

## Antarctic Tectonics in Context of Evolution of Supercontinents

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Main structural provinces/units in Antarctica include: East Antarctic shield areas comprising Archean to earliest Paleoproterozoic ancient nuclei and granite-greenstone cratons, and Meso/Neoproterozoic to early Paleozoic mobile metamorphic belts; late Neoproterozoic to early-mid Paleozoic Transantarctic fold belt; West Antarctic Phanerozoic fold systems; circum-Antarctic and sub-ice predominantly late Mesozoic-Cenozoic sedimentary basins. The oldest early Precambrian units are recorded mainly along East Antarctic coast as small enclaves exposed through Antarctic ice sheet. Because of mode of their occurrence and distinct similarity to tectonic assemblages on conjugate margins of Gondwana continents, such units are assumed to have belonged to these continents prior to their amalgamation in Gondwana and remain accreted to its Antarctic fragment after Gondwana breakup. The Meso/Neoproterozoic belts display distinct Grenvillian tectono-thermal event affecting both juvenile crust and older precursors; almost invariably they also show strong Pan-African overprint. Accordingly, these belts are speculated to represent the sutures marking Rodinia assembly, disintegration and re-assembly in Gondwana along more or less the same seams. All other fold systems are attributed to evolution of Gondwana Pacific margin whose geodynamic history still remain largely controversial. Major sedimentary basins are related to Gondwana breakup. These principal features are portrayed on a new tectonic map of Antarctica. The map is available in digital format designed to allow legible print-out in the range between 1:5,000,000 and 1:10,000,000 scales.