

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
0.2	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	
0.2	0.2	0.2	0.2	0.1	0.1	0	0	0	29° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	29° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	29° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	28° 30'	-0.1	0	-0.1	0	0	0.1	0	0	0	
0.1	0	0	0	0	0.1	0.1	0	0	28° 15'	0	0	-0.1	-0.1	0	0.1	0	0	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	28° 0'	0	0	0	-0.1	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	27° 45'	0	0	0	-0.1	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	27° 30'	0	0	-0.1	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	27° 15'	0	0	-0.1	0	0	0	0.1	0	0.1	
0	0.1	0.1	0.1	0	0	0	0	0	27° 0'	0	0	-0.1	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	26° 45'	0	0	-0.1	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	26° 30'	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	26° 15'	-0.1	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	-0.2	26° 0'	0	0	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	25° 45'	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	-0.1	25° 30'	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	-0.1	25° 15'	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	0	25° 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	0	24° 45'	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	0	24° 30'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	24° 15'	0.1	0	0	0	0	0	0.1	0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	24° 0'	0.1	0.1	0.1	0	0	0	0.1	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	23° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	22° 30'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0.1	0.1	22° 15'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0	0	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0	0	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	20° 45'	0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.1	20° 30'	0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0.1	0.1	0.1	20° 15'	0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	20° 0'	0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 4 to 8 °E									
Correction to Latitude										Correction to Longitude									
4°	4°	5°	5°	6°	6°	7°	7°	8°	Longitude	4°	4°	5°	5°	6°	6°	7°	7°	8°	
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	30° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	28° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	28° 15'	0	0	0	0	0	0	0.1	0.1	0	
0	0	0	-0.1	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0.1	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	27° 45'	0	0	0	0	0	0	0	0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	27° 30'	0	0	0	0	0	0	0	0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	27° 15'	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	-0.1	27° 0'	0.1	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	26° 45'	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	-0.1	-0.1	-0.1	26° 30'	0.1	0.1	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	26° 15'	0.1	0.1	0.1	0.1	0	-0.1	0	0	0	
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 0'	0.1	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	25° 45'	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	25° 30'	0.1	0.1	0	0	0	0	0	0	0	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	25° 15'	0.1	0.1	0	0	0	0	0	0	0	0.1
0	0	-0.1	-0.1	-0.1	0	-0.1	0	0	25° 0'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	0	0	0	0	0	24° 45'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0.1	0.1	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	24° 15'	0	0.1	0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0.1	0	24° 0'	0	0.1	0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	-0.1	0	0.1	0.1	0	23° 45'	0	0.1	0.1	0.1	0	0	-0.1	-0.1	0	
0	0	0	0	0	0.1	0.1	0.1	0	23° 30'	0	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	
0	0	0.1	0	0.1	0.2	0.1	0.1	0.1	23° 15'	0	0	0.1	0.1	-0.1	-0.1	-0.1	0	0	
0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	23° 0'	0	0	0.1	0.1	-0.1	-0.1	0	0	0	
0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	22° 45'	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	0.1	0.1	0.1	22° 30'	0	0	0.1	0	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 15'	0	0	0.1	0	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 0'	0	0	0	0	-0.1	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 45'	0	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	21° 30'	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	21° 15'	0	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	0.1	0.1	21° 0'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 45'	-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	0.1	0	20° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0.1	
0.1	0	0.1	0.1	0.1	0.1	0	0	0	20° 15'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0.1	
0.1	0	0.1	0.1	0.1	0	0	0	0	20° 0'	-0.1	-0.1	0	0	-0.1	0	-0.1	0	0.1	

## Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0.1	0	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0.1	0	0	0	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	29° 15'	0	0	0	0	0	0	0	0	0.1	
0	-0.1	-0.1	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	0	0	0	0	0	
0	-0.1	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 30'	0	0	0	0	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 15'	0	0	0	0	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	26° 0'	0	-0.1	-0.1	0	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	25° 45'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	25° 30'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	25° 15'	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	0	0	25° 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	0	0	24° 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	24° 30'	0	0	-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	24° 15'	0	0	0	-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	0	24° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0.1	0.1	0	0	0.1	23° 45'	0	0	-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	0.1	23° 30'	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	0.1	0	23° 15'	0	-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	0.1	0.1	0	23° 0'	0	-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	0.1	0	0	22° 45'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	22° 30'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.1	0.1	0.1	0	0	0.1	0.1	0	0.1	22° 15'	0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0.1	22° 0'	0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0	21° 45'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	21° 30'	0	0.1	0	-0.1	-0.1	0	-0.1	0	-0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	21° 15'	0	0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	21° 0'	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	
0.1	0.1	0.1	0	0	0	0	0	0	20° 45'	0.1	0.1	0	0	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	20° 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	20° 15'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	20° 0'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	0	0	0	0	0	30° 0'	0	0	0.1	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	0	29° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0	0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0.1	0.1	0	28° 15'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0	0	28° 0'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	27° 45'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	27° 30'	0	0	0	0	0	0	0.1	0.1	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	27° 15'	0	0	0	0	0	0	0.1	0.1	0	
0	0	0	0	0	0	0.1	0.1	0	27° 0'	0	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	26° 45'	0	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	26° 30'	0	-0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0.1	0	0	26° 15'	0	-0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 0'	0	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 45'	-0.1	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 30'	0	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 15'	0	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 0'	0	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 45'	0	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	24° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0.1	0	0	0	0	0	0	0	24° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	23° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	23° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0	0	0	23° 0'	-0.1	-0.1	0	0	0	0	0.1	0	0	
0	0	0	0	0.1	0.1	0.1	0	0	22° 45'	-0.1	-0.1	0	0	0	0	0.1	0	0	
0	0	0	0.1	0.1	0.1	0.1	0	0	22° 30'	-0.1	-0.1	0	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	22° 15'	-0.1	-0.1	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	22° 0'	-0.1	-0.1	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	21° 45'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.2	
0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	21° 30'	-0.1	-0.1	0	0	0	0	0	0.1	0.2	
0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	21° 15'	-0.1	-0.1	0	-0.1	0	0	0	0.1	0.2	
0	0.1	0.1	0	0	0.1	0.1	0.1	0.1	21° 0'	-0.1	-0.1	0	-0.1	0	0	0	0.1	0.2	
0	0	0.1	0.1	0	0.1	0.1	0	0.1	20° 45'	-0.1	-0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0.1	0.1	0	0.1	20° 30'	-0.1	-0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	20° 15'	-0.1	-0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	20° 0'	-0.1	-0.1	0	0	0	0	0	0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 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	28° 45'	-0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	-0.1	-0.1	0	0	0	0	0	28° 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	27° 45'	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	27° 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	27° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	27° 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	26° 45'	0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0.1	0	0	0	0	26° 30'	0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0.1	0.1	0	0	0.1	0.1	26° 15'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0	0.1	0.1	0	0	0.1	0.1	26° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0	0	0	0	0	0	0.1	25° 45'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	25° 30'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0	0	25° 15'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.1	0.1	0	0	0	25° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.1	0	0	0	0	24° 45'	0.1	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	-0.1	0	0	0.1	22° 30'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	-0.1	-0.1	0	0.1	0.1	22° 15'	0	0	0.1	0	0	-0.1	-0.2	-0.2	-0.2	
0	-0.1	0	0	-0.1	-0.2	0	0.1	0.1	22° 0'	0.1	0.1	0	0	0	-0.1	-0.3	-0.2	-0.2	
0	0	0	0	-0.1	-0.1	0	0.1	0.1	21° 45'	0.2	0.1	0	0	0.1	-0.1	-0.4	-0.2	-0.2	
0.1	0	0	0	-0.1	0	0	0.1	0.1	21° 30'	0.2	0.1	0	0	0.1	-0.1	-0.4	-0.3	-0.2	
0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	21° 15'	0.2	0.1	0	0	0.1	-0.1	-0.4	-0.3	-0.1	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	21° 0'	0.2	0.1	0.1	0	0	-0.2	-0.4	-0.3	-0.1	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 45'	0.1	0.1	0.1	0	0	-0.2	-0.4	-0.3	-0.1	
0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	20° 30'	0.1	0.1	0.2	0	0	-0.2	-0.4	-0.2	-0.1	
0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	20° 15'	0.1	0.1	0.1	0	0	-0.1	-0.3	-0.2	-0.1	
0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	20° 0'	0	0	0.1	0	0	-0.1	-0.3	-0.2	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0	0	0	0	30° 0'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0.1	0	0	28° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0.1	0	0.1	28° 30'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	28° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	28° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	27° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.1	27° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0.1	0.1	27° 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	0.1	0.1	26° 45'	-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	26° 30'	-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	26° 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	0.1	0	0	0	26° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	25° 45'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0	25° 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	0.1	0.1	25° 15'	-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	0.1	25° 0'	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0.1	0.1	0.1	0	0	24° 45'	-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	0	24° 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	24° 15'	-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	24° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0.1	0	0	0	23° 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	23° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0.1	0	0	0	0	0	23° 0'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0.1	0.1	0	0	0	0	22° 45'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	22° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	22° 15'	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0	0	0.1	0	0	0	22° 0'	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	21° 45'	-0.2	-0.1	0	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	21° 30'	-0.2	-0.1	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	21° 15'	-0.1	-0.1	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	21° 0'	-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	20° 45'	-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	0	20° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	20° 15'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	20° 0'	-0.1	-0.1	0	0	0	0	0	0	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	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	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	29° 45'	0	0	-0.1	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	29° 30'	-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	0	0	29° 15'	-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	0	0	29° 0'	-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	0	0	0	28° 45'	-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	0	0	28° 30'	-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	0	28° 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	0	0	0	28° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0.1	0.1	0	0	0	0	0	27° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	27° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	27° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	27° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	26° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	26° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0.1	0	0	26° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	25° 15'	0	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	-0.1	0	25° 0'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	24° 15'	0	0	0	0	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0.1	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0.1	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0.1	0	0	0	-0.1	0	0	
0	0	0	-0.1	0	0	0	0	0	22° 0'	0	0	0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0	0.1	0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0.1	0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0.1	0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0.1	0	0	0	0	21° 0'	0	0.1	0.1	0	0	0	-0.1	0	0	
0	0	0	0.1	0.1	0	0	0	0	20° 45'	0.1	0	0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0.1	0	0	0	0	0	20° 30'	0.1	0	0	0	0	0	-0.1	-0.1	0	
0	0	0.1	0.1	0	0	0	0	0	20° 15'	0.1	0	0	0	0	0	0	-0.1	0	
0	0	0	0.1	0.1	0	0	0	0	20° 0'	0.1	0	0	0	0	0	0	-0.1	-0.1	







# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 36 to 40 °E									
Correction to Latitude										Correction to Longitude									
36°	36°	37°	37°	38°	38°	39°	39°	40°	Longitude	36°	36°	37°	37°	38°	38°	39°	39°	40°	
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	0.1	0.1	0	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	0.1	0	29° 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	29° 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	29° 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	29° 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	28° 45'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	28° 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	27° 45'	0.2	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	27° 30'	0.2	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	27° 15'	0.2	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0.2	0.1	0	0	0	0	0	0	27° 0'	0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	26° 45'	0.1	0.1	0	0	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	26° 30'	0.1	0.1	0.1	0	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	26° 15'	0	0.1	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	26° 0'	0	0.1	0	0	-0.1	0	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0	25° 45'	0	0	0	0	-0.1	0	0.1	0	0
0	0.1	0.1	0.1	0	0	0	0.1	0	25° 30'	0	0	0.1	0	0	0	0	0	0	0
0	0	0.1	0.1	0	-0.1	0	0.1	0	25° 15'	-0.1	0	0	0	0.1	0	-0.1	0	0	0
0	0	0.1	0.1	0.1	0	0	0.1	0	25° 0'	-0.1	0	0	0	0.1	0	-0.1	0	0	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	24° 45'	-0.1	0	0	0	0.1	0	-0.1	0	0	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	24° 30'	-0.1	0	0	0	0.2	0	-0.2	0	0	0
0	0	0.1	0.1	0.1	0.2	0.1	0	0	24° 15'	-0.1	0	-0.1	0	0.2	0	-0.1	0	0	0
0	0	0	0	0.1	0.2	0.1	0	0	24° 0'	-0.1	0	-0.1	0	0.1	0	-0.1	0	0	0
0	0	0	0	0.1	0.2	0.1	0	0	23° 45'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0.1	0.1	0.1	0	0	23° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0.1	0	0	23° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0.1	0	0	23° 0'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0.1	0	0	22° 45'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	0
0	-0.1	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	0
0	-0.1	0	0	0	0	0	0	0	22° 0'	0	-0.1	-0.1	0	-0.1	0	0.1	0	0.1	0
0	0	0	0	0	0	0	0	0	21° 45'	0	-0.1	-0.1	0	-0.1	0	0.1	0	0.1	0
0	0	0	0	0	0	0	0	0	21° 30'	0	0	-0.1	-0.1	-0.1	0	0.1	0	0.1	0
0	0	0	0	0	0	0	0	0	21° 15'	0	0	-0.1	-0.1	-0.1	0	0	0	0	0.1
0	0	0	0	0	0	0.1	0.1	0	21° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	0	0.1
0	0	0	0	0	0	0.1	0.1	0	20° 45'	0	0	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	20° 30'	0	0	-0.1	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	20° 15'	0	0	-0.2	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	20° 0'	0	0	-0.2	-0.1	0	0	-0.1	0	0	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 40 to 44 °E									
Correction to Latitude										Correction to Longitude									
40°	40°	41°	41°	42°	42°	43°	43°	44°	Longitude	40°	40°	41°	41°	42°	42°	43°	43°	44°	
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	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	29° 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	29° 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	29° 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	29° 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	28° 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	28° 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	28° 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	28° 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	27° 45'	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	27° 30'	0	-0.1	-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	27° 15'	0	-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	0	0	0	27° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	26° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	26° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	26° 15'	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	26° 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	25° 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	25° 30'	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	25° 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	25° 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	0	24° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0.1	0	0	0	0	0	0	24° 30'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0.1	0.1	0.1	0.1	0	24° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	24° 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	0	23° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0	0.1	0.1	0	0	23° 30'	0	0	0	-0.1	-0.2	-0.1	-0.1	0	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	23° 15'	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	0	23° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0.1	22° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.1	22° 30'	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	22° 15'	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	22° 0'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0	0.1	21° 45'	0.1	0	-0.1	0	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0	-0.1	0	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0.1	0	21° 15'	0.1	0	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0.1	0	21° 0'	0.1	0.1	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0	0	0	0	20° 45'	0	0.1	0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	20° 30'	0	0	0.1	0	-0.2	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0.2	0.1	0	0	0	0	0	20° 15'	0	0	0.1	0	-0.2	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.2	0	0	0	0	0.1	20° 0'	0	0	0.1	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	







# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	-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	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	29° 45'	0.1	0	0	-0.3	-0.4	-0.1	0	0	0.1	
0.1	0	0	0	-0.1	-0.1	0	0.1	0.1	29° 30'	0.1	0	0	-0.2	-0.4	-0.2	-0.1	0	0.1	
0.1	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	29° 15'	0.2	0	-0.1	-0.2	-0.3	-0.2	-0.2	0	0.2	
0.3	0.2	0.2	0.3	0.1	0	0.1	0	0.1	29° 0'	0.2	0	-0.1	-0.2	-0.2	-0.2	-0.2	0	0.1	
0.4	0.4	0.3	0.3	0.2	0.1	0.1	0	0.1	28° 45'	0.1	0.1	-0.1	-0.1	-0.1	-0.2	-0.2	0	0.1	
0.5	0.5	0.4	0.3	0.2	0.2	0.1	0	0.1	28° 30'	0.1	0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0.4	0.5	0.4	0.2	0.2	0.2	0.1	0.1	0.1	28° 15'	0.1	0.1	0	0	0	-0.1	-0.1	0	0	
0.3	0.4	0.4	0.2	0.1	0.2	0.2	0.1	0.2	28° 0'	0	0.1	0.1	0.1	0	-0.1	-0.1	0	0	
0.3	0.4	0.4	0.2	0.1	0.2	0.2	0.2	0.2	27° 45'	-0.1	0	0.2	0.2	0	-0.1	0	0	0	
0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	27° 30'	-0.1	-0.1	0.2	0.3	0	-0.1	0	0	0	
0.3	0.2	0.1	0.1	0	0	0	0	0	27° 15'	-0.1	0	0.3	0.4	0	-0.1	-0.1	-0.1	-0.1	
0.2	0.1	0	0	0	0	0	0	0	27° 0'	0	0.1	0.3	0.4	0	-0.1	-0.1	-0.1	-0.1	
0.1	-0.1	-0.1	0	0	0	0	0	0	26° 45'	0.1	0.1	0.3	0.3	0	-0.1	-0.1	-0.1	0	
0	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	26° 30'	0.2	0.2	0.3	0.3	0	-0.1	-0.1	-0.1	0	
0	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	26° 15'	0.2	0.2	0.2	0.3	0	-0.1	-0.1	-0.1	0	
0	-0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	26° 0'	0.3	0.2	0.1	0.2	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	0	0.1	0.2	0.2	0.2	0.2	0.1	25° 45'	0.4	0.1	0	0.1	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	0	0.2	0.2	0.2	0.2	0.2	0.2	25° 30'	0.4	0.1	0	0.1	0	0	-0.1	0	0	
-0.1	-0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	25° 15'	0.4	0.1	-0.1	0	0	0	-0.1	0	0	
-0.1	0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	25° 0'	0.4	0	-0.2	0	0	0	-0.1	-0.1	0	
0	0	0	0.1	0.1	0.2	0.3	0.2	0.2	24° 45'	0.4	0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0.1	0.2	0.2	0.2	0.2	24° 30'	0.4	0	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	24° 15'	0.3	0	-0.2	-0.1	-0.2	-0.2	-0.1	0	0	
0.1	0.2	0	-0.1	-0.2	-0.2	-0.1	0	0.1	24° 0'	0.3	0.1	-0.1	-0.1	-0.1	-0.2	-0.2	0	0	
0.1	0.2	0	-0.1	-0.2	-0.3	-0.2	0	0	23° 45'	0.2	0.2	0	-0.1	-0.1	-0.2	-0.3	-0.1	0	
0.1	0.2	0.1	0	-0.1	-0.2	-0.2	-0.1	0	23° 30'	0.1	0.2	0.1	0	0	-0.2	-0.4	-0.2	0	
0.1	0.2	0.2	0.1	0	-0.1	-0.2	-0.2	0	23° 15'	0	0.2	0.2	0	0.1	-0.1	-0.4	-0.2	-0.1	
0	0.1	0.2	0.2	0.1	0	-0.1	-0.2	-0.1	23° 0'	0	0.1	0.2	0	0.1	-0.1	-0.3	-0.3	-0.2	
0.1	0.1	0.1	0.2	0.1	0.1	-0.1	-0.2	-0.1	22° 45'	0	0.1	0.2	0.1	0.1	0	-0.2	-0.3	-0.3	
0.1	0	0.1	0.1	0.1	0.2	0.1	-0.1	-0.1	22° 30'	0	0.1	0.1	0.1	0.1	0	-0.1	-0.3	-0.3	
0.1	0	0.1	0.1	0.1	0.2	0.2	0.1	0	22° 15'	0	0.1	0.1	0.1	0.1	0	0	-0.2	-0.3	
0.1	0	0	0	0.1	0.2	0.2	0.2	0.1	22° 0'	0	0.1	0.1	0	0	0	0	-0.2	-0.3	
0	0	0	0	0.1	0.1	0.2	0.2	0.1	21° 45'	0	0.1	0.1	0	0	-0.1	0	-0.1	-0.3	
0	0	0	0	0	0.1	0.1	0.1	0.1	21° 30'	0.1	0.1	0.1	0.1	0	-0.1	0	-0.2	-0.2	
0	0	0	0	0	0.1	0.1	0.1	0.1	21° 15'	0.1	0	0.1	0.1	-0.1	-0.1	0	-0.2	-0.2	
0	0	0	0	0	0	0.1	0.1	0.1	21° 0'	0	0	0.1	0.1	-0.1	-0.1	0	-0.2	-0.2	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	20° 45'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	20° 30'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0.1	0.1	0.1	0.1	0	20° 15'	0	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0	20° 0'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	-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	
0.1	0	-0.1	-0.1	0	-0.1	0	0	0	29° 45'	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.2	
0.1	0	0	0	0	0	0.1	0.1	0.1	29° 30'	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.2	
0.1	0.1	0	0	0.1	0.2	0.2	0.2	0.2	29° 15'	0.2	0	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0	0.1	0.2	0.3	0.3	0.2	29° 0'	0.1	0	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0.1	0.2	0.2	0.2	0.2	28° 45'	0.1	0	-0.1	-0.2	-0.3	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	28° 30'	0	0	-0.1	-0.2	-0.3	-0.2	-0.1	0	0	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	28° 15'	0	0	-0.1	-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	
0.2	0.2	0.1	0.1	0.1	0	0	0.1	0.1	28° 0'	0	0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	
0.2	0.2	0.1	0.1	0.1	0	0	0	0	27° 45'	0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	
0.1	0.2	0.1	0.1	0.1	0	0	0	0	27° 30'	0	0	0	-0.1	-0.1	-0.2	-0.2	-0.1	0	
0	0.1	0.1	0.1	0.1	0	0	0	0	27° 15'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0	0	0	0	27° 0'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0	0	0	0	26° 45'	0	-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	0	26° 30'	0	-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	0	26° 15'	0	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 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	0.1	25° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	25° 30'	0	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	25° 15'	0	0	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	
0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	25° 0'	0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.4	24° 45'	0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.2	
0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	24° 30'	0	0	0	-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	0.2	0.1	24° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.2	0.2	0.1	0	0	24° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0	0	23° 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	23° 30'	0	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	23° 15'	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	-0.2	
-0.1	0	0	0	0	0	0	0	-0.1	23° 0'	-0.2	0	-0.1	-0.2	-0.2	-0.1	0	0.1	-0.1	
-0.1	0	0	0	0	0	0	-0.1	-0.2	22° 45'	-0.3	-0.1	-0.1	-0.1	-0.2	-0.2	0	0.2	-0.1	
-0.1	0	0.1	0	0	0	-0.1	-0.1	0	22° 30'	-0.3	-0.1	-0.1	-0.1	-0.2	-0.1	0.1	0.2	-0.1	
0	0	0.1	0	-0.1	0	-0.1	0	0.1	22° 15'	-0.3	-0.1	-0.1	0	-0.2	-0.1	0.2	0.1	-0.1	
0.1	0.1	0.1	-0.1	-0.1	0	0	0.1	0.2	22° 0'	-0.3	-0.2	0	0	-0.2	-0.1	0.2	0	-0.2	
0.1	0.1	0.1	0	0	0	0.1	0.2	0.2	21° 45'	-0.3	-0.2	0	0.1	-0.3	-0.2	0.1	0	-0.2	
0.1	0.1	0	0.1	0.2	0.1	0.1	0.2	0.2	21° 30'	-0.2	-0.1	0	0.1	-0.3	-0.2	0.1	0	-0.1	
0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	21° 15'	-0.2	-0.1	0	0	-0.3	-0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	21° 0'	-0.2	-0.1	0	-0.1	-0.2	0	0	-0.1	-0.2	
0.1	0.1	0.2	0.3	0.2	0	0.1	0.1	0.1	20° 45'	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	
0.1	0.1	0.2	0.2	0.1	0	0.1	0.1	0	20° 30'	-0.2	-0.1	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0.1	0.1	0	20° 15'	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0	0	0	0	0.1	20° 0'	-0.1	-0.2	-0.2	0	0.1	0	-0.1	-0.1	-0.1	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 64 to 68 °E									
Correction to Latitude										Correction to Longitude									
64°	64°	65°	65°	66°	66°	67°	67°	68°	Longitude	64°	64°	65°	65°	66°	66°	67°	67°	68°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
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	
0	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.4	29° 45'	-0.2	-0.2	-0.1	0	0.1	0	-0.4	-0.4	0	
0.1	0.1	0.1	0	0	0.1	0.2	0.3	0.3	29° 30'	-0.2	-0.2	-0.1	0	0.1	-0.1	-0.5	-0.4	0	
0.2	0.1	0	0	0	0.1	0.2	0.2	0.1	29° 15'	-0.2	-0.2	-0.1	0	0.1	-0.1	-0.5	-0.4	0	
0.2	0.1	0	0	0	0.1	0.1	0.1	0.1	29° 0'	-0.1	-0.1	-0.1	0	0.1	-0.2	-0.6	-0.3	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 45'	0	-0.1	-0.1	0	0.1	-0.2	-0.6	-0.3	0.1	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 30'	0	-0.1	0	0	0.1	-0.2	-0.6	-0.3	0.1	
0.1	0.1	0.1	0	0.1	0.2	0.1	0	0	28° 15'	-0.1	-0.1	0	0	0	-0.2	-0.5	-0.3	0.1	
0.1	0	0	-0.1	0.1	0.2	0.1	0	0	28° 0'	0	0	0.1	0	-0.1	-0.2	-0.4	-0.2	0	
0	-0.1	-0.1	0	0.1	0.1	0.1	0	0.1	27° 45'	0	0	0.1	0	-0.2	-0.2	-0.4	-0.2	0	
0	-0.1	0	0.1	0.1	0.1	0.1	0	0	27° 30'	0	0	0.1	-0.1	-0.2	-0.2	-0.3	-0.2	0	
0	0	0	0.1	0.1	0.1	0.1	0	0	27° 15'	0	0	0	-0.1	-0.2	-0.2	-0.3	-0.2	0	
0	0	0.1	0.2	0.2	0.1	0.1	0	0	27° 0'	0	0	-0.1	-0.2	-0.2	-0.2	-0.3	-0.2	0	
0	0	0.1	0.2	0.2	0.2	0.1	0	0	26° 45'	0	0	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	0	
0	0	0.1	0.1	0.2	0.2	0	0	0	26° 30'	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	
0	0.1	0.1	0.1	0.1	0.1	0	0	0	26° 15'	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	0.1	0.1	0	0	0	26° 0'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.1	
0.1	0.2	0.2	0.1	0.1	0	0	0	0	25° 45'	-0.1	-0.2	-0.2	-0.2	-0.2	0	0	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.1	0	0	0	0	25° 30'	-0.1	-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	
0.3	0.3	0.3	0.2	0.1	0	0	0	0	25° 15'	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.4	0.4	0.3	0.2	0.1	0	0	0	0	25° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0.4	0.4	0.3	0.1	0	0.1	0.1	0	0.1	24° 45'	-0.2	-0.1	0	0.1	0	0	0	0	-0.1	
0.3	0.2	0.2	0.1	0	0.1	0.1	0.1	0.1	24° 30'	-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	0.1	0.1	24° 15'	-0.1	0	0	0.2	0	0	0	0	-0.1	
0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	24° 0'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	
0	0.1	0	0	0.1	0	0	0.1	0.1	23° 45'	-0.1	-0.1	0	0.1	0.1	0	-0.1	0	0	
0	0.1	0	0	0	0	0	0.1	0.1	23° 30'	-0.1	-0.1	0.1	0.1	0.1	0	-0.1	0	0	
-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	23° 15'	-0.2	-0.1	0.1	0.1	0	0	-0.1	-0.1	0	
-0.1	-0.2	-0.1	0	0.1	0.2	0.1	0.1	0.1	23° 0'	-0.1	-0.1	0.1	0	0	0	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.1	0.1	0.2	0.2	0.2	0.1	0.1	22° 45'	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	22° 30'	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	22° 15'	-0.1	-0.2	-0.1	-0.2	-0.1	0	0	0	0	
0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	22° 0'	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	21° 45'	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	0	0	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	21° 30'	-0.1	-0.2	-0.2	-0.1	0	0	-0.1	0	0.1	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 15'	-0.1	-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	21° 0'	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1	0	
0.1	0	0	0	0	0	0	0.1	0.1	20° 45'	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	20° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0.1	20° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0.1	20° 0'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
0.5	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	
0.4	0.3	0.2	0.2	0.2	0.1	0	0	0	29° 45'	0	0.2	0.1	-0.2	-0.6	-0.4	-0.1	0	0.1	
0.3	0.2	0.2	0.2	0.2	0.1	0	0	0	29° 30'	0	0.3	0.1	-0.3	-0.5	-0.3	-0.1	0	0.1	
0.1	0.1	0.2	0.3	0.2	0.1	0	0	0	29° 15'	0	0.2	0.1	-0.3	-0.5	-0.3	-0.1	0	0.1	
0.1	0.1	0.2	0.2	0.1	0	0	0	0	29° 0'	0	0.2	0	-0.3	-0.4	-0.2	-0.1	0	0.1	
0	0.1	0.2	0.2	0	-0.1	-0.1	-0.1	-0.1	28° 45'	0.1	0.1	0	-0.2	-0.3	-0.2	-0.1	0	0.1	
0	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	28° 30'	0.1	0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	0.1	
0	0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	28° 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	28° 0'	0	0.1	0	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	27° 45'	0	0.1	0	-0.1	-0.1	-0.1	0	0.1	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	27° 30'	0	0.1	0	-0.1	-0.1	-0.1	0	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	27° 15'	0	0.1	0	-0.1	-0.1	0	0	0.1	0.1	
0	0	0.1	0	0	0	-0.1	-0.1	0	27° 0'	0	0.1	0	-0.1	-0.1	0	0	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	26° 45'	0	0	0	-0.1	0	0	0	0	0	
0	0	0.1	0	0	0	0	0	0	26° 30'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0.1	26° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	26° 0'	-0.1	-0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0.1	25° 45'	-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0.1	0.1	25° 30'	-0.1	-0.1	0	0	0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	25° 15'	-0.1	-0.1	0	0	0.1	0	-0.1	-0.1	0	
0	0	0	0.1	0	0.1	0.1	0.1	0	25° 0'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	0	
0.1	0	0	0.1	0	0.1	0.1	0.1	0.1	24° 45'	-0.1	-0.1	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	0.1	24° 30'	-0.1	-0.1	-0.1	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	24° 15'	-0.1	-0.1	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	24° 0'	0	-0.1	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	0.1	23° 45'	0	-0.1	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	0.1	23° 30'	0	-0.1	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	0.1	23° 15'	0	-0.1	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	0.1	23° 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	0.1	0.1	22° 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	0.1	0.1	0.1	0.1	22° 30'	-0.1	0	0	0	-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	22° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	22° 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	0	21° 45'	0	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	0.1	0.1	21° 30'	0.1	0	0	0	0	-0.1	-0.1	0	-0.1	
0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	21° 15'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	21° 0'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	20° 45'	-0.1	0	0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	20° 30'	-0.1	0	0.2	0	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	20° 15'	-0.1	0	0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'	-0.2	-0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 72 to 76 °E									
Correction to Latitude										Correction to Longitude									
72° 0'	72° 30'	73° 0'	73° 30'	74° 0'	74° 30'	75° 0'	75° 30'	76° 0'	Longitude	72° 0'	72° 30'	73° 0'	73° 30'	74° 0'	74° 30'	75° 0'	75° 30'	76° 0'	
									Latitude										
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	
0	0	0	0	0	0	0	0	0	29° 45'	0.1	0.1	0	0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0.1	0.1	0	0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0.1	0.1	0	0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	28° 45'	0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	28° 30'	0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	-0.1	0	28° 15'	0	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	-0.1	-0.1
-0.1	-0.1	0	0	0	0.1	0	0	0	0	27° 45'	0	0	-0.1	0	0	0	0	-0.1	-0.1
-0.1	-0.1	0	0	0.1	0.1	0	0	0.1	0	27° 30'	0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1
-0.1	0	0	0	0	0	0	0.1	0.1	0	27° 15'	0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.2
0	0	0	0	0	0	0	0.1	0.1	0	27° 0'	0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.2	-0.2
0	0.1	0	0	0	0	0	0	0.1	0.1	26° 45'	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.2	-0.2
0	0.1	0	0	0	0	0.1	0.1	0.1	0	26° 30'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.2
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0	26° 15'	0	-0.1	-0.1	0	0	0	-0.2	-0.2	-0.1
0.1	0.1	0.1	0	0	0	0.1	0.1	0	0	26° 0'	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.2	-0.2	-0.1
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	0	25° 45'	-0.1	-0.1	0	0	0	-0.1	-0.2	-0.1	-0.1
0.1	0	0	0	0	0.1	0.1	0	0	0	25° 30'	-0.1	-0.1	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	25° 15'	0	0	0	0.1	-0.1	-0.2	-0.1	-0.1	-0.1
0	0	0	0	0.1	0.1	0.1	0	0	0	25° 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	0.1	0.1	0	0	0	24° 45'	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	0.1	0.1	0	0	24° 30'	0	0	0	0	-0.1	-0.1	0	0	0
0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0	0	24° 15'	0	0	0	0	-0.1	-0.1	0	0	0
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0	0	24° 0'	0	0	0	0	0	-0.1	0	0	0
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	23° 45'	0	0	0	0	0	0	0	0	0
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	23° 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	0	23° 15'	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	0	23° 0'	0	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	0	22° 45'	0	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	0	22° 30'	0	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	0	22° 15'	-0.1	0	-0.1	0	0	0	0	0	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	22° 0'	-0.1	-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	0	21° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	21° 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	0.2	0.1	0.1	0	21° 15'	-0.1	0	-0.1	0	0	0	0	0	0
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	21° 0'	0	0	-0.1	0	0	0	0	0	0
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 45'	0	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	0	20° 30'	0	0	-0.1	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	20° 15'	0	0	-0.1	0	0	0	0	0	0
0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0	20° 0'	0	0	-0.1	0	0	0	0	0	0



