

# Nautical Almanac

by Oliv Soft

**for Saturday, August the 6<sup>th</sup>,  
2011**



*Calculated with  $\Delta T$ : 65.984s*

*Compare with <http://aa.usno.navy.mil/data/docs/celestialnavtable.php>, <http://maia.usno.navy.mil/>*

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UT	Sun ☉					Moon ☾					Aries ♈		UT
	GHA	$\delta$ gha	SHA	Dec	d	GHA	$\delta$ gha	SHA	Dec	d	hp ( $\pi$ )	GHA	
00	178°30.12'		135°41.22'	N 16°50.90'		100°38.89'		213°32.45'	S 17°19.33'		59.2282'	314°11.34'	00
01	193°30.18'	15.0011°	135°43.62'	N 16°50.22'	0.6816'	115°05.69'	14.4468°	214°08.11'	S 17°28.89'	9.5583'	59.2114'	329°13.80'	01
02	208°30.25'	15.0011°	135°46.02'	N 16°49.54'	0.6821'	129°32.46'	14.4461°	214°43.81'	S 17°38.34'	9.4467'	59.1945'	344°16.27'	02
03	223°30.31'	15.0011°	135°48.42'	N 16°48.86'	0.6826'	143°59.19'	14.4454°	215°19.54'	S 17°47.67'	9.3340'	59.1775'	359°18.73'	03
04	238°30.38'	15.0011°	135°50.82'	N 16°48.17'	0.6830'	158°25.87'	14.4448°	215°55.32'	S 17°56.89'	9.2203'	59.1603'	14°21.20'	04
05	253°30.45'	15.0011°	135°53.21'	N 16°47.49'	0.6835'	172°52.52'	14.4441°	216°31.14'	S 18°06.00'	9.1055'	59.1430'	29°23.66'	05

06	268°30.52'	15.0011°	135°55.61'	N 16°46.80'	0.6840'	187°19.12'	14.4434°	217°07.00'	S 18°14.99'	8.9898'	59.1257'	44°26.12'	06
07	283°30.58'	15.0011°	135°58.01'	N 16°46.12'	0.6844'	201°45.69'	14.4427°	217°42.90'	S 18°23.86'	8.8731'	59.1082'	59°28.59'	07
08	298°30.65'	15.0011°	136°00.40'	N 16°45.44'	0.6849'	216°12.21'	14.4421°	218°18.84'	S 18°32.62'	8.7554'	59.0906'	74°31.05'	08
09	313°30.72'	15.0011°	136°02.80'	N 16°44.75'	0.6854'	230°38.69'	14.4414°	218°54.82'	S 18°41.25'	8.6367'	59.0729'	89°33.52'	09
10	328°30.79'	15.0011°	136°05.19'	N 16°44.06'	0.6858'	245°05.14'	14.4408°	219°30.84'	S 18°49.77'	8.5171'	59.0551'	104°35.98'	10
11	343°30.86'	15.0011°	136°07.59'	N 16°43.38'	0.6863'	259°31.55'	14.4401°	220°06.90'	S 18°58.17'	8.3966'	59.0372'	119°38.45'	11

12	358°30.92'	15.0011°	136°09.98'	N 16°42.69'	0.6868'	273°57.91'	14.4395°	220°42.99'	S 19°06.44'	8.2752'	59.0192'	134°40.91'	12
13	13°30.99'	15.0012°	136°12.38'	N 16°42.00'	0.6872'	288°24.25'	14.4388°	221°19.13'	S 19°14.60'	8.1528'	59.0011'	149°43.37'	13
14	28°31.06'	15.0012°	136°14.77'	N 16°41.32'	0.6877'	302°50.54'	14.4382°	221°55.30'	S 19°22.63'	8.0296'	58.9830'	164°45.84'	14
15	43°31.13'	15.0012°	136°17.17'	N 16°40.63'	0.6882'	317°16.80'	14.4376°	222°31.51'	S 19°30.53'	7.9054'	58.9647'	179°48.30'	15
16	58°31.20'	15.0012°	136°19.56'	N 16°39.94'	0.6886'	331°43.02'	14.4370°	223°07.75'	S 19°38.31'	7.7805'	58.9464'	194°50.77'	16
17	73°31.27'	15.0012°	136°21.96'	N 16°39.25'	0.6891'	346°09.20'	14.4364°	223°44.03'	S 19°45.97'	7.6546'	58.9279'	209°53.23'	17

