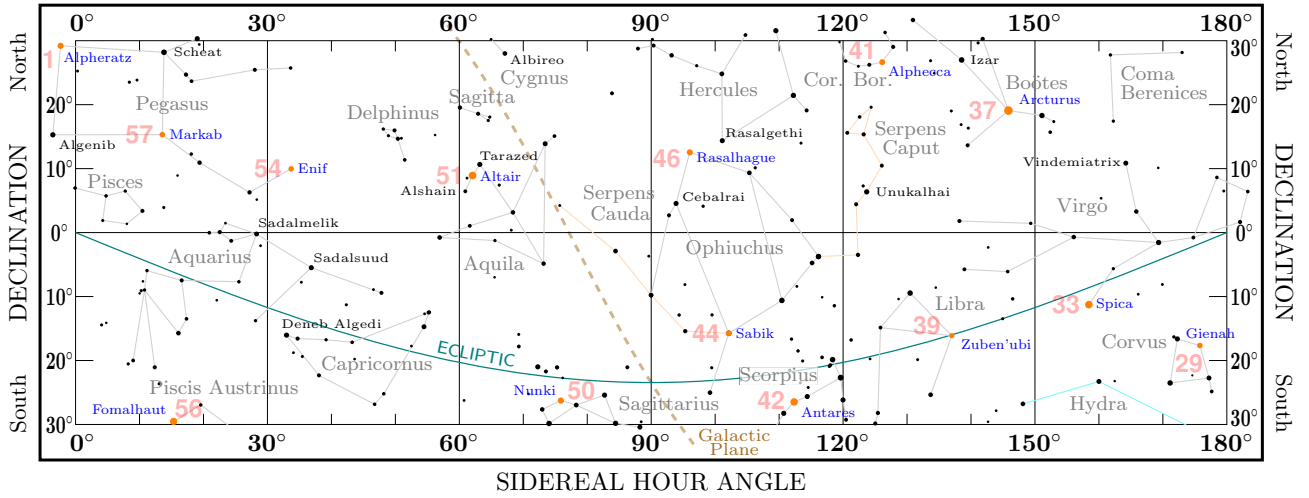
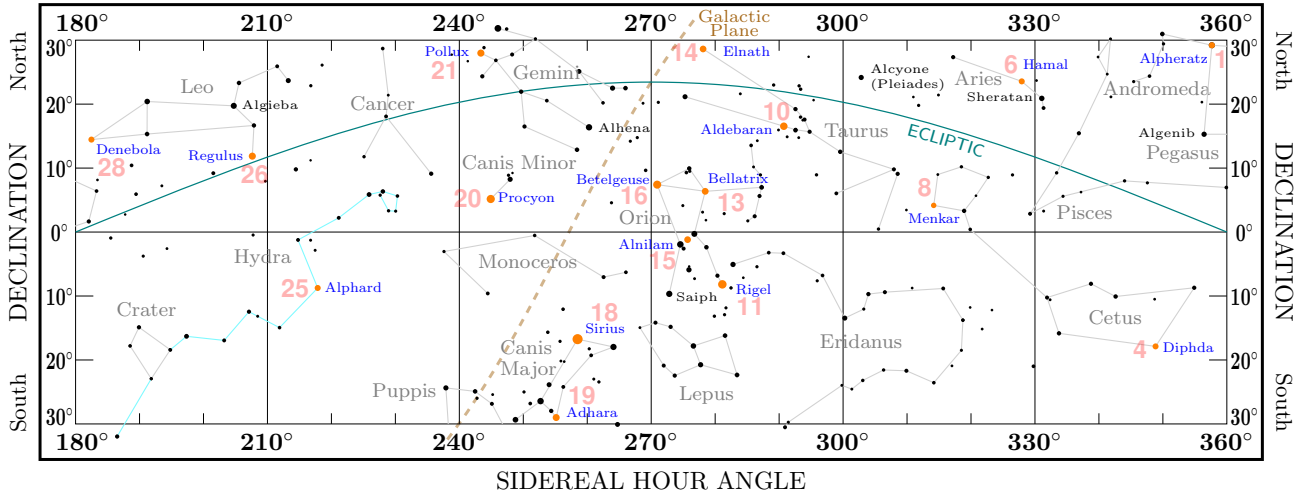


EQUATORIAL STARS (SHA 0° to 180°)



EQUATORIAL STARS (SHA 180° to 360°)



THE NAUTICAL ALMANAC

from 7.10.2020

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October 07, 08, 09 (Wed., Thu., Fri.)