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
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	
0.9	0.7	0.6	0.3	0.2	0.1	0	0	0	29° 45'	0.1	0.4	0.5	0.3	0.2	0.1	0	-0.1	-0.1	
0.5	0.5	0.5	0.5	0.4	0.3	0.2	0.2	0.1	29° 30'	0.2	0.4	0.6	0.4	0.2	0.1	0	-0.1	-0.1	
0.4	0.5	0.6	0.7	0.7	0.6	0.5	0.5	0.2	29° 15'	0.2	0.4	0.5	0.4	0.3	0.2	0	0	0	
0.4	0.5	0.7	0.9	0.8	0.7	0.7	0.6	0.4	29° 0'	0.1	0.3	0.4	0.3	0.4	0.2	0	0.1	0.2	
0.4	0.5	0.7	0.8	0.7	0.6	0.6	0.6	0.5	28° 45'	0	0.2	0.3	0.3	0.5	0.3	0	0.2	0.3	
0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.5	0.7	28° 30'	0	0.2	0.2	0.3	0.5	0.3	0.1	0.2	0.3	
0.1	0.2	0.3	0.3	0.4	0.6	0.6	0.6	0.8	28° 15'	-0.1	0.1	0.1	0.2	0.4	0.2	0.1	0.2	0.1	
0	0.1	0.2	0.3	0.5	0.7	0.7	0.7	0.8	28° 0'	-0.1	0	0.1	0.2	0.3	0.1	0.1	0.1	0	
0	0.1	0.2	0.3	0.4	0.6	0.6	0.6	0.6	27° 45'	-0.1	-0.1	0	0.1	0.1	0	0.1	0.1	0	
0	0	0.1	0.2	0.3	0.3	0.4	0.4	0.4	27° 30'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0.2	0.2	0.3	27° 15'	-0.1	-0.1	-0.1	0	0	0	0	0.1	0.1	
0	0	-0.1	0	0	0	0.1	0.1	0.2	27° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0.1	26° 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	-0.1	-0.1	0	0	26° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	26° 15'	-0.1	-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	-0.1	-0.1	-0.1	26° 0'	-0.1	0	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	25° 45'	-0.1	0	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	25° 30'	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	-0.1	-0.1	25° 15'	0	0	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	25° 0'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	24° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0	0	-0.1	-0.1	23° 45'	0	0	-0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0.1	0.1	0	0	0	23° 30'	0.1	0	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0	-0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0.1	23° 0'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0.1	0.1	0.1	0	0	0.1	0.1	0.1	22° 45'	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	0.1	0.1	22° 30'	-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	0.1	0.1	22° 15'	-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	0.1	0.1	0.1	22° 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	0.1	21° 45'	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	0.1	21° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	21° 15'	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	21° 0'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0.1	0	0	20° 45'	0	0	0	0	0	0	0	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	20° 30'	0	0	0	0	0	0	0	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	20° 15'	0	0	0	0.1	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0.1	20° 0'	0	0	0	0.1	0	0	0.1	0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 84 to 88 °E									
Correction to Latitude										Correction to Longitude									
84°	84°	85°	85°	86°	86°	87°	87°	88°	Longitude	84°	84°	85°	85°	86°	86°	87°	87°	88°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
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
0	0.1	0	0	0	0	0	0.1	0.1	29° 45'	-0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.1	0	0.1	0	0	0	0.1	0.1	0	29° 30'	-0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.2	0.1	0	0	0	0	0	0	0	29° 15'	0	0	-0.1	0	-0.1	0	0	-0.1	-0.1	
0.4	0.2	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 0'	0.2	0	0	0	-0.1	0	0	-0.1	-0.1	
0.5	0.5	0.2	0	-0.2	-0.2	-0.1	-0.1	-0.1	28° 45'	0.3	0.1	0.1	0.1	0	-0.1	0	-0.1	-0.1	
0.7	0.8	0.5	0.2	0	-0.1	-0.1	0	-0.1	28° 30'	0.3	0.2	0.3	0.3	0	-0.1	-0.1	-0.1	0	
0.8	0.9	0.7	0.6	0.4	0.1	0.1	0.1	0	28° 15'	0.1	0.3	0.5	0.4	0.2	0	-0.2	-0.1	0	
0.8	0.8	0.9	0.9	0.7	0.4	0.3	0.2	0.1	28° 0'	0	0.3	0.5	0.5	0.4	0.2	-0.1	0	0.1	
0.6	0.6	0.8	0.9	0.9	0.6	0.5	0.4	0.3	27° 45'	0	0.3	0.4	0.4	0.6	0.4	-0.1	0.1	0.2	
0.4	0.4	0.6	0.8	0.8	0.8	0.7	0.6	0.6	27° 30'	0.1	0.2	0.3	0.4	0.7	0.4	0	0.1	0.2	
0.3	0.3	0.5	0.6	0.7	0.9	0.9	0.8	0.8	27° 15'	0.1	0.1	0.2	0.3	0.6	0.4	0.1	0.2	0.1	
0.2	0.2	0.3	0.4	0.6	0.8	0.8	0.8	0.8	27° 0'	0	0	0.1	0.3	0.4	0.3	0.2	0.2	0.1	
0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.6	26° 45'	0	0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	
0	-0.1	-0.1	0	0.2	0.2	0.3	0.4	0.3	26° 30'	0	0	0	0.1	0.1	0.2	0.2	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	26° 15'	0	0	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	0	26° 0'	0	0	0	0	0.1	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	25° 45'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	25° 30'	0	0	0	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	25° 15'	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	-0.1	-0.1	0	25° 0'	0	0	0	0	0	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	24° 45'	0	0	0	0	0	0.1	0.1	0	0	
-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	24° 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	0	24° 15'	0	0	0.1	0	0	0	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	24° 0'	0	0	0.1	0	0	0	0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	23° 45'	0.1	0	0	0	0	0	0	-0.1	0	
0	0	-0.1	0	0	0	0	0	0	23° 30'	0.1	0	0	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0.1	0	0	23° 15'	0.1	0	0	0	0	0	0	-0.1	0	
0.1	0.1	0	0	0	0	0.1	0.1	0	23° 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	22° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	22° 30'	0.1	0.1	0.1	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	22° 15'	0.1	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	0.1	22° 0'	0.1	0.1	0.1	0	0	-0.1	0	0	0.1	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 45'	0.1	0.1	0	0	0	-0.1	0	0	0.1	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	21° 30'	0.1	0.1	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	21° 15'	0.1	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	0	21° 0'	0.1	0.1	0	0	-0.1	-0.1	0	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	20° 45'	0.1	0.1	0	0	-0.1	0	0	0.1	0.2	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 30'	0.1	0	0	0	-0.1	0	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	20° 15'	0.1	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	0.2	0.2	20° 0'	0	0	0	0	0	0	0	0.1	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	30° 0'	-0.1	-0.1	-0.1	0	0	0	-0.1	0	0.1	
0.1	0	0	0	0	0	0	-0.1	-0.1	29° 45'	-0.1	-0.1	0	0	-0.1	0	0	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	29° 30'	-0.1	-0.1	0	0	-0.1	0	0	0	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	29° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	28° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	28° 30'	0	0	-0.1	0	0.1	0	0	0	0	
0	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	28° 15'	0	0	-0.1	0	0	0	0	0	0.1	
0.1	0	-0.1	-0.1	0.1	0.3	0.2	0.2	0.1	28° 0'	0.1	0	-0.1	0	-0.1	-0.1	0.1	0	0.2	
0.3	0.2	0	0	0.2	0.4	0.3	0.2	0.1	27° 45'	0.2	0.1	0	-0.1	-0.3	-0.1	0.1	0	0.3	
0.6	0.6	0.4	0.3	0.3	0.4	0.3	0.3	0.3	27° 30'	0.2	0.2	0.1	-0.2	-0.4	-0.1	0.2	0.1	0.3	
0.8	0.8	0.7	0.6	0.5	0.4	0.4	0.4	0.6	27° 15'	0.1	0.3	0.2	-0.1	-0.3	-0.1	0.2	0.1	0.2	
0.8	0.8	0.9	0.8	0.5	0.3	0.4	0.5	0.7	27° 0'	0.1	0.3	0.2	0	-0.2	-0.1	0.2	-0.1	0	
0.6	0.6	0.7	0.6	0.4	0.3	0.4	0.5	0.5	26° 45'	0.1	0.2	0.2	0.1	0	0	0.1	-0.1	-0.1	
0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	26° 30'	0.2	0.2	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	-0.1	26° 15'	0.2	0.2	0.1	0.1	0.1	0	0	-0.1	-0.1	
0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	26° 0'	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	0	0	0	25° 45'	0.2	0.1	0.1	0.1	0.1	0.1	0	0	0	
-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 30'	0.2	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0.1	0.1	0.2	0.3	0.3	0.3	25° 15'	0.1	0	0	0.1	0.1	0.1	0	0.1	0	
0	0	0	0.1	0.1	0.2	0.3	0.3	0.3	25° 0'	0.1	0	0	0	0.1	0	0	0.1	0	
0	0.1	0	0	0.1	0.1	0.1	0.2	0.2	24° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	24° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	23° 45'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	0.1	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0	0.1	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0	0	0	0.1	0	0	0	0.1	
0	0	0	0	0.1	0.1	0	0	0	22° 15'	0.1	0	0	0	0.1	0	0	0.1	0.1	
0.1	0	0	0	0.1	0.1	0.1	0.1	0	22° 0'	0.1	0	0	0	0	0	0	0.1	0.1	
0.1	0	0	0	0	0.1	0	0	0	21° 45'	0.1	0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 15'	0.1	0.1	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	21° 0'	0.1	0.1	0	0	0	0	0.1	0	0.1	
0	0	0.1	0	0	0	0	0	0	20° 45'	0.2	0	0	0	0	0	0.1	0	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	20° 30'	0.1	0	0	0.1	0	0.1	0.1	0	0.1	
0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0	20° 15'	0.1	0	0	0.1	0.1	0.1	0.1	0	0.1	
0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	20° 0'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 92 to 96 °E									
Correction to Latitude										Correction to Longitude									
92°	92°	93°	93°	94°	94°	95°	95°	96°	Longitude	92°	92°	93°	93°	94°	94°	95°	95°	96°	
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	0.2	0.1	30° 0'	0.1	0	0	0	0	-0.2	-0.2	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.2	0.2	29° 45'	0.1	0	0	0	0	-0.2	-0.3	0	0.1	
-0.1	0	-0.1	-0.2	-0.1	-0.1	0.1	0.3	0.2	29° 30'	0.1	0	0	0	0	-0.3	-0.4	0	0.2	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	0	0.2	0.2	29° 15'	0	0	0.1	0	0	-0.3	-0.6	-0.1	0.3	
-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	0	0.2	0.1	29° 0'	0	0	0.1	0	0	-0.4	-0.8	-0.1	0.3	
-0.2	-0.1	0	0	0	-0.1	0	0.1	0.1	28° 45'	0	0	0.1	0.1	0	-0.4	-0.9	-0.2	0.3	
-0.1	-0.1	0.1	0.3	0.3	0.3	0.2	0.1	0.1	28° 30'	0	-0.1	0	0.1	0	-0.4	-0.9	-0.2	0.4	
0.1	-0.1	0.2	0.6	0.7	0.8	0.5	0.2	0.2	28° 15'	0.1	-0.1	-0.2	0	0	-0.3	-0.7	-0.2	0.4	
0.1	-0.1	0.2	0.7	0.9	1	0.7	0.3	0.3	28° 0'	0.2	-0.1	-0.5	-0.2	-0.2	-0.3	-0.4	0	0.4	
0.1	0	0.2	0.5	0.7	0.8	0.5	0.2	0.2	27° 45'	0.3	-0.2	-0.8	-0.4	-0.3	-0.2	-0.1	0.1	0.4	
0.3	0.3	0.4	0.4	0.4	0.4	0.2	0	0.1	27° 30'	0.3	-0.2	-0.9	-0.5	-0.4	-0.2	0.1	0.1	0.4	
0.6	0.8	0.6	0.3	0.2	0.1	-0.1	-0.2	-0.1	27° 15'	0.2	-0.2	-0.8	-0.4	-0.3	-0.1	0.2	0.1	0.3	
0.7	0.9	0.6	0.3	0.2	0	-0.2	-0.3	-0.2	27° 0'	0	-0.2	-0.6	-0.3	-0.2	0	0.3	0.1	0.2	
0.5	0.6	0.4	0.2	0.2	0.1	-0.1	-0.2	-0.1	26° 45'	-0.1	-0.2	-0.3	-0.2	-0.2	0.1	0.4	0.2	0.1	
0.1	0.2	0.1	0.1	0	-0.1	-0.1	-0.1	0	26° 30'	-0.1	-0.1	-0.2	-0.1	-0.1	0.2	0.5	0.2	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.1	0	0	26° 15'	-0.1	-0.2	-0.3	-0.1	0	0.1	0.4	0.2	-0.1	
-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-0.2	0	0	26° 0'	0	-0.2	-0.3	-0.1	0	0.1	0.2	0.1	0	
0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.1	0	0	25° 45'	0	-0.1	-0.2	0	0.1	0	0.1	0	0	
0.1	0.1	-0.1	-0.2	-0.1	-0.1	0	0	0	25° 30'	0	0	-0.1	0	0.1	0	0	0	0.1	
0.3	0.3	0.1	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0.1	
0.3	0.4	0.3	0.1	0	0	0	0	0	25° 0'	0	0.1	0.1	0	0	0	0	0.1	0.1	
0.2	0.3	0.2	0.1	0	0	0	0	0	24° 45'	0	0.1	0.2	0.1	0	0	0	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	24° 30'	0	0.1	0.2	0.2	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	24° 15'	0	0.1	0.2	0.1	0	0	0.1	0.1	0.1	
-0.1	-0.2	-0.2	-0.1	0	0	0	0	0	24° 0'	0	0.1	0.2	0.1	-0.1	0	0.1	0.1	0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	23° 45'	0	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 30'	0	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 15'	0	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.2	
0	0	0	0	0	0.1	0	0	0	22° 15'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.2	
0	0	0	0	0	0.1	0	0	0	22° 0'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.2	
0	0	0	0	0	0.1	0	0	0	21° 45'	0.1	0.1	0.1	0	-0.2	0	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0.1	0.1	0	-0.2	0	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	21° 15'	0.1	0.1	0.1	0.1	-0.2	0	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	21° 0'	0.1	0.1	0	0.1	-0.2	0	0.2	0.1	0.2	
0	0	0	0	0	0	0	0	0	20° 45'	0.1	0.1	0	0.1	-0.1	-0.1	0.2	0.1	0.1	
0	0	0	0	0	-0.1	0	0	0	20° 30'	0.1	0.1	0	0.1	-0.1	-0.1	0.2	0.2	0.1	
0	0	0	0	0	-0.2	-0.1	0	0	20° 15'	0.1	0.1	0	0.1	0	-0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	-0.2	-0.1	0	0.1	20° 0'	0.1	0.1	0	0.1	0	-0.1	0.1	0.1	0.2	



## Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
0.1	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	
0.2	0.1	0.1	0	0	0	0	0	0	29° 45'	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0.1	
0.2	0.2	0.1	0.1	0	0	0	0	0	29° 30'	0.2	0.2	0.1	0.1	0.1	0.1	0	0.1	0.1	
0.2	0.1	0.2	0.1	0.1	0.1	0	0	0	29° 15'	0.3	0.2	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	0	0	29° 0'	0.3	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	0	28° 45'	0.3	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	0	28° 30'	0.4	0.1	0.2	0.2	0	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	28° 15'	0.4	0.2	0.2	0.1	0	0.1	0.1	0.1	0.1	
0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	28° 0'	0.4	0.2	0.2	0.1	0	0.1	0.2	0.1	0.1	
0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.1	0.1	27° 45'	0.4	0.3	0.1	0	0.1	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	27° 30'	0.4	0.3	0.1	0	0.2	0.2	0.2	0.2	0.1	
-0.1	0	0.1	0.1	0	0	0	0	0.1	27° 15'	0.3	0.3	0.1	0	0.2	0.2	0.2	0.2	0.1	
-0.2	0	0.1	0	0	0	0	0	0.1	27° 0'	0.2	0.2	0.1	0	0.2	0.1	0.1	0.2	0	
-0.1	0.1	0.1	0	0	0	0	0	0.1	26° 45'	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0.1	26° 30'	0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	26° 15'	-0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 0'	0	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0	
0	-0.1	0	-0.1	-0.1	0	0	0	0	25° 45'	0	0.2	0.2	0.2	0.1	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	25° 30'	0.1	0.2	0.2	0.2	0.1	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	25° 15'	0.1	0.1	0.2	0.2	0	0	0.1	0	0	
0	0	0	0	0.1	0	0	0	0	25° 0'	0.1	0.1	0.2	0.2	0	0.1	0	0	0	
0	0	0	0	0.1	0	0	0	0	24° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0	
0	0	-0.1	0	0	0	0	0	0	23° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	23° 30'	0.1	0.1	0.2	0	0.1	0.1	0	0.1	0	
0	-0.1	0	0	0	0	0	0	0	23° 15'	0.1	0.2	0.2	0	0.1	0.1	0	0.1	0	
0	-0.1	0	0	0	0	0	0	0	23° 0'	0.1	0.2	0.1	0	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0.2	0.2	0.1	0	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0.2	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	22° 15'	0.2	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	22° 0'	0.2	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	21° 45'	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 15'	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 0'	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0.1	0	0	0	0	0	0	0	21° 0'	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	20° 45'	0.1	0.1	0.2	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	20° 30'	0.1	0.1	0.2	0.1	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	20° 15'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	
0.1	0	0	0.1	0	0	0	0	0	20° 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 20 to 30 °N										Longitude 100 to 104 °E									
Correction to Latitude										Correction to Longitude									
100°	100°	101°	101°	102°	102°	103°	103°	104°	Longitude	100°	100°	101°	101°	102°	102°	103°	103°	104°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0.2	0.1	0	0	30° 0'	0.1	0	0	0	-0.4	-0.4	-0.2	-0.1	0.1	
0	0	0	0	0	0.1	0	0	0	29° 45'	0.1	0	0	0	-0.4	-0.4	-0.2	-0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	0	29° 30'	0.1	0	0	0	-0.4	-0.3	-0.1	-0.2	0	
0	0	0	0	0	-0.1	-0.2	-0.1	-0.1	29° 15'	0.1	0	0	0	-0.4	-0.3	-0.1	-0.2	0	
0	0	0	0	0	-0.1	-0.2	-0.2	-0.1	29° 0'	0.1	0	0	0	-0.3	-0.2	-0.1	-0.2	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.2	-0.1	28° 45'	0.1	0	0	0	-0.3	-0.2	-0.1	-0.2	-0.1	
0	0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	28° 30'	0.1	0	0	0	-0.2	-0.1	-0.1	-0.2	-0.1	
0.1	0.1	0.1	0	0	0	-0.1	-0.1	-0.2	28° 15'	0.1	0	0	0	-0.2	-0.1	-0.1	-0.2	-0.1	
0.1	0.1	0.1	0	0	0	0	-0.1	-0.2	28° 0'	0.1	0	0.1	0	-0.2	-0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.2	27° 45'	0.1	0.1	0.1	0	-0.1	-0.1	0	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.2	27° 30'	0.1	0.1	0.1	0	-0.1	-0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	27° 15'	0.1	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	27° 0'	0	0.1	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	-0.1	26° 45'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	0	26° 30'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 15'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 0'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	25° 30'	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	25° 15'	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	25° 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	24° 45'	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	24° 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	24° 15'	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	23° 45'	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	23° 30'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	-0.1	0	0	0	23° 15'	0	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	0	23° 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	-0.1	0	0	22° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0.1	0.1	0	0	22° 15'	0.1	0	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0.1	0.1	0	0	22° 0'	0.1	0	0	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0	0	0.1	0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0.1	0	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 15'	0.1	0.1	0	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 0'	0.1	0.1	0	0.1	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	-0.1	0	20° 45'	0	0.1	0	0.1	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	20° 30'	0	0.1	0.1	0.1	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	20° 15'	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	
0	0	0	0	0	-0.1	0	0	-0.1	20° 0'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	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	
0	0	0	0	0	0	-0.1	-0.1	-0.1	29° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 30'	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	29° 15'	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
-0.1	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	29° 0'	-0.1	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	28° 45'	-0.1	0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	
-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	28° 30'	-0.1	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	-0.1	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
-0.2	-0.2	-0.3	-0.2	-0.1	-0.1	0	0	0	28° 0'	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0	27° 45'	0	0	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	0	27° 30'	0	0	0	0	0	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	27° 15'	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	-0.1	-0.1	-0.1	27° 0'	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	-0.1	0	26° 45'	0.1	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 30'	0.1	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 15'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0.1	0	0	0	0	0	26° 0'	0.1	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0.1	0	0	25° 45'	0	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0.1	0	0	0	25° 30'	0	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 15'	0	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0	0	0	0	0	0	0	25° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	-0.1	0	0	0	0	0	24° 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	0	0	23° 45'	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	23° 30'	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	0	-0.1	23° 15'	0	0	0	0	0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	-0.1	23° 0'	0	0	0	0	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	22° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	22° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	22° 0'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	21° 45'	0.1	0	0	0	0.1	0.1	0.2	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	21° 30'	0.1	0	0.1	0	0.1	0.1	0.2	0.1	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	21° 15'	0.1	0	0.1	0	0.1	0.1	0.2	0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	21° 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	0	20° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
-0.1	0	0	0	-0.1	0	0	0	0	20° 30'	0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
-0.1	0	0	-0.1	0	0	0	0	0	20° 15'	0	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	-0.1	20° 0'	0	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	

## Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
-0.1	-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	
-0.1	0	0	0	0	0	0	0	0	29° 45'	0.2	0.2	0.1	0.2	0.1	0.1	0	0	0.1	
-0.1	0	0	0	0	0	0	0	-0.1	29° 30'	0.2	0.1	0.1	0.2	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	-0.1	29° 15'	0.1	0.1	0.1	0.2	0.2	0.1	0	0	0.1	
-0.1	0	0	0	0	0	0	0	-0.1	29° 0'	0.1	0.1	0.1	0.2	0.2	0.1	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	28° 45'	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	0	0	0	0	28° 30'	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	0	0	0	0	28° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	-0.1	0	0	0	-0.1	0	0	0	28° 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	27° 45'	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	-0.1	27° 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	27° 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	0	0	27° 0'	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	0	0	26° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	-0.1	26° 30'	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	-0.1	26° 15'	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	26° 0'	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	25° 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	-0.1	-0.1	25° 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	-0.1	-0.1	25° 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	25° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	0	0	-0.1	0	0	0	24° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	23° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 15'	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	-0.1	-0.1	-0.1	-0.1	23° 0'	0.1	0.1	0.1	0.1	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	22° 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	-0.1	22° 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	0	0	0	0	-0.1	22° 15'	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	-0.1	22° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	21° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	21° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 15'	0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 0'	0	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 45'	0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	20° 30'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	20° 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	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	





# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	30° 0'	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 30'	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	0	29° 15'	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	-0.1	-0.1	0	29° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
-0.1	0	-0.1	0	0	0	0	0	0	28° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	28° 30'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	0	0	28° 15'	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	28° 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	0	0	0	0	27° 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	27° 30'	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	27° 15'	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	27° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	-0.1	0	0	-0.1	0	0	0	-0.1	26° 45'	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	0	-0.1	26° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	26° 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	26° 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	25° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	
-0.1	0	0	0	0	0	0	0	0	25° 30'	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	0	0	0	0	25° 15'	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	0	0	0	25° 0'	0.1	0.1	0.2	0	0	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.2	-0.1	0.1	0.1	0	-0.1	0	24° 45'	0.1	0.1	0.3	-0.1	-0.1	0.2	0.1	0.1	0.1	
-0.1	-0.1	-0.2	-0.1	0.2	0.2	0.1	0.1	0.1	24° 30'	0.1	0.2	0.3	-0.2	-0.2	0.2	0.2	0.1	0.1	
-0.1	-0.1	-0.2	0	0.1	0.2	0.3	0.3	0.3	24° 15'	0.1	0.2	0.3	-0.4	-0.3	0.2	0.2	0.1	0	
-0.1	-0.1	-0.1	0	0	0.2	0.3	0.4	0.4	24° 0'	0.1	0.3	0.3	-0.5	-0.3	0.2	0.2	0.2	0.1	
-0.1	-0.2	-0.1	0	-0.1	0	0.2	0.3	0.3	23° 45'	0.1	0.3	0.2	-0.5	-0.3	0	0.1	0.2	0.1	
0	-0.1	-0.1	-0.1	-0.2	-0.1	0	0.1	0.1	23° 30'	0.1	0.4	0.1	-0.5	-0.3	-0.1	0	0.1	0.1	
0	-0.1	0	0	-0.2	-0.2	-0.2	-0.1	-0.1	23° 15'	0.1	0.4	0.1	-0.4	-0.3	-0.1	0	0.1	0.1	
0	0	0.1	0	-0.2	-0.2	-0.2	-0.2	-0.2	23° 0'	0.1	0.4	0	-0.3	-0.2	-0.1	0	0.1	0.1	
0	0	0.2	0.1	-0.1	-0.2	-0.3	-0.3	-0.3	22° 45'	0.1	0.3	0	-0.2	-0.1	-0.1	0	0.1	0.1	
0	0.1	0.2	0	-0.1	-0.2	-0.2	-0.2	-0.3	22° 30'	0.1	0.2	0	-0.1	0	0	0	0.1	0.1	
0	0.1	0.1	0	-0.1	-0.1	-0.2	-0.2	-0.2	22° 15'	0.1	0.2	0	0	0	0	0	0.1	0.1	
0	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	22° 0'	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	
0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	21° 45'	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	-0.1	21° 30'	0.1	0.1	0.2	0.2	0	0	0	0.1	0.1	
0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	21° 15'	0.1	0.1	0.2	0.3	-0.1	0	0	0.1	0.1	
-0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	21° 0'	0.1	0.1	0.2	0.3	-0.1	-0.1	0	0.1	0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	20° 45'	0	0	0.2	0.4	-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	20° 30'	0	0	0.2	0.4	-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	20° 15'	0	0	0.2	0.4	-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	20° 0'	0	0	0.2	0.4	0	-0.1	0.1	0.1	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 124 to 128 °E									
Correction to Latitude										Correction to Longitude									
124° 0'	124° 30'	125° 0'	125° 30'	126° 0'	126° 30'	127° 0'	127° 30'	128° 0'	Longitude	124° 0'	124° 30'	125° 0'	125° 30'	126° 0'	126° 30'	127° 0'	127° 30'	128° 0'	Latitude
0	0	0	0	0	0	0	0	0	30° 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	0	29° 45'	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	0	0	29° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	29° 15'	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	0	0	29° 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	0	-0.1	0	28° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	-0.1	-0.1	-0.1	0	0	-0.1	0	28° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	28° 15'	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	
0	0	-0.1	-0.1	0	0	0	0	0	28° 0'	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	27° 45'	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	0	0	27° 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	27° 15'	0.1	0.1	0.1	0.1	0	0	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	-0.1	
-0.1	0	0	0	0	0.1	0	0	0	26° 45'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0.1	26° 30'	0.1	0.1	0.1	0	0.1	0.1	0.1	0	-0.1	
-0.1	0	0	0	0	0	0	0.2	0.2	26° 15'	0.1	0.1	0.1	0	0.1	0.1	0	0	-0.1	
0	0	0	0	0	0	0.1	0.3	0.3	26° 0'	0.1	0.1	0	0	0.1	0	-0.1	0	-0.1	
0	0	0	0	0	0	0.2	0.3	0.2	25° 45'	0.1	0.1	0	0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0.1	0.2	0.1	0.1	25° 30'	0.1	0.1	0.1	0.1	-0.1	-0.2	0	0.1	0	
0	0	-0.1	0	0	0.1	0.1	0	0	25° 15'	0.1	0.1	0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0.1	0.1	-0.1	-0.1	0	25° 0'	0.1	0.1	0	-0.1	-0.1	0	0	0	0	
0	0	0.1	0.1	0	-0.1	0	0	-0.1	24° 45'	0.1	0.1	0	-0.1	0	0	-0.1	0	0.1	
0.1	0.2	0.2	0.1	-0.1	0	0	0	-0.2	24° 30'	0.1	0	0	0	0.1	0	-0.1	0	0.2	
0.3	0.3	0.2	0	0	0	0.1	0	-0.1	24° 15'	0	0	0.1	0.1	0	-0.1	-0.1	0.1	0.2	
0.4	0.3	0.2	0.1	0.1	0.1	0	0	-0.2	24° 0'	0.1	0.1	0.1	0.2	0	-0.1	0	0.2	0.2	
0.3	0.2	0.2	0.1	0.1	0	0	-0.1	-0.2	23° 45'	0.1	0.1	0.2	0.2	0	0	0.1	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	-0.1	-0.2	-0.1	23° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	
-0.1	-0.1	0	0	-0.1	-0.2	-0.2	-0.1	-0.1	23° 15'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	23° 0'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	22° 45'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	22° 30'	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	-0.1	-0.1	-0.1	0	22° 15'	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	22° 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	-0.1	-0.1	-0.1	-0.1	21° 45'	0.1	0	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	21° 30'	0.1	0	0.1	0	0.1	0	0.1	0.1	0	
0	-0.1	-0.1	0	-0.1	0	-0.1	0	0	21° 15'	0.1	0	0.1	0	0.1	0	0.1	0	0	
-0.1	-0.1	0	-0.1	-0.1	0	0	0	0	21° 0'	0.1	0	0.1	0.1	0.1	0	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	20° 45'	0.1	0	0.1	0.1	0.1	0	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	20° 30'	0.1	0	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	0	20° 15'	0.1	0	0.1	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	20° 0'	0.1	0	0.1	0.1	0	0	0	0	0	





# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 132 to 136 °E									
Correction to Latitude										Correction to Longitude									
132° 0'	132° 30'	133° 0'	133° 30'	134° 0'	134° 30'	135° 0'	135° 30'	136° 0'	Longitude	132° 0'	132° 30'	133° 0'	133° 30'	134° 0'	134° 30'	135° 0'	135° 30'	136° 0'	Latitude
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	30° 0'
0	0	0	0	-0.1	0	0	0	0	29° 45'	0.2	0.2	0.2	0.1	0	0	0.1	0.1	0.1	29° 45'
-0.1	-0.1	0	0	-0.1	0	0	0	0	29° 30'	0.2	0.2	0.2	0.1	0	0	0.1	0.1	0	29° 30'
-0.1	-0.1	0	0	0	0	0	0	0	29° 15'	0.2	0.2	0.2	0.1	0	0	0.1	0.1	0	29° 15'
-0.1	-0.1	0	0	0	0	0	0	0	29° 0'	0.2	0.2	0.1	0.1	0.1	0	0.1	0.1	0.1	29° 0'
-0.2	-0.1	-0.1	0	0	0	0	0	0	28° 45'	0.2	0.1	0.1	0.1	0.1	0	0	0.1	0.1	28° 45'
-0.1	-0.1	-0.1	0	0	0	0	0	0	28° 30'	0.2	0.1	0	0.1	0.1	0	0	0	0.1	28° 30'
-0.1	-0.1	0	0	0	0	0	0	0	28° 15'	0.2	0.1	0	0	0.1	0.1	0	0	0.1	28° 15'
0	0	0	0	0	0	0	0	0	28° 0'	0.2	0.1	0	0	0.1	0.1	0	0	0.1	28° 0'
0	0	0	0	0	0	0	0	0	27° 45'	0.1	0.1	0	0	0.1	0.1	0	0	0.1	27° 45'
0	0	0	0	0	0	0	0	0	27° 30'	0.1	0.1	0	0	0	0.1	0.1	0	0.1	27° 30'
0	0	0	0	0	0	0	0	0	27° 15'	0.1	0.1	0	0	0	0.1	0.1	0	0	27° 15'
0	-0.1	0	0	0	0	0	0	0	27° 0'	0.1	0.1	0	0	0	0.1	0.1	0	0	27° 0'
-0.1	0	0	0	0	0	0	0	0	26° 45'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	26° 45'
-0.1	-0.1	0	0	0	0	0	0	0	26° 30'	0.1	0	0	0	0	0	0.1	0.1	0	26° 30'
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	26° 15'	0	0	0	0	0	0	0.1	0.1	0	26° 15'
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	26° 0'	0.1	0	0	0	0	0	0.1	0.1	0	26° 0'
0	0	-0.1	0	0	0	0	0	0	25° 45'	0.1	0	0	0	0	0	0.1	0.1	0	25° 45'
0.1	0.1	0	0	0	0	0	0	0	25° 30'	0	0.1	0	-0.1	-0.1	0	0.1	0.1	0	25° 30'
0.1	0.1	0.1	0	0	0	0	0.1	0	25° 15'	0	0.1	0.1	0	-0.1	0	0.1	0.1	0.1	25° 15'
0	0	0.1	0	-0.1	-0.1	0	0	0	25° 0'	-0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	25° 0'
-0.1	-0.1	0	0	0	-0.1	0	0	0	24° 45'	-0.1	0	0.1	0.1	0	0	0	0.1	0.1	24° 45'
-0.1	-0.1	-0.1	0	0	0	0	0	0	24° 30'	-0.1	0	0	0.1	0.1	0	0	0	0.1	24° 30'
0	-0.1	-0.1	0	0	0	0	0	0	24° 15'	-0.1	0	0	0	0.1	0	0	0	0.1	24° 15'
0	-0.1	-0.1	-0.1	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0.1	24° 0'
0	0	0	-0.1	-0.1	-0.1	0	0	0	23° 45'	0	0.1	0	0	0	0	0	0	0.1	23° 45'
0	0	0	0	-0.1	-0.1	0	0	0	23° 30'	0	0.1	0	0	0	0	0	0	0.1	23° 30'
0	0	0	0	-0.1	-0.1	-0.1	0	0	23° 15'	0	0	0	0	0	0	0	0	0.1	23° 15'
0	0	0	0	0	-0.1	-0.1	-0.1	0	23° 0'	0	0	0	0	0	0	0	-0.1	0.1	23° 0'
0	0	0	0	0	0	0	-0.1	0	22° 45'	0	0	0	0	0	0.1	0	0	0.1	22° 45'
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0.1	0	0	0.1	22° 30'
0	0	0	0	0	0	0	0	0	22° 15'	0	0.1	0	0	0	0	0	0	0.1	22° 15'
0	0	0	0	0	0	0	0	0	22° 0'	0	0.1	0	0	0	0	0	0	0.1	22° 0'
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0.1	0	0	0	0	0.1	21° 45'
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0.1	21° 30'
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0.1	21° 15'
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0.1	21° 0'
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	0	0	0	0	0	0.1	20° 45'
0	0	0	0	0	0	0	0	-0.1	20° 30'	0	0	0	0	0	0	0	0	0.1	20° 30'
0	0	0	0	0	0	0	0	-0.1	20° 15'	0	0	0	0	0	0	0	0	0.1	20° 15'
0	0	0	0	0	0	0	0	-0.1	20° 0'	0	0	0	0	0	0	0	0	0.1	20° 0'

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N  
Correction to Latitude
Longitude 136 to 140 °E  
Correction to Longitude

