



INTERNATIONAL STRATIGRAPHIC CHART

International Commission on Stratigraphy



Eonothem Eon	Erathem Era	System Period	Series Epoch	Stage Age	Age Ma	GSSP		
Phanerozoic	Cenozoic	Quaternary*	Holocene		0.0118			
			Pleistocene	Upper		0.126		
				Middle		0.781		
		Neogene	Pliocene	Lower		1.806	🔪	
				Gelasian		2.588	🔪	
		Cenozoic	Neogene	Pliocene	Piacenzian		3.600	🔪
					Zanclean		5.332	🔪
			Miocene	Messinian		7.246	🔪	
				Tortonian		11.608	🔪	
				Serravallian		13.65	🔪	
	Langhian				15.97	🔪		
	Burdigalian				20.43	🔪		
	Aquitanian				23.03	🔪		
	Oligocene			Chattian		28.4 ± 0.1	🔪	
				Rupelian		33.9 ± 0.1	🔪	
	Paleogene	Eocene	Priabonian		37.2 ± 0.1	🔪		
			Bartonian		40.4 ± 0.2	🔪		
			Lutetian		48.6 ± 0.2	🔪		
		Paleocene	Ypresian		55.8 ± 0.2	🔪		
			Thanetian		58.7 ± 0.2	🔪		
			Selandian		61.7 ± 0.2	🔪		
	Mesozoic	Cretaceous	Upper	Danian		65.5 ± 0.3	🔪	
				Turonian		70.6 ± 0.6	🔪	
				Coniacian		83.5 ± 0.7	🔪	
				Santonian		85.8 ± 0.7	🔪	
				Campanian		89.3 ± 1.0	🔪	
				Maastrichtian		93.5 ± 0.8	🔪	
			Lower	Albian		99.6 ± 0.9	🔪	
				Aptian		112.0 ± 1.0	🔪	
				Barremian		125.0 ± 1.0	🔪	
				Hauterivian		130.0 ± 1.5	🔪	
				Valanginian		136.4 ± 2.0	🔪	
Berriasian					140.2 ± 3.0	🔪		
			Berriasian		145.5 ± 4.0	🔪		

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Phanerozoic	Mesozoic	Jurassic	Upper	Tithonian		145.5 ± 4.0	🔪	
				Kimmeridgian		150.8 ± 4.0	🔪	
				Oxfordian		155.7 ± 4.0	🔪	
			Middle	Callovian		161.2 ± 4.0	🔪	
				Bathonian		164.7 ± 4.0	🔪	
				Bajocian		167.7 ± 3.5	🔪	
				Aalenian		171.6 ± 3.0	🔪	
				Toarcian		175.6 ± 2.0	🔪	
				Pliensbachian		183.0 ± 1.5	🔪	
			Lower	Sinemurian		189.6 ± 1.5	🔪	
				Hettangian		196.5 ± 1.0	🔪	
				Rhaetian		199.6 ± 0.6	🔪	
	Norian			203.6 ± 1.5	🔪			
	Carnian			216.5 ± 2.0	🔪			
	Ladinian			228.0 ± 2.0	🔪			
	Triassic	Upper	Anisian		237.0 ± 2.0	🔪		
			Olenekian		245.0 ± 1.5	🔪		
			Induan		249.7 ± 0.7	🔪		
		Middle	Changhsingian		251.0 ± 0.4	🔪		
			Wuchiapingian		253.8 ± 0.7	🔪		
			Lopingian		253.8 ± 0.7	🔪		
	Paleozoic	Permian	Guadalupian	Wordian		260.4 ± 0.7	🔪	
				Roadian		265.8 ± 0.7	🔪	
				Capitanian		268.0 ± 0.7	🔪	
			Cisuralian	Kungurian		270.6 ± 0.7	🔪	
				Artinskian		275.6 ± 0.7	🔪	
				Sakmarian		284.4 ± 0.7	🔪	
				Asselian		294.6 ± 0.8	🔪	
			Carboniferous	Pennsylvanian	Asselian		299.0 ± 0.8	🔪
					Gzhelian		303.9 ± 0.9	🔪
					Kasimovian		306.5 ± 1.0	🔪
	Carboniferous	Mississippian	Upper	Moscovian		311.7 ± 1.1	🔪	
Bashkirian					318.1 ± 1.3	🔪		
Serpukhovian					326.4 ± 1.6	🔪		
Middle			Viséan		345.3 ± 2.1	🔪		
			Tournaisian		359.2 ± 2.5	🔪		

