

PROTEROZOIC ERA (Algonkian era) -- Separated from the Archeozoic by a profound nonconformity. Widespread development of red sandstones and shales suggesting seasonal change. Tillites, proving glacial climates in Eastern Canada, Australia, Tasmania, Norway, South Africa, and India. Only life, low forms of plants (calcareous algae).

Archeozoic and Proterozoic rocks are commonly grouped together and referred to as Precambrian in age. Since the Precambrian rocks have been greatly contorted and altered, the record of this time is most difficult to interpret. Precambrian time is that part of the geologic time from the beginning of earth history until the deposition of the earliest fossiliferous Cambrian strata. If the earth is as old as is believed, it may represent as much as 85 percent of all geologic time. (This portion of geologic time has also been referred to as the Azoic ["without life"], a term which has fallen into disuse in the United States.)

PALEOZOIC ERA (Age of Ancient Life) -- Separated from the Proterozoic by a major nonconformity. Divided into seven periods of geologic time:

Cambrian Period -- from the Latin word Cambria, meaning Wales. Geologic conditions: lands low, climate mild; earliest rocks with abundant fossils. Plant life: marine algae, fungi. Animal life: trilobites, brachiopods dominant; almost all of the modern phyla appear.

Ordovician Period -- for an ancient Celtic tribe which lived near the type locality in Wales. Geologic conditions: great submergence of land; warm climates even in Arctic. Plant life: land plants probably first appeared; marine algae abundant. Animal life: first fishes, probably fresh-water; corals, trilobites abundant; diversified molluscs; all of the modern phyla are present.

Silurian Period -- for the Silures, an ancient tribe of Wales. Geologic conditions: extensive continental seas; lowlands increasingly arid as land arose. Plant life: first definite evidence of land plants; algae dominant. Animal life: marine arachnids dominant; first (wingless) insects; rise of fishes.

Devonian Period -- for Devonshire, England. Geologic conditions: smaller inland seas; land higher, more arid; glaciation. Plant life: first forests; land plants well-established; first gymnosperms. Animal life: first amphibians, lungfishes, sharks abundant.

Mississippian Period -- for the Upper Mississippi Valley (also called Lower Carboniferous). Geologic conditions; climate warm and humid at first, cooler later as land rose. Plantlife: lycopods and horsetails dominant; gymnosperms increasingly widespread. Animal life: sea lilies at height; spread of ancient sharks.

Pennsylvanian Period -- for the State of Pennsylvania (also called Upper Carboniferous). Geologic conditions: lands at first low; great coal swamps. Animal life: first reptiles appear; insects are common; ancient amphibians spread.