18	88°31.34'	15.0012°	136°24.35'	N 16°38.56'	0.6896'	0°35.35'	14.4358°	224°20.34'	S 19°53.49'	7.5280'	58.9094'	224°55.69'	18
19	103°31.41'	15.0012°	136°26.74'	N 16°37.87'	0.6900'	15°01.47'	14.4353°	224°56.69'	S 20°00.90'	7.4005'	58.8908'	239°58.16'	19
20	118°31.48'	15.0012°	136°29.14'	N 16°37.18'	0.6905'	29°27.55'	14.4347°	225°33.08'	S 20°08.17'	7.2723'	58.8721'	255°00.62'	20
21	133°31.56'	15.0012°	136°31.53'	N 16°36.49'	0.6909'	43°53.60'	14.4341°	226°09.49'	S 20°15.31'	7.1432'	58.8533'	270°03.09'	21
22	148°31.63'	15.0012°	136°33.92'	N 16°35.80'	0.6914'	58°19.61'	14.4336°	226°45.94'	S 20°22.32'	7.0134'	58.8345'	285°05.55'	22
23	163°31.70'	15.0012°	136°36.32'	N 16°35.11'	0.6919'	72°45.59'	14.4331°	227°22.42'	S 20°29.21'	6.8829'	58.8156'	300°08.01'	23

24	178°31.77'	15.0012°	136°38.71'	N 16°34.41'	0.6923'	87°11.55'	14.4325°	227°58.93'	S 20°35.96'	6.7516'	58.7966'	315°10.48'	24
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1/2Ø 15.7678'	hp (π) 0.1445'	1/2Ø 16.0816'	50.5% FQ		
Eq. of Time at 12:00 : -5m 56s (δ 0.28 s/h)		Phase at 12:00 : 90.47°			
Meridian Pass. Time : 12:05:56.302		Age : 7.0 day(s)			

UT	Venus ♀ ( $\pi$ 0.08)			Mars ♂ ( $\pi$ 0.07)			Jupiter ♃			Saturn ♄			UT
	GHA	SHA	Dec	GHA	SHA	Dec	GHA	SHA	Dec	GHA	SHA	Dec	
00	181°06.74'	133°04.60'	N 18°41.06'	222°16.91'	91°54.43'	N 23°46.93'	276°46.55'	37°24.79'	N 13°23.67'	121°33.11'	192°38.23'	S 2°51.53'	00
01	196°06.05'	133°07.75'	N 18°40.28'	237°17.55'	91°56.26'	N 23°46.94'	291°48.83'	37°24.98'	N 13°23.72'	136°35.39'	192°38.41'	S 2°51.61'	01
02	211°05.37'	133°10.90'	N 18°39.50'	252°18.19'	91°58.08'	N 23°46.95'	306°51.10'	37°25.17'	N 13°23.78'	151°37.67'	192°38.59'	S 2°51.70'	02
03	226°04.68'	133°14.05'	N 18°38.73'	267°18.83'	91°59.90'	N 23°46.96'	321°53.37'	37°25.36'	N 13°23.83'	166°39.96'	192°38.78'	S 2°51.78'	03
04	241°03.99'	133°17.20'	N 18°37.95'	282°19.47'	92°01.72'	N 23°46.96'	336°55.65'	37°25.55'	N 13°23.88'	181°42.24'	192°38.96'	S 2°51.87'	04
05	256°03.31'	133°20.35'	N 18°37.17'	297°20.11'	92°03.55'	N 23°46.97'	351°57.92'	37°25.74'	N 13°23.93'	196°44.52'	192°39.14'	S 2°51.95'	05

06	271°02.63'	133°23.50'	N 18°36.38'	312°20.76'	92°05.37'	N 23°46.98'	7°00.20'	37°25.93'	N 13°23.99'	211°46.80'	192°39.33'	S 2°52.04'	06
07	286°01.94'	133°26.65'	N 18°35.60'	327°21.40'	92°07.19'	N 23°46.99'	22°02.47'	37°26.12'	N 13°24.04'	226°49.08'	192°39.51'	S 2°52.13'	07
08	301°01.26'	133°29.79'	N 18°34.82'	342°22.04'	92°09.01'	N 23°47.00'	37°04.75'	37°26.31'	N 13°24.09'	241°51.36'	192°39.69'	S 2°52.21'	08
09	316°00.58'	133°32.94'	N 18°34.04'	357°22.68'	92°10.83'	N 23°47.00'	52°07.02'	37°26.50'	N 13°24.14'	256°53.64'	192°39.88'	S 2°52.30'	09
10	330°59.89'	133°36.09'	N 18°33.25'	12°23.32'	92°12.66'	N 23°47.01'	67°09.30'	37°26.68'	N 13°24.19'	271°55.92'	192°40.06'	S 2°52.38'	10
11	345°59.21'	133°39.23'	N 18°32.47'	27°23.97'	92°14.48'	N 23°47.02'	82°11.57'	37°26.87'	N 13°24.25'	286°58.20'	192°40.24'	S 2°52.47'	11

