

TABLE 1. SUMMARY OF GEOLOGIC HISTORY IN MAINE

Age (in millions of years ago)*	Geologic Time	Event
CENOZOIC ERA		
present-10,000 years	Recent	Rebound of land surface to current level. Gradual sea level rise, continuing to present. Ongoing low-level seismic activity.
0.01-1.6	Pleistocene	Late Pleistocene: The last ice sheet depressed the crust up to 425 feet along coastal Maine. Major marine transgression followed glacial recession. Pre-existing surface water drainage and ground water flow patterns were significantly altered.
1.6-66	Tertiary	Early Pleistocene: Several periods of continental glaciation eroded the bedrock and deposited glacial sediments. Continued uplift and erosion of the Northern Appalachian Mountains. Stress release during uplift and erosion produces numerous fractures in the bedrock.
MESOZOIC ERA		
66-245		Late Mesozoic: Continued widening of the Atlantic Ocean. Limited igneous activity (southern Maine). Faulting and fracturing?
		Early Mesozoic: Combined Europe and Africa rift apart from North America, opening the modern Atlantic Ocean. Faulting and fracturing of existing bedrock. Intrusion of mafic dikes (southwestern Maine).
LATE PALEOZOIC ERA		
245-286	Permian	Continued uplift and erosion of the Northern Appalachian Mountains.
286-360	Carboniferous	Intrusion of Sebago pluton. Last regional metamorphism and deformation (southwestern Maine). Transcurrent faulting (southern and eastern Maine).
MIDDLE PALEOZOIC ERA		
360-417	Devonian	Middle and Late Devonian: Acadian orogeny Major episode of deformation and metamorphism caused by collision of Avalon microcontinent with North America. Most Maine rocks were affected. Burial of sediments in southwestern Maine to depths greater than 9 miles. Final development of ancestral Northern Appalachian Mountains. Major period of widespread igneous activity during and after mountain-building episode.

417-443	Silurian	<p>Early Devonian: Youngest sediments deposited prior to major mountain-building event.</p> <p>Continued deposition in ancestral Atlantic Ocean (central Maine). Limited rifting apart of North American continental margin (northern Maine). Explosive volcanism and intrusion (east-coastal Maine).</p>
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EARLY PALEOZOIC ERA

Late Ordovician: Subsidence and re-initiation of sediment deposition following deformation and uplift.

443-495	Ordovician	<p>Middle Ordovician: Taconic orogeny Deformation, uplift, and igneous activity related to the collision of several(?) offshore volcanic island arcs with North America.</p>
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Early Ordovician: Continued deposition of sediments and volcanic activity.

495-545	Cambrian	<p>Late Cambrian: Penobscottian orogeny Episode of deformation and metamorphism found in northwestern to north-central Maine attributed to microplate collision within ancestral Atlantic Ocean.</p>
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Sedimentation and limited volcanic activity in ancestral Atlantic Ocean.

LATE PROTEROZOIC ERA

Latest Precambrian: Deposition of limestone and other marine sediments eroded from an ancient microcontinent bordering the ancestral Atlantic Ocean (Penobscot Bay region).

545-650(?)	Precambrian
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Approximately 650 m.y.: Episode of metamorphism and pegmatite intrusion in unknown geologic setting (near Islesboro).

Events prior to approximately 650 million years ago are essentially unknown. Sedimentary and volcanic rocks of the Seven Hundred Acre Island Formation are more than 650 m.y. old. Rock and mineral fragments over a billion years old may be present in the Chain Lakes massif.

*The calibration (in years) of the geologic time scale is continually under revision. The ages listed in Table 1 are taken from Palmer (1983) and Tucker and McKerrow (1995).