

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 0 to 4 °E									
Correction to Latitude										Correction to Longitude									
0°	0°	1°	1°	2°	2°	3°	3°	4°	Longitude	0°	0°	1°	1°	2°	2°	3°	3°	4°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	-0.1	-0.1	-0.1	0	40° 0'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	-0.1	
0.1	0.1	0	0	0	-0.1	0	0	0.1	39° 45'	-0.1	-0.1	-0.1	-0.1	0.1	0.1	0	0	-0.1	
0	0.1	0	0	0	0	0.1	0.1	0.1	39° 30'	-0.1	-0.1	0	0	0.1	0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	39° 15'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	39° 0'	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	38° 45'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0	0	0	38° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	38° 15'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	38° 0'	-0.1	-0.1	-0.1	0	-0.1	0	0	0	-0.1	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	37° 45'	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	37° 30'	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.1	37° 15'	-0.1	-0.1	0	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	-0.1	-0.1	-0.2	-0.2	37° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	36° 45'	0	0	0	0	0.1	0	0	0	0	
0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	36° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.2	36° 15'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0.1	0.1	0.1	0.2	36° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0.1	0.1	0.1	0.1	35° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0.1	0.1	0	0	35° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	0	0	0	35° 15'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0.1	0	0	0.1	0.1	34° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	34° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 0'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	33° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	33° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	33° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.2	
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	33° 0'	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.2	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 45'	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 30'	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	32° 15'	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	32° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.2	-0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	31° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	31° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	30° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0	30° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0	0	0	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 8 to 12 °E									
Correction to Latitude										Correction to Longitude									
8°	8°	9°	9°	10°	10°	11°	11°	12°	Longitude	8°	8°	9°	9°	10°	10°	11°	11°	12°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0.1	0.1	0	0	0	0	0	0	40° 0'	0.2	0.1	0	-0.1	-0.2	-0.1	0	0	0	
0	0	0.1	0.1	0	0	0	0.1	0.1	39° 45'	0.2	0.1	0	-0.1	-0.2	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0	0	0	39° 30'	0.1	0.1	0	-0.1	-0.2	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0	0	0	0	39° 15'	0.2	0.1	0	-0.1	-0.2	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	39° 0'	0.2	0	0	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	38° 45'	0.1	0	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.2	0.1	0.1	0	0	0	0	0	38° 30'	0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	38° 15'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0.1	0	0	38° 0'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 45'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 30'	0	0.1	0.1	0	-0.1	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0.1	37° 15'	0	0.1	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0.1	37° 0'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0.1	0.1	0.1	36° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	36° 30'	0	0	0	0	-0.1	-0.1	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	36° 15'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 45'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	35° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	35° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	35° 0'	0	-0.1	-0.1	0	0	0	0	0	0	
0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	34° 45'	0	0	0	0	0	0	0	0	0	
0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	34° 30'	0.1	0	0	0.1	0	0	0	0	0	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	34° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0.1	0.1	0.1	0	0	0	0	0	33° 45'	0	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 30'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 15'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 30'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 15'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0.1	0.1	0.1	0	0	0	0	32° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0	0	0	31° 45'	0.1	0	0.1	0.1	0.1	0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	31° 30'	0	0	0	0.1	0.1	0.1	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	31° 15'	0	0	0	0.1	0.1	0.1	0.1	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	31° 0'	0	0	0	0	0.1	0.1	0.1	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	30° 45'	0.1	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	30° 30'	0.1	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0.1	0	0	0.1	0.1	0.1	0.1	30° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	0.1	0.1	0.1	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 12 to 16 °E									
Correction to Latitude										Correction to Longitude									
12°	12°	13°	13°	14°	14°	15°	15°	16°	Longitude	12°	12°	13°	13°	14°	14°	15°	15°	16°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	0	0	0	0.1	0	0.1	0.1	-0.1	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	39° 45'	0	0	0	0	0	0	0.1	0	-0.2	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	39° 30'	0	0	0	0	0	0	0	0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0	39° 15'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0.1	39° 0'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0.1	38° 45'	0	0	0	0	0	0	0.1	0.1	-0.2	
0	0	0	0	0	0	0	0	0.1	38° 30'	0	0	0	-0.1	0	0	0.1	0	-0.3	
0	0	0	0	0	0	0	0.2	0.3	38° 15'	0	0	0	-0.1	0	0	0	-0.1	-0.3	
0	0	0	0.1	0.1	0	0.1	0.3	0.4	38° 0'	0	0	0	-0.1	0	0.1	-0.1	-0.3	-0.3	
0	0	0.1	0.1	0.1	0	0	0.2	0.3	37° 45'	0	0	0	-0.1	0	0.1	-0.3	-0.4	-0.3	
0	0.1	0.1	0.2	0.2	0.1	0	0.1	0.2	37° 30'	0	0	-0.1	-0.1	0.1	0.2	-0.3	-0.6	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	37° 15'	0	-0.1	-0.1	-0.1	0.1	0.2	-0.3	-0.6	-0.3	
0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	37° 0'	0	-0.1	-0.1	-0.1	0.1	0.2	-0.3	-0.6	-0.3	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	36° 45'	0	-0.1	-0.1	-0.1	0.1	0.2	-0.2	-0.6	-0.3	
0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	36° 30'	0	-0.1	-0.1	-0.1	0	0.1	-0.2	-0.5	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	36° 15'	0	-0.1	-0.1	0	0	0.1	-0.2	-0.4	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	36° 0'	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.4	-0.3	
0.1	0.1	0	0.1	0.1	0.1	0.1	0	-0.1	35° 45'	0	-0.1	-0.1	-0.1	0	0.1	0	-0.3	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	35° 30'	0	0	-0.1	-0.1	0	0	0	-0.2	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	35° 15'	0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	35° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	-0.2	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	34° 45'	0	0	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	34° 30'	0	0	0	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	0	0	0	0	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	33° 45'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 15'	0	0	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	33° 0'	0	0	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0	0	0	0	0	32° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0	0	0	0	0	31° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0	0	0	0	0	31° 30'	0	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	31° 15'	0	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	-0.1	0	0	0	0	0	31° 0'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	-0.1	0	0	0	0	0	30° 45'	0	0	0	0	-0.1	-0.1	-0.1	0	0	
0.1	0	0	0	0	0	0	0	0	30° 30'	0	0	0	0	-0.1	-0.1	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	30° 15'	0	0	0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0.1	0	0	0	0	0	30° 0'	0	0	0.1	0	-0.1	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 16 to 20 °E									
Correction to Latitude										Correction to Longitude									
16°	16°	17°	17°	18°	18°	19°	19°	20°	Longitude	16°	16°	17°	17°	18°	18°	19°	19°	20°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.2	40° 0'	-0.3	-0.4	-0.2	0.1	0	-0.3	-0.2	0	0.1	
0	-0.1	0	0.2	0.3	0.2	0.1	0.2	0.2	39° 45'	-0.2	-0.5	-0.3	0	0	-0.2	-0.2	0	0	
0	-0.1	-0.1	0.2	0.3	0.3	0.2	0.2	0.2	39° 30'	-0.1	-0.4	-0.5	-0.2	0	-0.1	-0.2	-0.1	0	
0	0	0	0.1	0.3	0.3	0.2	0.2	0.2	39° 15'	0	-0.4	-0.6	-0.3	0	0	-0.1	-0.1	0	
0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	39° 0'	0	-0.4	-0.6	-0.4	-0.1	0	-0.1	-0.1	-0.1	
0.1	0.2	0.2	0.1	0	0.1	0.2	0.2	0.2	38° 45'	-0.2	-0.5	-0.5	-0.3	-0.2	-0.1	-0.1	-0.2	0	
0.2	0.3	0.2	0	0	0	0.1	0.2	0.1	38° 30'	-0.3	-0.5	-0.4	-0.2	-0.2	-0.1	-0.1	-0.1	0.1	
0.3	0.3	0.1	0	0	0	0	0.1	0	38° 15'	-0.3	-0.5	-0.3	-0.1	-0.2	-0.2	-0.2	-0.1	0.1	
0.4	0.3	0.1	0	0	0	0	0	0	38° 0'	-0.3	-0.3	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	0.2	
0.3	0.2	0.1	0.1	0	0	-0.1	-0.1	0	37° 45'	-0.3	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.1	0.2	
0.2	0.1	0.1	0.1	0	0	-0.1	-0.1	0	37° 30'	-0.3	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	-0.1	0	0.1	37° 15'	-0.3	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	0	
0	0	0	0.1	0	0	0	0	0.1	37° 0'	-0.3	-0.1	-0.1	0	0	0	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0	0	0.1	36° 45'	-0.3	-0.1	-0.1	0	0	0	-0.2	-0.3	-0.2	
0	0	0	0	0	0	0	0.1	0.1	36° 30'	-0.2	-0.1	-0.1	0	0	0	-0.2	-0.3	-0.3	
0	0	0	0	0	0	0	0	0	36° 15'	-0.3	-0.1	-0.1	0	0	-0.1	-0.2	-0.3	-0.3	
-0.1	0	0	0	0	0	0	0	0	36° 0'	-0.3	-0.1	0	0	0	-0.1	-0.2	-0.3	-0.3	
-0.1	0	0	0	0	0	0	0	-0.1	35° 45'	-0.3	-0.1	0	0	0	-0.1	-0.2	-0.3	-0.3	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	35° 30'	-0.3	-0.2	-0.1	0	0	-0.1	-0.2	-0.2	-0.3	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	35° 15'	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	-0.2	-0.3	
0	0	0	0	0	0	0	0	-0.1	35° 0'	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	0	-0.1	34° 45'	-0.1	-0.2	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0	0	0	0	0	0	-0.1	34° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	-0.1	34° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	-0.1	34° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0.1	0.1	0	0	0	0	0	-0.1	-0.1	33° 45'	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0.1	0.1	0	0	0	0	-0.1	-0.1	33° 30'	-0.1	0	-0.1	-0.1	0	-0.1	0	0	-0.1	
0	0.1	0	0	0	0	0	-0.1	-0.1	33° 15'	-0.1	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	33° 0'	-0.1	0	0	0	0	0	0	0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	32° 45'	-0.1	-0.1	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	32° 30'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 15'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	32° 0'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	31° 45'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	-0.1	0	0	0.1	0.1	31° 30'	0	0	0	0	0	0	0	0.1	0	
0	0	-0.1	0	-0.1	-0.1	0	0.1	0.1	31° 15'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	0	0	0	0	0	0.1	31° 0'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	30° 45'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	30° 30'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	30° 15'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	-0.1	-0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 20 to 24 °E									
Correction to Latitude										Correction to Longitude									
20°	20°	21°	21°	22°	22°	23°	23°	24°	Longitude	20°	20°	21°	21°	22°	22°	23°	23°	24°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	40° 0'	0.1	0.1	0.2	0.2	0.1	0	0	0	0	
0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	39° 45'	0	0.1	0.2	0.2	0.2	0.1	0	0	0	
0.2	0.2	0.2	0.3	0.2	0.1	0.1	0	0	39° 30'	0	0.1	0.2	0.2	0.2	0.2	0.1	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0	0	0	39° 15'	0	0.1	0.2	0.2	0.3	0.2	0.1	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0	0	39° 0'	-0.1	0.1	0.2	0.2	0.3	0.3	0.1	0	0	
0.2	0.1	0.2	0.2	0.2	0.1	0.1	0	0	38° 45'	0	0.1	0.2	0.3	0.4	0.3	0.2	0.1	0	
0.1	0	0.1	0.2	0.2	0.1	0.1	0	0	38° 30'	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.1	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	38° 15'	0.1	0.1	0	0.2	0.4	0.3	0.2	0.2	0	
0	0	0	0	0	0	0.1	0.1	0.1	38° 0'	0.2	0.1	-0.1	0.2	0.4	0.3	0.2	0.2	0.1	
0	0	0.1	0	0	0.1	0.1	0.1	0.1	37° 45'	0.2	0.1	-0.1	0.2	0.4	0.3	0.2	0.2	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 30'	0.1	0	0	0.3	0.4	0.3	0.2	0.1	0.1	
0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	37° 15'	0	0	0	0.3	0.3	0.3	0.2	0.2	0.1	
0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.1	37° 0'	-0.1	-0.1	0	0.3	0.3	0.3	0.3	0.2	0.1	
0.1	0.2	0.3	0.4	0.5	0.4	0.4	0.3	0.2	36° 45'	-0.2	-0.2	-0.1	0.2	0.3	0.3	0.4	0.3	0.2	
0.1	0.2	0.2	0.4	0.5	0.5	0.4	0.3	0.3	36° 30'	-0.3	-0.3	-0.2	0.1	0.3	0.3	0.4	0.4	0.2	
0	0.1	0.1	0.2	0.4	0.5	0.4	0.4	0.3	36° 15'	-0.3	-0.3	-0.2	0	0.2	0.4	0.5	0.4	0.3	
0	0	0	0.1	0.3	0.4	0.4	0.4	0.3	36° 0'	-0.3	-0.3	-0.3	-0.1	0.1	0.4	0.5	0.4	0.3	
-0.1	-0.1	-0.1	0	0.1	0.3	0.4	0.4	0.3	35° 45'	-0.3	-0.3	-0.3	-0.2	-0.1	0.3	0.5	0.5	0.3	
-0.1	-0.1	-0.1	-0.1	0	0.1	0.3	0.4	0.3	35° 30'	-0.3	-0.3	-0.3	-0.3	-0.2	0.1	0.4	0.5	0.4	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0.2	0.3	0.4	35° 15'	-0.3	-0.3	-0.3	-0.3	-0.2	0	0.3	0.5	0.4	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0.1	0.3	0.4	35° 0'	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	0.1	0.4	0.3	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	0	0.2	0.4	34° 45'	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	0	0.2	0.2	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.1	0.3	34° 30'	-0.1	-0.2	-0.3	-0.2	-0.2	-0.3	-0.1	0.1	0.1	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	0	0.1	34° 15'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.2	-0.1	0	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.2	0	34° 0'	0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	0	
-0.1	0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	33° 45'	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.1	
-0.1	0	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	33° 30'	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	
-0.1	-0.1	-0.2	-0.3	-0.4	-0.3	-0.3	-0.3	-0.2	33° 15'	-0.1	-0.1	0	0	-0.1	-0.2	-0.3	-0.3	-0.3	
-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	33° 0'	-0.1	0	0.1	0.1	-0.1	-0.3	-0.3	-0.4	-0.3	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	32° 45'	0	0	0.1	0	-0.2	-0.3	-0.3	-0.4	-0.4	
0	-0.1	-0.1	0	0.1	0.1	0	-0.2	-0.3	32° 30'	0.1	0.1	0	0	-0.2	-0.2	-0.3	-0.3	-0.3	
0	0	0.1	0.2	0.2	0.1	0	-0.1	-0.2	32° 15'	0.1	0.1	0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	32° 0'	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	31° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	31° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	31° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	31° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0.1	0.1	0.1	0.1	0	0	0	0	30° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0.1	0.1	0	0	0	0	0	30° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	30° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	30° 0'	0	-0.1	-0.1	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 24 to 28 °E									
Correction to Latitude										Correction to Longitude									
24°	24°	25°	25°	26°	26°	27°	27°	28°	Longitude	24°	24°	25°	25°	26°	26°	27°	27°	28°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0	0	0	-0.1	-0.1	0	40° 0'	0	0	0	0	0	0	0	0	-0.1	-0.1
0.1	0	0	0	0	0	0	0	0	39° 45'	0	0	0	0	0	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	-0.1	-0.1
0	0	0	0.1	0	0	0	0	0	39° 15'	0	0	0	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0.1	0	39° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	38° 45'	0	0	0	0	0	0	0	-0.1	0	0.1
0	0	0	0	0	0	0.1	0.1	0.1	38° 30'	0	0	0	0	0	0	0	-0.1	0	0.1
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 15'	0	0	0	0	0	0	0	-0.1	-0.1	0
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 0'	0.1	0	0	0	0	0	0	-0.1	-0.1	0
0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	37° 45'	0.1	0	0	0	0	0	0	-0.1	-0.1	-0.1
0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	37° 30'	0.1	0.1	0	0	0	0	0	-0.1	-0.2	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	37° 15'	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	37° 0'	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	36° 45'	0.2	0.1	0	0	-0.1	-0.2	-0.2	-0.2	-0.3	-0.3
0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	36° 30'	0.2	0.1	0	0	-0.1	-0.2	-0.2	-0.2	-0.3	-0.4
0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	36° 15'	0.3	0.1	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.4	-0.5
0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	36° 0'	0.3	0.2	0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.4	-0.6
0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.3	35° 45'	0.3	0.2	0	-0.1	-0.2	-0.3	-0.2	-0.2	-0.3	-0.5
0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.3	35° 30'	0.4	0.2	0	-0.1	-0.3	-0.3	-0.2	-0.2	-0.3	-0.4
0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.3	35° 15'	0.4	0.2	0	-0.1	-0.3	-0.4	-0.2	-0.2	-0.2	-0.3
0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	35° 0'	0.3	0.1	0	-0.1	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1
0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	34° 45'	0.2	0.1	0.1	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	0
0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.1	34° 30'	0.1	0.1	0	-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	0
0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0	34° 15'	0	0.1	0	-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	0.1
0	0.1	0.1	0.2	0.1	0	0	0	-0.1	34° 0'	0	0	0	-0.2	-0.2	-0.2	-0.1	0	0	0.1
-0.2	0	0	0	0	-0.1	-0.1	-0.1	-0.1	33° 45'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0.1
-0.2	-0.1	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	33° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0.1
-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	33° 15'	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0.1
-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	33° 0'	-0.3	-0.2	-0.1	-0.1	-0.1	0	0	0	0	0
-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	32° 45'	-0.4	-0.2	-0.1	-0.1	0	0	0	0	0	0
-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	32° 30'	-0.3	-0.2	-0.2	-0.2	-0.1	0	0	0	0	0
-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	32° 15'	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0	0	0
-0.1	-0.2	-0.3	-0.3	-0.4	-0.3	-0.2	-0.1	-0.1	32° 0'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	0
0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	31° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1
0	0	-0.1	-0.2	-0.2	-0.3	-0.3	-0.2	-0.2	31° 30'	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1
0	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	31° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	31° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	-0.1	30° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0.1	0.1	0.1	0	30° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0.1	0.1	0.1	0.1	0.1	30° 0'	0	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 32 to 36 °E									
Correction to Latitude										Correction to Longitude									
32°	32°	33°	33°	34°	34°	35°	35°	36°	Longitude	32°	32°	33°	33°	34°	34°	35°	35°	36°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	40° 0'	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	39° 45'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	-0.1	0	0	-0.1	-0.1	39° 30'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	39° 15'	0	0	0	0	-0.1	-0.1	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	39° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	38° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0.1	0	0.1	0.1	0.1	38° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0.2	38° 0'	-0.1	0	0	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	37° 45'	-0.1	0	0	0	0.1	0	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	37° 30'	0	0	0	0	0.1	0	-0.2	-0.1	0	
0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	37° 15'	0.1	-0.1	0	0	0	-0.1	-0.2	0	0.1	
0.2	0.1	0.1	0.1	0.3	0.4	0.4	0.3	0.2	37° 0'	0.2	0	-0.1	0	-0.1	-0.2	-0.1	0.1	0.1	
0.4	0.2	0.1	0.2	0.3	0.4	0.3	0.2	0.2	36° 45'	0.3	0	-0.1	-0.1	-0.2	-0.2	-0.1	0.1	0.1	
0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.1	36° 30'	0.4	0.2	-0.1	-0.2	-0.3	-0.2	0	0.1	0.1	
0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	36° 15'	0.4	0.3	0	-0.2	-0.2	-0.1	0.1	0.1	0.1	
0.3	0.2	0.2	0.1	0	0	0	0.1	0.1	36° 0'	0.4	0.3	0	-0.1	-0.1	-0.1	0	0.1	0.2	
0.1	0	0	0	-0.1	0	0.1	0.1	0	35° 45'	0.5	0.3	0.1	0	-0.1	-0.1	-0.1	0.1	0.3	
0.1	-0.1	-0.2	-0.1	0	0.1	0.1	0.1	0	35° 30'	0.6	0.4	0.1	0	-0.1	-0.2	-0.2	0.1	0.3	
0.1	0	-0.1	0	0.1	0.2	0.2	0.1	0	35° 15'	0.7	0.5	0.1	-0.1	-0.2	-0.2	-0.1	0.2	0.3	
0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.1	0	35° 0'	0.7	0.5	0.1	-0.2	-0.3	-0.2	-0.1	0.2	0.3	
0.2	0.5	0.5	0.5	0.4	0.2	0.1	0	-0.1	34° 45'	0.5	0.4	0.1	-0.2	-0.2	-0.2	0	0.3	0.4	
0.2	0.5	0.6	0.5	0.3	0.1	0	-0.1	-0.1	34° 30'	0.3	0.3	0.1	0	-0.1	-0.1	0.1	0.4	0.4	
0	0.2	0.3	0.3	0.2	0.1	0	-0.1	-0.1	34° 15'	0.1	0.2	0.1	0	0.1	0	0.2	0.5	0.3	
-0.1	0	0	0.1	0.1	0	-0.1	-0.1	0	34° 0'	0	0.1	0	0	0.1	0.1	0.3	0.5	0.2	
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0.1	33° 45'	0.1	0.1	0	0	0.1	0.1	0.4	0.5	0.1	
-0.1	-0.1	0	-0.1	0	0	-0.1	0	0.1	33° 30'	0.1	0.1	-0.1	0	0.1	0.1	0.4	0.4	0.1	
-0.1	0	0	0	0	0	-0.1	0.1	0.2	33° 15'	0	0	0	0	0.1	0.2	0.4	0.2	0	
-0.1	0	0	0	0	0	0	0.1	0.2	33° 0'	0	0	0	0	0.1	0.2	0.3	0.1	0.1	
-0.1	0	0	0	0	0	0	0	0.1	32° 45'	0	0	0	0	0	0.2	0.3	0	0.1	
-0.1	0	0	0	0	0	0	0	0.1	32° 30'	-0.1	0	0	0	0	0.2	0.2	0	0.1	
-0.1	0	0	0	0	0	0	0	0	32° 15'	-0.1	0	0	0	0	0.2	0.2	0	0	
-0.1	-0.1	0	0	-0.1	-0.1	0	0.1	0.1	32° 0'	-0.1	0	0	0	0	0.2	0.2	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	31° 45'	-0.1	0	0	0	0	0.2	0.1	0	0	
0.1	0	0	0	0	0	0.1	0.1	0	31° 30'	0	0	0	0	0	0.1	0	0.1	0	
0.1	0	0	0	0	0	0.1	0.1	0	31° 15'	0	0	0	0	0	0.1	0	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	31° 0'	0	0	0	0	0	0	0	0.2	0.1	
0	0	0	0	0	0	0	0	0	30° 45'	0	0.1	0.1	-0.1	0	0	0	0.2	0.1	
0	0	0	0	0	0	0	0	0	30° 30'	0	0.1	0.1	-0.1	0	0	0	0.2	0	
0	0	0.1	0	0	0.1	0	0	0	30° 15'	0	0	0.1	-0.1	0	0	0	0.1	0	
0	0.1	0.1	0	0.1	0.2	0.1	0	0	30° 0'	0	0	0.1	0	-0.1	0	0.1	0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 44 to 48 °E									
Correction to Latitude										Correction to Longitude									
44°	44°	45°	45°	46°	46°	47°	47°	48°	Longitude	44°	44°	45°	45°	46°	46°	47°	47°	48°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	40° 0'	-0.2	-0.1	-0.1	0	-0.2	-0.5	-0.5	-0.4	-0.4	
0	0	0	0	0	0	-0.1	-0.2	-0.2	39° 45'	-0.1	-0.1	0	0	-0.2	-0.5	-0.5	-0.3	-0.4	
-0.1	0	0	0	0.1	0	0	-0.1	-0.2	39° 30'	-0.1	-0.1	-0.1	0	-0.2	-0.5	-0.4	-0.2	-0.4	
-0.1	-0.1	0	0.1	0.1	0	-0.1	-0.2	-0.2	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.4	-0.3	-0.1	-0.3	
-0.1	-0.1	0	0	0.1	0	-0.2	-0.2	-0.2	39° 0'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.3	-0.2	-0.1	-0.3	
-0.1	0	0	0	0	-0.1	-0.2	-0.2	-0.2	38° 45'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	-0.1	-0.3	
0	0	0	0	0	0	-0.1	-0.1	-0.1	38° 30'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.3	
0.1	0.1	0	0	0	0	0	0	0	38° 15'	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	
0.1	0.1	0	0	0	0	0	0.1	0	38° 0'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	
0.1	0.1	0	0	0	0	0	0.1	0.1	37° 45'	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.1	
0.1	0.1	0	0	0.1	0	0	0	0.1	37° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	
0.2	0.1	0	0	0.1	0	0	0	0	37° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	
0.2	0.1	0.1	0	0	0	0	-0.1	0	37° 0'	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	36° 45'	0	0.1	0	-0.1	-0.1	0	-0.1	-0.2	-0.1	
0.2	0.2	0.2	0.1	0.1	0	0	0	0	36° 30'	0	0.1	0	0	-0.1	0	-0.1	-0.2	-0.1	
0.2	0.3	0.3	0.2	0.1	0.1	0.1	0	0	36° 15'	0	0	0	0	0	0	-0.1	-0.2	-0.1	
0.3	0.3	0.3	0.2	0.2	0.1	0.1	0	0	36° 0'	0	0	0	0.1	0.1	0	-0.1	-0.2	-0.1	
0.2	0.3	0.2	0.2	0.2	0.1	0.1	0	0	35° 45'	-0.1	0	0.1	0.1	0.1	0.1	-0.1	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.2	0.2	0.1	0	0	35° 30'	-0.1	0	0.1	0.1	0.2	0.1	0	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	35° 15'	-0.1	0	0.1	0.1	0.2	0.1	0	0	-0.1	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	35° 0'	-0.1	0	0.1	0.1	0.2	0.1	0	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	34° 45'	-0.2	0	0.1	0.2	0.2	0.1	0	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	34° 30'	-0.2	0	0.1	0.2	0.2	0	0	0	0	
0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	34° 15'	-0.2	0	0.1	0.2	0.2	0	-0.1	0	0	
0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	34° 0'	-0.2	0	0.1	0.2	0.2	0	-0.1	0	0	
0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	33° 45'	-0.2	-0.1	0.1	0.1	0.2	0	-0.1	0	0	
0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3	33° 30'	-0.2	-0.1	0	0.1	0.2	0.1	0	0	0.1	
0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.3	0.3	33° 15'	-0.2	-0.1	0	0	0.1	0.1	0	0	0.1	
0	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	33° 0'	-0.2	-0.1	-0.1	-0.1	0.1	0.1	0	0	0.1	
0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	32° 45'	-0.2	-0.2	-0.1	-0.1	0	0.1	0	0	0	
0	0	0.1	0.1	0.1	0.2	0.3	0.3	0.4	32° 30'	-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	0	
0	0	0	0	0.1	0.1	0.2	0.3	0.3	32° 15'	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	0	
0	0	0	0	0.1	0.1	0.2	0.2	0.2	32° 0'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	31° 45'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	31° 30'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	0	
0	-0.1	0	0	0	0	0	0	0	31° 15'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	0	31° 0'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	0	30° 45'	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	
0	0	0	0	-0.1	-0.1	0	0	0	30° 30'	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	30° 15'	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	30° 0'	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 48 to 52 °E									
Correction to Latitude										Correction to Longitude									
48°	48°	49°	49°	50°	50°	51°	51°	52°	Longitude	48°	48°	49°	49°	50°	50°	51°	51°	52°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.2	40° 0'	-0.4	-0.6	-0.6	-0.4	-0.4	-0.3	0	0.1	0.2	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0.1	39° 45'	-0.4	-0.6	-0.6	-0.4	-0.4	-0.3	-0.1	0.1	0.2	
-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	39° 30'	-0.4	-0.6	-0.6	-0.5	-0.5	-0.3	-0.1	0	0.1	
-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	39° 15'	-0.3	-0.6	-0.7	-0.5	-0.5	-0.3	-0.1	0	0	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2	39° 0'	-0.3	-0.6	-0.7	-0.6	-0.5	-0.3	-0.1	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	38° 45'	-0.3	-0.6	-0.7	-0.6	-0.4	-0.3	-0.1	0	0.1	
-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	38° 30'	-0.3	-0.5	-0.7	-0.6	-0.4	-0.3	-0.1	0	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	38° 15'	-0.3	-0.5	-0.7	-0.7	-0.4	-0.2	-0.1	0	0.1	
0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	38° 0'	-0.2	-0.4	-0.7	-0.7	-0.4	-0.2	-0.1	0	0	
0.1	0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	37° 45'	-0.1	-0.3	-0.7	-0.6	-0.3	-0.2	-0.1	-0.1	0	
0.1	0	-0.1	-0.2	-0.4	-0.4	-0.2	-0.2	-0.2	37° 30'	-0.1	-0.2	-0.6	-0.5	-0.3	-0.3	-0.2	-0.1	-0.1	
0	0	-0.1	-0.3	-0.5	-0.5	-0.3	-0.2	-0.2	37° 15'	-0.1	-0.2	-0.5	-0.3	-0.2	-0.4	-0.3	-0.1	-0.1	
0	0	-0.1	-0.2	-0.4	-0.4	-0.4	-0.3	-0.2	37° 0'	-0.1	-0.2	-0.4	-0.1	-0.1	-0.4	-0.4	-0.2	-0.1	
0	0	-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-0.2	36° 45'	-0.1	-0.1	-0.3	-0.1	0	-0.3	-0.4	-0.3	-0.2	
0	0	-0.1	-0.1	0	-0.1	-0.3	-0.3	-0.3	36° 30'	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.3	-0.4	-0.3	
0	0	0	0	0.1	0.1	0	-0.2	-0.3	36° 15'	-0.1	-0.1	-0.2	-0.2	-0.1	0	-0.2	-0.4	-0.3	
0	0	0	0	0	0.1	0.1	0	-0.2	36° 0'	-0.1	-0.1	-0.1	-0.2	-0.2	0	0	-0.2	-0.2	
0	0	0	0	-0.1	0.1	0.2	0.1	0	35° 45'	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	
0	0	0	0	-0.1	0	0.1	0.2	0.2	35° 30'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	
0.1	0	0	0	0	0	0.1	0.1	0.2	35° 15'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	0	
0.1	0.1	0	0	0	0	0	0.1	0.1	35° 0'	0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.2	-0.1	
0.2	0.1	0.1	0	0	0	0	0	0	34° 45'	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	
0.2	0.2	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	34° 30'	0	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	0	
0.2	0.2	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	34° 15'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	
0.2	0.2	0.1	0.1	0	0	-0.1	-0.1	-0.1	34° 0'	0	0	0	0	0	-0.1	-0.2	-0.2	-0.1	
0.2	0.2	0.1	0.1	0	0	0	-0.1	-0.1	33° 45'	0	0.1	0.1	0	0	0	-0.1	-0.2	-0.1	
0.3	0.2	0.2	0.1	0.1	0.1	0	0	-0.1	33° 30'	0.1	0.1	0.1	0.1	0	0	-0.1	-0.2	-0.2	
0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0	33° 15'	0.1	0.1	0.2	0.1	0	0	0	-0.1	-0.1	
0.4	0.4	0.3	0.3	0.1	0.1	0.1	0.2	0.1	33° 0'	0.1	0.1	0.2	0.2	0.1	-0.1	-0.1	-0.1	-0.1	
0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	32° 45'	0	0.1	0.2	0.3	0.2	0	-0.1	-0.1	0	
0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.1	32° 30'	0	0.1	0.3	0.4	0.2	0	-0.1	-0.1	0	
0.3	0.3	0.3	0.4	0.3	0.2	0.1	0	0	32° 15'	0	0.1	0.3	0.4	0.3	0	-0.1	0	0	
0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0	32° 0'	0	0.1	0.2	0.4	0.3	0.1	0	0	-0.1	
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0	31° 45'	0	0	0.2	0.4	0.4	0.1	0	0	-0.1	
0.1	0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	31° 30'	0	0	0.1	0.3	0.4	0.2	0.1	0.1	0	
0	0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	31° 15'	0	0	0	0.3	0.4	0.2	0.1	0.1	0	
0	0	0.1	0.1	0.3	0.3	0.2	0.1	0.1	31° 0'	0	0	0	0.2	0.3	0.2	0.2	0.1	0	
0	0	0.1	0.1	0.2	0.3	0.2	0.1	0.1	30° 45'	0	0	0	0.1	0.3	0.3	0.3	0.1	0	
0	0	0	0.1	0.2	0.3	0.3	0.2	0.1	30° 30'	-0.1	0	0	0.1	0.2	0.3	0.3	0.2	0	
0	0	0	0.1	0.1	0.2	0.3	0.3	0.1	30° 15'	-0.1	-0.1	-0.1	0	0.1	0.2	0.3	0.2	0	