Aries		Venus		Mars		Jupiter		Saturn		Stars		
Wed	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	SHA	Dec	
0	16°05.6	219°11.0	N10°18.5	353°16.3	N05°52.5	86°11.3	S22°36.9	78°40.9	S21°22.4	Alpheratz	357°38.0	29°12.3
1	31°08.1	234°10.6	17.5	8°19.5	52.4	101°13.5	36.9	93°43.3	22.4	Ankaa	353°10.2	-42°11.7
2	46°10.6	249°10.3	16.6	23°22.7	52.2	116°15.8	36.9	108°45.8	22.3	Schedar	349°34.3	56°39.0
3	61°13.0	264°09.9	· · 15.6	38°26.0	· · 52.1	131°18.0	· · 36.9	123°48.2	· · 22.3	Diphda	348°50.5	-17°52.4
4	76°15.5	279°09.5	14.7	53°29.2	51.9	146°20.3	36.8	138°50.6	22.3	Achernar	335°22.3	-57°07.9
5	91°18.0	294°09.2	13.7	68°32.5	51.8	161°22.6	36.8	153°53.1	22.3	Hamal	327°54.7	23°33.6
6	106°20.4	309°08.8	N10°12.8	83°35.7	N05°51.6	176°24.8	S22°36.8	168°55.5	S21°22.3	Polaris	315°11.2	89°20.9
7	121°22.9	324°08.4	11.8	98°38.9	51.4	191°27.1	36.8	183°57.9	22.3	Acamar	315°14.1	-40°13.2
8	136°25.4	339°08.1	10.9	113°42.2	51.3	206°29.3	36.7	199°00.3	22.3	Menkar	314°09.5	4°10.3
9	151°27.8	354°07.7	· · 10.0	128°45.4	· · 51.1	221°31.6	· · 36.7	214°02.8	· · 22.3	Mirfak	308°32.7	49°55.9
10	166°30.3	9°07.3	09.0	143°48.7	51.0	236°33.9	36.7	229°05.2	22.3	Aldebaran	290°43.4	16°33.0
11	181°32.7	24°07.0	08.0	158°51.9	50.8	251°36.1	36.7	244°07.6	22.3	Rigel	281°07.0	-8°10.6
12	196°35.2	39°06.6	N10°07.1	173°55.1	N05°50.7	266°38.4	S22°36.6	259°10.1	S21°22.3	Capella	280°26.8	46°00.9
13	211°37.7	54°06.2	06.1	188°58.4	50.5	281°40.6	36.6	274°12.5	22.3	Bellatrix	278°26.5	6°22.1
14	226°40.1	69°05.9	05.2	204°01.6	50.3	296°42.9	36.6	289°14.9	22.3	Elnath	278°06.1	28°37.4
15	241°42.6	84°05.5	· · 04.2	219°04.9	· · 50.2	311°45.2	· · 36.6	304°17.3	· · 22.3	Alnilam	275°41.1	-1°11.3
16	256°45.1	99°05.2	03.3	234°08.1	50.0	326°47.4	36.5	319°19.8	22.3	Betelgeuse	270°55.7	7°24.7
17	271°47.5	114°04.8	02.3	249°11.4	49.9	341°49.7	36.5	334°22.2	22.3	Canopus	263°53.8	-52°42.1
18	286°50.0	129°04.4	N10°01.4	264°14.6	N05°49.7	356°51.9	S22°36.5	349°24.6	S21°22.3	Sirius	258°29.2	-16°44.5
19	301°52.5	144°04.1	10°00.4	279°17.8	49.6	11°54.2	36.5	4°27.0	22.3	Adhara	255°08.6	-28°59.8
20	316°54.9	159°03.7	09°59.5	294°21.1	49.4	26°56.5	36.4	19°29.5	22.3	Procyon	244°54.5	-5°10.4
21	331°57.4	174°03.3	· · 58.5	309°24.3	· · 49.2	41°58.7	· · 36.4	34°31.9	· · 22.3	Pollux	243°21.6	27°58.5
22	346°59.9	189°03.0	57.6	324°27.6	49.1	57°01.0	36.4	49°34.3	22.3	Avior	234°16.2	-59°34.2
