



INTERNATIONAL CHRONOSTRATIGRAPHIC CHART

with Notations used on Geological Maps

2022



International Commission on Stratigraphy & Commission for the Geological Map of the World

Eonothem / Eon Erathem / Era System / Period		Series / Epoch	Stage / Age	GSSP	numerical age (Ma)	short notation	
Phanerozoic PH	Cenozoic CZ	Quaternary	Meghalayan	present	q7	Q2	
			Northgrippian	0.0042	q6		
			Greenlandian	0.0082	q5		
		Pleistocene	Upper	0.0117	q4	Q1	
			Chibanian	0.129	q3		
			Calabrian	0.774	q2		
		Pliocene	Gelasian	1.80	q1	N2	
			Piacenzian	2.58	n8		
		Neogene	Miocene	Zanclean	3.600	n7	N1
				Messinian	5.333	n6	
	Pliocene		Tortonian	7.246	n5	N	
			Serravallian	11.63	n4		
			Langhian	13.82	n3		
	Paleogene		Oligocene	Burdigalian	15.97	n2	E3
				Aquitanian	20.44	n1	
			Eocene	Chattian	23.03	e9	E2
				Rupelian	27.82	e8	
			Paleocene	Priabonian	33.9	e7	E1
		Bartonian		37.71	e6		
		Lutetian		41.2	e5		
		Ypresian		47.8	e4		
	Thanetian	56.0		e3			
	Selandian	59.2		e2			
	Mesozoic MZ	Cretaceous	Danian	61.6	e1	K2	
			Maastrichtian	66.0	k6		
			Campanian	72.1 ± 0.2	k5		
			Santonian	83.6 ± 0.2	k4		
			Coniacian	86.3 ± 0.5	k3		
			Turonian	89.8 ± 0.3	k2		
		Upper	Cenomanian	93.9	k1	K1	
			Albian	100.5	b6		
			Aptian	~ 113.0	b5		
Barremian			~ 121.4	b4			
Hauterivian			~ 129.4	b3			
Valanginian			~ 132.6	b2			
Lower	Berriasian	~ 139.8	b1	K			
		~ 145.0					

Eonothem / Eon Erathem / Era System / Period		Series / Epoch	Stage / Age	GSSP	numerical age (Ma)	short notation	
Phanerozoic PH	Mesozoic MZ	Jurassic	Tithonian	~ 145.0	j7	J3	
			Upper	Kimmeridgian	152.1 ± 0.9		j6
			Oxfordian	157.3 ± 1.0	j5		
		Middle	Callovian	163.5 ± 1.0	j4	J2	
			Bathonian	166.1 ± 1.2	j3		
			Bajocian	168.3 ± 1.3	j2		
		Lower	Aalenian	170.3 ± 1.4	j1	J1	
			Toarcian	174.1 ± 1.0	i4		
			Pliensbachian	182.7 ± 0.7	i3		
			Sinemurian	190.8 ± 1.0	i2		
	Triassic	Upper	Hettangian	199.3 ± 0.3	i1	T3	
			Rhaetian	201.3 ± 0.2	t7		
			Norian	~ 208.5	t6		
		Middle	Carnian	~ 227	t5	T2	
			Ladinian	~ 237	t4		
		Lower	Anisian	~ 242	t3	T1	
			Olenekian	247.2	t2		
		Paleozoic PZ	Permian	Induan	251.2	t1	P3
				Changhsingian	251.902 ± 0.024	p9	
				Wuchiapingian	254.14 ± 0.07	p8	
	Guadalupian		Lopingian	259.51 ± 0.21	p7	P2	
			Wordian	264.28 ± 0.16	p6		
			Roadian	266.9 ± 0.4	p5		
	Cisuralian		Kungurian	273.01 ± 0.14	p4	P1	
			Artinskian	283.5 ± 0.6	p3		
			Sakmarian	290.1 ± 0.26	p2		
			Asselian	293.52 ± 0.17	p1		
			Gzhelian	298.9 ± 0.15	c7		
			Kasimovian	303.7 ± 0.1	c6		
	Carboniferous	Upper	Moscovian	307.0 ± 0.1	c5	C2	
			Bashkirian	315.2 ± 0.2	c4		
		Middle	Serpukhovian	323.2 ± 0.4	c3	C1	
Visean			330.9 ± 0.2	c2			
Lower		Tournaisian	346.7 ± 0.4	c1	C		
			358.9 ± 0.4				