12	0°58.53'	133°42.38'	N 18°31.68'	42°24.61'	92°16.30'	N 23°47.02'	97°13.85'	37°27.06'	N 13°24.30'	302°00.48'	192°40.43'	S 2°52.55'	12
13	15°57.85'	133°45.52'	N 18°30.89'	57°25.25'	92°18.12'	N 23°47.03'	112°16.12'	37°27.25'	N 13°24.35'	317°02.76'	192°40.61'	S 2°52.64'	13
14	30°57.17'	133°48.67'	N 18°30.10'	72°25.89'	92°19.94'	N 23°47.03'	127°18.40'	37°27.44'	N 13°24.40'	332°05.04'	192°40.80'	S 2°52.73'	14
15	45°56.49'	133°51.81'	N 18°29.31'	87°26.54'	92°21.76'	N 23°47.04'	142°20.68'	37°27.62'	N 13°24.45'	347°07.32'	192°40.98'	S 2°52.81'	15
16	60°55.81'	133°54.96'	N 18°28.52'	102°27.18'	92°23.59'	N 23°47.04'	157°22.96'	37°27.81'	N 13°24.50'	2°09.60'	192°41.16'	S 2°52.90'	16
17	75°55.13'	133°58.10'	N 18°27.73'	117°27.82'	92°25.41'	N 23°47.05'	172°25.23'	37°28.00'	N 13°24.55'	17°11.88'	192°41.35'	S 2°52.98'	17

18	90°54.45'	134°01.24'	N 18°26.94'	132°28.47'	92°27.23'	N 23°47.05'	187°27.51'	37°28.18'	N 13°24.61'	32°14.16'	192°41.53'	S 2°53.07'	18
19	105°53.77'	134°04.39'	N 18°26.15'	147°29.11'	92°29.05'	N 23°47.05'	202°29.79'	37°28.37'	N 13°24.66'	47°16.44'	192°41.72'	S 2°53.16'	19
20	120°53.10'	134°07.53'	N 18°25.36'	162°29.75'	92°30.87'	N 23°47.06'	217°32.07'	37°28.55'	N 13°24.71'	62°18.72'	192°41.90'	S 2°53.24'	20
21	135°52.42'	134°10.67'	N 18°24.56'	177°30.40'	92°32.69'	N 23°47.06'	232°34.35'	37°28.74'	N 13°24.76'	77°21.00'	192°42.09'	S 2°53.33'	21
22	150°51.74'	134°13.81'	N 18°23.77'	192°31.04'	92°34.51'	N 23°47.06'	247°36.63'	37°28.93'	N 13°24.81'	92°23.28'	192°42.27'	S 2°53.42'	22
23	165°51.06'	134°16.95'	N 18°22.97'	207°31.69'	92°36.33'	N 23°47.06'	262°38.90'	37°29.11'	N 13°24.86'	107°25.56'	192°42.46'	S 2°53.50'	23

24	180°50.39'	134°20.09'	N 18°22.17'	222°32.33'	92°38.15'	N 23°47.07'	277°41.18'	37°29.29'	N 13°24.91'	122°27.84'	192°42.64'	S 2°53.59'	24
	$\delta$ 14.9886°		d 0.7764'	$\delta$ 15.0107°		d 0.0098'	$\delta$ 15.0379°		d 0.0527'	$\delta$ 15.0380°		d 0.0854'	

# Saturday, August the 6<sup>th</sup>, 2011 (page 2)

Stars at 0000 U.T. (GHA(Star) = SHA(Star) + GHA(Aries))

Name	SHA	Dec
Acamar	315°19.31'	S 40°15.17'
Achenar	335°27.49'	S 57°10.28'
Acrux	173°11.29'	S 63°10.10'
Adhara	255°13.89'	S 28°59.21'
Aldebaran	290°51.04'	N 16°31.93'
Alioth	166°22.02'	N 55°54.00'
Alkaid	152°59.99'	N 49°15.55'
Al Na'ir	27°44.86'	S 46°54.00'
Anilam	275°47.91'	S 1°11.64'
Alphard	217°57.70'	S 8°42.59'
Alphecca	126°12.01'	N 26°40.75'
Alpheratz	357°44.63'	N 29°09.34'
Altair	62°09.19'	N 8°54.16'
Ankaa	353°16.69'	S 42°14.23'
Antares	112°27.71'	S 26°27.48'
Arcturus	145°56.94'	N 19°07.45'
Atria	107°30.42'	S 69°03.09'
Avior	234°19.24'	S 59°32.85'
Bellatrix	278°33.62'	N 6°21.62'
Betelgeuse	271°02.95'	N 7°24.54'
Canopus	263°57.17'	S 52°41.98'
Capella	280°36.67'	N 46°00.40'
Deneb	49°31.93'	N 45°19.50'
Denebola	182°35.21'	N 14°30.46'
Diphda	348°57.00'	S 17°55.10'
Dubhe	193°53.75'	N 61°41.37'
Elnath	278°14.51'	N 28°36.93'
Eltanin	90°46.35'	N 51°29.53'
Enif	33°48.08'	N 9°55.90'