23	2°02.3	204°02.6	56.6	339°30.8	48.9	72°03.2	36.4	64°36.7	22.3	Suhail	222°49.0	-43°30.6
Mer.pass.:22:52		v-0.4 d-0.9 m-4.0		v3.2 d-0.2 m-2.6		v2.3 d0.0 m-2.2		v2.4 d0.0 m0.5		Miaplacidus	221°39.3	-69°47.8
Alphard										Alphard	217°51.3	-8°44.7
Regulus										Regulus	207°38.4	11°52.1
Dubhe										Dubhe	193°46.0	61°38.4
Denebola										Denebola	182°28.8	14°27.6
Gienah										Gienah	175°47.5	-17°39.2
Acrux										Acrux	173°04.5	-63°12.6
Gacrux										Gacrux	171°56.0	-57°13.5
Alioth										Alioth	166°16.7	55°51.0
Spica										Spica	158°26.3	-11°15.9
Alkaid										Alkaid	152°55.3	49°12.8
Hadar										Hadar	148°41.4	-60°28.2
Menkent										Menkent	148°02.0	-36°28.1
Arcturus										Arcturus	145°51.4	19°04.7
Rigel Kent.										Rigel Kent.	139°45.6	-60°55.1
Kochab										Kochab	137°21.0	74°04.5
Zuben'ubi										Zuben'ubi	137°00.1	-16°07.5
Alphecca										Alphecca	126°07.0	26°39.0
Antares										Antares	112°20.3	-26°28.6
Atria										Atria	107°17.9	-69°03.9
Sabik										Sabik	102°06.9	-15°44.9
Shaula										Shaula	96°15.2	-37°07.1
Rasalhague										Rasalhague	96°01.9	12°33.0
Eltanin										Eltanin	90°44.0	51°29.5
Kaus Aust.										Kaus Aust.	83°37.2	-34°22.5
Vega										Vega	80°35.6	38°48.5
Nunki										Nunki	75°52.1	-26°16.2
Altair										Altair	62°03.3	8°55.6
Peacock										Peacock	53°11.1	-56°40.3
Deneb										Deneb	49°27.9	45°21.5
Enif										Enif	33°42.0	9°58.3
Al Na'ir										Al Na'ir	27°37.0	-46°51.8
Fomalhaut										Fomalhaut	15°18.1	-29°30.8
Scheat										Scheat	13°48.2	28°11.8
Markab										Markab	13°33.0	15°19.1
Oct 07 Wed		SHA		Mer.pass								
Venus		203°05.4		09:23								
Mars		337°10.6		00:27								
Jupiter		70°05.6		18:13								
Saturn		62°35.3		18:42								
Oct 08 Thu		SHA		Mer.pass								
Venus		201°57.5		09:24								
Mars		337°29.3		00:22								
Jupiter		70°00.7		18:09								
Saturn		62°34.4		18:38								
Oct 09 Fri		SHA		Mer.pass								
Venus		200°49.6		09:25								
Mars		337°48.2		00:16								
Jupiter		69°55.6		18:05								
Saturn		62°33.4		18:35								
Horizontal parallax		Venus:		0.1								
		Mars:		0.4								
Mer.pass.:22:44		v-0.4 d-1.0 m-4.0		v3.3 d-0.2 m-2.6		v2.2 d0.0 m-2.2		v2.4 d0.0 m0.5				

October 10, 11, 12 (Sat., Sun., Mon.)