Eonothem / Eon Erathem / Era System / Period		Series / Epoch	Stage / Age	GSSP	numerical age (Ma)	short notation	
Phanerozoic PH	Paleozoic PZ	Devonian	Famennian	358.9 ± 0.4	d7	D3	
			Upper	Frasnian	372.2 ± 1.6		d6
			Givetian	382.7 ± 1.6	d5		
		Middle	Eifelian	387.7 ± 0.8	d4	D2	
			Emsian	393.3 ± 1.2	d3		
			Pragian	407.6 ± 2.6	d2		
		Lower	Lochkovian	410.8 ± 2.8	d1	D1	
			Ludlow	419.2 ± 3.2	s4		
			Ludfordian	423.0 ± 2.3	s7		
		Silurian	Wenlock	Sheinwoodian	425.6 ± 0.9	s6	S3
	Homerian			427.4 ± 0.5	s5		
	Llandovery		Telychian	430.5 ± 0.7	s4	S2	
			Aeronian	433.4 ± 0.8	s3		
	Upper		Rhuddanian	438.5 ± 1.1	s2	S1	
			Hirnantian	440.8 ± 1.2	s1		
	Ordovician	Upper	Katian	443.8 ± 1.5	o7	O3	
			Sandbian	445.2 ± 1.4	o6		
			Darriwilian	453.0 ± 0.7	o5		
		Middle	Dapingian	458.4 ± 0.9	o4	O2	
			Floian	467.3 ± 1.1	o3		
		Lower	Tremadocian	470.0 ± 1.4	o2	O1	
				477.7 ± 1.4	o1		
		Cambrian	Furongian	Stage 10	485.4 ± 1.9	ε10	ε4
				Jiangshanian	~ 489.5	ε9	
				Paibian	~ 494	ε8	
	Miaolingian		Guzhangian	~ 497	ε7	ε3	
			Drumian	~ 500.5	ε6		
	Series 2		Wulian	~ 504.5	ε5	ε2	
			Stage 4	~ 509	ε4		
			Stage 3	~ 514	ε3		
	Terreneuvian		Stage 2	~ 521	ε2	ε1	
			Fortunian	~ 529	ε1		
			538.8 ± 0.2				

Eonothem / Eon Erathem / Era System / Period		Series / Epoch	Stage / Age	GSSP	numerical age (Ma)	short notation
Precambrian PE	Proterozoic PR	Neo-proterozoic	Ediacaran	~ 538.8 ± 0.2	NP3	NP
			Cryogenian	~ 635	NP2	
			Tonian	~ 720	NP1	
		Meso-proterozoic	Stenian	1000	MP3	MP
			Ectasian	1200	MP2	
			Calymmian	1400	MP1	
	Paleo-proterozoic	Statherian	1600	PP4	PP	
			Orosirian	1800		PP3
			Rhyacian	2050		PP2
		Siderian	2300	PP1		
			Neo-archean	2500		NA
			Meso-archean	2800		MA
	Archean AR	Paleo-archean	3200	PA		
		Eo-archean	3600	EA		
	Hadean		4000	HA		
			~ 4600			

This chart is the result of the collaboration of two participating commissions of IUGS: the International Commission on Stratigraphy (ICS) and the Commission for the Geological Map of the World (CGMW). This issue updates the notations given in 2013 on the chart drafted by K.M. Cohen, S. Finney and P.L. Gibbard © International Commission on Stratigraphy, January 2013.

Stratigraphic subdivisions, numerical ages, Global Boundary Stratotype Section and Points (GSSP) and Global Standard Stratigraphic Ages (GSSA) are those provided on the 2022/02 version of International Chronostratigraphic Chart drafted by K.M. Cohen, D.A.T Harper, P.L. Gibbard and N. Car © International Commission on Stratigraphy, February 2022. URL: <http://www.stratigraphy.org/ICChart/ChronostratChart2022-02.pdf>

Colouring as short notations follow the Commission for the Geological Map of the World (<http://www.cgmw.org>).

The main changes both in terms of colours and notations concern the Neogene and the Quaternary.

