

Altitude Correction Tables for 10° to 90° — Sun, Stars, Planets

SUN October – March			SUN April – September			Stars & Planets		Additional Altitude Correction for Mars & Venus	Refraction		DIP <i>always subtracted from Hs</i>				
App. Alt.	Lower Limb	Upper Limb	App. Alt.	Lower Limb	Upper Limb	App. Alt.	Corr		App. Alt.	Corr	Ht. of Eye	Corr	Ht. of Eye	Ht. of Eye	Corr
° ' "	' "	' "	° ' "	' "	' "	° ' "	' "	A small additional altitude correction for Mars & Venus can be obtained in the Daily Pages of The Nautical Almanac for the day of the observation.	° ' "	' "	meters	' "	feet	meters	' "
9 33	+10.8	– 21.5	9 39	+10.6	– 21.2	9 55	– 5.3	Find the correction in the block labeled Horizontal parallax. The figure will cover the range of 3 days found on that Daily Page. The correction is to be subtracted from Apparent Altitude.	5.5	– 9.1	2.4	– 2.8	8.0	1.0	– 1.8
9 45	+10.9	– 21.4	9 50	+10.7	– 21.1	10 07	– 5.2		6.0	– 8.5	2.6	– 2.9	8.6	1.5	– 2.2
9 56	+11.0	– 21.3	10 02	+10.8	– 21.0	10 20	– 5.1		6.5	– 7.9	2.8	– 3.0	9.2	2.0	– 2.5
10 08	+11.1	– 21.2	10 14	+10.9	– 20.9	10 32	– 5.0		7.0	– 7.5	3.0	– 3.1	9.8	2.5	– 2.8
10 20	+11.2	– 21.1	10 27	+11.0	– 20.8	10 46	– 4.9		7.5	– 7.0	3.2	– 3.1	10.5	3.0	– 3.0
10 33	+11.3	– 21.0	10 40	+11.1	– 20.7	10 59	– 4.8		8.0	– 6.6	3.4	– 3.2	11.2	See table ←	
10 46	+11.4	– 20.9	10 53	+11.2	– 20.6	11 14	– 4.7		8.5	– 6.3	3.6	– 3.3	11.9		
11 00	+11.5	– 20.8	11 07	+11.2	– 20.6	11 29	– 4.7		9.0	– 5.9	3.8	– 3.4	12.6	meters	
11 15	+11.6	– 20.7	11 22	+11.3	– 20.5	11 44	– 4.6		9.5	– 5.7	4.0	– 3.5	13.3		
11 30	+11.7	– 20.6	11 37	+11.4	– 20.4	12 00	– 4.5		10.0	– 5.4	4.3	– 3.6	14.1	20	– 7.9
11 45	+11.8	– 20.5	11 53	+11.5	– 20.3	12 17	– 4.4	The correction is to be subtracted from Apparent Altitude.	10.5	– 5.1	4.5	– 3.7	14.9	22	– 8.3
12 01	+11.9	– 20.4	12 10	+11.6	– 20.2	12 35	– 4.3		11.0	– 4.9	4.7	– 3.8	15.7	24	– 8.6
12 18	+12.0	– 20.3	12 27	+11.7	– 20.1	12 53	– 4.2		11.5	– 4.7	5.0	– 3.9	16.5	26	– 9.0
12 36	+12.1	– 20.2	14 45	+11.8	– 20.0	13 12	– 4.1		12.0	– 4.5	5.2	– 4.0	17.4	28	– 9.3
12 54	+12.2	– 20.1	13 04	+11.9	– 19.9	13 32	– 4.0		12.5	– 4.4	5.5	– 4.1	18.3	30	
13 14	+12.3	– 20.0	13 24	+12.0	– 19.8	13 53	– 3.9		13.0	– 4.2	5.8	– 4.2	19.1		
13 34	+12.4	– 19.9	13 44	+12.1	– 19.7	14 16	– 3.8		13.5	– 4.0	6.1	– 4.3	20.1	32	– 10.0
13 55	+12.5	– 19.8	14 06	+12.2	– 19.6	14 39	– 3.7		14.0	– 3.9	6.3	– 4.4	21.0	34	– 10.3