0	0	0	0.1	0.1	0.2	0.3	0.3	0.2	30° 0'	-0.1	-0.1	-0.1	0	0.1	0.2	0.3	0.3	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 52 to 56 °E									
Correction to Latitude										Correction to Longitude									
52° 0'	52° 30'	53° 0'	53° 30'	54° 0'	54° 30'	55° 0'	55° 30'	56° 0'	Longitude	52° 0'	52° 30'	53° 0'	53° 30'	54° 0'	54° 30'	55° 0'	55° 30'	56° 0'	Latitude
0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	40° 0'	0.2	0.2	0	0	0.1	0	-0.1	-0.1	-0.1	
0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	39° 45'	0.2	0.1	0	0	0.1	0.1	-0.1	-0.1	-0.1	
-0.1	0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	39° 30'	0.1	0.1	-0.1	-0.1	0.1	0.1	0	-0.1	-0.1	
-0.1	-0.1	0	0	0.1	0.1	0.1	0	0	39° 15'	0	0	-0.1	-0.1	0	0.1	0	0	-0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	39° 0'	0	-0.1	-0.1	-0.1	-0.1	0.1	0.1	0	0	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	38° 45'	0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	38° 30'	0.1	0	-0.2	-0.1	-0.1	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	38° 15'	0.1	0	-0.2	-0.1	-0.1	-0.1	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	38° 0'	0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	37° 45'	0	0	-0.1	-0.1	-0.2	-0.1	0.1	0.1	0.1	
-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	37° 30'	-0.1	-0.1	0	-0.1	-0.2	-0.1	0.1	0.2	0.1	
-0.2	-0.2	-0.1	-0.2	-0.2	-0.3	-0.3	-0.2	-0.1	37° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	
-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	-0.3	-0.2	0	37° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.2	-0.1	0	36° 45'	-0.2	-0.1	-0.1	0.1	0.1	0	-0.1	-0.1	-0.1	
-0.3	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0	36° 30'	-0.3	-0.2	0	0.1	0	-0.1	-0.1	-0.2	-0.2	
-0.3	-0.3	-0.3	-0.2	-0.1	0	0	0	0	36° 15'	-0.3	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
-0.2	-0.3	-0.2	-0.1	0	0	0	0	0	36° 0'	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	
0	-0.1	0	0.1	0.1	0	0	0	0	35° 45'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0	0	0	35° 30'	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0	0	35° 15'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	35° 0'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	34° 45'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	34° 30'	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	34° 15'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	34° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	33° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	33° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	33° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	-0.1	0	0	32° 45'	0	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	0	32° 30'	0	0	0	-0.2	-0.1	0	-0.1	-0.1	-0.1	
0	0.1	0.1	0	-0.1	0	0	0	-0.1	32° 15'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0.1	0.1	0	-0.1	0	0.1	0	-0.1	32° 0'	-0.1	0	0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0.1	0.1	0	0	0	0	-0.1	31° 45'	-0.1	0	0	0	-0.1	-0.1	-0.2	0	0	
0.1	0	0.1	0.1	0.1	0	0	0	0	31° 30'	0	0	0	0	0	-0.1	-0.2	0	0	
0.1	0	0.1	0.1	0.1	0.1	0	0	0.1	31° 15'	0	0	0	0	0	-0.1	-0.1	0	0	
0.1	0.1	0	0.1	0.1	0.1	0	0	0.1	31° 0'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0	0.1	0.1	0	0	0	30° 45'	0	0	0	-0.1	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	30° 30'	0	0	0	-0.1	0	0.1	0	-0.1	0	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0	-0.1	30° 15'	0	0	0	0	0	0.1	0	0	0	
0.2	0.1	0.2	0.2	0.1	0.1	0.1	0	-0.1	30° 0'	0.1	-0.1	0	0	0	0.1	0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 56 to 60 °E									
Correction to Latitude										Correction to Longitude									
56°	56°	57°	57°	58°	58°	59°	59°	60°	Longitude	56°	56°	57°	57°	58°	58°	59°	59°	60°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0	0	0	0	0	0	40° 0'	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	39° 0'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
-0.1	-0.1	-0.2	-0.1	0	0	0	0	0	38° 45'	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0	38° 30'	0.1	0	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.3	-0.3	-0.2	-0.1	0	0	38° 15'	0.1	0	-0.1	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	0	38° 0'	0.1	0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	37° 45'	0.1	0	0	-0.2	-0.3	-0.4	-0.4	-0.2	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.2	37° 30'	0.1	0	-0.1	-0.1	-0.2	-0.4	-0.4	-0.3	-0.1	
-0.1	0	0	0	0	-0.2	-0.3	-0.4	-0.3	37° 15'	0.1	0	-0.1	-0.1	-0.1	-0.3	-0.4	-0.3	-0.2	
0	0.1	0.1	0.1	0	-0.1	-0.2	-0.3	-0.3	37° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	-0.3	
0	0.1	0.1	0.1	0	0	-0.1	-0.2	-0.2	36° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.4	
0	0	0	0	0	0	0	-0.1	-0.1	36° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.4	
0	0	0	-0.1	0	0	0	0	-0.1	36° 15'	-0.2	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.3	
0	0	0	0	0	0	0	0	-0.1	36° 0'	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	-0.1	35° 45'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0	0	0	-0.1	35° 30'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0	0	35° 15'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0.1	0.1	0	35° 0'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	-0.1	-0.1	0	0	0	34° 45'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	0	0	34° 30'	-0.1	0	-0.1	-0.1	0	-0.1	-0.2	0	-0.1	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	34° 15'	-0.1	0	-0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	34° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.2	-0.2	-0.1	
-0.1	0	0	-0.1	0	0	-0.1	-0.1	-0.1	33° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.2	
-0.1	0	0	0	0	0	0	-0.1	-0.1	33° 30'	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.2	
0	0	0	0	0	0	0	-0.1	-0.1	33° 15'	-0.1	-0.1	0	0	-0.1	0	0	-0.1	-0.2	
0	0	0	0	0	0	0	0	-0.1	33° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.2	
0	0	0	0	0	0	0	0	0	32° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.2	
-0.1	0	0	0	0	0	0	0	0	32° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	
-0.1	-0.1	0.1	0.1	0	0	0	0	0	32° 0'	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	
-0.1	-0.1	0	0.1	0.1	0	0	0	0	31° 45'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.2	
0	-0.1	0	0	0.1	0.1	0.1	0.1	0	31° 30'	0	-0.3	-0.2	-0.1	0	0	0	-0.1	-0.1	
0.1	0	-0.1	0	0.1	0.1	0.1	0.1	0	31° 15'	0	-0.2	-0.3	-0.2	0	0	0	0	-0.1	
0.1	0	-0.1	-0.1	0.1	0.1	0.1	0	0	31° 0'	0	-0.1	-0.2	-0.3	-0.1	0	0	0	-0.1	
0	0	-0.1	-0.1	0	0.1	0.1	0	0	30° 45'	0	0	-0.2	-0.3	-0.2	0.1	0	0	-0.1	
0	0	0	-0.1	0	0.1	0.1	0.1	0	30° 30'	0	0	-0.1	-0.3	-0.2	0	0	0	-0.1	
-0.1	0	0	-0.1	-0.1	0	0.1	0.1	0	30° 15'	0	0	-0.1	-0.3	-0.3	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0	30° 0'	0	-0.1	0	-0.3	-0.4	-0.1	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 60 to 64 °E									
Correction to Latitude										Correction to Longitude									
60°	60°	61°	61°	62°	62°	63°	63°	64°	Longitude	60°	60°	61°	61°	62°	62°	63°	63°	64°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	0	0	0	0	0	38° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	37° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	37° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	37° 15'	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	37° 0'	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	36° 45'	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	36° 30'	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	36° 15'	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	0	0	-0.1	
-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	36° 0'	-0.2	-0.2	-0.3	-0.2	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	35° 45'	-0.1	-0.2	-0.3	-0.2	-0.1	-0.1	0	0	0.1	
-0.1	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	35° 30'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0.1	
0	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	35° 15'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0.1	
0	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	35° 0'	-0.1	-0.2	-0.1	0	0	0	0	0	0.1	
0	0	0	0	-0.1	-0.1	-0.2	-0.2	-0.1	34° 45'	-0.1	-0.2	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	34° 30'	-0.1	-0.2	-0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	34° 15'	-0.1	-0.2	-0.1	0	0	0.1	0	0	0	
0	0	0	0	0	-0.1	0	0	0	34° 0'	-0.1	-0.1	-0.1	0	0.1	0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	33° 45'	-0.2	-0.2	-0.1	0	0.1	0.1	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	33° 30'	-0.2	-0.2	-0.1	0	0.1	0	-0.1	0	0	
-0.1	-0.1	0	0	0	0.1	0.1	0.1	0.1	33° 15'	-0.2	-0.2	-0.1	0	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	33° 0'	-0.2	-0.2	-0.1	-0.1	0	0	0	0	0	
0	-0.1	-0.1	0	0	0	0	0.1	0.1	32° 45'	-0.2	-0.2	-0.1	-0.1	0	0	0	0	-0.1	
0	-0.1	-0.1	0	0	0	0	0.1	0.1	32° 30'	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0.1	0.1	32° 15'	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	32° 0'	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	31° 45'	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0.1	0	0	0	0	0	0	31° 30'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0	0	0.1	0	0	0	0	0	0	31° 15'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 0'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	30° 45'	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	30° 30'	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	30° 15'	0	-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	0	30° 0'	0	-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 64 to 68 °E									
Correction to Latitude										Correction to Longitude									
64° 0'	64° 30'	65° 0'	65° 30'	66° 0'	66° 30'	67° 0'	67° 30'	68° 0'	Longitude	64° 0'	64° 30'	65° 0'	65° 30'	66° 0'	66° 30'	67° 0'	67° 30'	68° 0'	Latitude
0	0	0	0	0	0.1	0	-0.1	-0.2	40° 0'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.2	39° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.2	-0.2	39° 30'	0	-0.1	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.2	-0.1	39° 15'	0	-0.1	-0.1	0	0	0	0.1	0.1	0	
0	0	0	0	0	0	-0.1	0	0.1	39° 0'	-0.1	-0.1	-0.1	0	0	0.1	0.2	0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.3	38° 45'	-0.1	-0.1	-0.1	0	0	0.1	0.2	-0.1	-0.2	
0	0	0	0	0	0	0.1	0.3	0.3	38° 30'	-0.1	-0.1	0	0	0	0.1	0.1	-0.2	-0.2	
0	0	0	0	0	0	0.2	0.3	0.3	38° 15'	-0.1	-0.1	0	0	0	0	-0.1	-0.3	-0.1	
0	0	0	0	0	0.1	0.2	0.3	0.2	38° 0'	-0.1	-0.1	0	0	0	0	-0.2	-0.2	-0.1	
0	0	0	0	0	0.1	0.2	0.1	0.1	37° 45'	-0.1	-0.1	0	0	0	-0.1	-0.3	-0.2	0	
0	0	0	0	0	0.1	0.1	0	0	37° 30'	-0.1	-0.1	0	0	0	-0.2	-0.3	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	0	37° 15'	-0.1	-0.1	0	-0.1	0	-0.2	-0.3	-0.1	-0.1	
-0.2	-0.1	-0.1	0	0	0	-0.1	-0.2	-0.1	37° 0'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	36° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	-0.4	36° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.2	
-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	36° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.2	
-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.5	-0.4	-0.4	36° 0'	0	0	-0.1	0	-0.1	-0.1	0.1	0	-0.3	
-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	35° 45'	0.1	0	0	0	-0.1	-0.1	0.1	-0.1	-0.3	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.2	-0.2	35° 30'	0.1	0.1	0	0.1	-0.1	-0.1	0.1	-0.2	-0.3	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	35° 15'	0.1	0	0	0	-0.1	0	0	-0.2	-0.2	
-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	35° 0'	0.1	0	0	0	0	0	0	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	34° 45'	0	0	0	0	0	0	0	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	-0.1	34° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0.1	0	0	0	0	34° 15'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.2	
0	0	0	0	0.1	0	0	0	0	34° 0'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.2	
0	0	0	0.1	0.1	0	0	0	0	33° 45'	0	0	-0.1	-0.1	-0.1	0.1	0.1	-0.1	-0.2	
0	0	0.1	0.1	0	0	0	0.1	0.1	33° 30'	0	-0.1	-0.1	-0.2	0	0.1	0	-0.1	-0.2	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	33° 15'	0	-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.2	
0.1	0.2	0.1	0.1	0	0	0.1	0.1	0.1	33° 0'	0	-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.2	
0.1	0.2	0.1	0	0	0.1	0.1	0.1	0	32° 45'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0.1	0.1	0	0	32° 30'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
0.1	0	0	0	0	0.1	0.1	0	0	32° 15'	-0.1	-0.1	0.1	0	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0.1	0	0	0	0	32° 0'	-0.1	0	0.1	0	-0.1	0	0	0	-0.1	
0	0	0	0.1	0.1	0	0	0	0	31° 45'	-0.1	0	0	0	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 30'	-0.1	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 15'	-0.1	0	0	0	0	0.1	0	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	31° 0'	-0.1	0	0	0	0	0.1	0	-0.1	-0.2	
0	0	0	0	0	0.1	0.1	0	0.1	30° 45'	-0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.2	
0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	30° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.2	
0	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.4	30° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.2	
0	0.1	0.2	0.2	0.1	0.1	0.2	0.4	0.5	30° 0'	-0.1	-0.1	-0.1	0	0.1	0	-0.2	-0.3	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 68 to 72 °E									
Correction to Latitude										Correction to Longitude									
68°	68°	69°	69°	70°	70°	71°	71°	72°	Longitude	68°	68°	69°	69°	70°	70°	71°	71°	72°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	40° 0'	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	0.1	
-0.2	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	39° 45'	0	0	0	0.1	-0.1	-0.1	0.1	0	0	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	39° 30'	0.1	0	0.1	0.1	-0.1	-0.1	0	0.1	0.1	
-0.1	0	0	0.1	0.1	0	-0.1	-0.1	-0.1	39° 15'	0	0	0	0	-0.1	-0.1	0.1	0.1	0.1	
0.1	0.2	0.2	0.3	0.2	-0.1	-0.1	-0.1	-0.1	39° 0'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0.3	0.3	0.3	0.3	0.1	-0.1	-0.1	-0.1	-0.1	38° 45'	-0.2	-0.1	-0.1	0	0.2	0.2	0.1	0.1	0	
0.3	0.3	0.3	0.3	0.1	0	0	-0.1	-0.1	38° 30'	-0.2	-0.1	-0.1	0.1	0.4	0.3	0.1	0.1	0	
0.3	0.2	0.2	0.2	0.1	0.1	0	0	-0.1	38° 15'	-0.1	0	-0.1	0.1	0.5	0.3	0.1	0.1	0	
0.2	0.1	0.2	0.1	0.1	0.1	0	-0.1	-0.1	38° 0'	-0.1	0	-0.1	0.2	0.5	0.4	0.2	0.2	0.1	
0.1	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	37° 45'	0	-0.1	-0.1	0.2	0.5	0.4	0.2	0.2	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	37° 30'	0	-0.1	0	0.3	0.5	0.4	0.3	0.2	0.1	
0	0	-0.1	-0.2	-0.1	-0.1	0	0	0	37° 15'	-0.1	-0.1	0.1	0.3	0.4	0.4	0.2	0.2	0.1	
-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	0	0	0.1	37° 0'	-0.1	-0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.1	
-0.3	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	0	0.1	36° 45'	-0.2	-0.1	0.2	0.4	0.3	0.2	0.1	0.1	0	
-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	0	0	36° 30'	-0.2	-0.1	0.3	0.4	0.3	0.1	0	0	0	
-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.1	0	0	36° 15'	-0.2	-0.2	0.2	0.4	0.3	0.1	-0.1	-0.1	0	
-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1	0	0	36° 0'	-0.3	-0.2	0.1	0.3	0.3	0	-0.2	-0.1	0.1	
-0.3	-0.3	-0.3	-0.2	-0.1	0	0.1	0.1	0	35° 45'	-0.3	-0.2	0.1	0.3	0.2	0	-0.2	-0.1	0.1	
-0.2	-0.2	-0.2	0	0.1	0.2	0.2	0.2	0.2	35° 30'	-0.3	-0.1	0	0.1	0.1	-0.1	-0.2	-0.1	0.1	
-0.1	-0.2	-0.1	0.1	0.3	0.4	0.4	0.4	0.4	35° 15'	-0.2	-0.1	-0.1	0	0	-0.1	-0.2	-0.1	0.1	
-0.1	-0.1	0	0.2	0.4	0.5	0.5	0.5	0.5	35° 0'	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	0.1	
-0.1	-0.1	0	0.1	0.3	0.4	0.4	0.4	0.5	34° 45'	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.2	-0.1	0.1	
-0.1	0	0	0	0	0.1	0.2	0.3	0.3	34° 30'	-0.1	-0.2	-0.3	-0.4	-0.3	-0.2	-0.2	-0.1	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.2	34° 15'	-0.2	-0.2	-0.2	-0.4	-0.4	-0.3	-0.3	-0.2	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0.1	34° 0'	-0.2	-0.2	-0.2	-0.4	-0.3	-0.3	-0.4	-0.3	0	
0	0	0	0	0	0.1	0	0	0.1	33° 45'	-0.2	-0.2	-0.2	-0.4	-0.3	-0.3	-0.4	-0.3	-0.1	
0.1	0.1	0	0.1	0.1	0.2	0.2	0	0	33° 30'	-0.2	-0.2	-0.2	-0.4	-0.4	-0.3	-0.3	-0.3	-0.1	
0.1	0.1	0	0	0.1	0.2	0.2	0	-0.1	33° 15'	-0.2	-0.2	-0.2	-0.4	-0.4	-0.3	-0.3	-0.2	-0.1	
0.1	0	0	0.1	0.1	0.1	0.1	0	-0.1	33° 0'	-0.2	-0.1	-0.2	-0.4	-0.5	-0.4	-0.2	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	32° 45'	-0.1	-0.1	-0.2	-0.4	-0.5	-0.4	-0.1	0	0	
0	0	0.1	0.1	0.1	0.1	-0.1	-0.1	-0.1	32° 30'	-0.1	-0.1	-0.2	-0.4	-0.5	-0.3	-0.1	0	0	
0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	32° 15'	-0.1	-0.2	-0.3	-0.4	-0.4	-0.2	0	0	0	
0	0.1	0.1	0	0	0.1	0.1	0	0	32° 0'	-0.1	-0.2	-0.3	-0.3	-0.5	-0.2	0.1	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	31° 45'	-0.1	-0.2	-0.3	-0.3	-0.5	-0.3	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0.1	0.2	0.1	31° 30'	-0.1	-0.2	-0.2	-0.3	-0.5	-0.4	0	0.1	0.1	
0	0	0	-0.1	-0.1	0	0.1	0.1	0.1	31° 15'	-0.2	-0.2	-0.2	-0.2	-0.6	-0.5	-0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0.1	0.1	0.1	31° 0'	-0.2	-0.2	-0.1	-0.2	-0.6	-0.5	-0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0.1	0.1	30° 45'	-0.2	-0.2	-0.1	-0.2	-0.6	-0.5	-0.1	0.1	0.1	
0.2	0.1	0.1	0.1	0	0	0	0	0.1	30° 30'	-0.2	-0.2	-0.1	-0.2	-0.6	-0.6	-0.1	0.1	0.1	
0.4	0.3	0.1	0.1	0.1	0.1	0	0	0.1	30° 15'	-0.2	-0.1	0	-0.2	-0.6	-0.5	-0.1	0	0.1	
0.5	0.3	0.1	0.1	0.2	0.1	0	0	0	30° 0'	-0.1	0	0	-0.2	-0.6	-0.5	-0.1	0	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 72 to 76 °E									
Correction to Latitude										Correction to Longitude									
72°	72°	73°	73°	74°	74°	75°	75°	76°	Longitude	72°	72°	73°	73°	74°	74°	75°	75°	76°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.5	-0.4	-0.3	-0.2	0	0.1	0.2	0.4	0.5	40° 0'	0.1	0.1	0.1	0.2	0.2	-0.1	-0.2	-0.3	-0.3	
-0.3	-0.3	-0.3	-0.2	-0.1	0	0.2	0.4	0.4	39° 45'	0	0.1	0	0.1	0.1	-0.2	-0.4	-0.4	-0.3	
-0.2	-0.2	-0.3	-0.3	-0.2	-0.1	0	0.2	0.2	39° 30'	0.1	0.1	0	0	0	-0.3	-0.5	-0.5	-0.3	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	39° 15'	0.1	0.2	0.1	0	-0.1	-0.4	-0.6	-0.6	-0.3	
-0.1	0	-0.1	-0.2	-0.1	-0.1	-0.3	-0.4	-0.3	39° 0'	0.1	0.1	0.1	0	-0.1	-0.3	-0.5	-0.6	-0.4	
-0.1	0	0	-0.1	0	-0.1	-0.3	-0.5	-0.5	38° 45'	0	0.1	0.2	0.1	-0.2	-0.2	-0.3	-0.5	-0.5	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.3	-0.5	38° 30'	0	0.1	0.2	0.1	-0.2	-0.1	-0.1	-0.4	-0.6	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	38° 15'	0	0.1	0.2	0	-0.2	-0.1	0	-0.2	-0.5	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.2	38° 0'	0.1	0.1	0.2	0	-0.2	-0.1	-0.1	-0.1	-0.4	
-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	37° 45'	0.1	0.1	0.2	0	-0.1	-0.2	-0.2	-0.1	-0.2	
0	0	0	0	0	0	0	-0.1	-0.2	37° 30'	0.1	0.1	0.2	0	-0.1	-0.1	-0.2	0	-0.1	
0	0.1	0.1	0.1	0.2	0.2	0	-0.1	-0.2	37° 15'	0.1	0.1	0.1	0	-0.2	-0.1	-0.1	0.1	0	
0.1	0.1	0.2	0.2	0.2	0.2	0.1	-0.1	-0.2	37° 0'	0.1	0	0.1	0	-0.2	-0.1	0.1	0.2	0.1	
0.1	0.1	0.2	0.2	0.2	0.1	0	-0.1	-0.1	36° 45'	0	0	0.1	0	-0.2	0	0.2	0.2	0.2	
0	0	0	0	0	0	-0.1	0	-0.1	36° 30'	0	-0.1	0	0	-0.2	0.1	0.3	0.2	0.3	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	36° 15'	0	0	0	-0.1	-0.1	0.1	0.2	0.2	0.3	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	36° 0'	0.1	0	0	-0.1	-0.1	0.1	0.2	0.2	0.3	
0	0	0	0	-0.1	-0.1	-0.1	0	0	35° 45'	0.1	0	0	0	-0.1	0.1	0.1	0.1	0.3	
0.2	0.2	0.2	0.1	0	0	-0.1	-0.1	0	35° 30'	0.1	0	0	0	-0.1	0.1	0.1	0.1	0.2	
0.4	0.4	0.3	0.2	0.1	0.1	0	-0.1	0	35° 15'	0.1	0.1	0.1	0.1	0	0.1	0.2	0	0.1	
0.5	0.5	0.4	0.3	0.2	0.2	0.1	0	0	35° 0'	0.1	0.1	0.2	0.2	0	0.2	0.3	0	0	
0.5	0.5	0.4	0.3	0.2	0.2	0.1	0	-0.1	34° 45'	0.1	0.1	0.3	0.2	0	0.2	0.4	0.1	0	
0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	-0.1	34° 30'	0.1	0.2	0.3	0.3	0.1	0.2	0.4	0.2	0	
0.2	0.2	0.2	0.2	0.1	0	0.1	0.1	-0.1	34° 15'	0	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.1	
0.1	0.2	0.2	0.2	0.1	0	0.1	0.1	0	34° 0'	0	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.2	
0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	33° 45'	-0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.4	0.2	
0	0	0.1	0.2	0.3	0.3	0.2	0.2	0.3	33° 30'	-0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.4	0.3	
-0.1	-0.1	0	0.1	0.3	0.4	0.4	0.4	0.4	33° 15'	-0.1	0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	
-0.1	-0.2	-0.1	0	0.2	0.3	0.4	0.5	0.5	33° 0'	0	0	0	0.1	0.2	0.2	0.3	0.3	0.3	
-0.1	-0.2	-0.1	-0.1	0	0.2	0.3	0.4	0.4	32° 45'	0	0	0	0	0	0.1	0.2	0.3	0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0.2	0.3	0.4	32° 30'	0	0	0	0	0	0	0.1	0.2	0.4	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.2	0.3	32° 15'	0	0	0	0	0	0	-0.1	0.1	0.3	
0	-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.3	32° 0'	0	0	0	0	-0.1	-0.1	-0.1	0	0.3	
0.1	0	0	-0.1	-0.1	0	0	0	0.2	31° 45'	0.1	0	0	0	-0.1	-0.1	-0.2	-0.1	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	31° 30'	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	31° 15'	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	31° 0'	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	30° 45'	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	30° 30'	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	30° 15'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0.1	0.1	0	0	0	0	0	0	30° 0'	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 76 to 80 °E									
Correction to Latitude										Correction to Longitude									
76°	76°	77°	77°	78°	78°	79°	79°	80°	Longitude	76°	76°	77°	77°	78°	78°	79°	79°	80°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.5	0.5	0.4	0.3	0.2	0.1	0	-0.1	0	40° 0'	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	
0.4	0.4	0.3	0.2	0.2	0.1	0	-0.1	0	39° 45'	-0.3	-0.2	0	0	0	-0.1	-0.2	-0.3	-0.2	
0.2	0.2	0.2	0.2	0.2	0.1	0	-0.1	0	39° 30'	-0.3	-0.1	0	0	0	0	-0.1	-0.2	-0.2	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	39° 15'	-0.3	-0.1	0	0	0	0.1	0	-0.1	-0.1	
-0.3	-0.2	0	0	0.1	0.1	0.1	0.1	0	39° 0'	-0.4	-0.2	-0.1	0	0	0.1	0	0	-0.1	
-0.5	-0.3	-0.1	0	0	0.1	0.1	0.1	0	38° 45'	-0.5	-0.4	-0.2	-0.1	0	0	0	0	0	
-0.5	-0.4	-0.2	-0.1	0	0.1	0.1	0.1	0	38° 30'	-0.6	-0.6	-0.4	-0.1	-0.1	0	0	0	0	
-0.3	-0.3	-0.2	-0.1	0	0	0.1	0.1	0	38° 15'	-0.5	-0.7	-0.5	-0.2	-0.1	-0.1	0	0	0	
-0.2	-0.3	-0.3	-0.2	-0.1	-0.1	0	0	0	38° 0'	-0.4	-0.7	-0.6	-0.3	-0.1	-0.1	0	0	0	
-0.1	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	0	0	37° 45'	-0.2	-0.6	-0.6	-0.3	-0.2	-0.2	-0.1	-0.1	0	
-0.2	-0.4	-0.6	-0.6	-0.6	-0.5	-0.3	-0.2	0	37° 30'	-0.1	-0.5	-0.5	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	
-0.2	-0.4	-0.7	-0.8	-0.8	-0.7	-0.6	-0.4	0	37° 15'	0	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	
-0.2	-0.4	-0.6	-0.7	-0.8	-0.8	-0.7	-0.6	0	37° 0'	0.1	0	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	
-0.1	-0.3	-0.4	-0.5	-0.5	-0.6	-0.7	-0.7	0	36° 45'	0.2	0.1	-0.1	-0.2	-0.2	-0.4	-0.5	-0.3	-0.2	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.5	-0.6	0	36° 30'	0.3	0.2	-0.1	-0.2	-0.1	-0.3	-0.4	-0.3	-0.2	
0	0	0	-0.1	-0.1	-0.1	-0.3	-0.5	0	36° 15'	0.3	0.2	-0.1	-0.2	-0.1	-0.1	-0.3	-0.3	-0.2	
0	0.1	0	-0.1	-0.1	-0.1	-0.3	-0.4	0	36° 0'	0.3	0.2	0	-0.2	-0.1	0	-0.1	-0.2	-0.2	
0	0.1	0	-0.1	-0.2	-0.1	-0.2	-0.3	0	35° 45'	0.3	0.3	0.1	-0.1	-0.1	0	0	-0.2	-0.2	
0	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	0	35° 30'	0.2	0.3	0.1	0	-0.1	0	0	-0.2	-0.2	
0	0.1	0.1	0.1	0	0	0	0	0	35° 15'	0.1	0.2	0.2	0	-0.1	0	0	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0	0.1	0	35° 0'	0	0.2	0.2	0.1	0	0	-0.1	-0.1	-0.1	
-0.1	0	0.1	0.1	0	0	0	0.1	0	34° 45'	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	
-0.1	0	0.1	0.1	0	0	0	0	0	34° 30'	0	0.1	0.1	0.1	0.1	0	-0.2	-0.1	-0.1	
-0.1	-0.1	0	0	0	0.1	0.1	0	0	34° 15'	0.1	0	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	34° 0'	0.2	0	0	0.1	0.1	-0.1	-0.1	0	-0.1	
0.1	0	0	-0.1	0	0	0	0	0	33° 45'	0.2	0	0	0.1	0.1	-0.1	-0.1	0	-0.1	
0.3	0.2	0	0	0	0	0	0	0	33° 30'	0.3	0.1	0.1	0	0.1	-0.1	-0.1	-0.1	-0.1	
0.4	0.3	0.2	0	0	0	0	0.1	0	33° 15'	0.3	0.2	0.2	0.1	0	0	-0.1	-0.1	-0.1	
0.5	0.4	0.3	0.1	0	0.1	0	0	0	33° 0'	0.3	0.3	0.4	0.2	0	0	-0.1	-0.1	0	
0.4	0.4	0.3	0.1	0.1	0.1	0	-0.1	0	32° 45'	0.3	0.3	0.5	0.2	0	0	-0.1	0	0	
0.4	0.3	0.2	0.1	0.1	0.1	0	-0.1	0	32° 30'	0.4	0.4	0.6	0.3	0	0	0	-0.1	0	
0.3	0.3	0.3	0.3	0.3	0.2	0.1	0	0	32° 15'	0.3	0.4	0.6	0.3	0	0.1	0.1	0	-0.1	
0.3	0.3	0.3	0.4	0.3	0.2	0.1	0	0	32° 0'	0.3	0.4	0.6	0.3	0	0.2	0.1	0	0	
0.2	0.3	0.3	0.4	0.3	0.1	0	0	0	31° 45'	0.2	0.4	0.6	0.3	0.1	0.3	0.1	0	0	
0	0.1	0.2	0.3	0.2	0.1	0	-0.1	0	31° 30'	0.1	0.3	0.5	0.3	0.2	0.4	0.2	0	0	
0	0.1	0.2	0.3	0.2	0.1	0	-0.2	0	31° 15'	0	0.3	0.4	0.3	0.3	0.5	0.3	0	-0.1	
0	0.1	0.2	0.3	0.3	0.3	0	-0.2	0	31° 0'	0	0.2	0.3	0.3	0.4	0.5	0.5	0.1	-0.2	
0	0.1	0.3	0.4	0.4	0.3	0.2	-0.1	0	30° 45'	0	0.1	0.2	0.3	0.4	0.6	0.7	0.2	-0.3	
0	0.1	0.2	0.4	0.4	0.4	0.4	0.4	0	30° 30'	-0.1	0	0.1	0.3	0.4	0.6	0.8	0.2	-0.3	
0	0	0.2	0.3	0.4	0.5	0.8	0.9	0	30° 15'	-0.1	0	0	0.2	0.3	0.5	0.7	0.2	-0.2	
0	0	0.1	0.2	0.4	0.6	0.9	1.2	0	30° 0'	-0.1	-0.1	-0.1	0.1	0.3	0.4	0.4	0.2	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 80 to 84 °E									
Correction to Latitude										Correction to Longitude									
80°	80°	81°	81°	82°	82°	83°	83°	84°	Longitude	80°	80°	81°	81°	82°	82°	83°	83°	84°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	40° 0'	-0.3	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	39° 45'	-0.2	-0.2	-0.2	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	39° 30'	-0.2	-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	39° 15'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	39° 0'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	38° 45'	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	38° 30'	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	38° 15'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	38° 0'	0	0	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	37° 45'	0	0	0	0	0	0	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	37° 30'	-0.1	0	0	0	0	0	0	0	0.1	
-0.4	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	37° 15'	-0.1	0	0	0	0	0	0	0.1	0.2	
-0.6	-0.5	-0.3	-0.3	-0.3	-0.4	-0.5	-0.5	-0.5	37° 0'	-0.2	-0.1	0	0	0	0	0.1	0.2	0.3	
-0.7	-0.6	-0.5	-0.4	-0.5	-0.7	-0.7	-0.7	-0.5	36° 45'	-0.2	-0.2	-0.2	0	0.1	0.1	0.1	0.2	0.2	
-0.6	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.6	-0.4	36° 30'	-0.2	-0.3	-0.2	0.1	0.2	0.1	0.1	0.1	0.1	
-0.5	-0.5	-0.6	-0.6	-0.5	-0.5	-0.4	-0.3	-0.2	36° 15'	-0.2	-0.2	-0.2	0.1	0.3	0.1	0	-0.1	-0.1	
-0.4	-0.4	-0.6	-0.6	-0.4	-0.2	-0.1	-0.1	-0.1	36° 0'	-0.2	-0.1	-0.2	0	0.1	0.1	0	-0.1	-0.1	
-0.3	-0.3	-0.4	-0.4	-0.2	0	0	0	0	35° 45'	-0.2	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0	0	35° 30'	-0.2	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	0	35° 15'	-0.1	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	35° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	34° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	0	0	0	0	-0.1	34° 30'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	-0.1	-0.1	0	34° 15'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0	0	0	-0.1	0	0	34° 0'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	33° 45'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	33° 15'	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	33° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	32° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	-0.1	-0.1	0	0	32° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	32° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
0	-0.1	-0.1	0	0	0	0	-0.1	-0.1	32° 0'	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	31° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	31° 15'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	31° 0'	-0.2	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	30° 45'	-0.3	-0.1	0	-0.1	0	-0.1	-0.1	0	0	
0.3	0.2	0.1	0	0	-0.1	-0.1	-0.1	-0.1	30° 30'	-0.3	0	0	-0.1	0	-0.1	-0.1	0	0	
0.8	0.6	0.4	0.2	0	0	0	0	0	30° 15'	-0.2	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	
1.1	0.8	0.6	0.3	0.1	0	-0.1	-0.1	0	30° 0'	0	0.3	0.3	0.1	0.1	0	-0.1	-0.1	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 84 to 88 °E									
Correction to Latitude										Correction to Longitude									
84° 0'	84° 30'	85° 0'	85° 30'	86° 0'	86° 30'	87° 0'	87° 30'	88° 0'	Longitude Latitude	84° 0'	84° 30'	85° 0'	85° 30'	86° 0'	86° 30'	87° 0'	87° 30'	88° 0'	
0	-0.1	-0.1	-0.1	0	0	0	0	0	40° 0'	-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	39° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	39° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	0
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.3	39° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	0.1
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4	-0.5	38° 45'	-0.1	0	0	-0.1	-0.1	0	0	0.1	0.3	
-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.5	-0.6	-0.6	38° 30'	0	0	0	-0.1	-0.1	0	0.1	0.2	0.4	
-0.2	-0.2	-0.2	-0.2	-0.3	-0.5	-0.7	-0.7	-0.6	38° 15'	0	0	0	0	0	0.2	0.2	0.3	0.4	
-0.2	-0.2	-0.3	-0.4	-0.5	-0.6	-0.6	-0.6	-0.4	38° 0'	0	0	0	0	0.2	0.3	0.3	0.2	0.2	
-0.2	-0.3	-0.3	-0.5	-0.6	-0.5	-0.4	-0.3	-0.1	37° 45'	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.1	
-0.3	-0.4	-0.4	-0.5	-0.5	-0.3	-0.1	0	0	37° 30'	0.1	0.1	0.2	0.2	0.2	0.2	0	0	0	
-0.4	-0.5	-0.5	-0.5	-0.4	-0.2	0	0	0	37° 15'	0.2	0.2	0.2	0.2	0.1	0	-0.1	0	0	
-0.5	-0.5	-0.5	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	37° 0'	0.3	0.2	0.2	0.2	0	-0.2	-0.1	0	0	
-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	36° 45'	0.2	0.1	0.1	0.1	0	-0.1	-0.1	0	-0.1	
-0.4	-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	-0.1	36° 30'	0.1	0	0	0	0	-0.1	0	-0.1	-0.1	
-0.2	-0.1	-0.1	-0.1	0	0	0	0	0	36° 15'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	0	0	-0.1	0	0	0	0	0	36° 0'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	35° 30'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	0	35° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	35° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	34° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	34° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	34° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	34° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	0	0	0	0	0	33° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	33° 30'	-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	0	
0	0	0	0	-0.1	-0.1	0	0	0	33° 15'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	33° 0'	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	0	32° 45'	-0.1	0	0	0	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	-0.1	0	32° 30'	0	0	0	0	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	32° 15'	0	0	0	0	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	32° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	31° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	31° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	31° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	31° 0'	0	0	0	0	0	0	-0.1	0	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	30° 45'	0	0	-0.1	0	0	0	0	0	0	-0.1
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	30° 30'	0	0	-0.1	-0.1	0	0	0	0	0	-0.1
0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	30° 15'	0	0	-0.1	-0.1	0	0	0	0	0	-0.1
0	0.1	0	0	0	0	0	0	0	30° 0'	0	0	-0.1	-0.1	0	0	0	0	0	-0.1