Latitude										Longitude									
136°	136°	137°	137°	138°	138°	139°	139°	140°	Longitude	136°	136°	137°	137°	138°	138°	139°	139°	140°	
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	30° 0'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 45'	0.1	0	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0	0.1	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0.1	0	0	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0.1	0.1	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	0.1	0	0.1	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	28° 15'	0.1	0	0.1	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	28° 0'	0.1	0	0.1	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	27° 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	27° 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	27° 15'	0	0.1	0.1	0	0	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	27° 0'	0	0.1	0.1	0.1	0.1	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	26° 45'	0	0.1	0.1	0.1	0.1	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	26° 30'	0	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 15'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0.1	0.1	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	25° 30'	0	0	0.1	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	25° 15'	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	25° 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	0	24° 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	24° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	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	0	0	22° 45'	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	0	0	22° 30'	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	0	0	22° 15'	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	22° 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	0	21° 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	21° 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	21° 15'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0.1	0.1	0.1	0	0	0.1	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	20° 30'	0.1	0.1	0.1	0	0	0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	20° 15'	0.1	0.1	0.1	0	0	0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	20° 0'	0.1	0.1	0	0	0	0.1	0	0	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	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	
0	0	0	-0.1	-0.3	-0.2	0	0	0	29° 45'	-0.1	-0.4	-0.4	-0.2	-0.5	-0.2	0.5	0.3	0.1	
0	0	-0.1	-0.2	-0.4	-0.3	0	0.1	0	29° 30'	-0.1	-0.3	-0.4	-0.1	-0.5	-0.4	0.4	0.4	0.1	
0	0	-0.1	-0.2	-0.5	-0.5	-0.1	0.1	0	29° 15'	-0.1	-0.3	-0.3	0	-0.4	-0.6	0.2	0.4	0.1	
0	-0.1	-0.1	-0.2	-0.5	-0.6	-0.2	0.1	0	29° 0'	-0.1	-0.3	-0.3	0.1	-0.2	-0.7	-0.1	0.4	0.2	
0	-0.1	-0.1	-0.2	-0.5	-0.6	-0.3	0	0	28° 45'	0	-0.2	-0.2	0.2	-0.1	-0.8	-0.3	0.3	0.2	
0	-0.1	-0.1	-0.2	-0.4	-0.5	-0.3	0	0	28° 30'	0	-0.2	-0.2	0.3	0.1	-0.8	-0.5	0.2	0.2	
0	-0.1	-0.1	-0.1	-0.3	-0.4	-0.3	0	0	28° 15'	0	-0.2	-0.2	0.4	0.3	-0.8	-0.7	0.1	0.2	
0	0	-0.1	0	-0.1	-0.3	-0.2	0	-0.1	28° 0'	0	-0.1	-0.2	0.4	0.4	-0.8	-0.9	0	0.2	
0	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	27° 45'	0	-0.1	-0.2	0.4	0.5	-0.8	-0.9	0	0.3	
0	-0.1	-0.1	0.1	0.1	0	0	0	-0.1	27° 30'	0	-0.1	-0.2	0.3	0.5	-0.8	-0.9	0.1	0.3	
0	0	0	0.1	0.2	0.1	0	-0.1	-0.1	27° 15'	0	0	-0.3	0.2	0.5	-0.7	-0.9	0.1	0.3	
0	0	0	0.1	0.2	0.2	-0.1	-0.2	-0.1	27° 0'	0	0	-0.3	0.2	0.5	-0.6	-0.8	0.1	0.3	
0	0	0	0.1	0.2	0.2	-0.1	-0.2	-0.2	26° 45'	0	0	-0.3	0.1	0.4	-0.5	-0.7	0.1	0.2	
0	0	0	0.1	0.2	0.2	-0.1	-0.3	-0.2	26° 30'	0	0	-0.3	0	0.3	-0.3	-0.5	0.1	0.2	
0	0	0	0	0.2	0.2	0	-0.2	-0.2	26° 15'	0	0	-0.3	-0.1	0.3	-0.2	-0.3	0.2	0.1	
0	0	-0.1	-0.1	0.1	0.1	0.1	-0.1	-0.1	26° 0'	0	0	-0.3	-0.2	0.2	-0.2	-0.2	0.3	0.1	
0	0	-0.1	-0.2	0	0	0.1	0	0	25° 45'	0	0	-0.2	-0.2	0.1	-0.2	-0.2	0.3	0.1	
0	0	-0.1	-0.2	-0.1	0	0.1	0.1	0	25° 30'	0	0	-0.2	-0.3	0	-0.3	-0.2	0.3	0.1	
0	-0.1	-0.1	-0.2	-0.1	0	0.1	0.2	0.1	25° 15'	0	0	-0.1	-0.3	0	-0.3	-0.3	0.3	0.1	
0	0	-0.1	-0.2	-0.1	-0.1	0	0.2	0.2	25° 0'	0	0.1	-0.1	-0.3	-0.1	-0.4	-0.3	0.3	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	0	0.2	0.3	24° 45'	0	0.1	0	-0.2	-0.1	-0.4	-0.5	0.2	0.3	
0	0	0	-0.1	-0.1	-0.1	-0.1	0.2	0.3	24° 30'	0	0.1	0	-0.2	-0.1	-0.4	-0.5	0.1	0.4	
0	0	0	-0.1	0	0	-0.1	0.1	0.3	24° 15'	0	0.1	0	-0.2	-0.2	-0.4	-0.6	-0.1	0.4	
0	0	0	-0.1	0	0	-0.1	0	0.2	24° 0'	0	0	0.1	-0.2	-0.2	-0.3	-0.6	-0.3	0.3	
0	0	0	-0.1	-0.1	0	-0.1	-0.1	0.1	23° 45'	0	0	0.1	-0.1	-0.3	-0.3	-0.5	-0.4	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	23° 30'	0	0	0.1	-0.1	-0.3	-0.3	-0.4	-0.4	-0.1	
0	0	0	0	-0.1	-0.2	-0.2	-0.3	-0.3	23° 15'	0	0	0.1	0	-0.2	-0.3	-0.4	-0.3	-0.2	
0	0	0	0	-0.1	-0.2	-0.3	-0.3	-0.4	23° 0'	0	0	0	0	-0.2	-0.3	-0.3	-0.3	-0.3	
0	0	0	0	0	-0.2	-0.3	-0.3	-0.3	22° 45'	0	0	0	0	-0.1	-0.2	-0.3	-0.2	-0.3	
0	0	0	0	-0.1	-0.1	-0.2	-0.3	-0.3	22° 30'	0	0	0	0.1	0	-0.1	-0.3	-0.2	-0.3	
0	0	0	0	0	-0.1	-0.2	-0.3	-0.3	22° 15'	0	0	0	0.1	0	-0.1	-0.2	-0.2	-0.3	
0	0	0	0	0	0	-0.1	-0.2	-0.2	22° 0'	0	0	0	0.1	0	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	-0.1	-0.1	-0.2	21° 45'	0	0	0	0.1	0	0	-0.1	-0.1	-0.2	
0	0	0	0	0	0	-0.1	-0.1	-0.1	21° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	21° 15'	0	0	0	0	0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	21° 0'	0	0	0	0	0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	20° 45'	0	0	0	0	0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	0	0	0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	20° 15'	0	0	0	0	0	0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0.1	0	0	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 144 to 148 °E									
Correction to Latitude										Correction to Longitude									
144°	144°	145°	145°	146°	146°	147°	147°	148°	Longitude	144°	144°	145°	145°	146°	146°	147°	147°	148°	
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	-0.1	0	30° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	29° 45'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	29° 30'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	0	-0.1	29° 15'	0.1	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	29° 0'	0.2	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	-0.1	28° 45'	0.2	0.1	0	-0.1	-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	28° 30'	0.2	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0.2	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	-0.1	28° 0'	0.2	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	27° 45'	0.3	0.1	0.1	0	-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	27° 30'	0.3	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	-0.1	27° 15'	0.3	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	27° 0'	0.3	0.1	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 45'	0.2	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	26° 30'	0.2	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.2	26° 15'	0.1	0	0	-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	26° 0'	0.1	-0.1	0	-0.1	-0.2	-0.1	0	-0.1	-0.2	
0	0	0.1	0.1	0	0	0	0	-0.1	25° 45'	0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0.1	0.1	0.1	0	0.1	0.1	25° 30'	0.1	-0.2	0	0	-0.1	0	0	-0.1	0	
0.1	-0.1	-0.1	0	0	0	0	0.1	0.1	25° 15'	0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
0.2	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	25° 0'	0.2	0	-0.1	-0.1	-0.1	0	0	-0.1	0.1	
0.3	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	24° 45'	0.3	0.1	0	-0.1	-0.1	0	0	-0.1	0	
0.3	0.2	0.1	0	-0.1	-0.1	0	-0.1	-0.1	24° 30'	0.4	0.2	0	0	-0.1	-0.1	0	-0.1	0	
0.3	0.2	0.1	0.1	0	0	0	0	-0.1	24° 15'	0.4	0.3	0	0	-0.1	-0.1	0	-0.1	0	
0.2	0.3	0.2	0.1	0.1	0	0	0	-0.1	24° 0'	0.3	0.3	0.1	0	0	-0.1	0	-0.1	0	
0.1	0.3	0.3	0.2	0.1	0	0	-0.1	-0.1	23° 45'	0.1	0.3	0.2	0.1	0	0	0	-0.1	0	
-0.2	0.2	0.3	0.3	0.2	0.1	0	0	-0.1	23° 30'	-0.1	0.1	0.2	0.1	0.1	0	0	0	0	
-0.3	0	0.3	0.3	0.2	0.1	0	0	0	23° 15'	-0.2	-0.1	0.2	0.2	0.1	0.1	0	0	0	
-0.4	-0.2	0.2	0.3	0.3	0.1	0	0	0	23° 0'	-0.3	-0.3	0	0.2	0.2	0.1	0.1	0	0	
-0.3	-0.3	0	0.2	0.3	0.2	0.1	0	0	22° 45'	-0.3	-0.4	-0.1	0.1	0.2	0.2	0.1	0.1	0	
-0.3	-0.3	-0.2	0	0.2	0.2	0.1	0	0	22° 30'	-0.3	-0.5	-0.3	0	0.2	0.3	0.2	0.1	0.1	
-0.3	-0.4	-0.4	-0.2	0.1	0.2	0.1	0	0	22° 15'	-0.3	-0.4	-0.4	-0.2	0.2	0.3	0.2	0.1	0.1	
-0.2	-0.3	-0.4	-0.3	-0.1	0.1	0.1	0	0	22° 0'	-0.2	-0.4	-0.4	-0.3	0	0.3	0.3	0.2	0.1	
-0.2	-0.3	-0.4	-0.4	-0.2	0	0.1	0	0	21° 45'	-0.2	-0.3	-0.4	-0.4	-0.1	0.2	0.3	0.2	0.1	
-0.1	-0.2	-0.3	-0.4	-0.3	-0.1	0.1	0.1	0	21° 30'	-0.1	-0.2	-0.3	-0.4	-0.2	0.1	0.3	0.2	0.1	
-0.1	-0.2	-0.3	-0.4	-0.3	-0.1	0.1	0.1	-0.1	21° 15'	-0.1	-0.2	-0.3	-0.4	-0.3	-0.1	0.2	0.3	0.1	
-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	0	0	-0.1	21° 0'	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	0.1	0.4	0.1	
-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	0	0	20° 45'	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	0	0.4	0.1	
0	0	-0.1	-0.1	-0.2	-0.2	-0.1	0	0.1	20° 30'	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4	-0.1	0.3	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	20° 15'	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4	-0.1	0.3	0.2	
0	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	20° 0'	0	-0.1	-0.1	-0.2	-0.3	-0.4	-0.2	0.2	0.2	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 148 to 152 °E									
Correction to Latitude										Correction to Longitude									
148° 0'	148° 30'	149° 0'	149° 30'	150° 0'	150° 30'	151° 0'	151° 30'	152° 0'	Longitude	148° 0'	148° 30'	149° 0'	149° 30'	150° 0'	150° 30'	151° 0'	151° 30'	152° 0'	
									Latitude										
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	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 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	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	-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	-0.1	-0.1	-0.1	-0.1	29° 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	-0.1	0	28° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	28° 30'	-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	0	0	0	28° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	28° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	27° 45'	-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	-0.2	27° 30'	-0.1	-0.1	-0.2	-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	-0.1	27° 15'	-0.1	-0.1	-0.2	-0.1	0	-0.1	0	0	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	27° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	0.1	0	0	-0.1	-0.1	-0.1	0	0	26° 45'	-0.1	0	-0.1	-0.1	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	26° 30'	-0.1	-0.1	0	0	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	26° 15'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	26° 0'	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.1	0	0	0	0	-0.1	0	25° 45'	-0.1	-0.2	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.1	-0.1	-0.1	0	0	0	0	0	0	25° 30'	0	-0.1	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	25° 15'	0	-0.1	-0.2	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	-0.1	0	0	0	0	25° 0'	0.1	0	-0.2	-0.1	0	0	0	-0.1	0	
0	0	0	-0.1	-0.2	-0.1	0	0	0	24° 45'	0	-0.1	-0.2	0	0	-0.1	0	0	0	
-0.1	0	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	24° 30'	0	-0.1	-0.1	0.1	0	-0.2	-0.1	0	0	
-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	24° 15'	0	-0.1	-0.1	0.1	0.1	-0.2	-0.2	0	0	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	24° 0'	0	-0.1	-0.1	0	0.1	-0.1	-0.2	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	23° 45'	0	0	-0.1	0	0.1	-0.1	-0.2	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	23° 30'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	23° 15'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 45'	0	0	-0.1	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	22° 30'	0.1	0	-0.1	0	-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	22° 15'	0.1	0	-0.1	0	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	22° 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	21° 45'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0	0	-0.1	0	-0.1	-0.1	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	21° 15'	0.1	0	0	0	0	-0.1	0	0	-0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	0	21° 0'	0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	-0.1	-0.1	-0.2	-0.2	0	0	0	20° 45'	0.1	-0.1	0	0.1	-0.1	-0.2	0	0	0	
0.1	0	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	20° 30'	0.2	-0.1	0	0.1	0	-0.3	-0.1	0	-0.1	
0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	20° 15'	0.2	0.1	0.1	0.1	0	-0.3	-0.1	0	-0.1	
0.1	0	-0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.2	20° 0'	0.2	0.2	0	-0.1	0.1	-0.2	-0.2	0	-0.2	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 152 to 156 °E									
Correction to Latitude										Correction to Longitude									
152°	152°	153°	153°	154°	154°	155°	155°	156°	Longitude	152°	152°	153°	153°	154°	154°	155°	155°	156°	
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	0	0	0	30° 0'	-0.1	-0.1	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	29° 45'	-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	0	0	29° 30'	-0.1	-0.1	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	29° 15'	-0.1	-0.1	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	29° 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	28° 45'	-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	-0.1	-0.1	0	28° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 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	28° 0'	-0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 45'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 15'	-0.1	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 0'	-0.1	-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	26° 45'	-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	-0.1	0	0	26° 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	-0.1	0	0	0	26° 15'	-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	0	26° 0'	-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	25° 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	-0.1	-0.1	-0.1	-0.1	-0.1	25° 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	0	-0.1	-0.1	-0.1	-0.1	25° 15'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	25° 0'	0	0	-0.1	-0.1	-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	24° 45'	0	0	-0.1	-0.1	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	24° 30'	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	-0.1	0	-0.1	-0.1	24° 15'	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	24° 0'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.3	-0.2	0	0	0	-0.1	-0.1	23° 45'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	-0.1	-0.3	-0.2	0	0	-0.1	-0.1	-0.1	23° 30'	-0.1	0	0	-0.2	-0.2	-0.1	0	0	-0.1	
0	0	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	23° 15'	-0.1	0.1	0.1	-0.3	-0.2	0	0	0	-0.1	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	23° 0'	-0.1	0.1	0.1	-0.3	-0.2	0	0	-0.1	-0.1	
-0.1	0	0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	22° 45'	-0.1	0	0.1	-0.2	-0.1	0	0	-0.1	-0.1	
-0.1	-0.1	0.1	0.1	-0.1	-0.1	0	0	0	22° 30'	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	22° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.2	-0.1	-0.1	-0.2	0	0	21° 45'	-0.1	-0.1	0	-0.2	-0.1	0	-0.1	-0.1	0	
0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	21° 30'	-0.1	0	0	-0.2	-0.1	0.1	-0.2	-0.2	0	
0	-0.1	0	0	0	-0.1	-0.1	0	-0.1	21° 15'	-0.1	0	0	-0.2	-0.1	0.1	-0.2	-0.2	0	
0	0	0	0.1	0	0	0	0	-0.2	21° 0'	-0.1	0	0	-0.2	0	0.1	-0.2	-0.2	0	
0	0	0.1	0	0	0.1	0.1	0	-0.1	20° 45'	0	0	-0.1	-0.1	-0.1	0.1	-0.2	-0.1	0.1	
-0.1	0	0	-0.1	-0.1	0.1	0.1	0	-0.1	20° 30'	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	0	0.1	
-0.1	0	-0.1	-0.2	-0.2	0	0	-0.1	0	20° 15'	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	0.1	
-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0.1	20° 0'	-0.2	-0.1	0	0	-0.2	-0.1	-0.1	0	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 156 to 160 °E									
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	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	-0.1	0	0	0	0	0	29° 45'	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	-0.1	0	0	0	0	0	29° 30'	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	-0.1	0	0	28° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	
-0.1	0	0	0	0	0	-0.1	0	0	28° 15'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	
-0.1	0	0	0	0	0	-0.1	0	0	28° 0'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	0	27° 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	-0.1	-0.1	0	27° 30'	-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	-0.1	-0.1	-0.1	0	27° 15'	-0.1	-0.1	-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	-0.1	0	27° 0'	-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	26° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	0	0	26° 30'	-0.1	-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	26° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	26° 0'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	25° 45'	-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	-0.1	-0.1	-0.1	0	25° 30'	-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	-0.1	-0.1	0	25° 15'	-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	-0.1	-0.1	0	25° 0'	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	24° 45'	-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	-0.1	-0.1	0	24° 30'	-0.1	-0.1	-0.1	-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	24° 15'	-0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	0	24° 0'	-0.1	0	0	-0.1	-0.1	0	0	-0.2	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	23° 45'	-0.1	0	0	-0.1	-0.1	0	0.1	-0.1	-0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0.1	0.1	0	23° 30'	-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0.1	0.1	0	23° 15'	-0.1	0	0	-0.1	-0.1	-0.2	0	0	-0.1	
0	0	0	0	0	0	0	0	0	23° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	22° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	
0	-0.1	0	0	0	0	-0.2	-0.2	0	22° 30'	-0.1	0	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	-0.1	-0.1	0	22° 15'	-0.1	0	-0.1	0	-0.1	0	0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	22° 0'	-0.1	0	-0.2	-0.1	-0.1	0	0.1	-0.1	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.2	0	-0.1	0	21° 45'	0	0	-0.2	-0.1	0	-0.1	0.1	-0.1	-0.1	
-0.1	0	-0.1	-0.2	-0.2	-0.2	0	0	0	21° 30'	0	0	-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	21° 15'	0	0	0	-0.1	0	-0.2	-0.1	0.1	-0.1	
-0.2	-0.2	-0.1	0	0	0	0	0.1	0	21° 0'	0	0	0	-0.1	0	-0.2	-0.1	0	-0.1	
-0.1	-0.2	-0.1	0	0.1	0.1	0	0.1	0	20° 45'	0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	0	0	0	0	-0.1	0	0	20° 30'	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	-0.1	-0.1	0	20° 15'	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	
0.1	0.1	0	-0.2	-0.2	-0.1	0	-0.1	0	20° 0'	0.1	0	-0.2	-0.1	-0.1	-0.1	0	0	0.1	



## Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 160 to 164 °E									
Correction to Latitude										Correction to 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	-0.1	-0.1	-0.1	-0.1	0	30° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	29° 30'	0	0	-0.1	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	29° 15'	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	29° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	-0.1	27° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	27° 30'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	27° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	27° 0'	-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	26° 45'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	26° 30'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 15'	-0.1	-0.1	-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	26° 0'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	25° 45'	-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	-0.1	-0.1	-0.1	25° 30'	-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	-0.1	-0.1	-0.1	25° 15'	-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	-0.1	-0.1	-0.1	25° 0'	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	24° 45'	-0.1	-0.1	0	0	-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	24° 30'	-0.1	0	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	24° 15'	-0.1	0	-0.1	0	0	-0.1	0	-0.1	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	24° 0'	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	-0.1	-0.1	0	-0.1	-0.1	23° 45'	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	23° 30'	-0.1	0	-0.1	0	0.1	-0.1	-0.1	0	-0.1	
0	0	0	-0.1	0	0	-0.1	-0.1	0	23° 15'	-0.1	0	-0.1	0	0.1	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	23° 0'	0	0	-0.1	-0.1	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	22° 45'	0	0	-0.1	-0.1	0	0	-0.1	0	-0.1	
-0.1	0	-0.1	-0.2	-0.1	-0.1	0	0	-0.1	22° 30'	-0.1	0	0	-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	22° 15'	-0.1	0	0	0	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	22° 0'	-0.2	0	0	0	-0.1	-0.1	-0.1	0	0	
-0.2	-0.1	-0.1	0	0	-0.1	-0.2	-0.2	-0.1	21° 45'	-0.1	0	-0.1	0	-0.1	-0.1	0	-0.1	0	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	21° 30'	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	
0	0	-0.1	0	0	0	-0.1	-0.1	-0.1	21° 15'	-0.1	-0.1	-0.1	0	0	0	0	-0.2	-0.1	
0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.1	21° 0'	-0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	20° 45'	0	0.1	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.1	
-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 30'	0.1	0.2	-0.1	-0.2	-0.1	0	0.1	-0.1	-0.1	
-0.2	-0.2	0	0	-0.2	-0.2	-0.1	0	0	20° 15'	0.1	0.1	-0.2	-0.2	0	0	0.1	-0.1	-0.2	
-0.2	-0.1	0.1	0	-0.2	-0.2	0	0.1	0	20° 0'	0.1	0	-0.2	0	0	-0.1	0	-0.1	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	0	0	-0.1	0	30° 0'	0	0	-0.1	-0.1	0	0	0	0	0	30° 0'
-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	0	29° 45'	0	-0.1	-0.1	0	0	-0.1	0	0	0	29° 45'
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	29° 30'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	29° 30'
0	0	0	-0.1	0	-0.1	-0.1	0	0	29° 15'	-0.1	-0.1	0	0	0	-0.1	0	0	0	29° 15'
0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	29° 0'	-0.1	-0.1	0	0	0	0	-0.1	0	0	29° 0'
0	0	-0.1	-0.1	0	0	-0.1	0	0	28° 45'	-0.1	-0.1	0	0	0	0	-0.1	0	0	28° 45'
0	-0.1	-0.1	0	0	0	-0.1	-0.1	0	28° 30'	-0.1	-0.1	0	-0.1	0	0	0	0	0	28° 30'
0	-0.1	0	0	0	0	0	0	0	28° 15'	-0.1	0	0	-0.1	0	0	0	0	0	28° 15'
0	-0.1	0	0	-0.1	0	0	0	0	28° 0'	0	0	-0.1	0	0	0	0	0	-0.1	28° 0'
-0.1	-0.1	0	0	-0.1	0	0	0	0	27° 45'	0	0	-0.1	0	0	-0.1	0	-0.1	0	27° 45'
0	0	0	0	0	0	0	0	0	27° 30'	0	0	-0.1	0	0	-0.1	0	0	0	27° 30'
0	0	0	0	0	0	0	0	0	27° 15'	0	-0.1	-0.1	0	0	-0.1	0	0	0	27° 15'
0	0	0	0	0	0	0	0	0	27° 0'	0	-0.1	0	0	0	-0.1	0	0	0	27° 0'
0	0	-0.1	-0.1	0	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	26° 45'
0	0	-0.1	-0.1	0	0	0	-0.1	0	26° 30'	0	0	0	0	-0.1	0	0	0	0	26° 30'
-0.1	0	0	0	0	0	0	-0.1	0	26° 15'	0	0	0	0	-0.1	-0.1	0	0	-0.1	26° 15'
-0.1	-0.1	0	0	0	0	-0.1	-0.1	0	26° 0'	-0.1	0	0	0	-0.1	0	0	0	0	26° 0'
-0.1	0	0	0	0	-0.1	-0.1	0	0	25° 45'	-0.1	0	0	0	0	0	0	0	-0.1	25° 45'
-0.1	0	0	0	0	-0.1	0	0	-0.1	25° 30'	-0.1	-0.1	0	-0.1	0	0	0	0	-0.1	25° 30'
-0.1	0	0	0	-0.1	-0.1	0	0	-0.1	25° 15'	-0.1	-0.1	0	0	0	0	0	0	0	25° 15'
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	25° 0'	-0.1	-0.1	0	0	0	0	0	0	0	25° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 45'	-0.1	-0.1	0	0	0	-0.1	0	0	0	24° 45'
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	24° 30'	-0.1	-0.1	0	0	0	-0.1	0	0	0	24° 30'
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	24° 15'	0	-0.1	0	0	-0.1	0	0	0	0	24° 15'
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	24° 0'	-0.1	-0.1	0	0	-0.1	0	0	0	0	24° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	-0.1	-0.1	0	0	-0.1	0	0	0	0	23° 45'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	23° 30'	-0.1	-0.1	0	0	-0.1	0	0	0	0	23° 30'
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	23° 15'	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	23° 15'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 0'	-0.1	0	-0.1	-0.1	0	-0.1	0	0	0	23° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 45'	-0.1	0	-0.1	-0.1	0	-0.1	0	-0.1	0	22° 45'
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	22° 30'	0	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	0	22° 30'
0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	22° 15'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	22° 15'
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 0'	0	0	0	-0.1	-0.1	0	0	0	0	22° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	21° 45'	0	0	0	-0.1	0	0	0	0	0	21° 45'
-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	21° 30'	-0.1	-0.1	0	-0.1	0	0	-0.1	0	0	21° 30'
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 15'	-0.1	-0.1	0	0	0	0	-0.1	0	0	21° 15'
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	21° 0'	-0.1	-0.1	0	0	0	0	-0.1	0	0	21° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	20° 45'	-0.1	-0.1	0	0	0	0	-0.1	0	0	20° 45'
-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	20° 30'	-0.1	-0.1	0	0	-0.1	0	-0.1	0	0	20° 30'
0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	-0.2	0	0	0	-0.1	0	-0.1	0	0	20° 15'
0	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.1	-0.1	20° 0'	-0.1	0	0	0	0	0	0	0	-0.1	20° 0'

