

southern New Brunswick the Saint John group consists of an apparently conformable series, comprising Lower, Middle and Upper Cambrian and also Lower Ordovician beds, and areas underlain by Cambrian strata occur also in Newfoundland, in Cape Breton Island, and in southern Quebec. Ordovician rocks are widespread and all three divisions, Lower, Middle and Upper, are represented. In Late Ordovician time a great deformation, the Tatic, affected much at least of the Region, and was accompanied by the intrusion of masses of peridotite. The thickest succession of Middle Silurian rocks in North America, 8,427 feet of sedimentary and 4,626 feet of volcanic rocks, all conformable, is exposed at Black Cape in the Chaleur Bay region. In the St. George region of New Brunswick, sedimentary deposition during the Silurian was small, but volcanic activity was great. Lower Devonian rocks succeed the Silurian beds in many localities following an interval of erosion. One of the best sections is at the east end of Gaspé Peninsula, where Logan defined the 'Gaspé limestones'. This Series is overlain by a thick assemblage of clastic sediments of Middle Devonian age, known as the 'Gaspé sandstone', and on the north side of Chaleur Bay, near Maguasha, is a succession of Upper Devonian beds noted for the fossil fish which are present locally. Lower Devonian and older strata are intruded by masses of granite and locally mineralized with quartz-carbonate veins, carrying zinc, lead, copper and other minerals. The Middle Devonian rocks are folded and the Upper Devonian only slightly disturbed. Evidently the main orogeny took place in late Lower Devonian or early Middle Devonian time, with renewed movements late in the Middle Devonian and again in diminished amount at the close of the Upper Devonian epoch.

These movements constitute the Shickshockian disturbance, and the results can be seen at a number of places in the Chaleur Bay region where flat-lying beds of the Carboniferous Bonaventure formation overlie tilted and eroded beds of older Palæozoic formations. Granites and related deep-seated intrusions of Devonian age are widespread throughout the Appalachian Region, and Upper Devonian strata carry boulders derived from these intrusive rocks.

The Carboniferous history of the Region was complex. Mississippian time is represented by strata of Horton and Windsor ages. Deposition in Horton time was in local basins, but during succeeding Windsor time a sea submerged much of the Region and locally, as in the Magdalen Islands, intense volcanism occurred. Pennsylvanian time was marked by local orogeny and volcanism, faulting and broad warping movements, and by the deposition of coal with each of the successive Riversdale, Cumberland and Pictou sedimentary groups. The great Appalachian revolution which took place at the close of the Palæozoic Era in the United States to the south had only comparatively minor effects in Canada.

Triassic sandstones, with interbedded volcanic rocks similar to the Palisade rocks along the Hudson River, occur in the Bay of Fundy area. They are broken by faults. On Grand Manan Island a major break brings Early Precambrian sediments alongside Triassic flows, the oldest rocks of the Region in knife-edge contact with the youngest. These fault movements probably took place in Triassic and Jurassic time. During the Cretaceous period the Region was peneplaned. The Tertiary was a time of uplift and erosion, with the development of broad lowlands and local peneplains. The Pleistocene saw the development of local centres of glaciation, and the entire Region was covered by the Labrador Ice Sheet.

The mineral resources of the Appalachian Region include asbestos, associated with serpentinized peridotite in southeastern Quebec; iron, with the Ordovician sediments of Bell Island, Conception Bay, Newfoundland; coal in the Pennsylvanian