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 88 to 92 °E									
Correction to Latitude										Correction to Longitude									
88°	88°	89°	89°	90°	90°	91°	91°	92°	Longitude	88°	88°	89°	89°	90°	90°	91°	91°	92°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	40° 0'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	-0.1	-0.2	-0.2	-0.2	-0.3	-0.3	39° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	39° 30'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
-0.2	-0.3	-0.5	-0.6	-0.5	-0.5	-0.4	-0.3	-0.2	39° 15'	0	0.1	0.1	0.2	0.1	0.1	0	0.1	0	
-0.3	-0.5	-0.7	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	39° 0'	0.1	0.2	0.3	0.1	0.1	0	0	0	0	
-0.5	-0.7	-0.7	-0.5	-0.3	-0.2	-0.1	0	0.1	38° 45'	0.3	0.4	0.3	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.6	-0.6	-0.5	-0.3	-0.2	0	0	0.1	0.1	38° 30'	0.4	0.4	0.1	-0.2	-0.3	-0.2	-0.2	-0.2	-0.1	
-0.6	-0.4	-0.2	-0.1	-0.1	-0.1	0	0	0.1	38° 15'	0.4	0.2	0	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	
-0.4	-0.2	0	0	-0.1	-0.2	-0.2	-0.2	-0.1	38° 0'	0.2	0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	
-0.1	0	0.1	0.1	-0.1	-0.2	-0.3	-0.3	-0.2	37° 45'	0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	
0	0	0.1	0	0	-0.1	-0.3	-0.3	-0.3	37° 30'	0	-0.2	-0.2	-0.1	0	-0.1	-0.2	-0.3	-0.3	
0	0	0	-0.1	0	-0.1	-0.2	-0.2	-0.3	37° 15'	0	-0.2	-0.2	-0.1	0	0	-0.1	-0.2	-0.4	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	37° 0'	0	-0.1	-0.2	-0.1	0	0	0	-0.2	-0.3	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	36° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	36° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	36° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	36° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	
0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	35° 45'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	35° 30'	0	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	35° 15'	-0.1	0	0	0	-0.1	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 0'	0	0	0	0	-0.1	0	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	34° 45'	0	-0.1	0	0	0	0	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	34° 30'	-0.1	-0.1	0	0	0	-0.1	0	0	0	
0	0	-0.1	0	0	-0.1	-0.1	0	0	34° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	34° 0'	-0.1	0	0	0	0	0	-0.1	0	0	
0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	33° 45'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	33° 30'	0	0	-0.1	-0.1	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	33° 15'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 0'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	31° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	31° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	0	-0.1	0	0	-0.1	0	0	-0.1	30° 45'	-0.1	-0.1	0	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	30° 30'	-0.1	-0.1	0	-0.1	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	30° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	-0.1	0	0	0	-0.1	0	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 92 to 96 °E									
Correction to Latitude										Correction to Longitude									
92° 0'	92° 30'	93° 0'	93° 30'	94° 0'	94° 30'	95° 0'	95° 30'	96° 0'	Longitude Latitude	92° 0'	92° 30'	93° 0'	93° 30'	94° 0'	94° 30'	95° 0'	95° 30'	96° 0'	
-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	40° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	39° 45'	0.1	0.1	0.1	0.1	0	0.2	0.3	0.2	0.1	
-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	39° 30'	0.1	0.1	0.2	0.1	0	0.2	0.2	0.1	0.1	
-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	39° 15'	0	0.1	0.2	0.2	0	0.1	0.2	0.1	0.1	
-0.1	0	0.1	0.1	0.1	0	0	0	0	39° 0'	0	0	0.2	0.2	0	0.1	0.1	0.1	0.1	
0.1	0.1	0.2	0.3	0.2	0.1	0	0	0	38° 45'	-0.1	-0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	
0.1	0.1	0.2	0.2	0.2	0.1	0	0	0	38° 30'	-0.1	-0.1	0	0.1	0.2	0.3	0.3	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	38° 15'	-0.1	-0.1	0	0.1	0.2	0.3	0.3	0.2	0	
-0.1	0	0	0.1	0.1	0.1	0.2	0.1	0.1	38° 0'	-0.1	-0.1	0	0.1	0.2	0.3	0.3	0.2	0.1	
-0.2	-0.1	0	0	0	0.1	0.2	0.2	0.2	37° 45'	-0.2	-0.1	0	0.1	0.1	0.2	0.3	0.3	0.1	
-0.3	-0.2	-0.1	-0.1	0	0.1	0.1	0.2	0.2	37° 30'	-0.3	-0.2	-0.1	0	0.1	0.2	0.3	0.3	0.1	
-0.3	-0.3	-0.2	-0.1	-0.1	0	0.1	0.2	0.2	37° 15'	-0.4	-0.3	-0.1	0	0	0.1	0.2	0.2	0.1	
-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	0	0.1	0.1	37° 0'	-0.3	-0.3	-0.2	-0.1	0	0	0.1	0.1	0.1	
-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1	36° 45'	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0.1	0.1	
-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	36° 30'	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0	
-0.2	-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	36° 15'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	
-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	36° 0'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	35° 45'	-0.1	0	0	0	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 15'	0	0	-0.1	0	0	0	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	-0.1	35° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	34° 45'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	34° 30'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	34° 15'	0	0	0	0	0	0	0	0	0.1	
-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	34° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	33° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	33° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	33° 15'	0	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	33° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	32° 45'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	32° 30'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	32° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	32° 0'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	0	0	0	0	0	31° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	31° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	31° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	0	31° 0'	0	0	0	0	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	30° 45'	0	0	0	0	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	0	0	0	0.1	0	0	30° 30'	0	0	0	0	-0.1	-0.1	0	0	0	
0	-0.1	-0.1	0	0	0	0.1	0.1	0	30° 15'	0	0	0	0	-0.1	-0.1	-0.1	0	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.2	0.1	30° 0'	0.1	0	0	0	0	-0.2	-0.2	0	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 96 to 100 °E									
Correction to Latitude										Correction to Longitude									
96°	96°	97°	97°	98°	98°	99°	99°	100°	Longitude	96°	96°	97°	97°	98°	98°	99°	99°	100°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	0	0	-0.1	40° 0'	0.1	0	0	-0.1	-0.1	0	0.1	0.1	0.1	
-0.4	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	-0.1	39° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	
-0.2	-0.3	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.1	39° 30'	0.1	0	0	-0.1	-0.1	-0.2	-0.2	0	0.1	
-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.4	-0.3	-0.2	39° 15'	0.1	0.1	0	0	-0.1	-0.2	-0.2	-0.1	0	
0	0	0	0	-0.1	-0.2	-0.3	-0.3	-0.2	39° 0'	0.1	0.1	0	0	0	-0.1	-0.2	-0.2	-0.1	
0	0	0	0	0	0	-0.2	-0.3	-0.3	38° 45'	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.2	-0.2	
0	0	0	0	0	0	-0.1	-0.2	-0.3	38° 30'	0	0	0.1	0	0.1	0.1	0	-0.1	-0.2	
0	0	0	0	0	0	0	-0.1	-0.2	38° 15'	0	0	0.1	0	0	0.1	0.1	0	-0.1	
0.1	0	0	0	0	0	0	0	-0.1	38° 0'	0.1	0	0.1	0	0	0.1	0.1	0.1	0	
0.2	0.2	0.2	0.2	0.1	0	0	0.1	0	37° 45'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	37° 30'	0.1	0	0.1	0.1	0.1	0.1	0	0.1	0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	37° 15'	0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	37° 0'	0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
-0.1	0	0	0	0	0	0	0	0.1	36° 45'	0.1	0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	36° 30'	0	0	0	0.1	0.2	0.2	0.1	0	0	
-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	36° 15'	0	0	0	0.1	0.2	0.2	0	-0.1	0	
-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	36° 0'	0	0	-0.1	0	0.1	0.2	0	-0.1	-0.1	
-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	-0.2	-0.2	35° 45'	0	0	-0.1	0	0.1	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	35° 30'	0	0	0	0	0	0.1	0	-0.1	-0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	35° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	35° 0'	0	0	0	0.1	0	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	34° 45'	0	0	0	0	0	0.1	0.1	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	34° 30'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	34° 15'	0.1	0	0	0.1	0	0	0.1	0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	34° 0'	0	0	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	0	33° 45'	0	0	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	33° 30'	0	0	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	33° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	-0.1	0	0	0	0	33° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	0	0	0	0	0	-0.1	0	0	32° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	0.1	
-0.1	0	0	0	0	0	0	0	0	32° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	-0.1	0	0	-0.1	0	0	0	-0.1	31° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	-0.1	0	0	0	0	0	0	-0.1	31° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	31° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	31° 0'	0	0	0	0.1	0.1	0.1	0.1	0.1	0	
0	0	-0.1	0	0	0	0	0	0	30° 45'	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 30'	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0.1	0.1	0	0	0.1	0	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0	30° 0'	0.1	0.1	0	0	0.1	0	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 104 to 108 °E									
Correction to Latitude										Correction to Longitude									
104° 0'	104° 30'	105° 0'	105° 30'	106° 0'	106° 30'	107° 0'	107° 30'	108° 0'	Longitude	104° 0'	104° 30'	105° 0'	105° 30'	106° 0'	106° 30'	107° 0'	107° 30'	108° 0'	Latitude
0	0	0	0	0	0	-0.1	-0.1	0	40° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	40° 0'
0	0	0	0	0	-0.1	-0.1	0	0	39° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	39° 45'
0	0	0	0	-0.1	-0.1	0	0	0	39° 30'	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2	39° 30'
0	0	0	0	-0.1	0	0	0	0	39° 15'	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	39° 15'
0	0	0	0	0	0	0	0	0	39° 0'	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	39° 0'
0	0	0	0	0	0	0	0	0	38° 45'	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	38° 45'
0	0	0	0	0	0	0	0	0	38° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	38° 30'
-0.1	0	0	0	0	0	0	0	0	38° 15'	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	38° 15'
-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	38° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	38° 0'
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	37° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	37° 45'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	37° 30'	0	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	37° 30'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	37° 15'	0	0	0.1	0.1	0.2	0.2	0.1	0.2	0.2	37° 15'
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	37° 0'	0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	37° 0'
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	36° 45'	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	36° 45'
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	36° 30'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	36° 30'
-0.1	-0.1	0	0	-0.1	0	0	0	0	36° 15'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0.2	36° 15'
-0.1	-0.1	0	0	0	0	0	0	0	36° 0'	0.1	0.1	0.1	0.2	0.1	0	0	0.1	0.2	36° 0'
-0.1	-0.1	0	0	0	0	0	0	0	35° 45'	0.1	0.1	0.1	0.2	0.1	0	0	0.1	0.2	35° 45'
-0.1	-0.1	0	0	0	0	0	0	0	35° 30'	0.1	0	0.1	0.2	0.1	0	0	0.1	0.2	35° 30'
-0.1	-0.1	0	0	0	0	0	0	0	35° 15'	0	0	0	0.1	0.2	0	0	0.1	0.1	35° 15'
-0.1	-0.1	0	0	0.1	0	0	0	0.1	35° 0'	0	0	0	0.1	0.2	0.1	0	0	0.1	35° 0'
-0.1	-0.1	0	0	0	0	0	0	0.1	34° 45'	0	-0.1	-0.1	0.1	0.2	0.1	0	0	0	34° 45'
-0.1	-0.1	-0.1	0	0	0	0	0	0	34° 30'	-0.1	-0.1	-0.1	0	0.1	0	0	0	0	34° 30'
0	0	0	0	0	0	0	-0.1	-0.1	34° 15'	-0.1	-0.1	-0.1	0	0.1	0	0	0	0	34° 15'
0	0	0	0	0	0	0	-0.1	-0.2	34° 0'	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0	34° 0'
-0.1	0	0	0	0	0	0	0	-0.1	33° 45'	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	33° 45'
-0.1	0	0	0	0	0	0	0	0	33° 30'	-0.2	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	33° 30'
-0.1	0	0	0	0	0	0	0	0.1	33° 15'	-0.2	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	33° 15'
-0.1	0	0	0	0	0	0	0	0	33° 0'	-0.2	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1	33° 0'
0	0	0.1	0.1	0	0	0	0	0	32° 45'	-0.2	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1	32° 45'
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	32° 30'	-0.3	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1	32° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	32° 15'	-0.3	-0.3	-0.1	0	0.1	0.1	0.1	0.1	0.1	32° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	32° 0'	-0.4	-0.3	-0.1	0	0.1	0.1	0.1	0.2	0.2	32° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	31° 45'	-0.4	-0.3	0	0	0.1	0.1	0.1	0.2	0.2	31° 45'
0.2	0.1	0	0	0	0	0	0	0	31° 30'	-0.4	-0.2	0	0	0.1	0.1	0.1	0.2	0.2	31° 30'
0.2	0.1	0	0	0	0	0	0	0	31° 15'	-0.3	-0.2	0	0	0.1	0.1	0.1	0.2	0.2	31° 15'
0.2	0.1	0	0	0	0	0	0	0	31° 0'	-0.2	-0.1	0	0	0.1	0.1	0.1	0.2	0.2	31° 0'
0.2	0	0	0	0	0	0	0	-0.1	30° 45'	-0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	30° 45'
0.1	0	0	0	0	0	0	0	-0.1	30° 30'	0	0	0.1	0	0.1	0.1	0.1	0.2	0.2	30° 30'
0	0	0	0	-0.1	0	0	-0.1	-0.1	30° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.3	30° 15'
0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	30° 0'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.2	0.3	30° 0'