14 17	+12.6	– 19.7	14 29	+12.3	– 19.5	15 03	– 3.6		14.5	– 3.8	6.6	– 4.5	22.0	36	– 10.6
14 41	+12.7	– 19.6	14 53	+12.4	– 19.4	15 29	– 3.5		15.0	– 3.6	6.9	– 4.6	22.9	38	– 10.8
15 05	+12.8	– 19.5	15 18	+12.5	– 19.3	15 56	– 3.4		15.5	– 3.5	7.2	– 4.7	23.9	40	– 11.1
15 31	+12.8	– 19.5	15 45	+12.6	– 19.2	16 25	– 3.3		16.0	– 3.4	7.5	– 4.8	24.9	42	– 11.4
15 59	+12.9	– 19.4	16 13	+12.7	– 19.1	16 55	– 3.2		16.5	– 3.3	7.9	– 4.9	26.0	44	– 11.7
16 27	+13.0	– 19.3	16 43	+12.8	– 19.0	17 27	– 3.1		17.0	– 3.2	8.2	– 5.0	27.1	46	– 11.9
16 58	+13.1	– 19.2	17 14	+12.9	– 18.9	18 01	– 3.0		17.5	– 3.1	8.5	– 5.1	28.1	48	– 12.2
17 30	+13.2	– 19.1	17 47	+13.0	– 18.8	18 37	– 2.9		18.0	– 3.0	8.8	– 5.2	29.2	feet	
18 05	+13.3	– 19.0	18 23	+13.1	– 18.7	19 16	– 2.8		18.5	– 2.9	9.2	– 5.3	30.4	2	– 1.4
18 41	+13.4	– 18.9	19 00	+13.2	– 18.6	19 56	– 2.7		19.0	– 2.9	9.5	– 5.4	31.5	4	– 1.9
19 20	+13.5	– 18.8	19 41	+13.3	– 18.5	20 40	– 2.6		19.5	– 2.8	9.9	– 5.5	32.7	6	– 2.4
20 02	+13.6	– 18.7	20 24	+13.4	– 18.4	21 27	– 2.5		20.0	– 2.7	10.3	– 5.6	33.9	8	– 2.7
20 46	+13.7	– 18.6	21 10	+13.5	– 18.3	22 17	– 2.4		21.0	– 2.6	10.6	– 5.7	35.1	10	– 3.1
21 34	+13.8	– 18.5	21 59	+13.6	– 18.2	23 11	– 2.3		22.0	– 2.4	11.0	– 5.8	36.3	See table ←	
22 25	+13.9	– 18.4	22 52	+13.7	– 18.1	24 09	– 2.2		23.0	– 2.3	11.4	– 5.9	37.6		
23 20	+14.0	– 18.3	23 49	+13.8	– 18.0	25 12	– 2.1		24.0	– 2.2	11.8	– 6.0	38.9	feet	
24 20	+14.1	– 18.2	24 51	+13.9	– 17.9	26 20	– 2.0		25.0	– 2.1	12.2	– 6.1	40.1	70	– 8.1
25 24	+14.2	– 18.1	25 58	+14.0	– 17.8	27 34	– 1.9		26.0	– 2.0	12.6	– 6.2	41.5	75	– 8.4
26 34	+14.3	– 18.0	27 11	+14.1	– 17.7	28 54	– 1.8		27.0	– 1.9	13.0	– 6.3	42.9	80	– 8.7
27 50	+14.4	– 17.9	28 31	+14.2	– 17.6	30 22	– 1.7		28.0	– 1.9	13.4	– 6.4	44.2	85	– 8.9
29 13	+14.5	– 17.8	29 58	+14.3	– 17.5	31 58	– 1.6		29.0	– 1.8	13.8	– 6.5	45.5	90	– 9.2
30 44	+14.6	– 17.7	31 33	+14.4	– 17.4	33 43	– 1.5		30.0	– 1.7	14.2	– 6.6	46.9	95	9.5
32 24	+14.7	– 17.6	33 18	+14.5	– 17.3	35 38	– 1.4		31.0	– 1.7	14.7	– 6.7	48.4	See table ←	
34 15	+14.8	– 17.5	35 15	+14.6	– 17.2	37 45	– 1.3		32.0	– 1.6	15.1	– 6.8	49.8	100	– 9.7
36 17	+14.9	– 17.4	37 24	+14.7	– 17.1	40 06	– 1.2		33.0	– 1.5	15.5	– 6.9	51.3	105	– 9.9
38 34	+15.0	– 17.3	39 48	+14.8	– 17.0	42 42	– 1.1		34.0	– 1.5	16.0	– 7.0	52.8	110	– 10.2
41 06	+15.1	– 17.2	42 28	+14.9	– 16.9	45 34	– 1.0		35.0	– 1.4	16.5	– 7.1	54.3	115	– 10.4
