



**GEOLOGICAL PROVINCES**

Canada is composed of some seventeen geological provinces, which may be grouped into four major categories - continental shelf, platform, orogen and shield. The geologically youngest provinces, the Atlantic, Pacific and Arctic Continental Shelves, are formed of little deformed sediments and volcanics, mainly of Mesozoic and Cenozoic age, that have accumulated and are still accumulating along the margins of the present continental mass. The St. Lawrence, Interior, Arctic and Hudson Platforms are formed of thick flat-lying Phanerozoic strata which cover large parts of the Canadian Shield. The Appalachian, Cordilleran and Innuitian Orogens are mountain belts of deformed and metamorphosed sedimentary and volcanic rocks mainly of Phanerozoic and Proterozoic age, intruded by granitic plutons. They were produced during the various Phanerozoic orogenies 50 to 500 million years ago. Of the seven provinces comprising the Precambrian Canadian Shield, the Grenville, Churchill, Superior and Bear embrace the orogenic belts that were produced during the Proterozoic orogenies, 900 to 1800 million years ago. The remaining three, the Slave, Superior and Nutak Provinces, were deformed during the Archean Eon, and include the oldest continental crust known in Canada, 2,500 to 3,000 million years old. The Precambrian orogenic belts have many features in common with those of Phanerozoic age but are so deeply eroded that the mountainous parts are reduced to plains or lowlands and in many places the basement crystalline rocks upon which the sediments and volcanics initially accumulated are now exposed.

Shown on this map are the names given to the geological provinces and some of their principal subdivisions, these being parts of the provinces that are unified by having experienced similar orogenic events or that reflect similar tectonic environments during the time of accumulation of the rocks. On the geological map (Pages 25-26) some aspects of the geology are shown, namely the geological age of the rocks and their general lithology. On the tectonic map (Pages 29-30), the tectonic environment of the place of accumulation of various assemblages of rocks is indicated, and for the rocks of the orogenic belts, some aspects of their deformation and the time of the orogeny or orogenies to which they have been subjected are also shown.

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GEOLOGICAL BOUNDARIES	on land	underwater	subsurface
Basin, shelf	.....	.....	.....
Orogenic elements			
Fold front	.....	.....	.....
Thrust front	.....	.....	.....
Metamorphic front	.....	.....	.....
Undefined	.....	.....	.....
Major Fault	.....	.....	.....
Bathymetric contour in metres	.....	.....	.....