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 108 to 112 °E									
Correction to Latitude										Correction to Longitude									
108°	108°	109°	109°	110°	110°	111°	111°	112°	Longitude	108°	108°	109°	109°	110°	110°	111°	111°	112°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	
0	0	0	0	0	0	0	0	0	39° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	
0	0	0	0	0	0	0	0	0	39° 30'	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	
0	0	0	0	0	0	0	0	0	39° 15'	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2	
0	0	0	0	0	0	0	0	0	39° 0'	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.2	
0	0	0	0	0	0	0	0	0	38° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	
0	0	0	0	0	0	0	0	0	38° 30'	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	
0	0	0	0	0	0	0	0	0	38° 15'	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.2	
0	0	0	0	0	0	0	0	0.1	38° 0'	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.1	
-0.1	-0.1	0	0	0	0	0	0	0.1	37° 45'	0.2	0.2	0.1	0.1	0.1	0.2	0.4	0.2	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	37° 30'	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	
-0.1	0	0	0	0	0	0	0	0	37° 15'	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	
0	0	0	0	0	0	0	0	0	37° 0'	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	
0	0	0	0	0	0	0	0	0	36° 45'	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	
0	0	0	0	0	0	0	0.1	0	36° 30'	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	
0	0	0	0	0	0	0.1	0.1	0.1	36° 15'	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	
0	0	0	0	0	0	0.1	0	0	36° 0'	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	
0	0	0	0	0	0.1	0.1	0	0	35° 45'	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	
0	0.1	0.1	0.1	0.1	0.1	0	0	0	35° 30'	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	
0	0.1	0.1	0.1	0.1	0.1	0	0	0	35° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0.1	35° 0'	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.1	
0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	0.1	34° 45'	0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	34° 30'	0	0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	34° 15'	0	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	
-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0	0	34° 0'	0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
-0.1	-0.2	-0.2	-0.1	0	0	0	0	0	33° 45'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	33° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0.1	0.1	33° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0	0	0	0	0.1	0.1	33° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	32° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0	32° 15'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	32° 0'	0.2	0.2	0.2	0.1	0.1	0.1	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	31° 45'	0.2	0.3	0.2	0.1	0.1	0.1	0	0	0	
0	0.1	0.1	0	0	0	0	0	0	31° 30'	0.2	0.3	0.2	0.2	0.2	0.1	0	0	0	
0	0.1	0.1	0	0	0	0	0	0	31° 15'	0.2	0.3	0.2	0.2	0.2	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	31° 0'	0.2	0.2	0.3	0.2	0.2	0.1	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	30° 45'	0.2	0.3	0.3	0.2	0.2	0.1	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	30° 30'	0.2	0.3	0.2	0.2	0.1	0.1	-0.1	0	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	30° 15'	0.3	0.2	0.2	0.2	0.1	0.1	-0.1	0	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	30° 0'	0.3	0.2	0.2	0.2	0.1	0.1	0	0	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 116 to 120 °E									
Correction to Latitude										Correction to Longitude									
116°	116°	117°	117°	118°	118°	119°	119°	120°	Longitude	116°	116°	117°	117°	118°	118°	119°	119°	120°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	40° 0'	0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	39° 45'	0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0.1	0	0	0	0	0	0	0	0	39° 30'	0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	
0.1	0	0	0	0	0	0	0	0	39° 15'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	39° 0'	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 45'	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	37° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	37° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	-0.1	-0.1	0	0	0	37° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	37° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	36° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	-0.1	0	0	0	0	0	36° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	
0	0	0	0	0	0	0	0	0	36° 15'	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	36° 0'	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	35° 45'	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	35° 30'	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	35° 15'	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	35° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	34° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	34° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	34° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	34° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	33° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	33° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	33° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	33° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	32° 30'	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	
-0.1	0	0	0	0	0	0	0	0	32° 15'	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	
-0.1	-0.1	0	0	0	0	0	0	0	32° 0'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	
-0.1	-0.1	0	0	0	0	0	0	0	31° 45'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	31° 30'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	
0	0	0	0	-0.1	-0.1	-0.1	0	0	31° 15'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	31° 0'	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	30° 45'	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	30° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 0'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 120 to 124 °E									
Correction to Latitude										Correction to Longitude									
120°	120°	121°	121°	122°	122°	123°	123°	124°	Longitude	120°	120°	121°	121°	122°	122°	123°	123°	124°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	
0	0	0	0	0	0	-0.1	0	0	39° 45'	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0	-0.1	0	-0.1	-0.1	-0.1	0	39° 30'	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	-0.1	-0.1	0	-0.1	0	0	39° 15'	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	39° 0'	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	38° 45'	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	38° 30'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	38° 15'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	38° 0'	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 45'	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 30'	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 15'	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 0'	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	36° 45'	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	36° 30'	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	36° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0	0	0	0	0	0	36° 0'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0	0	0	0	0	0	35° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	35° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	
0	0	0	0	0	0	0	0	-0.1	35° 15'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	
0	-0.1	-0.1	0	0	0	0	-0.1	-0.1	35° 0'	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	
0	-0.1	-0.1	0	0	0	0	0	0	34° 45'	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	34° 30'	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	34° 15'	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	34° 0'	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	33° 45'	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	33° 30'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	33° 15'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	33° 0'	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 30'	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	32° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	-0.1	0	0	0	0	31° 45'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	-0.1	0	0	0	31° 30'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	31° 15'	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	-0.1	31° 0'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	30° 45'	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	30° 30'	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 0'	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 128 to 132 °E									
Correction to Latitude										Correction to Longitude									
128°	128°	129°	129°	130°	130°	131°	131°	132°	Longitude	128°	128°	129°	129°	130°	130°	131°	131°	132°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0	0	-0.1	0	0	0	40° 0'	0	0	-0.1	0	0	0.1	0	0.1	0.1	
0	0.1	0.1	0	-0.1	-0.1	0	0	0	39° 45'	0	-0.1	0	0	0.1	0	0	0.1	0.1	
0	0	0	0	-0.1	0	0	0	0	39° 30'	-0.1	-0.1	0	0.1	0.1	0	0	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	39° 15'	-0.1	-0.1	0	0.1	0.1	0	0	0.1	0	
0	-0.1	-0.1	-0.1	0	0	0	-0.1	0	39° 0'	0	-0.1	0	0.1	0	0	0.1	0.1	0	
0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	38° 45'	0	-0.1	0	0.1	0	0	0.1	0.1	0	
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	38° 30'	0.1	-0.1	0	0.1	0	0	0.1	0.1	0	
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	38° 15'	0.1	0	-0.1	0.1	0.1	0	0.1	0.1	0	
0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	38° 0'	0.2	0	-0.1	0	0.1	0.1	0.1	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	37° 45'	0.2	0	-0.1	0	0	0.1	0.1	0	0	
0	0	-0.1	-0.1	0	0	0	0	0	37° 30'	0.2	0.1	0	-0.1	0	0.1	0.1	0	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	37° 15'	0.2	0.2	0	-0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 0'	0.1	0.2	0	-0.1	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	36° 45'	0.1	0.1	0.1	-0.1	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	36° 30'	0.1	0.1	0.1	-0.1	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	36° 15'	0.1	0.1	0.1	-0.1	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	36° 0'	0.1	0.1	0.1	-0.1	-0.1	0	0.1	0.1	0.1	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 45'	0.1	0.1	0	-0.1	-0.1	0.1	0.1	0.1	0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 30'	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	-0.1	-0.1	-0.1	0	-0.1	35° 15'	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	-0.1	-0.1	0	0	0	35° 0'	0.1	0	0	0	0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	34° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	34° 30'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0.1	34° 15'	0.1	0.1	0.1	0	0	0.1	0.1	0	0	
0	0	0	0	0	-0.1	0	0	0.1	34° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	-0.1	0	0	0	0	33° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	0	
0	0	0	0	0	0	0	0	0	33° 30'	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	33° 15'	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0.1	33° 0'	0.1	0.1	0.1	0.1	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0.1	0.1	32° 45'	0.1	0.1	0.1	0.1	0	0	0	-0.2	0	
0	0	0	0	0	0	0	0.1	0.2	32° 30'	0.1	0.1	0	0.1	0	0	-0.1	-0.2	0	
0	0	0	0	0	0	0.1	0.2	0.2	32° 15'	0.1	0.1	0	0.1	0.1	0	-0.1	-0.3	0	
0	0	0	0	0	0	0.1	0.1	0.1	32° 0'	0.1	0	0	0.1	0.1	0	-0.2	-0.3	0	
0	0	0	0	0	0	0.1	0.1	0	31° 45'	0.1	0	0	0.1	0	0	-0.2	-0.3	0.1	
0	0	0	0	0	0	0.1	0	0	31° 30'	0.1	0	0.1	0.1	0	0	-0.2	-0.3	0.1	
0	0	0	0	0	0	0.1	0	-0.1	31° 15'	0.1	0	0.1	0.1	0	-0.1	-0.2	-0.2	0.1	
0	0	0	0	0	0	0.1	0	-0.1	31° 0'	0	0	0.1	0	0	-0.1	-0.2	-0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	30° 45'	0	0.1	0.1	0	0	-0.1	-0.2	-0.1	0.2	
0	0	0	0	0	0	0.1	0.1	0	30° 30'	0	0.1	0	0	0	-0.1	-0.3	0	0.2	
0	0	0	0	0	0.1	0.1	0.1	0	30° 15'	0	0.1	0	0	0	-0.2	-0.3	0	0.2	
0	0	0	0	0.1	0.2	0.2	0	0	30° 0'	0	0	0	0	-0.1	-0.2	-0.2	0.1	0.2	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 132 to 136 °E									
Correction to Latitude										Correction to Longitude									
132°	132°	133°	133°	134°	134°	135°	135°	136°	Longitude	132°	132°	133°	133°	134°	134°	135°	135°	136°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	40° 0'	0.1	0	0.1	0.2	0.1	0.1	0.1	0	0	
0	0	-0.1	-0.1	0	0	-0.1	0	0	39° 45'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	39° 30'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	0	0.1	0.2	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0.1	0	0	39° 0'	0	0.1	0.1	0.1	0.1	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	38° 45'	0	0.1	0.1	0.1	0.1	0	0	0.1	0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	0	38° 30'	0	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
-0.1	0	0	-0.1	0	0	0	0	0	38° 15'	0	0	0.1	0.1	0	-0.1	0.1	0.1	0.1	
0	-0.1	-0.1	0	0	0	0	0	-0.1	38° 0'	0	0	0.1	0.1	0	-0.1	0.1	0.1	0.2	
0	-0.1	-0.1	0	0	0	0	0	-0.1	37° 45'	0	0.1	0.1	0.1	0	0	0.1	0.1	0.2	
0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	37° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.2	
0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	37° 15'	0.1	0.1	0	0	0	0	0.1	0.1	0.2	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	37° 0'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.2	
0	0	0	-0.1	-0.1	0	0	0	0	36° 45'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	36° 30'	0.1	0.2	0.1	0	0	0.1	0.1	0	0.2	
-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	36° 15'	0.1	0.2	0.1	0	0	0.1	0	0	0.2	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	36° 0'	0.1	0.2	0.1	0	0	0.1	0	0	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	35° 45'	0.1	0.1	0.1	0	0	0.1	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	35° 30'	0.1	0.1	0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	35° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	35° 0'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0.1	0.1	0	0	0	-0.1	-0.2	34° 45'	0.1	0.1	0.1	0	0	0	0	0.1	0	
0	0.1	0.1	0	0	0	0	-0.1	-0.1	34° 30'	0	0	0.1	0.1	0.1	0	0.1	0.2	0	
0.1	0.1	0	-0.1	-0.1	0	0	-0.1	0	34° 15'	0	0.1	0.1	0.1	0.1	0	0.1	0.2	0	
0.1	0	-0.1	-0.1	-0.1	0	0	0	0.1	34° 0'	0	0.1	0.2	0.1	0	-0.1	0.1	0.2	-0.2	
0	0	0	0	0	0	0.1	0.1	0.2	33° 45'	0	0.2	0.2	0.1	0	-0.1	0.1	0.2	-0.2	
0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	33° 30'	0	0.2	0.1	0.1	0	-0.1	0.1	0.1	-0.2	
0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	33° 15'	0	0.2	0.1	0	0.1	-0.1	0	0.1	-0.1	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	33° 0'	0	0.2	0.1	0	0	-0.1	-0.1	0.1	0	
0.1	0.1	0.1	0	0	0.1	0.1	0	0	32° 45'	0	0.2	0.1	0	0	-0.1	-0.1	0	0.1	
0.2	0.1	0.1	0	0.1	0.1	0	0	-0.1	32° 30'	0	0.3	0.2	0.1	-0.1	-0.1	0	0	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	32° 15'	0	0.3	0.2	0.1	-0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	32° 0'	0	0.3	0.2	0	0	0	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	31° 45'	0.1	0.3	0.1	0	0	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	-0.1	-0.1	-0.1	0	31° 30'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	31° 15'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	
-0.1	0	0	-0.1	-0.1	0	0	0	0	31° 0'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	
0	0	-0.1	-0.1	0	0	0	0	0	30° 45'	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	
0	0	-0.1	-0.1	0	0	0	0	0	30° 30'	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	30° 15'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	30° 0'	0.2	0.2	0.2	0.1	0	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N
Longitude 136 to 140 °E