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Phanerozoic	Paleozoic	Devonian	Upper	Famennian		359.2 ± 2.5	🔪	
				Frasnian		374.5 ± 2.6	🔪	
				Givetian		385.3 ± 2.6	🔪	
			Middle	Eifelian		391.8 ± 2.7	🔪	
				Emsian		397.5 ± 2.7	🔪	
				Pragian		407.0 ± 2.8	🔪	
				Lochkovian		411.2 ± 2.8	🔪	
				Pridoli		416.0 ± 2.8	🔪	
				Ludlow		418.7 ± 2.7	🔪	
			Silurian	Ludlow	Ludfordian		421.3 ± 2.6	🔪
					Gorstian		422.9 ± 2.5	🔪
					Homerian		426.2 ± 2.4	🔪
	Wenlock	Sheinwoodian			428.2 ± 2.3	🔪		
		Telychian			436.0 ± 1.9	🔪		
		Aeronian			439.0 ± 1.8	🔪		
	Ordovician	Llandovery	Rhuddanian		443.7 ± 1.5	🔪		
			Hirnantian		445.6 ± 1.5	🔪		
			Stage 6		455.8 ± 1.6	🔪		
			Stage 5		460.9 ± 1.6	🔪		
			Darriwilian		468.1 ± 1.6	🔪		
			Stage 3		471.8 ± 1.6	🔪		
			Stage 2		478.6 ± 1.7	🔪		
			Tremadocian		488.3 ± 1.7	🔪		
			Cambrian	Furongian	Stage 10		501.0 ± 2.0	🔪
					Stage 9			🔪
	Paibian					🔪		
	Stage 7					🔪		
	Stage 6					🔪		
	Stage 5					🔪		
	Stage 4					🔪		
	Stage 3					🔪		
	Lower Series	Stage 2			🔪			
Stage 1				🔪				

This chart was drafted by Gabi Ogg.

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Eonothem Eon	Erathem Era	System Period	Age Ma	GSSP GSSA	
Precambrian	Proterozoic	Ediacaran	542	🔪	
			~630	🔪	
			850	🔪	
		Meso-proterozoic	Stenian	1000	🔪
			Ectasian	1200	🔪
			Calymmian	1400	🔪
			Statherian	1600	🔪
			Orosirian	1800	🔪
			Rhyacian	2050	🔪
			Siderian	2300	🔪
	Archean	Paleo-proterozoic	2500	🔪	
			2500	🔪	
			2500	🔪	
			2500	🔪	
		Neoarchean	2800	🔪	
			2800	🔪	
			3200	🔪	
			3600	🔪	
Eoarchean	Lower limit is not defined				

Subdivisions of the global geologic record are formally defined by their lower boundary. Each unit of the Phanerozoic (~542 Ma to Present) and the base of Ediacaran are defined by a basal Global Standard Section and Point (GSSP), whereas Precambrian units are formally subdivided by absolute age (Global Standard Stratigraphic Age, GSSA). Details of each GSSP are posted on the ICS website (www.stratigraphy.org).

International chronostratigraphic units, rank, names and formal status are approved by the International Commission on Stratigraphy (ICS) and ratified by the International Union of Geological Sciences (IUGS).

Numerical ages of the unit boundaries in the Phanerozoic are subject to revision. Some stages within the Ordovician and Cambrian will be formally named upon international agreement on their GSSP limits. Most sub-Series boundaries (e.g., Middle and Upper Aptian) are not formally defined.

Colors are according to the Commission for the Geological Map of the World (www.cgmw.org).

The listed numerical ages are from 'A Geologic Time Scale 2004', by F.M. Gradstein, J.G. Ogg, A.G. Smith, et al. (2004; Cambridge University Press).

* proposed by ICS