43 56	+15.2	– 17.1	45 29	+15.0	– 16.8	48 45	– 0.9		36.0	– 1.4	16.9	– 7.2	55.8	120	– 10.6
47 07	+15.3	– 17.0	48 52	+15.1	– 16.7	52 16	– 0.8		37.0	– 1.3	17.4	– 7.3	57.4	125	– 10.8
50 43	+15.4	– 16.9	51 41	+15.2	– 16.6	56 09	– 0.7		38.0	– 1.3	17.9	– 7.4	58.9	130	– 11.1
54 46	+15.5	– 16.8	56 59	+15.3	– 16.5	60 26	– 0.6		39.0	– 1.2	18.4	– 7.5	60.5	135	– 11.3
59 21	+15.6	– 16.7	61 50	+15.4	– 16.4	65 06	– 0.5		40.0	– 1.2	18.8	– 7.6	62.1	140	– 11.5
64 28	+15.7	– 16.6	67 15	+15.5	– 16.3	70 09	– 0.4		45.0	– 1.0	19.3	– 7.7	63.8	145	– 11.7
70 10	+15.8	– 16.5	73 14	+15.6	– 16.2	75 32	– 0.3		50.0	– 0.8	19.8	– 7.8	65.4	150	– 11.9
76 24	+15.9	– 16.4	79 42	+15.7	– 16.1	81 12	– 0.2		55.0	– 0.7	20.4	– 7.9	67.1	155	– 12.1
83 05	+16.0	– 16.3	86 21	+15.8	– 16.0	87 03	0.0		60.0	– 0.6	20.9	– 8.0	68.8	See table ←	
90 00	+16.1	– 16.2	90 00	+15.9	– 15.9	90 00	0.0		65.0	– 0.5	21.4	– 8.1	70.5		
									70.0	– 0.4					
									75.0	– 0.3					
									80.0	– 0.2					
									85.0	– 0.1					

App. Alt. = Apparent altitude = Sextant altitude corrected for index error and dip.

Altitude Correction Tables for 0° to 10° — Sun, Stars, Planets

App. Alt.	Sun		Sun		Stars & Planets	App. Alt.	Sun		Sun		Stars & Planets
	October – March		April – September				October – March		April – September		
	Lower Limb	Upper Limb	Lower Limb	Upper Limb			Lower Limb	Upper Limb	Lower Limb	Upper Limb	
0 00	− 17.5	− 49.8	− 17.8	− 49.6	− 33.8	3 30	+ 3.4	− 28.9	+ 3.1	− 28.7	− 12.9
0 03	16.9	49.2	17.2	49.0	33.2	3 35	3.6	28.7	3.3	28.5	12.7
0 06	16.3	48.6	16.6	48.4	32.6	3 40	3.8	28.5	3.6	28.2	12.5
0 09	15.7	48.0	16.0	47.8	32.0	3 45	4.0	28.3	3.8	28.0	12.3
0 12	15.2	47.5	15.4	47.2	31.5	3 50	4.2	28.1	4.0	27.8	12.1
0 15	14.6	46.9	14.8	46.6	30.9	3 55	4.4	27.9	4.1	27.7	11.9
0 18	− 14.1	− 46.4	− 14.3	− 46.1	− 30.4	4 00	+ 4.6	− 27.7	+ 4.3	− 27.5	− 11.7
0 21	13.5	45.8	13.8	45.6	29.8	4 05	4.8	27.5	4.5	27.3	11.5
0 24	13.0	45.3	13.3	45.1	29.3	4 10	4.9	27.4	4.7	27.1	11.4
0 27	12.5	44.8	12.8	44.6	28.8	4 15	5.1	27.2	4.9	26.9	11.2
0 30	12.0	44.3	12.3	44.1	28.3	4 20	5.3	27.0	5.0	26.8	11.0
0 33	11.6	43.9	11.8	43.6	27.9	4 25	5.4	26.9	5.2	26.6	10.9
0 36	− 11.1	− 10.0	− 11.3	− 43.1	− 27.4	4 30	+ 5.6	− 26.7	+ 5.3	− 26.5	− 10.7
0 39	10.6	42.9	10.9	42.7	26.9	4 35	5.7	26.6	5.5	26.3	10.6
0 42	10.2	42.5	10.5	42.3	26.5	4 40	5.9	26.4	5.6	26.2	10.4
0 45	9.8	42.1	10.0	41.8	26.1	4 45	6.0	26.3	5.8	26.0	10.3
0 48	9.4	41.7	9.6	41.4	25.7	4 50	6.2	26.1	5.9	25.9	10.1