Correction to Latitude
Correction to Longitude

Correction to Latitude										Correction to Longitude									
136°	136°	137°	137°	138°	138°	139°	139°	140°	Longitude	136°	136°	137°	137°	138°	138°	139°	139°	140°	Latitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	40° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
0	0	0	0	0	-0.1	-0.1	0	0	39° 45'	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.2
0	0	0	0	-0.1	-0.1	-0.1	0	0	39° 30'	0	0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	39° 15'	0	0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	39° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
0	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	38° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	38° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
0	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	38° 15'	0.1	0.2	0	0	0.1	0.1	0.1	0.2	0.1	0.1
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	38° 0'	0.2	0.2	0	0	0.1	0.1	0.1	0.2	0.2	0.1
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	37° 45'	0.2	0.2	0	0	0.1	0.1	0.2	0.2	0.2	0.1
-0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	37° 30'	0.2	0.2	0	0	0.1	0.1	0.2	0.1	0.1	0.1
0	0	0	-0.1	-0.2	-0.2	-0.2	-0.1	0	37° 15'	0.2	0.1	0	0.1	0.1	0.2	0.2	0.2	0	0
0	0	0	-0.2	-0.2	-0.2	-0.1	0	0	37° 0'	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0	0	0
0	-0.1	-0.1	-0.2	-0.2	-0.1	0	0.1	0.1	36° 45'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	-0.1	-0.1	0
0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	36° 30'	0.2	0.2	0.2	0.2	0.1	0	0	-0.1	-0.1	0
0	-0.1	-0.1	0	0	0	0.1	0.2	0.2	36° 15'	0.2	0.2	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0.1	0.2	0.2	36° 0'	0.2	0.2	0.1	0.1	0.1	0	-0.2	-0.2	-0.2	-0.1
0	0.1	0.1	0	0	0	0.1	0.1	0.2	35° 45'	0.1	0.2	0.2	0.2	0.1	-0.1	-0.3	-0.2	-0.2	-0.1
0	0.1	0.1	0	0	0.1	0.1	0.1	0.1	35° 30'	0	0.1	0.2	0.2	0.1	-0.1	-0.3	-0.3	-0.3	-0.2
0	0	0.1	0.1	0.1	0.1	0.1	0	0.1	35° 15'	0	0.1	0.2	0.2	0	-0.1	-0.2	-0.3	-0.3	-0.3
-0.1	-0.1	0	0.1	0.2	0.1	0	-0.1	0	35° 0'	0	0	0.2	0.2	0	-0.1	-0.1	-0.3	-0.4	-0.4
-0.2	-0.1	0	0.1	0.2	0.1	0	-0.1	-0.1	34° 45'	0	0	0.1	0.1	0	0	0	-0.2	-0.4	-0.4
-0.1	0	0	0.1	0.1	0	0	-0.1	-0.2	34° 30'	0	-0.1	0	0	0	0.1	0	-0.2	-0.5	-0.5
0	0.1	0.1	0.1	0.1	0	0	-0.1	-0.2	34° 15'	0	-0.2	0	0	0	0.1	0.1	-0.1	-0.4	-0.4
0.1	0.2	0.1	0.1	0.1	0	0	-0.1	-0.2	34° 0'	-0.2	-0.2	0	0	0.1	0.1	0.1	0	-0.2	-0.2
0.2	0.1	0.1	0.1	0	0	0	-0.1	-0.2	33° 45'	-0.2	-0.2	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-0.1
0.2	0	0	0	0	0	0	-0.1	-0.1	33° 30'	-0.2	-0.1	0.1	0.1	0.1	0.2	0.1	0.1	-0.1	-0.1
0.2	0	0	0	0	0	-0.1	-0.1	-0.1	33° 15'	-0.1	0	0.1	0	0.1	0.2	0.1	0.2	-0.1	-0.1
0.1	0	0	0	-0.1	0	-0.1	-0.1	0	33° 0'	0	0.1	0.1	0	0.1	0.2	0.1	0.2	-0.1	-0.1
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	32° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	-0.1	-0.1
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0.1	32° 30'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	-0.2	-0.2
-0.1	-0.1	-0.1	0	0	0	0	0	0	32° 15'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	-0.2	-0.2
-0.1	-0.1	0	0	0	0	0	0	0	32° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	-0.2	-0.2
-0.1	0	0	0	0	0	0	0	0	31° 45'	0.1	0	0.1	0	0.1	0.2	0.1	0	-0.2	-0.2
0	0	0	0	0	0	0	0	0	31° 30'	0.1	0	0.1	0	0.1	0.2	0.1	0	-0.2	-0.2
0	0	0	0	0	0	0	0	0	31° 15'	0	0	0.1	0	0.1	0.2	0.1	0	-0.2	-0.2
0	0	0	0	0	0	0	0	0	31° 0'	0	0	0	0.1	0.1	0.2	0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 45'	0	0	0	0.1	0.1	0.2	0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 30'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 15'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 0'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	-0.1

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 140 to 144 °E									
Correction to Latitude										Correction to Longitude									
140°	140°	141°	141°	142°	142°	143°	143°	144°	Longitude	140°	140°	141°	141°	142°	142°	143°	143°	144°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	40° 0'	0.2	0.1	0.1	-0.1	-0.6	-0.8	-0.5	-0.5	-0.3	
0	0	0	0	-0.1	-0.1	0	0	0	39° 45'	0.2	0.2	0.1	-0.1	-0.6	-0.8	-0.6	-0.5	-0.3	
0	0	0	0	0	0	0	0	0	39° 30'	0.2	0.2	0	-0.1	-0.5	-0.9	-0.6	-0.4	-0.2	
-0.1	0	0	0	0	0	-0.1	0	0	39° 15'	0.2	0.1	0	-0.1	-0.5	-0.8	-0.6	-0.5	-0.2	
-0.1	0	0	0	0.1	0	-0.1	0	0	39° 0'	0.2	0.1	0	-0.1	-0.5	-0.7	-0.6	-0.5	-0.2	
-0.1	0	0	0	0.1	0	0	0	0	38° 45'	0.2	0.1	0	-0.2	-0.5	-0.6	-0.6	-0.5	-0.2	
-0.1	0	0	0	0.1	0	0	0	0	38° 30'	0.1	0	0	-0.2	-0.5	-0.6	-0.6	-0.5	-0.1	
-0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	38° 15'	0.1	0	0	-0.2	-0.5	-0.6	-0.6	-0.5	0	
0	-0.1	0	0.1	0.1	0.1	0.1	0.1	0	38° 0'	0.1	0	-0.1	-0.3	-0.5	-0.6	-0.6	-0.4	0	
0	0	0	0.1	0.1	0.2	0.2	0.1	0	37° 45'	0.1	0	-0.2	-0.3	-0.5	-0.6	-0.6	-0.3	0.1	
0	0	0.1	0.2	0.2	0.3	0.3	0.1	0	37° 30'	0.1	0	-0.3	-0.4	-0.5	-0.6	-0.5	-0.2	0.2	
0	0	0.1	0.2	0.3	0.3	0.3	0.1	-0.1	37° 15'	0	-0.1	-0.4	-0.4	-0.5	-0.7	-0.5	0	0.3	
0	0.1	0.2	0.3	0.4	0.4	0.2	0	-0.1	37° 0'	0	-0.1	-0.5	-0.5	-0.6	-0.7	-0.3	0.1	0.3	
0.1	0.1	0.2	0.3	0.4	0.3	0.1	-0.1	-0.1	36° 45'	0	-0.2	-0.5	-0.6	-0.6	-0.6	-0.1	0.2	0.3	
0.1	0.2	0.3	0.3	0.3	0.2	0	-0.1	-0.1	36° 30'	0	-0.3	-0.6	-0.6	-0.6	-0.4	0	0.3	0.3	
0.2	0.2	0.3	0.3	0.2	0.1	-0.1	-0.1	-0.1	36° 15'	0	-0.3	-0.6	-0.6	-0.5	-0.3	0.2	0.3	0.2	
0.2	0.3	0.3	0.2	0.2	0	-0.1	-0.1	-0.1	36° 0'	-0.1	-0.4	-0.6	-0.6	-0.5	-0.1	0.2	0.3	0.2	
0.2	0.2	0.2	0.2	0.2	0	-0.1	-0.1	-0.1	35° 45'	-0.1	-0.3	-0.6	-0.6	-0.4	0	0.3	0.3	0.1	
0.1	0.2	0.2	0.3	0.2	0	-0.1	-0.1	0	35° 30'	-0.2	-0.4	-0.6	-0.6	-0.3	0.2	0.3	0.2	0.1	
0.1	0.2	0.3	0.3	0.2	0	-0.1	-0.1	0	35° 15'	-0.3	-0.4	-0.6	-0.6	-0.1	0.3	0.3	0.2	0.1	
0	0.1	0.3	0.3	0.1	-0.1	-0.1	-0.1	-0.1	35° 0'	-0.4	-0.5	-0.7	-0.5	0	0.4	0.3	0.1	0	
-0.1	0	0.2	0.2	0.1	-0.1	-0.1	-0.1	-0.1	34° 45'	-0.4	-0.6	-0.7	-0.5	0.2	0.5	0.3	0.1	0	
-0.2	-0.2	-0.1	0.1	0.1	0	-0.1	-0.1	-0.1	34° 30'	-0.5	-0.7	-0.8	-0.5	0.3	0.6	0.3	0.2	0.1	
-0.2	-0.3	-0.3	-0.1	0	0	0	-0.1	-0.1	34° 15'	-0.4	-0.7	-0.9	-0.6	0.3	0.6	0.3	0.2	0.1	
-0.2	-0.4	-0.4	-0.3	0	0	0	0	0	34° 0'	-0.2	-0.6	-1	-0.7	0.2	0.6	0.3	0.2	0.1	
-0.2	-0.3	-0.4	-0.3	-0.1	0	0	0	0	33° 45'	-0.1	-0.6	-1	-0.9	0.1	0.6	0.4	0.2	0.1	
-0.1	-0.2	-0.3	-0.3	-0.1	0	0	-0.1	0	33° 30'	-0.1	-0.5	-1	-0.9	0	0.6	0.4	0.1	0	
-0.1	-0.1	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	33° 15'	-0.1	-0.5	-0.9	-1	-0.1	0.6	0.4	0.1	0	
0	0	-0.1	-0.2	-0.1	0	0	0	-0.1	33° 0'	-0.1	-0.4	-0.8	-1	-0.2	0.6	0.4	0.1	0	
0.1	0.1	0	-0.1	-0.1	0	0	0	0	32° 45'	-0.1	-0.4	-0.7	-1	-0.3	0.5	0.4	0.1	0	
0.1	0.1	0	0	0	0	0	0	0	32° 30'	-0.2	-0.3	-0.6	-0.9	-0.3	0.5	0.4	0.1	0	
0	0.1	0	0	0	0	0	0	0	32° 15'	-0.2	-0.4	-0.6	-0.9	-0.3	0.5	0.4	0.1	0	
0	0	0	-0.1	-0.1	0	0	0	0	32° 0'	-0.2	-0.4	-0.5	-0.8	-0.3	0.5	0.4	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	31° 45'	-0.2	-0.4	-0.5	-0.8	-0.4	0.5	0.4	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 30'	-0.2	-0.4	-0.4	-0.8	-0.4	0.4	0.4	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 15'	-0.2	-0.3	-0.4	-0.8	-0.5	0.4	0.4	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 0'	-0.1	-0.3	-0.4	-0.7	-0.5	0.3	0.5	0.2	0.1	
0	0	0	-0.1	-0.2	0	0	0	0	30° 45'	-0.1	-0.3	-0.4	-0.7	-0.6	0.2	0.5	0.2	0	
0	0	0	-0.1	-0.2	-0.1	0	0	0	30° 30'	-0.1	-0.3	-0.4	-0.6	-0.6	0.1	0.5	0.2	0	
0	0	0.1	0	-0.1	0	0.1	0	0	30° 15'	-0.1	-0.3	-0.4	-0.4	-0.6	0	0.5	0.3	0	
0	0	0.1	0	-0.2	-0.1	0.1	0	0	30° 0'	-0.1	-0.4	-0.4	-0.3	-0.6	-0.1	0.5	0.3	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 144 to 148 °E									
Correction to Latitude										Correction to Longitude									
144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'	Longitude	144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	40° 0'	-0.3	0.2	0.4	0.2	0.1	0	-0.1	0	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	0	39° 45'	-0.3	0.2	0.3	0.2	0.1	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	0	39° 30'	-0.2	0.2	0.3	0.1	0.1	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	0	39° 15'	-0.2	0.3	0.3	0.1	0	0	0	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	39° 0'	-0.2	0.3	0.3	0.1	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	38° 45'	-0.2	0.3	0.3	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	38° 30'	-0.1	0.3	0.2	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	38° 15'	0	0.3	0.2	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 0'	0	0.3	0.2	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	37° 45'	0.1	0.3	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	37° 30'	0.2	0.2	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	37° 15'	0.3	0.2	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	37° 0'	0.3	0.2	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	36° 45'	0.3	0.2	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	36° 30'	0.3	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	36° 15'	0.2	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	36° 0'	0.2	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	35° 45'	0.1	0	-0.1	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 30'	0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 15'	0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	35° 0'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	34° 45'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	34° 30'	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	34° 15'	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	34° 0'	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	33° 45'	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	-0.1	0	0	0	33° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	
-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	33° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	-0.1	33° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	32° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	31° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	31° 30'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 15'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 0'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	30° 45'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	0	0	-0.1	30° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	30° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	30° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N
Longitude 156 to 160 °E

Correction to Latitude
Correction to Longitude

Correction to Latitude										Correction to Longitude									
156°	156°	157°	157°	158°	158°	159°	159°	160°	Longitude	156°	156°	157°	157°	158°	158°	159°	159°	160°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	38° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	37° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	0	0	0	37° 30'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	37° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	0	0	0	37° 0'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	36° 45'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	36° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	36° 0'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0	0	0	35° 45'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 30'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	35° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	35° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	34° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	34° 30'	0	0	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	34° 15'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	34° 0'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	33° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	33° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	33° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	33° 0'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	32° 45'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	32° 30'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	32° 15'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	32° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	31° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 30'	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	31° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N
Longitude 160 to 164 °E

Correction to Latitude
Correction to Longitude

Latitude										Longitude									
160°	160°	161°	161°	162°	162°	163°	163°	164°	Longitude	160°	160°	161°	161°	162°	162°	163°	163°	164°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	38° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	38° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	37° 30'	0	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	37° 15'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	37° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	36° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	36° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	36° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	35° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	35° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	35° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	35° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	34° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
-0.1	0	0	0	0	0	0	0	0	34° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	34° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	34° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	33° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	33° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	33° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	33° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	-0.1	0	0	-0.1	32° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	32° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	32° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	31° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	-0.1	-0.1	31° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	-0.1	-0.1	31° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0
0	0	0	0	0	0	0	-0.1	-0.1	31° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	-0.1	30° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	-0.1	0	0	30° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 164 to 168 °E									
Correction to Latitude										Correction to Longitude									
164° 0'	164° 30'	165° 0'	165° 30'	166° 0'	166° 30'	167° 0'	167° 30'	168° 0'	Longitude	164° 0'	164° 30'	165° 0'	165° 30'	166° 0'	166° 30'	167° 0'	167° 30'	168° 0'	Latitude
0	0	0	0	0	0	0	0	0	40° 0'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 0'	-0.1	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 45'	-0.1	-0.1	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 30'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	34° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	34° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	34° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	34° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	32° 30'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	32° 15'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	32° 0'	-0.1	0	0	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	31° 45'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	31° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	31° 15'	0	0	-0.1	-0.1	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	31° 0'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	30° 45'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
0	-0.1	0	0	0	0	0	0	0	30° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	0	30° 15'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	-0.1	0	0	-0.1	0	30° 0'	0	0	-0.1	-0.1	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 172 to 176 °E									
Correction to Latitude										Correction to Longitude									
172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	Longitude	172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	
									Latitude										
0	0	0	0	0	0	0	0	0	40° 0'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 30'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 0'	0	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 45'	0	0.1	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 30'	0	0.1	0.1	0.1	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	37° 15'	-0.1	0.1	0.1	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	37° 0'	-0.1	0	0.1	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	36° 45'	-0.1	0	0.1	0.1	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	0	0	0.1	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	36° 15'	-0.1	0	0	0.1	0	0	0	0	0	
-0.2	0	0	0	0	0	0	0	0	36° 0'	-0.2	0	0.1	0.1	0.1	0	0	0	0	
-0.3	0	0	0	0	0	0	0	0	35° 45'	-0.4	-0.1	0.1	0.1	0.1	0	0	0	0	
-0.3	-0.1	0	0	0	0	0	0	0	35° 30'	-0.5	-0.3	0.1	0.1	0.1	0	0	0	0	
-0.2	-0.1	0	0	0	0	0	0	0	35° 15'	-0.6	-0.4	0.1	0.1	0.1	0	0	0	0	
0	0	0	-0.1	-0.1	0	0	0	0	35° 0'	-0.5	-0.5	0.1	0.1	0	0	0	0	0	
0.2	0	0	-0.1	-0.1	-0.1	-0.1	0	0	34° 45'	-0.4	-0.4	0.1	0.1	0	0	0	0	0	
0.2	0.1	0	0	0	-0.1	-0.1	0	0	34° 30'	-0.3	-0.3	0.2	0.1	0	0	0	0	0	
0.1	0	0	0	0	-0.1	-0.1	0	-0.1	34° 15'	-0.3	-0.2	0.2	0.1	0.1	0	-0.1	0	0	
0	-0.1	-0.1	0	0	0	0	0	-0.1	34° 0'	-0.3	-0.1	0.2	0.1	0.1	0	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	33° 45'	-0.2	-0.1	0.1	0	0.1	0.1	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	33° 30'	-0.2	-0.2	0.1	0	0.1	0.1	0	0	0	
-0.1	-0.2	-0.1	0	0	0	0	0	0.1	33° 15'	-0.1	-0.2	0	0	0	0.1	0	0	0	
-0.1	-0.2	-0.1	0	0	0	0	0	0	33° 0'	0	-0.2	-0.1	0	0	0	0	0	0	
0	-0.2	-0.2	-0.1	0	0	0	0	0	32° 45'	0.2	-0.1	-0.1	-0.1	0	0	0	0	0	
0.1	-0.1	-0.2	-0.1	0	0	0	0	0	32° 30'	0.3	0	-0.2	-0.2	0	0.1	0	0	0	
0.1	0.1	0	-0.1	0	0	0	0	0	32° 15'	0.3	0.1	-0.1	-0.2	-0.1	0.1	0	0	0	
0.1	0.2	0.1	0	0	0	0	0	0	32° 0'	0.2	0.2	-0.1	-0.2	-0.1	0	0	0	0	
0.1	0.2	0.2	0.1	0	0	0	-0.1	-0.1	31° 45'	0.1	0.1	0	-0.1	0	0	0	0	0	
0	0.1	0.1	0.1	0	0	0	-0.1	-0.1	31° 30'	0	0.1	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	-0.1	-0.1	31° 15'	0	0	0	0	0	0	0	0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	31° 0'	0	0	0	0	0	0	0.1	0.1	-0.1	
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	0	30° 45'	0	0	0	0	0	0	0.1	0.1	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	30° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	0	0	0	0	0	30° 15'	0	0	0.1	0.1	0	0	0	0	0	
0	0	-0.1	0	0	0	0	0	0	30° 0'	0	0	0.1	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 176 to 180 °E									
Correction to Latitude										Correction to Longitude									
176°	176°	177°	177°	178°	178°	179°	179°	180°	Longitude	176°	176°	177°	177°	178°	178°	179°	179°	180°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 30'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	36° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 0'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	34° 45'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	34° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	0	34° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	34° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 45'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	33° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0.1	0	0	0	0.1	0.1	0.1	0	0	33° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0	0	0	33° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	31° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	31° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	31° 15'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	-0.1	0	-0.1	-0.1	0	0	31° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	30° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	30° 30'	0	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	30° 15'	0	0	0	0	0	0.1	0	-0.1	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	30° 0'	0	0	0	0	0	0.1	0	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 176 to 172 °W									
Correction to Latitude										Correction to Longitude									
176°	175°	175°	174°	174°	173°	173°	172°	172°	Longitude	176°	175°	175°	174°	174°	173°	173°	172°	172°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 30'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 15'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 45'	0	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 30'	0	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 0'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 45'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 30'	-0.1	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 15'	-0.1	0	0	-0.1	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	34° 0'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 45'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	-0.1	0	0	0	0	0	0	0	33° 30'	0	-0.1	0	0	0	0	0	0	0	0
0.1	-0.1	-0.1	0	0	0	0	0	0	33° 15'	0	-0.1	-0.1	0	0	0	0	0	0	0
0.1	0	-0.1	0	0	0	0	0	0	33° 0'	0.1	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	32° 45'	0.1	0.1	-0.1	0	0	0	0	0	0	0
0	0	0	-0.1	0	0	0	-0.1	0	32° 30'	0	0.1	0	0	0	0	0	0	0	0
-0.1	0	0	-0.1	-0.1	0	0	-0.1	-0.1	32° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	0	0	-0.1	-0.1	0	0	0	-0.1	32° 0'	-0.1	0	0.1	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	31° 45'	0	0	0.1	0	-0.1	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	-0.1	31° 30'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	31° 15'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	31° 0'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	0	0	-0.1	-0.1	0	30° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	30° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	30° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	30° 0'	0	0	0	0.1	0	0	0	0	0	0

