

International Commission on Stratigraphy

Eonothem Eon	Erathem Era	System Period	Series Epoch	Stage Age	Age Ma	GSSP	
Phanerozoic	Cenozoic	Neogene	Holocene		0.0115		
			Pleistocene	Upper		0.126	
				Middle		0.781	🚩
				Lower		1.806	🚩
			Pliocene	Gelasian		2.588	🚩
				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	🚩	
		Paleogene	Oligocene	Chatthian		28.4 ± 0.1	🚩
				Rupelian		33.9 ± 0.1	🚩
			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	🚩	
	Cretaceous		Upper	Danian		65.5 ± 0.3	🚩
				Maastrichtian		70.6 ± 0.6	🚩
				Campanian		83.5 ± 0.7	🚩
				Santonian		85.8 ± 0.7	🚩
				Coniacian		89.3 ± 1.0	🚩
			Lower	Turonian		93.5 ± 0.8	🚩
				Cenomanian		99.6 ± 0.9	🚩
				Albian		112.0 ± 1.0	🚩
		Aptian			125.0 ± 1.0	🚩	
		Berriasian			145.5 ± 4.0	🚩	

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Phanerozoic	Mesozoic	Jurassic	Upper	Tithonian		145.5 ± 4.0	
				Kimmeridgian		150.8 ± 4.0	🚩
				Oxfordian		155.0 ± 4.0	🚩
			Middle	Callovian		161.2 ± 4.0	🚩
				Bathonian		164.7 ± 4.0	🚩
				Bajocian		167.7 ± 3.5	🚩
		Lower	Aalenian		171.6 ± 3.0	🚩	
			Aalenian		175.6 ± 2.0	🚩	
			Toarcian		176.7 ± 2.0	🚩	
		Triassic	Upper	Pliensbachian		183.0 ± 1.5	🚩
				Sinemurian		189.6 ± 1.5	🚩
				Hettangian		196.5 ± 1.0	🚩
			Middle	Rhaetian		199.6 ± 0.6	🚩
				Norian		203.6 ± 1.5	🚩
				Carnian		216.5 ± 2.0	🚩
			Lower	Ladinian		228.0 ± 2.0	🚩
				Anisian		237.0 ± 2.0	🚩
				Olenekian		245.0 ± 1.5	🚩
	Induan				249.7 ± 0.7	🚩	
	Permian	Lopingian	Changhsingian		251.0 ± 0.4	🚩	
			Wuchiapingian		253.8 ± 0.7	🚩	
		Guadalupian	Capitanian		253.8 ± 0.7	🚩	
			Wordian		260.4 ± 0.7	🚩	
		Cisuralian	Roadian		265.8 ± 0.7	🚩	
			Kungurian		268.0 ± 0.7	🚩	
			Artinskian		270.6 ± 0.7	🚩	
			Sakmarian		275.6 ± 0.7	🚩	
			Asselian		284.4 ± 0.7	🚩	
			Asselian		294.6 ± 0.8	🚩	
	Carboniferous	Pennsylvanian	Upper	Gzhelian		299.0 ± 0.8	🚩
			Kasimovian		303.9 ± 0.9	🚩	
		Mississippian	Middle	Moscovian		306.5 ± 1.0	🚩
			Bashkirian		311.7 ± 1.1	🚩	
		Lower	Serpukhovian		318.1 ± 1.3	🚩	
Serpukhovian				326.4 ± 1.6	🚩		
Viséan				345.3 ± 2.1	🚩		
Tournaisian				349.2 ± 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	🚩
				Eifelian		397.5 ± 2.7	🚩
				Emsian		407.0 ± 2.8	🚩
		Lower	Pragian		411.2 ± 2.8	🚩	
			Lochkovian		416.0 ± 2.8	🚩	
			Lochkovian		416.0 ± 2.8	🚩	
		Silurian	Pridoli	Pridoli		418.7 ± 2.7	🚩
				Ludfordian		421.3 ± 2.6	🚩
			Wenlock	Gorstian		422.9 ± 2.5	🚩
				Homerian		426.2 ± 2.4	🚩
			Llandovery	Sheinwoodian		428.2 ± 2.3	🚩
				Telychian		436.0 ± 1.9	🚩
			Ordovician	Aeronian		439.0 ± 1.8	🚩
				Rhuddanian		443.7 ± 1.5	🚩
			Cambrian	Upper	Hirnantian		445.6 ± 1.5
	Hirnantian					445.6 ± 1.5	🚩
	Middle	Darriwilian			455.8 ± 1.6	🚩	
		Darriwilian			460.9 ± 1.6	🚩	
	Lower	Tremadocian			468.1 ± 1.6	🚩	
		Tremadocian			471.8 ± 1.6	🚩	
	Furongian	Tremadocian			478.6 ± 1.7	🚩	
		Tremadocian			488.3 ± 1.7	🚩	
	Lower	Paibian		488.3 ± 1.7	🚩		
		Paibian		501.0 ± 2.0	🚩		
	Lower	Paibian		513.0 ± 2.0	🚩		
		Paibian		542.0 ± 1.0	🚩		

Eonothem Eon	Erathem Era	System Period	Age Ma	GSSP GSSA	
Precambrian	Proterozoic	Neo-proterozoic	Ediacaran	542	🚩
			Cryogenian	~630	🚩
			Tonian	850	🚩
		Meso-proterozoic	Stenian	1000	🚩
			Ectasian	1200	🚩
			Calymmian	1400	🚩
	Archean	Paleo-proterozoic	Statherian	1600	🚩
			Orosirian	1800	🚩
			Rhyacian	2050	🚩
		Neoproterozoic	Siderian	2300	🚩
			Siderian	2500	🚩
			Neoproterozoic	2800	🚩
			Mesoarchean	3200	🚩
			Paleoarchean	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 interval (~542 Ma to Present) and the base of the Ediacaran is defined by a Global Standard Section and Point (GSSP) at its base, whereas the Precambrian Interval is formally subdivided by absolute age, Global Standard Stratigraphic Age (GSSA).

This chart gives an overview of the international chronostratigraphic units, their rank, their names and formal status. These units are approved by the International Commission on Stratigraphy (ICS) and ratified by the International Union of Geological Sciences (IUGS).

The Guidelines of the ICS (Remane et al., 1996, Episodes, 19: 77-81) regulate the selection and

definition of the international units of geologic time. Many GSSP's actually have a 'golden' spike (🚩) and Stage and/or System name plaque mounted at the boundary level in the boundary stratotype section, whereas a GSSA is an abstract age without reference to a specific level in a rock section on Earth. Updated descriptions of each GSSP and GSSA are posted on the ICS website (www.stratigraphy.org).

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

This chart was drafted and printed with funding generously provided for the GTS Project 2004 by ExxonMobil, Statoil Norway, ChevronTexaco and BP. The chart was produced by Gabi Ogg.