



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	
		Lower			1.806	🔪	
		Neogene	Pliocene	Gelasian		2.588	🔪
				Piacenzian		3.600	🔪
			Miocene	Zanclean		5.332	🔪
				Messinian		7.246	🔪
		Paleogene	Oligocene	Tortonian		11.608	🔪
				Serravallian		13.65	🔪
	Langhian				15.97	🔪	
	Burdigalian				20.43	🔪	
	Aquitanian				23.03	🔪	
	Chattian				28.4 ± 0.1	🔪	
	Eocene		Rupelian		33.9 ± 0.1	🔪	
			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	🔪		
		Danian		65.5 ± 0.3	🔪		
	Cretaceous	Upper	Maastrichtian		70.6 ± 0.6	🔪	
			Campanian		83.5 ± 0.7	🔪	
			Santonian		85.8 ± 0.7	🔪	
			Coniacian		89.3 ± 1.0	🔪	
			Turonian		93.5 ± 0.8	🔪	
			Cenomanian		99.6 ± 0.9	🔪	
		Lower	Albian		112.0 ± 1.0	🔪	
			Aptian		125.0 ± 1.0	🔪	
			Barremian		130.0 ± 1.5	🔪	
			Hauterivian		136.4 ± 2.0	🔪	
Valanginian				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
			Lower	Toarcian		175.6 ± 2.0
				Pliensbachian		183.0 ± 1.5
				Sinemurian		189.6 ± 1.5
		Hettangian			196.5 ± 1.0	
		Rhaetian			199.6 ± 0.6	
		Norian			203.6 ± 1.5	
		Triassic	Upper	Carnian		216.5 ± 2.0
	Ladinian				228.0 ± 2.0	
	Anisian				237.0 ± 2.0	
	Lower		Olenekian		245.0 ± 1.5	
			Induan		249.7 ± 0.7	
			Changhsingian		251.0 ± 0.4	
			Wuchiapingian		253.8 ± 0.7	
			Lopingian		260.4 ± 0.7	
	Permian	Guadalupian	Capitanian		265.8 ± 0.7	
			Wordian		268.0 ± 0.7	
			Roadian		270.6 ± 0.7	
			Kungurian		275.6 ± 0.7	
		Cisuralian	Artinskian		284.4 ± 0.7	
			Sakmarian		284.4 ± 0.7	
			Asselian		294.6 ± 0.8	
			Gzhelian		299.0 ± 0.8	
			Kasimovian		303.9 ± 0.9	
			Moscovian		306.5 ± 1.0	
	Carboniferous	Pennsylvanian	Upper		311.7 ± 1.1	
Middle				318.1 ± 1.3		
Lower				318.1 ± 1.3		
Mississippian		Upper		326.4 ± 1.6		
		Middle		345.3 ± 2.1		
		Lower		359.2 ± 2.5		

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Phanerozoic	Paleozoic	Devonian	Upper	Famennian		359.2 ± 2.5
				Frasnian		374.5 ± 2.6
			Middle	Givetian		385.3 ± 2.6
				Eifelian		391.8 ± 2.7
			Lower	Emsian		397.5 ± 2.7
				Pragian		407.0 ± 2.8
		Lochkovian			411.2 ± 2.8	
		Pridoli			416.0 ± 2.8	
		Silurian	Ludlow	Ludfordian		418.7 ± 2.7
				Gorstian		421.3 ± 2.6
			Wenlock	Homerian		422.9 ± 2.5
				Sheinwoodian		426.2 ± 2.4
			Llandovery	Telychian		428.2 ± 2.3
				Aeronian		436.0 ± 1.9
		Ordovician	Upper	Rhuddanian		439.0 ± 1.8
				Hirnantian		443.7 ± 1.5
				Stage 6		445.6 ± 1.5
				Stage 5		455.8 ± 1.6
	Middle		Darriwilian		460.9 ± 1.6	
			Stage 3		468.1 ± 1.6	
			Stage 2		471.8 ± 1.6	
	Lower		Tremadocian		478.6 ± 1.7	
			Stage 10		488.3 ± 1.7	
			Stage 9		488.3 ± 1.7	
	Cambrian	Furongian	Paibian		501.0 ± 2.0	
			Stage 7		501.0 ± 2.0	
			Stage 6		501.0 ± 2.0	
			Stage 5		501.0 ± 2.0	
		Series 3	Stage 4		501.0 ± 2.0	
			Stage 3		501.0 ± 2.0	
		Series 2	Stage 2		501.0 ± 2.0	
			Stage 1		542.0 ± 1.0	

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	🔪	
		Neo-proterozoic	Cryogenian	850	🔪
			Tonian	1000	🔪
			Stenian	1200	🔪
			Ectasian	1400	🔪
	Meso-proterozoic	Calymmian	1600	🔪	
		Statherian	1800	🔪	
		Orosirian	2050	🔪	
		Rhyacian	2300	🔪	
	Paleo-proterozoic	Siderian	2500	🔪	
		Neoarchean	2800	🔪	
		Mesoarchean	3200	🔪	
		Paleoarchean	3600	🔪	
Archean	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 United States Geological Survey (USGS).

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