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 144 to 140 °W									
Correction to Latitude										Correction to Longitude									
144°	143°	143°	142°	142°	141°	141°	140°	140°	Longitude	144°	143°	143°	142°	142°	141°	141°	140°	140°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	-0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	38° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	37° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	37° 30'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	37° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	37° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	36° 45'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	36° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	36° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	35° 45'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	35° 30'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	35° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	35° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	34° 45'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	34° 30'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	34° 15'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	34° 0'	-0.1	-0.1	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	33° 45'	-0.1	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	33° 30'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	33° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	32° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	31° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	31° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	31° 0'	0	0	0	0	0	0	0	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	30° 45'	0	0	0	-0.1	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 30'	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 15'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 140 to 136 °W									
Correction to Latitude										Correction to Longitude									
140°	139°	139°	138°	138°	137°	137°	136°	136°	Longitude	140°	139°	139°	138°	138°	137°	137°	136°	136°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	-0.1	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	39° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	38° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 15'	-0.1	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 0'	0	0	0	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 30'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 15'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 0'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 45'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	35° 30'	0	0	-0.1	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	35° 15'	0	0	-0.1	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	35° 0'	0	0	0	0	0	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	34° 45'	0	0	0	0	0	0	0	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	34° 30'	0	0	0	0	0	0	0	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0	34° 15'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	34° 0'	0	0	0	0	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	33° 45'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	33° 30'	0	0	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	33° 15'	0	0	-0.1	0	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	33° 0'	0	0	-0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	32° 45'	0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 30'	0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 0'	0	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	31° 45'	0	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	31° 30'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	31° 15'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	31° 0'	-0.1	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	30° 45'	-0.1	0	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	30° 30'	-0.1	0	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	30° 15'	-0.1	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 136 to 132 °W									
Correction to Latitude										Correction to Longitude									
136°	135°	135°	134°	134°	133°	133°	132°	132°	Longitude	136°	135°	135°	134°	134°	133°	133°	132°	132°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	0	0	0	0	0	0	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 30'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 15'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 0'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 45'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 30'	0	0	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 15'	0	0	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 45'	0	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 0'	0	-0.1	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 45'	0	-0.1	0	-0.1	-0.1	0	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	33° 30'	0	-0.1	0	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	-0.1	0	33° 15'	0	-0.1	0	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 0'	0	-0.1	0	-0.1	-0.1	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	32° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	32° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	32° 0'	-0.1	-0.1	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	31° 45'	-0.1	-0.1	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	31° 30'	-0.1	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	31° 15'	-0.1	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	31° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	30° 45'	0	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	30° 30'	0	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	30° 15'	-0.1	-0.1	0	0	-0.1	0	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	0	-0.1	0	0	0	0	-0.1

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N

Longitude 132 to 128 °W

Correction to Latitude

Correction to Longitude

Correction to Latitude										Correction to Longitude									
132°	131°	131°	130°	130°	129°	129°	128°	128°	Longitude	132°	131°	131°	130°	130°	129°	129°	128°	128°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	0	0	0	0	0	0	0	0	0	0
0	0.1	0	0	0	0	0	0	0	39° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	39° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0.1	39° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	38° 45'	0	0	0	0	0	0	0	0	0	0
0.1	0	0.1	0.1	0	0.1	0.1	0.1	0.1	38° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0.1	38° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	38° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	37° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	36° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	35° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	34° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	33° 0'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	32° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	32° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	32° 0'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	31° 45'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	31° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	31° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	31° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	30° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	30° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	30° 15'	0	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	-0.1	0	0	0	0	0	0

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 120 to 116 °W									
Correction to Latitude										Correction to Longitude									
120°	119°	119°	118°	118°	117°	117°	116°	116°	Longitude	120°	119°	119°	118°	118°	117°	117°	116°	116°	Latitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
0	0.1	0.1	0.1	0.1	0	0	0	0	40° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0	40° 0'
0	0	0.1	0.1	0	0	0	0	0	39° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0	39° 45'
0	0	0	0	0	0	0	0.1	0.1	39° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0	39° 30'
0	0	0	0	0	0	0	0.1	0.1	39° 15'	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	0	39° 15'
0	0	0	0	0	0.1	0	0.1	0.1	39° 0'	0	-0.1	0	0.1	0.1	0.1	0	0	0	39° 0'
0	0	0	0	0.1	0.1	0.1	0.1	0.1	38° 45'	0	-0.1	0	0	0.1	0.1	0.1	0	0	38° 45'
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	38° 30'	0.1	-0.1	0	0	0	0.1	0.1	0	0	38° 30'
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	38° 15'	0.2	0	-0.1	0	0	0	0	0	0	38° 15'
0.2	0.1	0	0	0.1	0.1	0.1	0.1	0.1	38° 0'	0.2	0.1	-0.1	-0.1	0	0	0	0	0	38° 0'
0.2	0.2	0	0	0.1	0.1	0.1	0.1	0.1	37° 45'	0.3	0.2	0	-0.1	0	0	0	0.1	0	37° 45'
0.2	0.2	0.1	0	0.1	0.1	0.1	0.1	0.1	37° 30'	0.2	0.3	0.1	-0.1	-0.1	0	0	0	0	37° 30'
0.2	0.2	0.1	0	0	0.1	0.1	0.1	0.1	37° 15'	0.2	0.3	0.2	-0.1	-0.2	0	0	0	0	37° 15'
0.1	0.2	0.2	0.1	0	0.1	0.1	0.1	0.1	37° 0'	0.1	0.3	0.3	0	-0.2	0	0	0	0.1	37° 0'
0.1	0.1	0.2	0.1	0	0	0.1	0.1	0	36° 45'	0.1	0.2	0.3	0.1	-0.2	-0.1	0	0.1	0.1	36° 45'
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	36° 30'	0	0.2	0.3	0.1	-0.1	-0.1	0	0.1	0.2	36° 30'
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 15'	0	0.1	0.3	0.1	-0.1	-0.1	0	0.1	0.2	36° 15'
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 0'	0	0.1	0.3	0.1	-0.1	-0.1	0	0.1	0.2	36° 0'
0	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	35° 45'	-0.1	0.1	0.3	0.2	-0.1	0	0	0	0.1	35° 45'
0	0	0	0.1	0.1	0.1	0	0	0.1	35° 30'	-0.1	0	0.2	0.2	-0.1	0	0	0	0.1	35° 30'
0	-0.1	-0.1	0.1	0.1	0.1	0	0	0.1	35° 15'	0	0	0.2	0.1	0	0	0	0	0.1	35° 15'
0	-0.1	-0.1	0	0.1	0	0	0	0.1	35° 0'	0.1	0.1	0.1	0	0	0	0	0	0.1	35° 0'
0.1	0.1	0.1	0.1	0	0	0	0	0	34° 45'	0.2	0.1	0	0	0	0	0.1	0	0	34° 45'
0.1	0.2	0.2	0.1	0.1	0	0	0	0	34° 30'	0.1	0.1	0	0	0	0	0.1	0	-0.1	34° 30'
0.1	0.2	0.2	0.2	0.1	0	0	0	0	34° 15'	0	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	34° 15'
0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	34° 0'	0	0	0.1	0.2	0.1	0.1	0.1	0	-0.1	34° 0'
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	33° 45'	0	0	0	0.1	0.1	0.1	0.1	-0.1	0	33° 45'
0	0	0	0	0.1	0.1	0	0	0.1	33° 30'	0	0	0	0.1	0.1	0.2	0.1	-0.1	0	33° 30'
0.1	0	0	0	0	0.1	0	0	0	33° 15'	0.1	0	0	0	0.1	0.2	0.2	-0.1	-0.1	33° 15'
0.1	0	0	0	0	0.1	0.1	0	0	33° 0'	0.1	0	0	0	0.1	0.2	0.2	-0.1	-0.1	33° 0'
0.1	0.1	0	0	0.1	0.1	0.1	0	-0.1	32° 45'	0.1	0.1	0	0	0	0.1	0.2	0	-0.2	32° 45'
0.1	0.1	0	0	0	0.1	0.1	0	-0.1	32° 30'	0.1	0.1	0	0	0	0.1	0.3	0.1	-0.1	32° 30'
0.1	0.1	0.1	0	0	0	0.1	0.1	-0.1	32° 15'	0.1	0.1	0	0	0	0.1	0.2	0.2	-0.1	32° 15'
0	0.1	0.1	0	0	0	0.1	0.1	0	32° 0'	0	0.1	0.1	0	0	0.1	0.2	0.2	0	32° 0'
0	0.1	0.1	0	0	0	0.1	0.1	0	31° 45'	0	0.1	0.1	0	0	0	0.2	0.2	0	31° 45'
0	0	0.1	0	0	0	0.1	0.1	0.1	31° 30'	0	0.1	0.1	0.1	0	0	0.1	0.2	0.1	31° 30'
0	0	0.1	0.1	0.1	0	0	0.1	0.1	31° 15'	0	0	0.1	0.1	0	0	0.1	0.2	0.2	31° 15'
0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	31° 0'	0	0	0.1	0.1	0	0	0.1	0.2	0.2	31° 0'
0	0	0	0.1	0	0.1	0.1	0.1	0.1	30° 45'	0	0	0	0.1	0	0	0	0.2	0.3	30° 45'
0	0	0	0	0	0.1	0.1	0.1	0.1	30° 30'	0	0	0	0.1	0	0	0	0.1	0.3	30° 30'
0	0	0	0	0	0	0	0.1	0.1	30° 15'	0	0	0	0.1	0	0	0	0.1	0.2	30° 15'
0	0	0	0	0	0	0	0	0.1	30° 0'	0	0	0	0	0	0	0	0.1	0.2	30° 0'

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 116 to 112 °W									
Correction to Latitude										Correction to Longitude									
116°	115°	115°	114°	114°	113°	113°	112°	112°	Longitude	116°	115°	115°	114°	114°	113°	113°	112°	112°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0.1	0.1	0	0	0	0	0	0	40° 0'	0	0	0	0	0	0	0.1	0	0.1	
0	0.1	0	0	0	0	0.1	0	0	39° 45'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0	0	0	0	0	0.1	0	0	39° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0.1	0	0	39° 15'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	39° 0'	0	0.1	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	38° 45'	0	0.1	0.1	0	0	0	0.1	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	38° 30'	0	0.1	0.1	0.1	0	0	0.1	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	38° 15'	0	0.1	0.1	0.1	0	0	0.1	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	38° 0'	0	0	0.1	0.1	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	37° 45'	0	0	0.1	0.1	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 30'	0	0	0.1	0	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 15'	0	0	0	0	0.1	0.1	0.1	0	-0.1	
0.1	0	0.1	0.1	0.1	0	0.1	0.1	0	37° 0'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0.1	0.1	0.1	0	0	0	0	36° 45'	0.1	0	-0.1	0	0.2	0.1	0.1	0.1	-0.1	
0	0	0.1	0.1	0.1	0	0	0.1	0	36° 30'	0.2	0	-0.1	0.1	0.2	0.1	0.1	0.1	-0.1	
0.1	0.1	0.1	0	0	0.1	0	0	0	36° 15'	0.2	0	-0.1	0.1	0.2	0.1	0.1	0.1	0	
0.1	0.1	0.1	0	0	0.1	0	0	0	36° 0'	0.2	0	-0.1	0.1	0.2	0.1	0.1	0.1	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	35° 45'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	35° 30'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 15'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 0'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 45'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	34° 30'	-0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	0.1	0.1	0.1	0.1	34° 15'	-0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0.1	0	0	0.1	0.1	0.1	34° 0'	-0.1	0	0	0.1	0.1	0	0.1	0.1	0.1	
0.1	0	0	0.1	0	0	0.1	0.1	0.1	33° 45'	0	0	0	0.1	0.1	0	0	0	0.1	
0.1	0.1	0	0	0	0	0	0.1	0.1	33° 30'	0	0	0	0.1	0.1	0	0	0	0.1	
0	0.1	0.1	0	0	0.1	0	0	0	33° 15'	-0.1	0.1	0	0.1	0.1	0	0	0	0	
0	0	0.1	0	0	0	0	0	0	33° 0'	-0.1	0	0.1	0.1	0.1	0	0.1	0.1	0	
-0.1	0	0	0	0	0	0	0	0	32° 45'	-0.2	0	0.1	0.1	0.1	0	0.1	0.1	0	
-0.1	0	0	0.1	0.1	0	0	0	0	32° 30'	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0	
-0.1	0	0	0.1	0.1	0	0	0	0	32° 15'	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0.1	0.1	0	0	0	32° 0'	0	-0.2	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0	0	0	31° 45'	0	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0.1	0.1	0	0	31° 30'	0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0.1	0.1	0	31° 15'	0.2	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0.1	0	0	31° 0'	0.2	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	30° 45'	0.3	0	-0.2	0	0	0	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0	30° 30'	0.3	0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0	30° 15'	0.2	0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0	30° 0'	0.2	0.2	0	-0.1	0	0	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 112 to 108 °W									
Correction to Latitude										Correction to Longitude									
112°	111°	111°	110°	110°	109°	109°	108°	108°	Longitude	112°	111°	111°	110°	110°	109°	109°	108°	108°	Longitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
0	0	0	0.1	0	0	0	0	0	40° 0'	0.1	0.1	0	-0.1	0	0.1	0.1	0	0.1	40° 0'
0	0	0	0	-0.1	-0.1	0	0	0	39° 45'	0.1	0.1	0	-0.1	0	0.1	0	0	0.1	39° 45'
0	0	0.1	0.1	0	0	0	0	0	39° 30'	0.1	0.1	0	-0.1	0	0	0	0	0.1	39° 30'
0	0	0.1	0.1	0.2	0.1	0.1	0	0	39° 15'	0.1	0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	39° 15'
0	0	0.1	0.1	0.1	0.1	0.1	0	0	39° 0'	0.1	0	-0.1	-0.2	0	0.1	0.1	0.1	0.1	39° 0'
0	0	0.1	0	0	0	0	0	0	38° 45'	0.1	0	-0.1	-0.2	0	0.2	0.2	0	0	38° 45'
0	0	0.1	0	-0.1	0	0.1	0.1	0	38° 30'	0.1	0	-0.1	-0.1	0	0.1	0.1	0.1	0.1	38° 30'
0	0.1	0.1	0.1	-0.1	-0.1	0	0.1	0	38° 15'	0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	38° 15'
0.1	0.1	0.1	0.1	0	0	0	0	0	38° 0'	0	-0.1	-0.1	0	0.1	0	0	0.2	0.2	38° 0'
0.1	0.2	0.1	0.1	0.1	0.1	0	0	0.1	37° 45'	0	-0.1	-0.1	0.1	0.2	0	0	0.2	0.1	37° 45'
0.1	0.2	0.1	0	0.1	0.1	0.1	0.1	0.1	37° 30'	0	-0.1	0	0.1	0.1	0	0	0.2	0.1	37° 30'
0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	37° 15'	-0.1	-0.1	0.1	0.1	0.1	0	0	0.1	0	37° 15'
0	0	0	-0.1	0	0	0	0.1	0.1	37° 0'	-0.1	0	0.1	0.1	0	0	0	0.1	0	37° 0'
0	0	0	-0.1	0	-0.1	-0.1	0	0.1	36° 45'	-0.1	0	0.2	0.1	0	0	-0.1	0	0	36° 45'
0	0	0	0	0	-0.1	-0.1	0	0	36° 30'	-0.1	0	0.2	0.1	0	0	-0.1	0	0.1	36° 30'
0	0	0.1	0.1	0	0	0	0	0	36° 15'	0	0	0.2	0.1	0	0.1	-0.1	-0.1	0.1	36° 15'
0	0	0.1	0.1	0.1	0.1	0	0	0	36° 0'	0	0	0.1	0.1	0.1	0.1	-0.1	-0.1	0	36° 0'
0	0	0.1	0.1	0.1	0.1	0.1	0	0	35° 45'	0	-0.1	0.1	0.1	0.1	0	0	0	0	35° 45'
0	0	0	0.1	0.1	0.1	0.1	0	0	35° 30'	0	-0.1	0	0.1	0.1	0	0.1	0	0	35° 30'
0.1	0	0	0.1	0.1	0.1	0.1	0	0	35° 15'	0.1	0	0	0.1	0	0	0.1	0.1	0	35° 15'
0.1	0	0	0	0.1	0.1	0	0	0	35° 0'	0.1	0	-0.1	0	0	0.1	0.1	0.1	0	35° 0'
0.1	0.1	0	0	0	0	0	0	0	34° 45'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	34° 45'
0.1	0.1	0.1	0	0	0	0	0	0	34° 30'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	34° 30'
0.1	0.2	0.1	0.1	0	0	0	0	0.1	34° 15'	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0	34° 15'
0.1	0.1	0.2	0.1	0	0	0	0.1	0.1	34° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	34° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	33° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	33° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	33° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	33° 30'
0	0	0	0.1	0.1	0.1	0.1	0.1	0	33° 15'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	33° 15'
0	0	0	0	0.1	0.1	0.1	0.1	0	33° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	33° 0'
0	0	0	0	0	0	0.1	0.1	0.1	32° 45'	0	0.1	0.1	0.1	0	0	0.1	0.1	0	32° 45'
0	0	0	0	0	0	0	0.1	0.1	32° 30'	0	0.1	0.1	0.1	0	0	0.1	0.1	0	32° 30'
0	0	0	0	0	0	0	0	0.1	32° 15'	0	0.1	0.1	0.1	0	0	0.1	0.1	0	32° 15'
0	0	0	0	0	0	0	0	0	32° 0'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	32° 0'
0	0	0	0	0	0	0	0	0	31° 45'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	31° 45'
0	0	0	0	0	0	0	0	0	31° 30'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	31° 30'
0	0	0	0	0	0	0	0	0	31° 15'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	31° 15'
0	0	0	0	0	0	0	0	0	31° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	31° 0'
0	0	0	0	0	0	0	0	0	30° 45'	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	30° 45'
0	0	0	0	0	0	0	0	0	30° 30'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	30° 30'
0	0	0	0	0.1	0	0	0	0	30° 15'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	30° 15'
0	0	0	0.1	0.1	0	0	0	0	30° 0'	0.1	0.1	0.1	0.1	0	0.1	0.2	0.1	0	30° 0'

