

PHANEROZOIC and PRECAMBRIAN CHRONOSTRATIGRAPHY

Eonothem Eon	Erathem Era	System Period	Series/Epoch	Stage/Age	Age	
Phanerozoic	Cenozoic	Quaternary	Holocene			
				Upper	0.0118	
			Pleistocene	"Ionian"	0.126	
				Calabrian	0.781	
				Gelasian	1.806	
					2.588	
			Pliocene	Piacenzian	3.600	
		Zanclean		5.333		
		Neogene	Miocene	Messinian	7.246	
				Tortonian	11.63	
				Serravallian	13.82	
			Langhian		15.97	
				Burdigalian	20.44	
			Aquitanian	23.03		
			Oligocene	Chattian	28.1	
				Rupelian	33.9	
			Eocene	Priabonian	37.8 ±0.5	
				Bartonian	41.2 ±0.5	
		Lutetian		47.8 ±0.2		
		Ypresian		56.0		
		Paleocene	Thanetian	59.2		
	Selandian		61.6			
	Danian		66.0 ±0.05			
	Cretaceous	Upper	Maastrichtian	72.1 ±0.2		
			Campanian	83.6 ±0.2		
			Santonian	86.3 ±0.5		
			Coniacian	89.8 ±0.3		
			Turonian	93.9 ±0.2		
			Cenomanian	100.5 ±0.4		
		Lower	Albian	113.0 ±0.4		
			Aptian	126.3 ±0.4		
			Barremian	130.8 ±0.5		
			Hauterivian	133.9 ±0.6		
			Valanginian	139.4 ±0.7		
			Berriasian	145.0 ±0.8		
			Jurassic	Upper	Tithonian	152.1 ±0.9
					Kimmeridgian	157.3 ±1.0
					Oxfordian	163.5 ±1.1
				Middle	Callovian	166.1 ±1.2
	Bathonian	168.3 ±1.3				
	Bajocian	170.3 ±1.4				
	Aalenian	174.1 ±1.0				
	Lower	Toarcian	182.7 ±0.7			
		Pliensbachian	190.8 ±1.0			
		Sinemurian	199.3 ±0.3			
	Triassic	Upper	Hettangian	201.3 ±0.2		
			Rhaetian	~ 209.5		
Norian			~ 228.4			
Middle		Carmanian	237.0 ±1.0			
		Ladinian	241.5 ±1.0			
Lower		Anisian	247.1 ±0.2			
		Olenekian	250.0 ±0.5			
Induan	252.2 ±0.5					

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Phanerozoic	Paleozoic	Permian	Lopingian	Changhsingian	252.2 ±0.5	
				Wuchiapingian	254.2 ±0.3	
			Guadalupian	Capitanian	259.8 ±0.4	
				Wordian	265.1 ±0.4	
				Roadian	268.8 ±0.5	
					272.3 ±0.5	
			Cisuralian	Kungurian	279.3 ±0.6	
		Artinskian		290.1 ±0.2		
		Sakmarian		295.5 ±0.4		
		Asselian		298.9 ±0.2		
				303.7 ±0.1		
		Gzhelian		307.0 ±0.2		
		Carboniferous	Pennsylvanian	Upper	Kasimovian	315.2 ±0.2
				Middle	Moscovian	315.2 ±0.2
			Lower	Bashkirian	323.2 ±0.4	
		Mississippian	Upper	Serpukhovian	330.9 ±0.3	
			Middle	Visean	346.7 ±0.4	
			Lower	Tournaisian	358.9 ±0.4	
		Devonian	Upper	Famennian	372.2 ±1.6	
				Frasnian	382.7 ±1.6	
				Givetian	387.7 ±0.8	
	Middle		Eifelian	393.3 ±1.2		
				407.6 ±2.6		
	Lower		Pragian	410.8 ±2.8		
		Lochkovian	419.2 ±3.2			
	Silurian	Pridoli	423.0 ±2.3			
		Ludlow	425.6 ±0.9			
			Gorstian	427.4 ±0.5		
		Wenlock	430.5 ±0.7			
			Sheinwoodian	433.4 ±0.8		
	Ordovician	Llandovery	Telychian	438.5 ±1.1		
			Aeronian	440.8 ±1.2		
		Rhuddanian	443.8 ±1.5			
		Upper	Hirnantian	445.2 ±1.4		
	Middle	Katian	453.0 ±0.7			
		Sandbian	458.4 ±0.9			
		Darriwilian	467.3 ±1.1			
	Lower	Dapingian	470.0 ±1.4			
		Floian	477.7 ±1.4			
		Tremadocian	485.4 ±1.9			
	Cambrian	Furongian	Stage 10	~ 489.5		
			Jiangshanian	~ 494		
			Paibian	~ 497		
		Series 3	Guzhangian	~ 500.5		
			Drumian	~ 504.5		
		Series 2	Stage 5	~ 509		
			Stage 4	~ 514		
Stage 3			~ 521			
Terreneuvian		Stage 2	~ 529			
		Fortunian	541.0 ±1.0			

This chart was drafted by Gabi Ogg.

Eonothem Eon	Erathem/Era	System/Period	Age Ma	
Precambrian	Proterozoic	Ediacaran	541	
			635	
			850	
		Neo-proterozoic	Tonian	1000
			Stenian	1200
			Ectasian	1400
	Calymmian		1600	
	Meso-proterozoic	Statherian	1800	
		Orosirian	2050	
		Rhyacian	2300	
		Siderian	2500	
		Neoproterozoic	2800	
	Archean	Neoarchean	3200	
		Mesoarchean	3600	
		Paleoarchean	4000	
		Eoarchean	~4560	
	Hadean (informal)			~4560

Units of the international chronostratigraphic scale with estimated numerical ages from the GTS2012 age model.

Colors are according to the Commission for the Geological Map of the World.

Subdivisions of the Phanerozoic are formally defined by a Global boundary Stratotype Section and Point (GSSP) at each lower boundary. Thick yellow lines between stages on this diagram denote GSSPs approved by the International Commission on Stratigraphy (ICS) and ratified by the International Union of Geological Sciences (IUGS).

Precambrian units are formally defined by absolute age (Global Standard Stratigraphic Age — GSSA), with the exception of the Ediacaran System defined by a basal GSSP.

Numerical ages assigned to unit boundaries are subject to revision upon formal decision or revision of GSSPs and when enhanced radio-isotopic and cyclostratigraphy studies enable improvements to the age models.

Stratigraphic information and details on international and regional geologic units can be found on the websites of the ICS (www.stratigraphy.org) and the Geologic TimeScale Foundation (<https://engineering.purdue.edu/stratigraphy>).