

Geologic Time Scale for South Carolina

(not scaled for geologic time or thickness of deposits)

EON	ERA	PERIOD	EPOCH	Geologic Events in South Carolina	MYA*	
PHANEROZOIC	CENOZOIC	QUATERNARY	HOLOCENE	Barrier Islands formed; flood plains of major rivers established.	0.01	
			PLEISTOCENE	Surficial deposits cover the underlying Coastal Plain formations. Carolina Bays develop; scarps form due to sea level rise and fall.	1.6	
		TERTIARY	NEOGENE	PLIOCENE	Coastal Plain sediments reflect large-scale regressive cycles. Off-lap of the ocean and scouring responsible for the Orangeburg scarp.	5.3
				MIOCENE	Uplift and erosion of Piedmont and mountains. Fluvial sediments spread over the Coastal Plain. Sandhill dunes deposited.	23
				OLIGOCENE	Deposition of carbonates predominate. Arches and embayments continue to influence deposition of Coastal Plain formations.	36.6
			PALEOGENE	EOCENE	Sand deposited in upper Coastal Plain; limestone deposited in middle and lower Coastal Plain. Fault activity.	53
				PALEOCENE	Fluvial, marginal marine and marine Coastal Plain sediments deposited.	65
	MESOZOIC	CRETACEOUS		Development of the Cape Fear Arch and South Georgia Embayment influences deposition of Coastal Plain formations. Fault activity.	135	
		JURASSIC		Renewed sea floor spreading; intrusion of N-S and NW-SE trending diabase (basaltic) dikes. Great North American intrusive event.	205	
		TRIASSIC		Breakup of the supercontinent Pangea. Triassic rift-basins develop and fault activity.	250	
	PALEOZOIC	PERMIAN		Alleghanian Orogeny - closing of the Iapetus Ocean accompanied by continental collision and formation of the supercontinent Pangea. Rocks related to South Carolina are folded and thrust; some rocks may have been metamorphosed.	290	
		PENNSYLVANIAN	Emplacement of igneous intrusions	Time of uplift and erosion.	320	
		MISSISSIPPIAN		Time of uplift and erosion.	355	
		DEVONIAN		Arcadian Orogeny - rocks related to South Carolina may have been folded, faulted, and metamorphosed.	408	
		SILURIAN		Laurentia and western South America/Africa shear apart as the Gondwanian supercontinent breakup begins.	438	
		ORDOVICIAN		Taconic Orogeny - collision of Laurentia with western South America/Africa; Gondwanian supercontinent forms. Rocks related to South Carolina are folded, sheared/faulted, and metamorphosed.	510	
		CAMBRIAN		Deposition of volcanic and sedimentary rocks found in the Slate belt.	570	
	PRECAMBRIAN	PROTEROZOIC EON			Opening of the Iapetus Ocean (750 to 700 million years ago) and continental rifting of Laurentia's (North America) eastern margin.	2,500
		ARCHEAN EON		Grenville Orogeny (1,100 million years ago) metamorphosed basement rocks and rocks related to the Blue Ridge. Oldest rock dated in South Carolina is 1,200 million years old.	3,800	
					4,600	

* Estimated age in millions of years.

MYA = million years ago

Oldest known rock in U.S. - 3,600 million years old. Oldest known rock in world - 3,850 million years old. Formation of the Earth - 4,600 million years old.

Based on the 1989 Global Stratigraphic Chart, International Union of Geological Sciences.