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N

Longitude 104 to 100 °W

Correction to Latitude

Correction to Longitude

Correction to Latitude										Correction to Longitude									
104°	103°	103°	102°	102°	101°	101°	100°	100°	Longitude	104°	103°	103°	102°	102°	101°	101°	100°	100°	Longitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
0	0	0	0.1	0.1	0.1	0	0	0	40° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0.1	0	0	0	0	0	39° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	39° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	39° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	38° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	38° 30'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	
0	0	0	0	0	0	0.1	0	0	38° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0.1	0.1	0	37° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	37° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
-0.1	0	0	0	0	0	0	0.1	0.1	37° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	37° 0'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	36° 45'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	36° 30'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0	0	0.1	0.1	0	0	0	0	36° 15'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0	0	0	0	0	0	0	36° 0'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	0	0	-0.1	-0.1	35° 45'	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0	0	
0.1	0.1	0	0	0	0	0	-0.1	-0.1	35° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	35° 15'	-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	35° 0'	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	34° 45'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	34° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	-0.1	0	0	34° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	-0.1	0	-0.1	-0.1	-0.1	0	34° 0'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	-0.1	0	0	33° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	0	0	0	33° 30'	0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	0	0	0	33° 15'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0.1	0	0	33° 0'	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	-0.1	32° 45'	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0	0	-0.1	-0.1	32° 30'	0	0.1	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0.1	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	32° 15'	0	0.1	0	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	32° 0'	-0.1	0.1	0.1	-0.1	-0.1	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	31° 45'	-0.1	0.1	0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	31° 30'	-0.1	0.1	0.1	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	31° 15'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	31° 0'	0	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	30° 45'	0	-0.1	0	0	0	0	0.1	0	0	
0	-0.1	-0.1	0	0	0	0	0	0	30° 30'	0	-0.1	0	0	0	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	30° 15'	0.1	-0.1	-0.1	-0.1	0	0	0	0.1	0	
0.1	0	0	0	0	0	0	0	0	30° 0'	0.1	0	0	-0.1	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 100 to 96 °W									
Correction to Latitude										Correction to Longitude									
100°	99°	99°	98°	98°	97°	97°	96°	96°	Longitude	100°	99°	99°	98°	98°	97°	97°	96°	96°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0.1	0.1	40° 0'	0	-0.1	0	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.1	39° 45'	0	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0	39° 30'	0	0	0	-0.1	0	0	-0.2	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0	0	39° 15'	0	0	0	-0.1	0	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0	0	39° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	38° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0	0	0	0	0	38° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	37° 45'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0	0	0	0	0	-0.1	37° 30'	0	0	-0.1	0	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0	0	0	0	0	-0.1	37° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	37° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	36° 30'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	36° 15'	0	0	0.1	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	36° 0'	0	0	0.1	0	0	-0.1	0	0	0	-0.1
-0.1	-0.1	0	0	0	0	0	0	0	35° 45'	0	0	0.1	0	0	0	0	0	0	-0.1
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	0	35° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	-0.1	0	0	35° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	0	35° 0'	0	0.1	0	0	0	0	-0.1	-0.2	-0.2	
0.1	0.1	0.1	0	-0.1	0	0	-0.1	0	34° 45'	0	0.1	0.1	0	0	0	0	-0.2	-0.2	
0	0.1	0.1	0.1	0	0	0	0	0	34° 30'	0	0.1	0.1	0.1	0	0	0	-0.2	-0.2	
0	0	0.1	0.1	0	0	0	0	-0.1	34° 15'	0	0	0.1	0.1	0	0	0	-0.1	-0.2	
0	0	0.1	0.1	0.1	0	0	0	-0.1	34° 0'	0	0	0.1	0.1	0.1	0	0	-0.1	-0.1	
0	0	0	0.1	0.1	0	0	0	-0.1	33° 45'	-0.1	0	0	0.1	0.1	0	0	0	0	-0.1
0	0	0	0	0.1	0.1	0	0	-0.1	33° 30'	-0.1	0	0	0.1	0.1	0.1	0	0	0	
0	0	0	0.1	0.1	0.1	0	0	0	33° 15'	-0.1	0	0	0	0.1	0.1	0.1	0	0	
0	0	0	0	0.1	0.1	0	0	0	33° 0'	-0.1	0	0	0	0.1	0.1	0.1	0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	32° 45'	-0.1	0	0	0	0.1	0.1	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	32° 30'	-0.1	0	0	0	0	0.1	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	32° 15'	0	-0.1	0	0	0	0	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	32° 0'	0	0	0	0	0	0	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	31° 45'	0	0	0	0	-0.1	0	0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	31° 30'	0	0	0	-0.1	-0.1	0	0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	31° 15'	0	0	0	-0.1	-0.1	0	0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	31° 0'	0	0	0	-0.1	-0.1	0	0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	30° 45'	0	0	0	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	30° 30'	0	0	-0.1	-0.1	-0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	30° 15'	0	0	-0.1	-0.2	-0.1	0	0	-0.1	0	
0	0	0.1	0.1	0	0	0	0	0	30° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 84 to 80 °W									
Correction to Latitude										Correction to Longitude									
84°	83°	83°	82°	82°	81°	81°	80°	80°	Longitude	84°	83°	83°	82°	82°	81°	81°	80°	80°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	40° 0'	0	0	-0.1	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	39° 45'	0	0	-0.1	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	39° 30'	0.1	0	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	39° 15'	0.1	0	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	39° 0'	0.1	0	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	0	38° 45'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	0	38° 30'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	38° 15'	0.1	0	0	0	0	0.1	0.1	0	0	
-0.1	0	0	0	-0.1	-0.1	0	0	0	38° 0'	0	0	0	0	0	0.1	0	0	0	-0.1
-0.1	0	0	0	-0.1	-0.1	0	0	0	37° 45'	0	0	0	0	0.1	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	37° 30'	0	0	0	0	0.1	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	37° 15'	-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	37° 0'	-0.1	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0.1	0.1	0	36° 45'	-0.1	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0.1	0.1	0.1	0	36° 30'	-0.1	0	0	0	0	-0.1	-0.1	0	0.1	
0	0	0	0	0	0.1	0	0	0	36° 15'	-0.1	0	0	0	0	-0.1	-0.1	0	0.1	
0	-0.1	-0.1	0	0	0	-0.1	-0.1	0	36° 0'	0	0	0	0	-0.1	-0.1	0	0.1	0.1	
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0	35° 45'	0.1	0	0	-0.1	-0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	0	35° 30'	0.1	0	-0.1	-0.1	-0.1	0	0.1	0	0	
-0.1	0	0.1	0	0	0	0	0	0	35° 15'	0.1	0	-0.1	-0.1	-0.1	0.1	0.1	0	0	
0	0.1	0.1	0	0	-0.1	0	0	0	35° 0'	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	0	-0.1
0.1	0.1	0	0	-0.1	-0.1	0	0	0	34° 45'	0	-0.1	-0.1	0	0	0	0	0	0	-0.1
0.1	0	0	-0.1	-0.1	0	0	0	0	34° 30'	0	-0.1	0	0	0	0	0	0	0	-0.1
0	0	-0.1	-0.1	0	0	0	0	0	34° 15'	0	0	0	0	0	0	0	0	0	-0.1
0	-0.1	-0.1	0	0	0	0	0	0	34° 0'	0	0	0	0	-0.1	-0.1	0	0	0	-0.1
-0.1	-0.1	-0.1	0	0	0	0	0	0	33° 45'	0	0	0	-0.1	-0.1	-0.1	0	0	0	-0.1
-0.1	-0.1	0	0	0	0	0	0	0	33° 30'	0.1	0	0	-0.1	-0.1	-0.1	0	0	0	-0.1
-0.1	0	0	0	0	0	0	0	0	33° 15'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1
-0.1	0	0	0	0	0	0	0	0	33° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1
-0.1	0	0	0	0	0	0	0	0	32° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	32° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	32° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	32° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	31° 45'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	-0.1	-0.1	0	0	31° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	-0.1	-0.1	0	0	31° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	31° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 45'	0	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	-0.1	0	30° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 15'	0	0	0	0	0	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	0	0	0	-0.1	-0.1

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 80 to 76 °W									
Correction to Latitude										Correction to Longitude									
80°	79°	79°	78°	78°	77°	77°	76°	76°	Longitude	80°	79°	79°	78°	78°	77°	77°	76°	76°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	40° 0'	0.1	0.1	0	-0.1	-0.1	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	39° 45'	0.1	0.1	-0.1	-0.2	0	0.1	0.1	0	0	
-0.1	0	0	0	0	-0.1	0	0	0	39° 30'	0.1	0	-0.1	-0.1	0	0.1	0	0	0	
-0.1	0	0	0	-0.1	-0.1	0	0.1	0.1	39° 15'	0.1	0	-0.1	-0.1	0.1	0.1	0	-0.1	-0.1	
-0.1	0	0	0	-0.1	0	0	0.1	0.1	39° 0'	0.1	0	-0.2	-0.1	0.1	0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	38° 45'	0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0	38° 30'	0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
0	0.1	0	0	0	0	0.1	0.1	0.1	38° 15'	0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	38° 0'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	-0.1	0	0	0	0	0	37° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0	0.1	37° 30'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	37° 15'	-0.1	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0	0	0.1	37° 0'	-0.1	0	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0	0	0	0	36° 45'	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0.1	0.1	0	0	0	36° 30'	0.1	0.1	0	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0.1	0.1	0.1	0	0	0	36° 15'	0.1	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	
-0.1	0	0.1	0.1	0.1	0.1	0	0	0	36° 0'	0.1	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0.1	0.1	0	0	0	0	0	35° 45'	0.1	0	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0	0	0	0	0	0	35° 30'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0.1	0.1	0	0	0.1	0	0	0	35° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0.1	0.1	0	0.1	0	0	0	0	35° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0	0	0.1	0	0	0	0	34° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0.1	34° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.2	
0	0	0	0	0	0.1	0.1	0	0.1	34° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.2	
0	0	0	0	0	0.1	0.1	0.1	0.1	34° 0'	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.2	
0	0	0	0	0	0	0	0	0.1	33° 45'	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.3	
0	0	0	0	0	0	0	0	0.1	33° 30'	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.3	
0	0	0	0	0	0	0	0	0.1	33° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.2	-0.3	
0	0	0	0	0	0	0	0	0	33° 0'	-0.1	-0.1	0	-0.2	-0.1	0	0	-0.2	-0.3	
0	0	0	0	0	0	0	0.1	0	32° 45'	-0.1	-0.1	0	-0.2	-0.1	0	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	0.1	0	32° 30'	-0.1	-0.1	0	-0.2	-0.1	0	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0	0	0	32° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	32° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	0	
0	0	0	0	0	0	0.1	0	0	31° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	0	0	
0	0	-0.1	0	0	0.1	0.1	0	0	31° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	0	0	
0	0	0	0	0.1	0.1	0.1	0	0.1	31° 15'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	
0	0	0	0.1	0	0	0	0.1	0.1	31° 0'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0.1	0.1	30° 45'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	0	0	
0	0	0	0	0	0	0	0	0.1	30° 30'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	0	
0	0	0	0	0	-0.1	-0.1	0	0.1	30° 15'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	0	
0	0	0	0	0	-0.1	-0.1	0	0	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 76 to 72 °W									
Correction to Latitude										Correction to Longitude									
76°	75°	75°	74°	74°	73°	73°	72°	72°	Longitude	76°	75°	75°	74°	74°	73°	73°	72°	72°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	0.1	40° 0'	0	0	0	0	0	-0.1	0	0	0	
-0.1	0	0	0.1	0.1	0.1	0.1	0	0.1	39° 45'	0	0	0	0	-0.1	-0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0	0.1	0.2	39° 30'	0	0	0	0	-0.1	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	39° 15'	-0.1	0	0	0	0	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	39° 0'	-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0.1	0.2	0.2	0.1	38° 45'	-0.1	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0.1	0.1	0.2	0.1	0.1	38° 30'	-0.1	0	0	0	-0.1	-0.1	-0.2	-0.1	0	
0.1	0	0	0	0.1	0.1	0.1	0.1	0	38° 15'	-0.1	0	0	0	-0.1	-0.2	-0.1	0	0.1	
0	0	0	0	0.1	0.1	0.1	0	0	38° 0'	-0.1	0	0	-0.1	-0.2	-0.2	-0.1	0	0.1	
0	0.1	0	0.1	0.1	0.1	0	0	0	37° 45'	-0.1	0	0	-0.1	-0.2	-0.1	0	0	0	
0.1	0.1	0	0.1	0.1	0.1	0	0	0	37° 30'	-0.1	0	0	-0.1	-0.2	-0.1	0	0	0	
0.1	0.1	0	0.1	0.1	0	0	0	0	37° 15'	-0.1	0	0	-0.2	-0.2	-0.1	0	0	0	
0.1	0	0	0.1	0.1	0	0	0	0	37° 0'	-0.1	0	0	-0.2	-0.2	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	36° 45'	-0.1	0.1	0	-0.2	-0.2	0	0	0	0	
0	0	0	0.1	0	0	0	0	0.1	36° 30'	-0.1	0.1	0	-0.2	-0.1	0	0	0	0	
0	0	0.1	0.1	0	0	0.1	0.1	0.1	36° 15'	-0.1	0.1	0	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0.1	0	0.1	0.1	0.1	0.1	36° 0'	-0.1	0.1	0	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	35° 45'	-0.1	0	-0.1	-0.2	-0.1	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 30'	0	0	-0.1	-0.2	-0.1	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	35° 15'	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0	35° 0'	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	34° 45'	-0.1	-0.2	-0.2	-0.1	0	-0.1	0	0	0	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 30'	-0.2	-0.3	-0.2	0	0	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	-0.2	-0.3	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	34° 0'	-0.2	-0.3	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	33° 45'	-0.3	-0.2	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	33° 30'	-0.3	-0.2	-0.1	-0.1	0	0	0	0	0	
0.1	0	0	0	0	0.1	0.1	0.1	0	33° 15'	-0.3	-0.2	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0.1	0.1	0	0	33° 0'	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	0	32° 45'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	0	32° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	-0.1	0	0	0	0	0	0	32° 15'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	32° 0'	0	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	31° 45'	0	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	0	0	-0.1	-0.1	0	0	0	0	31° 30'	0	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	
0.1	0.1	0	-0.1	-0.1	0	0	0	0	31° 15'	0	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0	
0.1	0.1	0	-0.1	-0.1	-0.1	0	0	0	31° 0'	0	0	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	
0.1	0.1	0	0	-0.1	-0.1	0	0	0	30° 45'	0	0	0	-0.1	-0.2	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	0	-0.1	0	0	0	30° 30'	0	0	0	-0.1	-0.2	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	0	-0.1	-0.1	0	0	30° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	-0.1	0	0	30° 0'	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 72 to 68 °W									
Correction to Latitude										Correction to Longitude									
72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	Longitude	72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	
									Latitude										
0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	40° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	39° 45'	0	-0.1	0	0	0	0	0	0	0	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	39° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	0.1	39° 15'	-0.1	-0.1	0	0.1	0	0	0	0	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	39° 0'	-0.1	0	0.1	0.1	0	0	0	0	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 45'	0	0	0.1	0.1	0	0	0	0	0	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 30'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	38° 0'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	37° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0	0	0	0	0	37° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	37° 15'	0	0	0	0	0	0	0	0	0.1	
0	0.1	0	0	0	0	0	0	0	37° 0'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	36° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	36° 30'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	36° 15'	0	0	0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	36° 0'	0	0	0.1	0	0	0	0	0	0.1	
0.1	0	0	0	0	0.1	0.1	0.1	0	35° 45'	0	0	0.1	0	0	0	0	0.1	0.1	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 30'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0	0.1	0.1	35° 15'	0	0	0	0	0	0	0	0	0.1	
0	0.1	0.1	0.1	0.1	0.1	0	0	0	35° 0'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	34° 45'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	34° 30'	0	0	0	0	0.1	0.1	0	0	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	34° 15'	0	0	0	0	0.1	0.1	0	0.1	0	
0.1	0.1	0.1	0	0	0.1	0	0	0	34° 0'	0	0	0	0	0.1	0	0.1	0.1	0	
0.1	0.1	0.1	0	0	0	0	0	0	33° 45'	0	0	0.1	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	33° 30'	0	0	0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0.1	0	0	0	0	0	33° 15'	0	0	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0.1	0	0	0	0	0	33° 0'	0	0	0	0.1	0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	32° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	31° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	31° 30'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	31° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	31° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 30'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 0'	-0.1	0	0	0	0	0	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 68 to 64 °W									
Correction to Latitude										Correction to Longitude									
68°	67°	67°	66°	66°	65°	65°	64°	64°	Longitude	68°	67°	67°	66°	66°	65°	65°	64°	64°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	39° 45'	0	0	0	0.1	0	0	0	0	0	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 30'	0	0	0	0.1	0.1	0	0	0	0	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 15'	0	0	0	0.1	0.1	0	0	0	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	39° 0'	0	0	0	0.1	0.1	0	0	0	0.1	0.2
0.1	0.1	0.1	0	0	0	0	0	0	38° 45'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2
0.1	0.1	0.1	0	0	0	0	0	0.1	38° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0	0	0	0	0	0.1	38° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0	0	0	0	0	0	0	0	38° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	37° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	37° 30'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	37° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0.1	37° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0.1	36° 45'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0.1	36° 30'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	36° 15'	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
0	0	0	0	0	0	0	0	0	36° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
0	0	0	0	0	0	0	0	0	35° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
0.1	0	0	0	0	0	0	0	0	35° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1
0.1	0	0	0.1	0	0	0	0	0	35° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1
0	0	0.1	0.1	0	0	0	0	0	35° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1
0	0	0.1	0	0	0	0	0	0	34° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	34° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	34° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	34° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	33° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	33° 30'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	33° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	-0.1	-0.1	0	33° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0	0	0
0	0	0	0	0	-0.1	-0.2	-0.2	0	32° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	-0.1	-0.1	-0.1
0	0	0	0	0	0	-0.2	-0.1	0	32° 30'	0.1	0.1	0.1	0.1	0.1	0.4	0.3	-0.2	-0.2	-0.2
0	0	0	0	0	0	0.1	0.1	0.1	32° 15'	0.1	0.1	0.1	0.1	0.1	0.4	0.3	-0.2	-0.2	-0.2
0	0	0	0	0	0.1	0.3	0.3	0.1	32° 0'	0.1	0.1	0.1	0.1	0.1	0.3	0.2	-0.2	-0.1	-0.1
0	0	0	0	0	0.1	0.3	0.3	0.1	31° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	-0.1	0	0
0	0	0	0	0	0.1	0.2	0.2	0.1	31° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1
0	0	0	0	0.1	0.1	0.1	0.1	0.1	31° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0.1	0.1	0	0.1	31° 0'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0.1	0.1	0.1	0.1	30° 45'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	0
0	0	0	0	0	0	0.1	0.1	0	30° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	30° 15'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0.1	30° 0'	0.1	0.1	0.1	0	0	0	0	0.1	0.1	0.1

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 64 to 60 °W									
Correction to Latitude										Correction to Longitude									
64°	63°	63°	62°	62°	61°	61°	60°	60°	Longitude	64°	63°	63°	62°	62°	61°	61°	60°	60°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0	0	0	0	0	0	40° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	39° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	39° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	39° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
-0.1	0	0	0	0	0	0	0	0	39° 0'	0.2	0	0	0.1	0.1	0.2	0.1	0	0	
0	0	0	-0.1	0	0	0	0	0	38° 45'	0.2	0	0	0.1	0.1	0.2	0.2	0	0	
0.1	0.1	0	-0.1	0	0	0	0	0	38° 30'	0.1	0.1	0.1	0.1	0	0.2	0.2	0	0	
0.1	0.1	0	0	0	0	0.1	0.1	0	38° 15'	0.1	0.1	0.1	0.1	0	0.1	0.2	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	38° 0'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	37° 45'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	
0	0	0	0.1	0	0	0.1	0.1	0	37° 30'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	37° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0.1	0.1	37° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	36° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0.1	36° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0.1	0.1	0	0	0	0	0	0	36° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	36° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	35° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	35° 30'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	35° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	35° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	34° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	34° 30'	0.1	0	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0.1	34° 15'	0	0	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0.1	34° 0'	0	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	33° 45'	0	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0.1	0	0	0	0	0	33° 30'	0	0.1	0.1	0.1	0	0	0.1	0	0	
0	0	0	0.1	0	0	0	0	0	33° 15'	0	0	0.1	0.1	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	33° 0'	0	0	0	0.1	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	32° 45'	-0.1	0	0	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	32° 30'	-0.2	0.1	0	0.1	0.1	0	0	0	0	
0.1	0	0	0	0	0	0.1	0.1	0.1	32° 15'	-0.2	0.1	0	0.1	0.1	0	0	0	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 0'	-0.1	0.1	0	0.1	0.1	0	0	0	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 45'	0	0.1	0	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 30'	0.1	0	0	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 15'	0.1	0	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 0'	0.1	0	0.1	0	0	0	0	0	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 45'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 15'	0.1	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 0'	0.1	0.1	0	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 52 to 48 °W									
Correction to Latitude										Correction to Longitude									
52°	51°	51°	50°	50°	49°	49°	48°	48°	Longitude	52°	51°	51°	50°	50°	49°	49°	48°	48°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	39° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0.1	39° 30'	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	39° 15'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	39° 0'	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0	0	0	0	38° 45'	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0	0.1	0.1	0	38° 30'	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	
0	0	0	0	0.1	0.1	0	0.1	0.1	38° 15'	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	
0	0	0	0.1	0.1	0.1	0.1	0	0.1	38° 0'	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	37° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	37° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	37° 0'	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	36° 45'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0.1	0.1	0	0	0.1	0.1	0.1	0.1	36° 30'	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0.1	0	0.1	0.1	0.1	0.1	36° 15'	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	36° 0'	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	35° 45'	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	35° 30'	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	35° 15'	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0.1	0.1	35° 0'	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
0	0	0.1	0	0	0	0.1	0.1	0.1	34° 45'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0.1	0	0.1	0.1	0.1	0.1	0.1	0	0	34° 15'	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	34° 0'	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	33° 45'	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	33° 30'	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	33° 15'	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	33° 0'	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 45'	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 30'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 15'	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	32° 0'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	31° 45'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	31° 30'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 15'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	31° 0'	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	30° 45'	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 15'	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	30° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 44 to 40 °W									
Correction to Latitude										Correction to Longitude									
44°	43°	43°	42°	42°	41°	41°	40°	40°	Longitude	44°	43°	43°	42°	42°	41°	41°	40°	40°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	40° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	39° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	39° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	39° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	39° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	38° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	37° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	37° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	37° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0	0.1	0.1	0	0.1	0.1	0.1	0	37° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	36° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
0	0.1	0.1	0	0	0	0	0	0	36° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	36° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	36° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	35° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0.1	0.1	0.1	0	0	0	0	35° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0.1	0.1	0.1	0	0	0	0	35° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0.1	0.1	0	0	0	35° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
0	0	0	0	0	0.1	0	0	0	34° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	34° 30'	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
0	0.1	0.1	0	0	0	0	0	0	34° 15'	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
0	0	0.1	0.1	0	0	0	0	0	34° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	33° 45'	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	33° 30'	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0	0	0	0	0	0	0	0	0	33° 15'	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
0.1	0	0	0	0	0	0	0	0	33° 0'	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
0.1	0.1	0	0.1	0	0	0	0	0	32° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
0.1	0.1	0	0.1	0	0	0	0	0	32° 30'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	32° 15'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	32° 0'	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	31° 45'	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0	31° 30'	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0	31° 15'	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	31° 0'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	30° 45'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	30° 30'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	30° 15'	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	30° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 32 to 28 °W									
Correction to Latitude										Correction to Longitude									
32°	31°	31°	30°	30°	29°	29°	28°	28°	Longitude	32°	31°	31°	30°	30°	29°	29°	28°	28°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0.1	0	40° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0.1	0	0	39° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0.1	0	0	39° 30'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0.1	0.1	0	0	39° 15'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0.1	0.1	0	0	0	39° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0	
0	0	0.1	0.1	0.1	0.1	0	0	0.1	38° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0	0	
0	0	0.1	0.1	0.1	0.1	0	0.1	0.1	38° 30'	0.1	0.1	0.1	0.1	0	0	0.1	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	38° 15'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	38° 0'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 45'	0.1	0.1	0	0	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	37° 30'	0.1	0	0	0	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	37° 15'	0.1	0	0	0	0.1	0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	37° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 30'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 15'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	36° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 30'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 15'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	35° 0'	0	0	0	0	0	0.1	0	0	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	34° 45'	0	0	0	0	0	0.1	0	0	0	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	34° 30'	0	0.1	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	0	0	0.1	0	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 0'	0	0	0.1	0	-0.1	0	0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	33° 45'	0	0	0	0	0	0	0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	33° 30'	0	0	0	0.1	0.1	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	33° 15'	0	0	0	0	0	0	0	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	33° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	32° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	32° 30'	0	0	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	32° 15'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.2	32° 0'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.2	31° 45'	0	0	0	0	0	0	0.1	0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.2	31° 30'	0	0	0	0	0	0.1	0.2	0	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	31° 15'	0	0	0	0	-0.1	0.1	0.2	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	31° 0'	0.1	0	0	0	-0.1	0.1	0.2	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 45'	0.1	0	0	0	0	0	0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	30° 30'	0	0.1	0	0	0	0	0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.2	-0.1	30° 15'	0	0.1	0	0	0	0	0.2	0	-0.2	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	30° 0'	0	0	0	0	0	0.1	0.3	0	-0.3	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 28 to 24 °W								
Correction to Latitude										Correction to Longitude								
28°	27°	27°	26°	26°	25°	25°	24°	24°	Longitude	28°	27°	27°	26°	26°	25°	25°	24°	24°
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'
0	0	0	0.1	0.1	0	0	0.1	0	40° 0'	0	0	0	-0.1	0	-0.1	0	0	-0.1
0	0	0	0.1	0.1	0	0	0.1	0.1	39° 45'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0.1	0.1	39° 30'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	0
0	0	0	0	0	0	0	0	0.1	39° 15'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	0
0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	39° 0'	0	0	0	-0.1	0	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	38° 45'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0	0	0	0	38° 30'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	0
0.1	0.1	0.1	0.1	0	0	0	0	0	38° 15'	0	0	0	-0.1	0	0	-0.1	-0.1	0
0.1	0.1	0.1	0.1	0.1	0	0	0	0	38° 0'	0	0	0	0	0.1	0	-0.1	-0.1	0
0.1	0.1	0.1	0.1	0.1	0	0	0	0	37° 45'	0	0	0	0	0.1	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 30'	0	0	0	0	0.1	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	37° 15'	0.1	0	0	0	0.1	0	-0.1	-0.1	-0.1
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	37° 0'	0	0	0	0	0	0	-0.1	-0.2	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 45'	0	0	0	0	0	0	-0.1	-0.2	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	36° 30'	0	0	0	0	0	0	-0.1	-0.2	-0.1
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0	36° 15'	0	0	0	0	0	0	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	36° 0'	0	0	0	0	0	0	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	35° 45'	0	0	0	0	0	0	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	35° 30'	0	-0.1	0	0	0	0	0	-0.1	0
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	35° 15'	0	-0.1	0	0	-0.1	0	0	0	0
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	35° 0'	0	-0.1	-0.1	0	-0.1	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	34° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	34° 15'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	34° 0'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0
0.1	0.1	0.1	0.1	0	0	0	0	0.1	33° 45'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0
0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	33° 30'	-0.1	0	0	-0.1	-0.1	0	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	33° 15'	-0.1	0	0	0	0	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	33° 0'	0	0	0	0	0	0	-0.1	-0.1	-0.1
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 45'	0	-0.1	0	0	0	0	-0.1	-0.1	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	32° 30'	0	-0.1	-0.1	0	0	0	-0.1	-0.1	0
0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	32° 15'	0	-0.2	-0.1	0	0	0	-0.1	0	0
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	32° 0'	0	-0.2	-0.1	0	0	0	-0.1	0	0
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 45'	-0.1	-0.2	-0.1	0	0	0	0	0	0
0.2	0.1	0	0	0.1	0.1	0.1	0.1	0.1	31° 30'	-0.2	-0.1	0	0	0	0	0	0	0
0.2	0.1	0	0	0	0.1	0.1	0.1	0.1	31° 15'	-0.2	-0.1	0	0	0	0	0	0	0
0.2	0.1	0	0	0	0	0	0	0	31° 0'	-0.2	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0	30° 45'	-0.1	0.1	0	0	0	0	0	0	0
-0.1	0	0.1	0	0	0	0	0	0	30° 30'	-0.1	0.1	0	0	0	0	0	0	0
-0.1	0	0.1	0	0	0	0	0	0	30° 15'	-0.2	0	0	0	0	0	0	0	0
0	0.1	0.1	0.1	0.1	0	0	0	0	30° 0'	-0.3	-0.1	0	0	0	0	0	0	0