Aries				Venus			Mars			Jupiter			Saturn			Stars											
Sat	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	SHA	Dec	SHA	Dec										
0	19°03.1	218°44.9	N09°09.0	357°10.3	N05°41.3	88°53.4	S22°35.1	81°35.4	S21°22.0					Alpheratz	357°38.0	29°12.3											
1	34°05.5	233°44.6	08.0	12°13.6	41.1	103°55.6	35.1	96°37.8	22.0					Ankaa	353°10.2	-42°11.7											
2	49°08.0	248°44.2	07.0	27°16.8	41.0	118°57.8	35.0	111°40.2	22.0					Schedar	349°34.3	56°39.1											
3	64°10.5	263°43.9	· · 06.0	42°20.1	· · 40.8	134°00.1	· · 35.0	126°42.6	· · 22.0					Diphda	348°50.5	-17°52.4											
4	79°12.9	278°43.5	05.0	57°23.4	40.6	149°02.3	35.0	141°45.0	22.0					Achernar	335°22.3	-57°07.9											
5	94°15.4	293°43.1	04.1	72°26.6	40.5	164°04.6	34.9	156°47.5	22.0					Hamal	327°54.7	23°33.6											
6	109°17.8	308°42.8	N09°03.1	87°29.9	N05°40.3	179°06.8	S22°34.9	171°49.9	S21°22.0					Polaris	315°10.3	89°20.9											
7	124°20.3	323°42.4	02.1	102°33.1	40.2	194°09.0	34.9	186°52.3	21.9					Acamar	315°14.1	-40°13.2											
8	139°22.8	338°42.1	01.1	117°36.4	40.0	209°11.3	34.9	201°54.7	21.9					Menkar	314°09.5	4°10.3											
9	154°25.2	353°41.7	09°00.1	132°39.7	· · 39.9	224°13.5	· · 34.8	216°57.1	· · 21.9					Mirfak	308°32.7	49°55.9											
10	169°27.7	8°41.4	08°59.1	147°42.9	39.7	239°15.8	34.8	231°59.5	21.9					Aldebaran	290°43.4	16°33.0											
11	184°30.2	23°41.0	58.1	162°46.2	39.6	254°18.0	34.8	247°01.9	21.9					Rigel	281°07.0	-8°10.6											
12	199°32.6	38°40.6	N08°57.1	177°49.5	N05°39.4	269°20.2	S22°34.7	262°04.4	S21°21.9					Capella	280°26.7	46°00.9											
13	214°35.1	53°40.3	56.1	192°52.7	39.2	284°22.5	34.7	277°06.8	21.9					Bellatrix	278°26.4	6°22.1											
14	229°37.6	68°39.9	55.2	207°56.0	39.1	299°24.7	34.7	292°09.2	21.9					Elnath	278°06.1	28°37.4											
15	244°40.0	83°39.6	· · 54.2	222°59.3	· · 38.9	314°26.9	· · 34.7	307°11.6	· · 21.9					Alnilam	275°41.1	-1°11.3											
16	259°42.5	98°39.2	53.2	238°02.5	38.8	329°29.2	34.6	322°14.0	21.9					Betelgeuse	270°55.7	7°24.7											
17	274°44.9	113°38.9	52.2	253°05.8	38.6	344°31.4	34.6	337°16.4	21.9					Canopus	263°53.8	-52°42.1											
18	289°47.4	128°38.5	N08°51.2	268°09.0	N05°38.5	359°33.6	S22°34.6	352°18.8	S21°21.9					Sirius	258°29.2	-16°44.5											