0 51	9.0	41.3	9.2	41.0	25.3	4 55	6.3	26.0	6.1	25.7	10.0
0 54	− 8.6	− 40.9	− 8.8	− 40.6	− 24.9	5 00	+ 6.4	− 25.9	+ 6.2	− 25.6	− 9.9
0 57	8.2	40.5	8.4	40.2	24.5	5 05	6.6	25.7	6.3	25.5	9.7
1 00	7.8	40.1	8.0	39.8	24.1	5 10	6.7	25.6	6.5	25.3	9.6
1 03	7.4	39.7	7.7	39.5	23.7	5 15	6.8	25.5	6.6	25.2	9.5
1 06	7.1	39.4	7.3	39.1	23.4	5 20	7.0	25.3	6.7	25.1	9.3
1 09	6.7	39.0	7.0	38.8	23.0	5 25	7.1	25.2	6.8	25.0	9.2
1 12	− 6.4	− 38.7	− 6.6	− 38.4	− 22.7	5 30	+ 7.2	− 25.1	+ 6.9	− 24.9	− 9.1
1 15	6.0	38.3	6.3	38.1	22.3	5 35	7.3	25.0	7.1	24.7	9.0
1 18	5.7	38.0	6.0	37.8	22.0	5 40	7.4	24.9	7.2	24.6	8.9
1 21	5.4	37.7	5.7	37.5	21.7	5 45	7.5	24.8	7.3	24.5	8.8
1 24	5.1	37.4	5.3	37.1	21.4	5 50	7.6	24.7	7.4	24.4	8.7
1 27	4.8	37.1	5.0	36.8	21.1	5 55	7.7	24.6	7.5	24.3	8.6
1 30	− 4.5	− 36.8	− 4.7	− 36.5	− 20.8	6 00	+ 7.8	− 24.5	+ 7.6	− 24.2	− 8.5
1 35	4.0	36.3	4.3	36.1	20.3	6 10	8.0	24.3	7.8	24.0	8.3
1 40	3.6	35.9	3.8	35.6	19.9	6 20	8.2	24.1	8.0	23.8	8.1
1 45	3.1	35.4	3.4	35.2	19.4	6 30	8.4	23.9	8.2	23.6	7.9
1 50	2.7	35.0	2.9	34.7	19.0	6 40	8.6	23.7	8.3	23.5	7.7
1 55	2.3	34.6	2.5	34.3	18.6	6 50	8.7	23.6	8.5	23.3	7.6
2 00	− 1.9	− 34.2	− 2.1	− 33.9	− 18.2	7 00	+ 8.9	− 23.4	+ 8.7	− 23.1	− 7.4
2 05	1.5	33.8	1.7	33.5	17.8	7 10	9.1	23.2	8.8	23.0	7.2
2 10	1.1	33.4	1.4	33.2	17.4	7 20	9.2	23.1	9.0	22.8	7.1
2 15	0.8	33.1	1.0	32.8	17.1	7 30	9.3	23.0	9.1	22.7	6.9
2 20	0.4	32.7	0.7	32.5	16.7	7 40	9.5	22.8	9.2	22.6	6.8
2 25	− 0.1	32.4	− 0.3	32.1	16.4	7 50	9.6	22.7	9.4	22.4	6.7
2 30	+ 0.2	− 32.1	0.0	− 31.8	− 16.1	8 00	+ 9.7	− 22.6	+ 9.5	− 22.3	− 6.6
2 35	0.5	31.8	+ 0.3	31.5	15.8	8 10	9.9	22.4	9.6	22.2	6.4
2 40	0.8	31.5	0.6	31.2	15.4	8 20	10.0	22.3	9.7	22.1	6.3
2 45	1.1	31.2	0.9	30.9	15.2	8 30	10.1	22.2	9.9	21.9	6.2
2 50	1.4	30.9	1.2	30.6	14.9	8 40	10.2	22.1	10.0	21.8	6.1
2 55	1.7	30.6	1.4	30.4	14.9	8 50	10.3	22.0	10.1	21.7	6.0
3 00	+ 2.0	− 30.3	+ 1.7	− 30.1	− 14.3	9 00	+ 10.4	− 21.9	+ 10.2	− 21.6	− 5.9
3 05	2.2	30.1	2.0	29.8	14.1	9 10	10.5	21.8	10.3	21.5	5.8
3 10	2.5	29.8	2.2	29.6	13.8	9 20	10.6	21.7	10.4	21.4	5.7
3 15	2.7	29.6	2.5	29.3	13.6	9 30	10.7	21.6	10.5	21.3	5.6
3 20	2.9	29.4	2.7	29.1	13.4	9 40	10.8	21.5	10.6	21.2	5.5
3 25	3.2	29.1	2.9	28.9	13.4	9 50	10.9	21.4	10.6	21.2	5.4
3 30	3.4	− 28.9	+ 3.1	− 28.7	− 12.9	10 00	+ 11.0	− 21.3	+ 10.7	− 21.1	− 5.3

For bubble sextant observations- ignore dip and use star corrections for the Sun, planets and stars.