Name	SHA	Dec
Fomalhaut	15°25.07'	S 29°33.35'
Gacrux	172°02.77'	S 57°10.97'
Gienah	175°53.86'	S 17°36.48'
Hadar	148°49.92'	S 60°26.02'
Hamal	328°02.19'	N 23°31.05'
Kaus Australis	83°45.20'	S 34°22.68'
Kochab	137°19.80'	N 74°06.75'
Markab	13°39.36'	N 15°16.23'
Menkar	314°16.44'	N 4°08.21'
Menkent	148°09.20'	S 36°25.80'
Miaplacidus	221°40.99'	S 69°46.01'
Mirfak	308°42.34'	N 49°53.97'
Nunki	75°59.59'	S 26°16.81'
Peacock	53°20.64'	S 56°41.70'
Polaris	318°25.77'	N 89°18.57'
Pollux	243°29.67'	N 27°59.81'
Procyon	245°01.40'	N 5°11.69'
Rasalhague	96°07.43'	N 12°33.29'
Regulus	207°45.20'	N 11°54.61'
Rigel	281°13.51'	S 8°11.21'
Rigel Kent	139°53.69'	S 60°53.27'
Sabik	102°13.83'	S 15°44.29'
Schedar	349°41.77'	N 56°35.98'
Shaula	96°23.40'	S 37°06.73'
Sirius	258°35.17'	S 16°43.87'
Spica	158°32.74'	S 11°13.36'
Suhail	222°53.88'	S 43°28.85'
Vega	80°39.49'	N 38°47.92'
Zubenelgenubi	137°06.86'	S 16°05.43'

## Calculated at 00:00:00 U.T.

Mean Obliquity of Ecliptic	23°26'16.021"
True Obliquity of Ecliptic	23°26'14.600"
Delta $\psi$	18.058"
Delta $\epsilon$	-1.420"
Obliquity	0.0
True Obliquity	0.0
Julian Date	2455779.5
Julian Ephemeris Date	2455779.5007637036

Calculated at 12:00 UCT at Greenwich

Lat.	Sun				Moon		Lat.
	Rise	Z <sub>Rise</sub>	Set	Z <sub>Set</sub>	Rise	Set	
N 70	02:06	28	21:42	332	16:35	18:54	N 70
N 65	03:09	45	20:39	315	14:57	20:31	N 65
N 60	03:45	53	20:03	307	14:12	21:16	N 60
N 55	04:09	59	19:39	301	13:43	21:45	N 55
N 50	04:27	62	19:21	298	13:22	22:06	N 50
N 45	04:41	65	19:07	295	13:06	22:22	N 45
N 40	04:52	67	18:56	293	12:52	22:36	N 40
N 35	05:02	69	18:46	291	12:41	22:47	N 35
N 30	05:11	70	18:37	290	12:31	22:57	N 30
N 25	05:19	71	18:30	289	12:22	23:06	N 25
N 20	05:26	72	18:22	288	12:14	23:15	N 20
N 15	05:32	72	18:16	288	12:06	23:22	N 15
N 10	05:39	73	18:10	287	11:59	23:30	N 10
N 5	05:45	73	18:03	287	11:52	23:37	N 5
0	05:51	73	17:57	287	11:45	23:44	0
S 5	05:57	73	17:51	287	11:38	23:50	S 5
S 10	06:03	73	17:45	287	11:31	23:58	S 10
S 15	06:09	73	17:39	287	11:23	00:05	S 15
S 20	06:16	72	17:32	288	11:16	00:13	S 20
S 25	06:23	72	17:25	288	11:08	00:21	S 25
S 30	06:31	71	17:17	289	10:59	00:30	S 30
S 35	06:39	70	17:09	290	10:49	00:40	S 35
S 40	06:49	69	16:59	291	10:37	00:51	S 40
S 45	07:00	67	16:48	293	10:24	01:05	S 45
S 50	07:14	65	16:34	295	10:07	01:21	S 50
S 55	07:32	61	16:16	299	09:46	01:42	S 55