19	304°49.9	143°38.1	50.2	283°12.3	38.3	14°35.9	34.5	7°21.3	21.9					Adhara	255°08.5	-28°59.8											
20	319°52.3	158°37.8	49.2	298°15.6	38.2	29°38.1	34.5	22°23.7	21.9					Procyon	244°54.5	5°10.4											
21	334°54.8	173°37.4	· · 48.2	313°18.8	· · 38.0	44°40.3	· · 34.5	37°26.1	· · 21.9					Pollux	243°21.6	27°58.5											
22	349°57.3	188°37.1	47.2	328°22.1	37.8	59°42.6	34.5	52°28.5	21.8					Avior	234°16.2	-59°34.2											
23	4°59.7	203°36.7	46.2	343°25.4	37.7	74°44.8	34.4	67°30.9	21.8					Suhail	222°49.0	-43°30.6											
Mer.pass.:22:40				v-0.4 d-1.0 m-4.0			v3.3 d-0.2 m-2.6			v2.2 d0.0 m-2.1			v2.4 d0.0 m0.5			Miaplacidus			221°39.2	-69°47.8							
Alphard				217°51.3			-8°44.7			Regulus			207°38.3			11°52.1			Dubhe			193°45.9	61°38.3				
Denebola				182°28.8			14°27.6			Gienah				175°47.4			-17°39.2			Acrux				173°04.5	-63°12.6		
Gacrux				171°55.9			-57°13.5			Alioth				166°16.7			55°51.0			Spica				158°26.3	-11°15.9		
Alkaid				152°55.3			49°12.8			Hadar				148°41.4			-60°28.2			Menkent				148°02.0	-36°28.1		
Arcturus				145°51.4			19°04.7			Rigel Kent.				139°45.6			-60°55.1			Kochab				137°21.0	74°04.4		
Zuben'ubi				137°00.1			-16°07.5			Alphecca				126°07.0			26°39.0			Antares				112°20.3	-26°28.5		
Atria				107°17.9			-69°03.9			Sabik				102°06.9			-15°44.9			Shaula				96°15.2	-37°07.1		
Rasalhague				96°01.9			12°33.0			Eltanin				90°44.0			51°29.5			Kaus Aust.				83°37.2	-34°22.5		
Vega				80°35.6			38°48.5			Nunki				75°52.1			-26°16.2			Altair				62°03.3	8°55.6		
Peacock				53°11.1			-56°40.3			Deneb				49°27.9			45°21.5			Enif				33°42.0	9°58.3		
Al Na'ir				27°37.0			-46°51.8			Fomalhaut				15°18.1			-29°30.8			Scheat				13°48.2	28°11.8		
Markab				13°33.0			15°19.1			Oct 10 Sat				SHA			Mer.pass			Venus				199°41.9	09:25		
Venus				338°07.3			00:11			Mars				69°50.3			18:02			Jupiter				62°32.3	18:31		
Saturn				62°32.3			18:31			Oct 11 Sun				SHA			Mer.pass			Venus				198°34.2	09:26		
Mars				338°26.4			00:06			Mars				69°44.8			17:58			Jupiter				62°31.1	18:27		
Saturn				62°31.1			18:27			Oct 12 Mon				SHA			Mer.pass			Venus				197°26.5	09:26		
Mars				338°45.7			00:01			Mars				69°39.2			17:55			Jupiter				62°29.8	18:23		
Saturn				62°29.8			18:23			Horizontal parallax				Venus:			0.1			Mars:				0.4			
Mer.pass.:22:32				v-0.4 d-1.0 m-3.9			v3.3 d-0.2 m-2.6			v2.2 d0.0 m-2.1			v2.4 d0.0 m0.5														

