represented by red beds with basalt or felsic porphyry that occur in fault founded graben in the Tazin Belt and the Thelon Plate, or by thick easterly derived sandstone forming the Athabasca and Thelon Basins.

Nutak Province, formerly termed eastern Nain Province, is a narrow belt of northeast-trending Archean granodioritic gneiss and migmatite unconformably overlain by flat-lying Proterozoic sediments and volcanics.

Slave Province. The Archean consists of basalt and andesite flows with over-lying, or equivalent, greywacke, shale and conglomerate resting in places on an older basement. During Kenoran Orogeny (2,460 million years) these rocks were folded, intruded by granodiorite and quartz monzonite plutons and pegmatite dykes, and metamorphosed. Shear zones, with gold-bearing ore shoots at Yellowknife, cut the volcanic rocks and are possibly related to a younger episode of folding. Aphebian and Helikian events include intrusion of diabase dyke swarms and faulting.

Superior Province. The Archean rocks of Superior Province fall into several belts or segments with common tectonic and lithological features – dominantly sedimentary, volcanic or plutonic, that may reflect not only the relative ages of the rocks but also the general distribution of the Archean geosynclinal and orogenic belts.

The dominantly sedimentary regime is represented by the English River and Quetico Belts of easterly trending paragneiss and by their extensions into central Quebec. Where least metamorphosed the sediments are greywacke and shale, impure quartzite and arkose with minor volcanic rocks, mainly basalt. The youngest rocks occur in synclinoria and include iron-formation and conglomerates, some with clasts of granite and gneiss.

Thick volcanic assemblages form the typical Archean "greenstones" dominating Abitibi, Wawa, Wabigoon, Uchi and Sachigo Belts. They are mainly basalt and andesite but include much pyroclastic material of intermediate and acidic composition, sills and masses of gabbro, diorite and peridotite, rare anorthosite, and beds of greywacke, argillite, conglomerate, and iron-formation, the latter mined at Steep Rock, Michipicoten, Timagami and Kirkland Lake. The volcanics, near the Cadillac and Porcupine-Destor faults, host the polymetallic sulphide orebodies of the Noranda, Timmins, Kirkland Lake and Metagami camps that yield the greater part of the copper, zinc, gold and silver obtained from the Shield. The strata are intruded by granitic stocks and batholiths, and folded several times, but the metamorphism is generally low grade.

The plutonic regions, such as the Ungava, Wawa and Berens Belts, are characterized by multiple batholitic intrusions. The intrusions vary in composition and may be massive, porphyritic, or gneissic. Associated are granulite, migmatite and a few scattered remnants of sedimentary and volcanic rocks.

In the Proterozoic, the Archean rocks were subjected to several intervals of faulting, some related to intrusion of diabase dykes and carbonatite or syenite complexes, but in general, since the Kenoran Orogeny, Superior Province has behaved tectonically as a stable cratonic block.

1.3 Climate and time zones

1.3.1 Climate

Just as there are great differences in the weather throughout Canada at any given instant, there are also many climates. These climates are similar to those in Europe and Asia extending from the Arctic down to the mid-northern hemispheric latitudes. Because Canada is situated in the northern half of the hemisphere, most of the country loses more heat annually than it receives from the sun. The general atmospheric circulation compensates for this and at the same time produces a general movement of air from west to east. Migrant low pressure areas move across the country in this "westerly zone", producing storms and bad weather. In intervals between storms there prevails the fair weather associated with high pressure areas.

Although the movement of migrant high and low pressure systems within the zone of the westerlies is the most significant climatic control over Canada, the physical geography of North America contributes greatly to the climate. On the west coast, the western Cordillera limits mild air from the Pacific to a narrow band along the coast, while the prairies to the east of the mountains are dry and have extreme temperatures because they are shielded from the Pacific Ocean and are in the interior of a large land mass. In addition, the prairies are part of a