Qinling belt; QU, Qubanguide fold belt; RA, Rajasthan; RU, Ruby terrane; SR, Sali Range; SAP, Saptura Mobile belts; SAX, Saxo-Thuringia; SEB, Serbomacedonian massif; SEW, Seward terrane; SNT, Son-Narmada-Tappi; SON, Son-Mahanadi; SOU, Southalpine in eastern Alps; TAM, Tammian belt; TAS, Tasman line; TAY, Taymyr; TE, Tepi-Barrand; TO, Tocantins; TRE, Trans-European Suture Zone; TRM, Transantarctic Mountains; TU, Turakhsansk uplift; UM, Ural Mountains; VA, Varanger Peninsula; WA, Wasatch line; WC, West Congo belt; Y, Yucatan; YE, Yenisey Ridge; YO, Yodoma-Maya; ZA, Zambezi

WORLD MAP SHOWING MAJOR NEOPROTEROZOIC CONTINENTS AND CONTINENTAL MARGINS, ASSOCIATED STRUCTURES, AND GRENVILLE-AGE (1,200 TO 900 MA) ROCKS CONSIDERED TO BE ALONG MESOPROTEROZOIC CONTINENTAL MARGINS, THE PRECURSORS OF NEOPROTEROZOIC MARGINS

BY
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