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 24 to 20 °W									
Correction to Latitude										Correction to Longitude									
24°	23°	23°	22°	22°	21°	21°	20°	20°	Longitude	24°	23°	23°	22°	22°	21°	21°	20°	20°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	40° 0'	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	0	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	39° 45'	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 15'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	39° 0'	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0.1	38° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0	0	0.1	0	0	0	0.1	0.1	38° 30'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0.1	0.1	0.1	0	0	0.1	0.1	38° 15'	0	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	
0	0.1	0.1	0.1	0.1	0	0	0	0.1	38° 0'	0	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	37° 45'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	37° 30'	-0.1	-0.1	-0.1	0	0.1	0	0	-0.1	-0.2	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	37° 15'	-0.1	-0.1	-0.1	0	0.1	0	0	-0.1	-0.1	
0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	37° 0'	-0.1	0	-0.1	0	0.1	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	36° 45'	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	36° 30'	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	36° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	36° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	35° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	0	35° 30'	0	0	0	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	35° 15'	0	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	35° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	34° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	34° 30'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	34° 15'	0	0	0	0	0	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	34° 0'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	33° 45'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	33° 30'	-0.1	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	33° 15'	-0.1	0	0	0	0	0	0.1	0.1	0.2	
0.1	0.1	0.1	0.1	0	0	0	0	0	33° 0'	-0.1	0	0	0	0	0	0.1	0.1	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	32° 45'	0	0	0	0	0	0	0.1	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0	0.1	32° 30'	0	0	0	0	0	0.1	0.1	0.1	0.2	
0.1	0.1	0	0	0	0	0	0	0.1	32° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0.1	32° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0.1	31° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0.1	31° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0.1	31° 15'	0	0.1	0.1	0.1	0.1	0	0.1	0.1	0	
0	0	0	0	0	0	0	0.1	0.1	31° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0.1	0	30° 45'	0	0.1	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	30° 30'	0	0	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	30° 15'	0	0	0.1	0.1	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0.1	30° 0'	0	0	0.1	0.1	0.1	0.1	0	0	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 20 to 16 °W									
Correction to Latitude										Correction to Longitude									
20°	19°	19°	18°	18°	17°	17°	16°	16°	Longitude	20°	19°	19°	18°	18°	17°	17°	16°	16°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0	0	0	0	0	0.1	40° 0'	0	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0.1	0	0	0	39° 45'	0	0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0	0	39° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	39° 15'	0	0	0	0	0	-0.1	0	-0.1	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	39° 0'	0	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	38° 45'	0	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	38° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	38° 15'	-0.1	-0.1	0	0	-0.1	-0.1	0	0.1	0	
0.1	0.1	0	0	0	0	0	0	0	38° 0'	-0.1	0	0.1	0	-0.1	-0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	37° 45'	-0.1	0	0.1	0.1	-0.1	-0.1	0	0	0	
0	0	0	0.1	0.1	0	0	0	0	37° 30'	-0.2	0	0.1	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.2	0.2	0.1	0	0	0	37° 15'	-0.1	0	0.1	0	0	0	0.1	0	0	
0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0	37° 0'	-0.1	0	0	0	0	0.1	0.1	0	0	
0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0	36° 45'	-0.1	0	0	0	0	0.1	0.1	0	0.1	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	0	36° 30'	-0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	36° 15'	-0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	36° 0'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	35° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	0	35° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	0	35° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0.1	35° 0'	0	0	0.1	0.1	0.1	0.2	0.1	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	34° 45'	0	0.1	0.1	0.1	0.1	0.2	0.1	0	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	34° 30'	0.1	0.1	0.1	0	0.1	0.2	0.1	0	0	
0	0	0	0	0	0.1	0.1	0.1	0	34° 15'	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0.1	0	0	34° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	
0	0	0	-0.1	-0.1	0	0	-0.1	0	33° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	33° 30'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	-0.1	
0	0	0	0	-0.1	-0.1	-0.2	-0.1	0.1	33° 15'	0.2	0.2	0.1	0.1	0	0.1	0.1	0	-0.1	
0	0	0	0	0	-0.1	-0.1	0	0.1	33° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-0.2	-0.2	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	32° 45'	0.2	0.1	0.1	0.1	0.1	0.2	0.1	-0.2	-0.2	
0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	32° 30'	0.2	0.1	0.1	0.1	0.1	0.2	0.1	-0.2	-0.2	
0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.1	32° 15'	0.1	0.1	0	0	0	0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	32° 0'	0.1	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	31° 45'	0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 30'	0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0	0	31° 15'	0	0.1	0.1	0	0	0	0	0	0.1	
0.1	0	0.1	0.1	0.1	0.1	0	0	0	31° 0'	0.1	0.1	0	0	0	0	0	0	0.1	
0	0.1	0.1	0.1	0	0	0	0	-0.1	30° 45'	0.1	0	0	0	0	0	0	0.1	0.1	
0	0.1	0.1	0.1	0	0	0.1	0	0	30° 30'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0.1	0	0	0.1	0	0	0	0.1	30° 15'	0	0	0	0.1	0	0	0.1	0.1	0.1	
0.1	0.1	0	0.1	0.1	0	0	0	0.1	30° 0'	0	0	0.1	0	0	0.1	0.1	0.1	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 16 to 12 °W									
Correction to Latitude										Correction to Longitude									
16°	15°	15°	14°	14°	13°	13°	12°	12°	Longitude	16°	15°	15°	14°	14°	13°	13°	12°	12°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	40° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	-0.1	-0.2	-0.2	-0.1	-0.1	39° 45'	-0.1	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	39° 30'	0	0	0	0	0.1	0	0	0	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	39° 15'	0	0	0	0.1	0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	39° 0'	0	0.1	0	0.1	0.2	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	38° 45'	0	0	0	0	0.2	0	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	38° 30'	0	0	0	0.1	0.2	0	-0.2	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	38° 15'	0	0	0	0.1	0.1	0	-0.3	-0.2	-0.1	
0	0	0	-0.1	0	0.1	0.1	0	0.1	38° 0'	0	0	0	0.1	0.1	-0.1	-0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0.1	0.1	0	0.1	37° 45'	0	0	0.1	0.1	0	-0.2	-0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	37° 30'	0	0.1	0.1	0.1	-0.1	-0.2	-0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	37° 15'	0	0.1	0.2	0.1	-0.1	-0.2	-0.2	-0.2	0	
0	0	-0.1	0	0	0	-0.1	-0.1	-0.2	37° 0'	0	0.2	0.2	0.1	-0.1	-0.2	-0.2	-0.2	0.1	
0	0	0	0.1	0.2	0.1	-0.1	-0.2	-0.3	36° 45'	0.1	0.2	0.2	0	-0.1	-0.1	-0.1	-0.1	0.2	
0	0	0.1	0.2	0.2	0.2	0.1	0	-0.1	36° 30'	0.1	0.2	0.1	-0.1	-0.1	0	0	0	0.2	
0	0	0.1	0.2	0.2	0.2	0.2	0.1	0.2	36° 15'	0.1	0.2	0	-0.1	-0.1	0	0.1	0.1	0.1	
0	0	0.1	0.2	0.2	0.1	0.2	0.2	0.2	36° 0'	0.1	0.1	-0.1	-0.2	-0.1	0	0.1	0	0	
-0.1	0	0.1	0.1	0.1	0	0	0	0.1	35° 45'	0.1	0	-0.1	-0.2	-0.1	0	0	0	0	
0	0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	35° 30'	0.1	-0.1	-0.2	-0.1	0	0.1	0	0	-0.1	
0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	35° 15'	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0.1	35° 0'	0	-0.1	-0.1	0	0	0.1	0.1	0	-0.1	
0.1	0.1	0.1	0	0.1	0.1	0.2	0.2	0.2	34° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0.1	0	0	0.1	0.1	0.2	0.2	0.2	0.2	34° 30'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.2	34° 15'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	34° 0'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0.1	0.1	0	0	0	33° 45'	0	0	-0.1	-0.1	-0.2	-0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0	0	0	0	33° 30'	-0.1	-0.1	-0.1	-0.1	-0.2	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	33° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	-0.1	33° 0'	-0.2	-0.1	-0.1	-0.1	0	0.1	0.1	0	0	
0.2	0.1	0.1	0	0	0	0	0	0	32° 45'	-0.2	-0.1	-0.1	0	0	0.1	0	0	0	
0.2	0.1	0.1	0	0	0	0	0	0	32° 30'	-0.2	0	0	0	0	0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	32° 15'	-0.1	0	0	0	0	0.1	0	0	0.1	
0.1	0	0	0	-0.1	-0.1	-0.1	0	0	32° 0'	0	0	0	0.1	0.1	0.1	0	0	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	31° 45'	0	0	0	0.1	0.1	0.1	0	0	0.1	
0.1	0	0	-0.1	-0.1	-0.1	0	0	0	31° 30'	0	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	-0.1	0	0	-0.1	-0.1	31° 15'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	-0.1	0	31° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
-0.1	-0.1	0	0	0.1	0	0	0	0	30° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	-0.1	
0	0	0	0.1	0.1	0.1	0	0	0.1	30° 30'	0.1	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.2	0.1	0	0	0.1	30° 15'	0.1	0	0.1	0.1	0	0.1	0.1	-0.1	-0.2	
0.1	0.1	0.1	0.2	0.1	0	0	0.1	0.1	30° 0'	0	0	0.1	0	0.1	0.2	0.1	-0.1	-0.2	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 12 to 8 °W									
Correction to Latitude										Correction to Longitude									
12°	11°	11°	10°	10°	9°	9°	8°	8°	Longitude	12°	11°	11°	10°	10°	9°	9°	8°	8°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	0	0	-0.1	0	0	0	0	0	40° 0'	-0.1	0	0	0.1	0.3	0.3	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	0	39° 45'	-0.1	0	0.1	0.1	0.3	0.3	0.1	0.1	0	
-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	0	0	0	39° 30'	-0.1	0	0.2	0.1	0.2	0.2	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	39° 15'	-0.1	0	0.2	0.2	0.1	0.1	0	0.1	0.1	
0	0	0.1	0.1	0.1	0	0	0	0	39° 0'	-0.1	0	0.2	0.2	0.1	0	0	0.1	0.1	
0.1	0.1	0.2	0.3	0.2	0.1	0.1	0	0	38° 45'	-0.1	0	0.1	0.2	0.2	0.1	0	0.1	0.1	
0.1	0.1	0.2	0.2	0.2	0.1	0.1	0	0	38° 30'	-0.1	0	0	0.2	0.3	0.2	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0.1	0	0	0	38° 15'	-0.1	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.1	
0.1	0.1	0	-0.1	-0.1	0	0	0	0	38° 0'	-0.1	-0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	
0.1	0	-0.1	-0.1	0	0	0	0	0	37° 45'	-0.1	0	0.2	0.3	0.1	0.2	0.2	0.1	0	
0	-0.1	-0.2	-0.1	0	0	0	0	0.1	37° 30'	-0.1	0	0.3	0.2	0.1	0.2	0.2	0	0	
-0.1	-0.3	-0.3	-0.1	0	0	0.1	0.1	0.2	37° 15'	0	0.2	0.2	0	0.1	0.2	0.2	0	0	
-0.2	-0.4	-0.3	0	0	0.1	0.2	0.2	0.2	37° 0'	0.1	0.3	0	-0.1	0	0.2	0.1	0	0	
-0.3	-0.2	0	0.2	0.1	0.2	0.2	0.2	0.2	36° 45'	0.2	0.2	-0.2	-0.2	0	0.1	0	0	0	
-0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	36° 30'	0.2	0.1	-0.3	-0.2	0.1	0.1	0.1	0.1	-0.1	
0.2	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	36° 15'	0.1	-0.1	-0.3	-0.1	0.1	0.1	0.1	0.1	-0.1	
0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.3	36° 0'	0	-0.2	-0.2	0	0.1	0.1	0.1	0.1	-0.2	
0.1	0.1	0	-0.1	0	0	0.1	0.2	0.2	35° 45'	0	-0.1	-0.1	0	0	0	0.1	0	-0.2	
-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.2	0.1	35° 30'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0.1	0.1	0.1	0.1	35° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	35° 0'	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.1	0	0	
0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0	34° 45'	0	-0.2	-0.1	0	-0.1	-0.1	0	0	0	
0.2	0.2	0.1	0.1	0.2	0.2	0.1	0	-0.1	34° 30'	0	-0.1	-0.1	0	-0.1	-0.1	0	0.1	0.1	
0.2	0.1	0.1	0.1	0.2	0.2	0	-0.1	-0.2	34° 15'	0	-0.1	0	-0.1	-0.2	-0.1	0.1	0.2	0.1	
0.1	0.1	0	0.1	0.1	0	-0.1	-0.2	-0.2	34° 0'	0	-0.1	0	-0.1	-0.2	0	0.2	0.2	0.1	
0	0	0	0.1	0	-0.2	-0.2	-0.2	-0.2	33° 45'	0	-0.1	-0.1	-0.2	-0.1	0.1	0.3	0.3	0.1	
0	0	0	0	-0.1	-0.2	-0.3	-0.2	-0.2	33° 30'	0	-0.1	-0.1	-0.2	0	0.3	0.3	0.2	0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.3	-0.2	-0.1	-0.1	33° 15'	0	-0.1	-0.1	-0.1	0.1	0.3	0.2	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	33° 0'	0	-0.1	-0.1	-0.1	0.2	0.3	0.2	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	32° 45'	0	-0.1	-0.1	0	0.2	0.3	0.1	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	32° 30'	0	0	-0.1	0	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	-0.1	-0.2	-0.1	0	0	0	32° 15'	0.1	0	-0.1	0.1	0.2	0.2	0.1	0.1	0	
0	0	-0.1	-0.2	-0.1	-0.1	0	0	0	32° 0'	0.1	0	-0.1	0.1	0.2	0.1	0	0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	31° 45'	0.1	0.1	0	0.1	0.2	0.1	0	0.1	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.2	31° 30'	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	0	0.1	0.1	0	0	-0.1	-0.1	-0.1	31° 15'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.2	
0	0.1	0.2	0.2	0.1	0	0	0	0	31° 0'	0	-0.1	0	0.1	0.2	0.2	0.1	0.1	0.2	
0	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0	30° 45'	-0.1	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.2	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	30° 30'	-0.1	-0.2	-0.1	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	30° 15'	-0.2	-0.1	0	0.2	0.2	0.2	0.2	0.1	0.1	
0.1	0.1	0	-0.1	0	0	0	0.2	0.3	30° 0'	-0.2	-0.1	0	0.2	0.2	0.2	0.2	0.1	0	

Correct Astronomical Position to WGS84

Latitude 30 to 40 °N										Longitude 8 to 4 °W									
Correction to Latitude										Correction to Longitude									
8°	7°	7°	6°	6°	5°	5°	4°	4°	Longitude	8°	7°	7°	6°	6°	5°	5°	4°	4°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0.1	0.1	0	0	-0.1	40° 0'	0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	39° 45'	0	-0.1	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	39° 30'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 15'	0.1	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	39° 0'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	0	0	0.1	0.1	38° 45'	0.1	0	0	0	0	0	0	0	0	
0	0	0	-0.1	0	0	0	0.1	0.1	38° 30'	0.1	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	38° 15'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0.1	0.1	0.2	0.2	0.2	0.2	38° 0'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0.1	0.2	0.2	0.3	0.3	0.2	0.2	37° 45'	0	0	0	-0.1	-0.1	-0.2	-0.1	0	0	
0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.1	37° 30'	0	0	-0.1	-0.1	-0.2	-0.2	-0.1	0	0.1	
0.2	0.2	0.2	0.2	0.2	0.1	0	0	0	37° 15'	0	0	-0.1	-0.2	-0.2	-0.1	0	0.1	0.1	
0.2	0.2	0.2	0.2	0.2	0.1	0	-0.1	0	37° 0'	0	-0.1	-0.2	-0.2	-0.1	0	0	0	0	
0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	36° 45'	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	0.1	
0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	36° 30'	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0	0.1	
0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	36° 15'	-0.1	-0.2	-0.1	0	0	0.1	0	0.1	0.2	
0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0	36° 0'	-0.2	-0.2	0	0	0	0	0	0	0.2	
0.2	0.2	0.1	0.1	0.1	0	-0.1	-0.1	0	35° 45'	-0.2	-0.2	0	0	0.1	0.1	0.1	0.2	0.2	
0.1	0	0	0	0	0	-0.1	-0.1	-0.1	35° 30'	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	0.2	
0.1	0	0	0	0	0	0	-0.1	-0.1	35° 15'	0	-0.1	0	0	0.1	0.2	0.1	0.2	0.2	
0	0	0	0	0	0.1	0.1	0	-0.1	35° 0'	0	0	0	0	0.1	0.2	0.2	0.2	0.2	
0	0	-0.1	-0.1	0	0	0.1	0	0	34° 45'	0	0	0	0	0	0.1	0.2	0.3	0.2	
-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	34° 30'	0.1	0	0	0	0	0.1	0.2	0.3	0.2	
-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.1	34° 15'	0.1	0.1	0.1	0	0	0.1	0.2	0.3	0.2	
-0.2	-0.2	-0.2	-0.3	-0.4	-0.4	-0.5	-0.4	-0.2	34° 0'	0.1	0.1	0.1	0	0	0.1	0.1	0.2	0.1	
-0.2	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.1	33° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	33° 30'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0.1	33° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	33° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	
-0.1	0	0	0	0	-0.1	0	0	0	32° 45'	0.1	0.1	0	0.1	0.2	0.1	0	-0.1	-0.1	
0	0.1	0.1	0	-0.1	-0.1	0	0	0	32° 30'	0.1	0	0	0.1	0.2	0.1	-0.1	-0.1	-0.1	
0	0	0	-0.2	-0.2	0	0.1	0.1	0.1	32° 15'	0	0	0.1	0.2	0.2	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.2	-0.1	0.1	0.2	0.2	0.1	32° 0'	0	0	0.2	0.2	0.1	-0.1	-0.2	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.1	0	0.1	0.2	0.1	0.1	31° 45'	0	0.1	0.2	0.2	0	-0.2	-0.2	-0.1	-0.1	
-0.2	-0.2	-0.1	0	0.1	0.2	0.1	0.1	0.1	31° 30'	0.1	0.1	0.1	0.1	0	-0.2	-0.2	-0.1	-0.1	
-0.1	-0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	31° 15'	0.2	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	31° 0'	0.2	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 45'	0.2	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	30° 30'	0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	30° 15'	0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	30° 0'	0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	