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 168 to 172 °E									
Correction to Latitude										Correction to Longitude									
168°	168°	169°	169°	170°	170°	171°	171°	172°	Longitude	168°	168°	169°	169°	170°	170°	171°	171°	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	30° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	
0	-0.1	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	0	0	0	0	0	0	28° 15'	0	0	-0.1	0	0	0	0	0	0	
0	-0.1	-0.1	0	0	0	0	0	0	28° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 45'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	-0.1	0	0	-0.1	-0.1	0	27° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	-0.1	26° 45'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	26° 30'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	26° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	26° 0'	-0.1	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 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	25° 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	25° 15'	0	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	25° 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	24° 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	24° 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	24° 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	24° 0'	0	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	23° 45'	0	-0.1	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	23° 30'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	23° 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	23° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	22° 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	22° 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	22° 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	22° 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	21° 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	21° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	21° 15'	0	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	21° 0'	0	0	-0.1	0	0	0	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 45'	0	0	0	0	0	0	0	0	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	20° 30'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.1	0	-0.1	0	-0.1	0	0	0	-0.1	20° 15'	0	-0.1	0	0	0	0	-0.1	0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	20° 0'	0	-0.1	0	0	0	-0.1	-0.1	0.1	-0.1	

# Correct Astronomical Position to WGS84

**Latitude 20 to 30 °N**
**Longitude 172 to 176 °E**

**Correction to Latitude**
**Correction to Longitude**

Latitude										Longitude									
172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	Latitude	172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	Longitude
0	0	-0.1	0	0	0	0	0	0	30° 0'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	-0.1	-0.1	0	29° 45'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	0	0	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	0	0	0	0	0	0	25° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	25° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	25° 15'	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	25° 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	-0.1	-0.1	24° 45'	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	24° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 15'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	24° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	23° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	23° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	23° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	23° 0'	0	0	0	0	0	-0.1	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	22° 45'	0	0	0	0	0	-0.1	0.1	0	0	0
0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	22° 30'	0	0	0	0	-0.1	0	0.1	0	-0.1	0
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	22° 15'	0	0	0	-0.1	0	0.1	0.1	-0.1	-0.1	0
-0.1	-0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	22° 0'	0	0	0	-0.1	0	0.1	0.1	-0.1	-0.1	0
-0.1	-0.1	0	0	-0.1	-0.2	-0.1	0	-0.2	21° 45'	0	0	0	0	0.1	0.1	0	-0.1	0	0
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	21° 30'	0	0	0	0	0.1	0	-0.1	0	0.1	0
0	0	-0.1	-0.1	0	0	0	0	0	21° 15'	0	0	0	0	0.1	0	-0.1	0	0.1	0
-0.1	0	-0.1	-0.1	0	0	0	0	0	21° 0'	0	0	0	0	0	0	-0.1	0	0.1	0
-0.1	0	0	-0.1	0	0	0	-0.1	0	20° 45'	-0.1	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	20° 30'	-0.1	-0.1	0.1	0	0	0	0	0	0	0
-0.1	0	0	0	-0.1	0	0	0	0	20° 15'	-0.1	-0.1	0.1	0	0	0	0	0	0.1	0
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	20° 0'	-0.1	-0.1	0.1	0	0	0	0	0	0.1	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	-0.1	-0.1	30° 0'	0	0	0	0	0	0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	29° 45'	0	0	0	0	0	0.1	0	-0.1	-0.1	
0	0	0	-0.1	0	0	0.1	0	-0.1	29° 30'	0	0	0	0	0	0.1	0.1	-0.1	0	
0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	-0.1	29° 15'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	-0.1	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	-0.1	0	0	28° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	-0.1	0	0	28° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	28° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	27° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 45'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0	
-0.1	0	-0.1	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	24° 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	23° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	23° 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	23° 15'	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	23° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	22° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 30'	-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	22° 15'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	22° 0'	-0.1	0	0	0	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	21° 45'	0	0	0	0	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	21° 30'	0.1	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	21° 15'	0.1	0	0	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0.1	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	-0.1	0	0	0	-0.1	20° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	0	0	0	-0.1	20° 0'	0	0	-0.1	0	0	0	0	0	0	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	-0.1	-0.1	-0.1	-0.1	-0.1	30° 0'	0	0	0	0.1	0	0	0	0	0	0
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	0	0	0	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	-0.1	29° 30'	0	0	0	0.1	0	-0.1	0	0	0	0
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	29° 15'	0	0	0	0.1	0	-0.1	0.1	0	0	0
-0.1	-0.1	0	0	0	0	-0.1	0	0	29° 0'	0	0	0	0.1	0	0	0.1	0	0	0
-0.2	-0.1	0	0	0	0	-0.1	0	0	28° 45'	0	-0.1	0	0.1	0	0	0.1	0	0	0
-0.2	-0.2	-0.1	0	0	0	0	0	0	28° 30'	0	-0.1	-0.1	0	0	0.1	0.1	0	0	0
-0.2	-0.2	-0.1	0	0	0	0	0	0	28° 15'	0.1	-0.2	-0.1	0	0	0.1	0.1	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	28° 0'	0.2	-0.2	-0.2	0	0	0.1	0.1	0	0	0
0	0	0	0	0	0	0	0	0	27° 45'	0.2	-0.2	-0.2	0	0	0.1	0.1	0.1	0	0
0.1	0.2	0	0	0	0	0	0	0	27° 30'	0.1	-0.2	-0.1	0	0	0.1	0	0.1	0	0
0.1	0.1	0	0	0	0	0	0	0	27° 15'	0	-0.1	-0.1	0	0	0	0	0.1	0	0
0	0	-0.1	-0.1	-0.2	-0.1	0	0	0	27° 0'	-0.1	-0.1	0	0	0	0	0	0	0.1	0
0	0	-0.1	-0.2	-0.3	-0.3	-0.1	0	-0.1	26° 45'	-0.1	-0.1	0	0.1	0	0	0	0	0.1	0.1
0.1	0	-0.1	-0.3	-0.4	-0.4	-0.2	-0.1	-0.2	26° 30'	-0.1	0	0.1	0.2	0	-0.1	-0.2	0.1	0.1	0
0.1	0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.3	26° 15'	0	0	0.2	0.3	0.1	-0.2	-0.2	0.1	0.2	0
0	0	0	0	0	-0.1	-0.1	-0.3	-0.3	26° 0'	0	0	0.2	0.3	0.1	-0.2	-0.2	0.1	0.2	0
-0.1	-0.1	0	0.1	0.2	0.2	0	-0.2	-0.2	25° 45'	0	0	0.1	0.2	0.1	-0.1	-0.1	0.2	0.1	0
-0.1	-0.1	0	0.1	0.2	0.3	0.1	0	0.1	25° 30'	0	0	0.1	0.1	0.1	-0.1	0.1	0.3	0	0
0	0	0	0.1	0.1	0.1	0.1	0.1	0.2	25° 15'	0	0	0	0.1	0	0	0.2	0.3	-0.1	0
0	0	0	0	0	0	0	0.1	0.2	25° 0'	0	0	0	0	0	-0.1	0.2	0.2	-0.1	0
0	0	0	0	0	-0.1	-0.1	0.1	0.1	24° 45'	0	0	0	0	0	0	0.1	0.1	-0.1	0
0	0	0	0	0	-0.1	-0.1	0	0	24° 30'	0	0	0	0	0.1	0	0	0.1	0	0
0	0	-0.1	-0.1	0	0	-0.1	0	0	24° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	24° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	0	0	0	0	0	0	0.1	0	0	0
0	0	0	0	-0.1	-0.1	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0.1	0.1	0	0	0	0	0.1
0	0	0	0	0	0	0	0	-0.1	22° 45'	0	0	0	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0.1	0.1	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0.1	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0.1	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0.1	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0.1	0	0	0	0	0
0	0	0	0	0	0	0	-0.1	0	20° 45'	0	0	0.1	0	0.1	0	0	0	0	0
0	0	0	0	0	0	-0.1	-0.1	0	20° 30'	0	0	0.1	0	0	0	0.1	0	0	0
0	-0.1	0	0	0	0	-0.1	-0.1	0	20° 15'	0	0	0.1	0	0	0.1	0.1	0	0	0
-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	20° 0'	0	0	0	0	0	0.1	0.1	0	0	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 172 to 168 °W									
Correction to Latitude										Correction to Longitude									
172°	171°	171°	170°	170°	169°	169°	168°	168°	Longitude	172°	171°	171°	170°	170°	169°	169°	168°	168°	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	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	30° 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	-0.1	-0.1	29° 45'	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	29° 30'	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	29° 15'	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	-0.1	29° 0'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 45'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 30'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 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	-0.1	28° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 45'	0	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	27° 30'	0	0.1	0	0	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 15'	0	0.1	0	0	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0	0.1	0.1	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	26° 45'	0.1	0	0.1	0.1	0	0	0.1	0	0	0
-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0	26° 30'	0.1	0	0	0.1	0	0	0	0	0	0
-0.3	-0.3	-0.4	-0.3	-0.1	-0.2	-0.2	-0.1	-0.1	26° 15'	0.2	0	0	0	0	0.1	0	0	0	0
-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2	-0.3	-0.3	26° 0'	0.2	0	0	-0.1	-0.1	0.1	0	0	0	0
-0.2	-0.1	-0.3	-0.4	-0.3	-0.2	-0.2	-0.3	-0.4	25° 45'	0.1	0	0.2	-0.2	-0.2	0.1	0.1	0	0	0
0.1	0.2	0	-0.1	-0.2	-0.1	0	-0.3	-0.4	25° 30'	0	0.1	0.3	-0.1	-0.2	0	0.1	0.2	0	0
0.2	0.2	0.3	0.2	0	0.1	0.1	-0.1	-0.2	25° 15'	-0.1	0	0.3	0	-0.2	-0.1	0.2	0.3	0	0
0.2	0.1	0.3	0.4	0.2	0.1	0.1	0	0	25° 0'	-0.1	0	0.3	0.1	-0.1	-0.1	0.3	0.4	0	0
0.1	0	0.2	0.3	0.2	0.1	0	0.1	0.1	24° 45'	-0.1	0	0.1	0.1	0	-0.1	0.3	0.4	0	0
0	-0.1	0	0.1	0.1	0	0	0.2	0.2	24° 30'	0	0	0	0	0.1	0	0.2	0.3	0.1	0
0	-0.1	-0.1	-0.1	0	0	0	0.2	0.3	24° 15'	0	0	0	0	0	0	0.2	0.2	0.1	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.2	0.3	24° 0'	0	0	0	0	0	0	0.1	0.1	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	23° 45'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	23° 30'	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	-0.1	23° 15'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	23° 0'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-0.1	-0.1	-0.1	22° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	22° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	22° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	0	-0.1	0	0	0	0	20° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	-0.1	0	0	0	0	0	20° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 15'	0	0	0.1	0	0	0	0	0	0	0
0	-0.1	0	0	0.1	0	0	0	0	20° 0'	0	0	0.1	0	0	0	0	0	0	0







# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 160 to 156 °W									
Correction to Latitude										Correction to Longitude									
160°	159°	159°	158°	158°	157°	157°	156°	156°	Longitude	160°	159°	159°	158°	158°	157°	157°	156°	156°	
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	30° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	29° 45'	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	29° 30'	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	29° 15'	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	29° 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	-0.1	-0.1	28° 45'	0	0	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	28° 30'	0	0	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	28° 15'	0	-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	28° 0'	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	27° 45'	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	27° 30'	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	-0.1	0	-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	-0.1	-0.1	-0.1	27° 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	-0.1	-0.1	-0.1	-0.1	26° 45'	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	-0.1	-0.1	-0.1	26° 30'	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	-0.1	-0.1	-0.1	26° 15'	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	-0.1	-0.1	-0.1	26° 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	-0.1	-0.1	-0.1	25° 45'	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	-0.1	-0.1	25° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	25° 15'	0	0	0	0	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	25° 0'	0	0	0	0	0	0	0	-0.1	-0.1	-0.1
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 45'	0	0	0	0	0	0	0	-0.1	-0.1	-0.1
0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	24° 30'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	-0.1	24° 15'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	0
0	-0.1	0	0	0	0	0.1	0	0	23° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.2	-0.1	0	0.1	0	0	0	0	23° 0'	0	0	-0.1	0	0	0	0	0	0	0
-0.3	-0.4	-0.2	0	0.1	0	0	0.1	0.1	22° 45'	0.1	0	-0.2	-0.1	0	0	0	0	0	0
-0.4	-0.4	-0.3	-0.1	-0.1	0	0.1	0.1	0.1	22° 30'	0.2	0	-0.3	-0.2	0	0	0	0	0	0
-0.3	-0.3	-0.2	-0.3	-0.3	-0.1	0	0.1	0.1	22° 15'	0.2	-0.1	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	0	0
-0.1	0	-0.1	-0.4	-0.5	-0.3	-0.1	0	0.1	22° 0'	0.2	-0.2	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	0	0
0.2	0.3	0.1	-0.2	-0.5	-0.5	-0.4	-0.3	-0.1	21° 45'	0.1	-0.2	-0.1	0.1	-0.1	-0.3	-0.3	-0.2	-0.1	0
0.4	0.3	0.2	0.1	-0.2	-0.4	-0.6	-0.6	-0.4	21° 30'	0	-0.1	0.1	0.3	0	-0.3	-0.3	-0.3	-0.2	0
0.3	0.2	0.2	0.2	0.1	-0.1	-0.4	-0.6	-0.6	21° 15'	0	-0.1	0.1	0.3	0.2	-0.1	-0.1	-0.3	-0.4	0
0.1	0.1	0.1	0.2	0.4	0.2	-0.1	-0.4	-0.6	21° 0'	0	0	0	0.2	0.3	0.1	0.1	-0.2	-0.5	0
0	0	0	0.1	0.4	0.4	0.2	0	-0.4	20° 45'	0	0	0	0.1	0.2	0.2	0.2	0	-0.4	0
-0.1	0	0	0	0.2	0.3	0.4	0.3	-0.2	20° 30'	0	0	0	0	0.1	0.2	0.3	0.2	-0.1	0
0	0	0	0	0.1	0.2	0.3	0.4	-0.1	20° 15'	0	0	0	0	0	0.1	0.2	0.3	0.2	0
0	-0.1	0	0	0	0	0.2	0.3	-0.1	20° 0'	0	0	0	0	0	0	0.1	0.4	0.6	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 156 to 152 °W									
Correction to Latitude										Correction to Longitude									
156°	155°	155°	154°	154°	153°	153°	152°	152°	Longitude	156°	155°	155°	154°	154°	153°	153°	152°	152°	
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	30° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 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	29° 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	28° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	28° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	27° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	27° 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	0	0	26° 45'	-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	26° 30'	-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	0	0	26° 15'	-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	0	0	26° 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	0	0	25° 45'	-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	0	25° 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	-0.1	0	0	0	25° 15'	-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	25° 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	24° 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	0	24° 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	-0.1	-0.1	0	0	24° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	24° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	23° 45'	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	23° 30'	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	23° 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	23° 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	0	0	0	22° 45'	0	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	22° 30'	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	0	0	22° 15'	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	0	0	22° 0'	0	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	21° 45'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.4	-0.1	0	0.1	0	0	0	0	0	21° 30'	-0.2	-0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.6	-0.3	-0.1	0	0	0	0	0	0	21° 15'	-0.4	-0.2	0	0	0	0	-0.1	-0.1	-0.1	
-0.6	-0.5	-0.2	0	0	0	0	0	0	21° 0'	-0.5	-0.4	-0.2	0	0	0	0	-0.1	-0.1	
-0.4	-0.5	-0.2	0	0	0	0	0	0	20° 45'	-0.4	-0.5	-0.4	-0.1	0	0	0	-0.1	-0.1	
-0.2	-0.5	-0.4	-0.1	0	0	0	0	0	20° 30'	-0.1	-0.5	-0.5	-0.2	0	0	0	0	-0.1	
-0.1	-0.6	-0.5	-0.2	0	0	0	0	0	20° 15'	0.2	-0.4	-0.7	-0.3	-0.1	0	0	0	-0.1	
-0.1	-0.6	-0.5	-0.3	0	0	0	0	0	20° 0'	0.6	-0.2	-0.8	-0.5	-0.1	0	0	0	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 152 to 148 °W									
Correction to Latitude										Correction to Longitude									
152°	151°	151°	150°	150°	149°	149°	148°	148°	Longitude	152°	151°	151°	150°	150°	149°	149°	148°	148°	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	0	-0.1	-0.1	-0.1	-0.1	30° 0'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0	0	0	0	0	0	-0.1
0	-0.1	-0.1	-0.1	0	0	0	0	0	29° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	29° 15'	0	0	0	0	-0.1	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	29° 0'	0	0	0	-0.1	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 15'	0	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 15'	-0.1	0	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 0'	0	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	25° 45'	0	-0.1	-0.1	0	0	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	25° 30'	-0.1	0	-0.1	0	0	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	25° 15'	-0.1	0	-0.1	0	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	25° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	24° 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	24° 15'	-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	24° 0'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	23° 45'	-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	23° 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	23° 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	23° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	22° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	22° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 45'	-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	0	21° 30'	-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	0	21° 15'	-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	0	21° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	20° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	20° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	20° 15'	-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	0	0	20° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 148 to 144 °W									
Correction to Latitude										Correction to Longitude									
148°	147°	147°	146°	146°	145°	145°	144°	144°	Longitude	148°	147°	147°	146°	146°	145°	145°	144°	144°	
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	30° 0'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 45'	-0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 45'	0	0	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 45'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	26° 30'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	26° 15'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0	0	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	25° 30'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0	-0.1	0	-0.1	0	
0	0	0	0	0	0	0	0	0	24° 30'	-0.1	0	0	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	24° 15'	-0.1	0	0	0	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 0'	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 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	23° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	23° 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	22° 45'	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	22° 30'	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	22° 15'	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	22° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	21° 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	21° 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	21° 15'	-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	21° 0'	-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	20° 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	20° 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	20° 15'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	20° 0'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	







# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	0	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 45'	0	-0.1	0	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 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	27° 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	27° 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	27° 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	26° 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	26° 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	26° 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	26° 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	25° 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	25° 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	25° 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	25° 0'	-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	24° 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	24° 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	24° 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	24° 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	23° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 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	23° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	22° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	22° 30'	-0.1	-0.1	0	-0.1	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	0	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	22° 0'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	21° 45'	-0.1	0	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 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	20° 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	20° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 132 to 128 °W									
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	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	28° 0'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	27° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	27° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	27° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	26° 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	26° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	26° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	20° 0'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	











# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 108 to 104 °W									
Correction to Latitude										Correction to Longitude									
108°	107°	107°	106°	106°	105°	105°	104°	104°	Longitude	108°	107°	107°	106°	106°	105°	105°	104°	104°	
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	30° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0	0	-0.1	0	0	0	0	0	0	29° 45'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	0.1	0	0	0	0.1
0	0	0	0	0	0	0	0	0	29° 15'	0.1	0	0	0	0	0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0	0	0	0	0	0	0.1	0.1	0
0	0	0	0	0	0	0	0	0	28° 45'	0.1	0	0	0	-0.1	0	0.1	0.1	0	0
0	0	0	0	0	0	0	0	0	28° 30'	0.1	0	0	0	-0.1	0	0.1	0.1	0	0
0	0	0	0	0	0	0	0	0	28° 15'	0.1	0	0	0	0	0	0.1	0.1	0	0
0	0	0	0	0	0	0	0	0	28° 0'	0.1	0.1	0	0	0	0	0.1	0.1	0	0
0	0	0	0	0	0	0	0	0	27° 45'	0.1	0.1	0	0	0	0	0.1	0.1	0	0
0.1	0.1	0	0	0	0	0	0	0	27° 30'	0.1	0.1	0	0	0	0	0.1	0.1	0	0
0.1	0.1	0	0	0	0	0	0	0	27° 15'	0.1	0.1	0	0	0	0	0	0	0.1	0
0.1	0.1	0	-0.1	0	0	0	0	0	27° 0'	0.1	0.2	0.1	0	0	0	0	0	0	0
0.1	0.1	0	-0.1	-0.1	0	0	0	0	26° 45'	0.1	0.2	0.1	0	0	0	0	0	0	0
0	0	0	0	-0.1	0	0	0	0	26° 30'	0.1	0.2	0.2	0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	26° 15'	0.1	0.2	0.2	0.1	0	0	0	0	0	0
0	0	0.1	0	0	0	0	-0.1	-0.1	26° 0'	0.1	0.2	0.2	0.1	0	0	0.1	0	0	0
0	0	0.1	0.1	0	0	0	0	0	25° 45'	0.1	0.2	0.2	0.1	0	0	0.1	0	0	0
0	0	0.1	0.1	0	0	0	0	0	25° 30'	0.1	0.2	0.2	0.2	0.1	0	0	0	0	0
0	0	0.1	0.1	0	0	0	0	0	25° 15'	0.1	0.1	0.1	0.2	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	25° 0'	0.1	0.1	0.1	0.2	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	24° 45'	0.1	0.1	0.1	0.2	0.1	0	0	0.1	0	0
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0	0.1	0.1	0.1
0	0	0	0	0.1	0	0	0	0	24° 15'	0.1	0.1	0.2	0.2	0.2	0.1	0	0.1	0.1	0.1
0	0	0	0.1	0.1	0.1	0	0	0	24° 0'	0.1	0.1	0.2	0.2	0.2	0.1	0	0	0	0.1
0	0	0	0.1	0.1	0.1	0	0	0	23° 45'	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0	0	0.1
0	0	0	0	0.1	0.1	0.1	0	0	23° 30'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	0	0.1
0	0	0	0	0.1	0.1	0.1	0	0	23° 15'	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	0.1	0	0	23° 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	0.1	0	0	22° 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	0	0	22° 30'	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	0	0	22° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0.1	0.1	0.2	0	0.1	0.2	0.1	0.1	0.1
0	0	0	0.1	0	0	0	0	0	21° 45'	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1
0	0	0.1	0.1	0.1	0	0	0	0	21° 30'	0.1	0	0	0.2	0.1	0.1	0.2	0.1	0.1	0.1
0	0	0	0.2	0.1	0	0	-0.1	0	21° 15'	0.1	0	0	0.1	0.2	0.1	0.2	0.1	0.1	0.1
0	0	0	0.1	0.2	0	-0.1	-0.1	-0.1	21° 0'	0.1	0	-0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1
0	0	0	0	0.1	0	-0.1	-0.1	-0.1	20° 45'	0.1	0	-0.1	0	0.3	0.3	0.2	0.1	0.1	0.1
0	0	0	0	0	0	0	-0.1	-0.1	20° 30'	0.1	0.1	-0.1	-0.1	0.3	0.3	0.3	0.1	0	0
0	0	0	-0.1	0	0	0	0	-0.1	20° 15'	0	0.1	0	-0.1	0.3	0.3	0.3	0.1	0.1	0.1
0	0	0	-0.1	0	0.1	0.1	0	0	20° 0'	0	0.1	0	-0.1	0.2	0.3	0.3	0.2	0.1	0.1



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 104 to 100 °W									
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°	Latitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
0.1	0	0	0	0	0	0	0	0	30° 0'	0.1	0	0	-0.1	0	0	0	0	0	30° 0'
0	0	0	-0.1	-0.1	0	0	0	0	29° 45'	0.1	0	0	0	0	0	0	0	0	29° 45'
0	0	0	-0.1	-0.1	0	0	0	0	29° 30'	0.1	0	0	0	0	0	0	0	0	29° 30'
0	0	0	-0.1	-0.1	0	0	0	0	29° 15'	0	0	0.1	0	-0.1	-0.1	0	0	0	29° 15'
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0.1	0	-0.1	-0.1	0	0	0	29° 0'
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0.1	0	-0.1	-0.1	0	0	0	28° 45'
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0.1	0	-0.1	-0.1	0	0	-0.1	28° 30'
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	28° 15'
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0.1	0	-0.1	-0.1	0	-0.1	-0.1	28° 0'
0	0	0	0	0	0	0	-0.1	-0.1	27° 45'	0	0	0.1	0	-0.1	-0.1	0	0	-0.1	27° 45'
0	0	0	0	0	0	-0.1	-0.1	-0.1	27° 30'	0	0	0.1	0	-0.1	-0.1	0	0	-0.1	27° 30'
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 15'	0	0	0.1	0	-0.1	-0.1	0	0	-0.1	27° 15'
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	27° 0'	0	0	0	0	0	0	0	0	-0.1	27° 0'
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	0	0.1	0	0	0	0	0	0	-0.1	26° 45'
0	0	0	0	-0.1	-0.1	-0.1	0	-0.1	26° 30'	0	0	0.1	0.1	0	0	0	0	-0.1	26° 30'
-0.1	0	0	0	-0.1	0	0	0	0	26° 15'	0	0	0.1	0.1	0	0	0	0	-0.1	26° 15'
-0.1	0	0	0	0	0	-0.1	-0.1	0	26° 0'	0	0	0.1	0.1	0	0	0	-0.1	-0.1	26° 0'
0	-0.1	0	0	0	-0.1	-0.2	-0.2	-0.1	25° 45'	0	0	0.1	0.1	0	0	0	-0.1	-0.1	25° 45'
0	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.2	-0.1	25° 30'	0	0	0	0.1	0.1	0	0	-0.1	-0.2	25° 30'
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	25° 15'	0	0	0	0.1	0.1	0.1	0.1	-0.1	-0.2	25° 15'
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	25° 0'	0	0	0	0.1	0.1	0	0.1	0	-0.2	25° 0'
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	24° 45'	0	0	0	0.1	0.1	0	0.1	0	-0.2	24° 45'
0	-0.1	-0.1	0	0	0	0	0	-0.1	24° 30'	0.1	0	0	0.1	0.1	0	0	0	-0.1	24° 30'
0	0	-0.1	-0.1	0	-0.1	0	0	-0.1	24° 15'	0.1	0	0	0.1	0.1	0	0	0.1	-0.1	24° 15'
0	0	0	0	0	0	0	0	-0.1	24° 0'	0.1	0.1	0	0	0.1	0.1	0	0.1	0	24° 0'
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	23° 45'
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	23° 30'
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0	0	0.1	0.1	0	0	0	23° 15'
0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0	0	0.1	0.1	0	0	0	23° 0'
0	0	0	0	0	0	0	0	0	22° 45'	0.1	0.1	0.1	0	0.1	0	0	0	0	22° 45'
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0.1	0.1	0	0.1	0	0	0	0	22° 30'
0	0	0	0	0	0	-0.1	-0.1	0	22° 15'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	22° 15'
0	0	0	0	0	0	-0.1	0	0	22° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	22° 0'
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	21° 45'
0	0	0	0	0	0	0	-0.1	-0.1	21° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	21° 30'
0	0	0	0	0	0	0	-0.1	-0.1	21° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	21° 15'
-0.1	0	0	0	0	0	0	-0.1	-0.1	21° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	21° 0'
-0.1	0	0	0	0	0	0	-0.1	-0.1	20° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	20° 45'
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	20° 30'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 30'
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 15'
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	20° 0'

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	0.1	0	0	0	0	0	30° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
0	0.1	0.1	0.1	0	0	0	0	0	29° 45'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0.1	0	0	0	0	0	0	29° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0	0	0	0	0	0	0	28° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	28° 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	27° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	0	0	27° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	27° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	27° 0'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.2	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	26° 45'	-0.1	-0.2	-0.1	0	0	0.1	0	-0.1	-0.2	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	26° 30'	-0.1	-0.2	-0.1	0	0.1	0.1	0	-0.1	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	26° 15'	-0.1	-0.2	-0.2	0	0.1	0.1	0	-0.2	-0.3	
0	0	-0.1	-0.1	-0.1	0	0	0	0	26° 0'	-0.1	-0.1	-0.2	0	0	0.1	0	-0.2	-0.3	
-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 45'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.2	-0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 30'	-0.2	-0.1	-0.1	-0.1	0	0.1	0	-0.2	-0.3	
-0.2	-0.1	-0.2	-0.1	-0.1	0	0	0	0	25° 15'	-0.2	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0.1	0.1	25° 0'	-0.2	-0.1	-0.1	-0.2	0	0	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.1	24° 45'	-0.2	-0.1	0	-0.2	-0.1	0	-0.1	-0.2	-0.2	
-0.1	-0.1	0	-0.1	-0.1	0	0	0	0	24° 30'	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.2	-0.2	
-0.1	-0.1	0	0	-0.1	0	0	0	0	24° 15'	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0	-0.1	24° 0'	0	-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	-0.1	-0.1	23° 45'	0	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 30'	0.1	-0.2	-0.2	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	23° 15'	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	
0	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	23° 0'	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0	-0.1	-0.1	0	0	22° 45'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	22° 30'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 15'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 0'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 45'	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	-0.1	-0.1	-0.1	-0.1	21° 30'	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	21° 15'	0	0	-0.1	-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	-0.1	-0.1	21° 0'	0	0	-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	20° 45'	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	20° 30'	0.1	0.1	0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	20° 15'	0	0	0	0	-0.2	-0.2	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	20° 0'	0	0	0.1	0	-0.1	-0.2	-0.1	-0.2	-0.3	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 96 to 92 °W									
Correction to Latitude										Correction to Longitude									
96°	95°	95°	94°	94°	93°	93°	92°	92°	Longitude	96°	95°	95°	94°	94°	93°	93°	92°	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	-0.1	-0.1	-0.1	30° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	29° 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	29° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	29° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0.1	0.1	0	0	0	0	0	28° 15'	0	0	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	28° 0'	0	0	0	0	0.1	0.1	0	0	0	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 45'	0	-0.1	0	0	0.1	0.1	0	0	0	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 30'	-0.1	-0.1	0	0	0.1	0.1	0	0	0	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 15'	-0.1	-0.1	0	0	0.1	0.1	0	0	0	0
0	0	0.1	0.1	0	0	0	0.1	0.1	27° 0'	-0.2	-0.1	0	0	0.1	0.1	0	0	0	0
0	0	0.1	0	0	0	0	0	0	26° 45'	-0.2	-0.2	-0.1	0.1	0.1	0	0	0	0	0
0	0	0.1	0	0	0	0	0	0	26° 30'	-0.2	-0.2	-0.1	0.1	0.1	0	0	0	0	0
0	0	0	0	0.1	0.1	0	0	0	26° 15'	-0.3	-0.2	-0.1	0.1	0.1	0	0	0	0	0
0	0	0	0	0.1	0.1	0.1	0	0	26° 0'	-0.3	-0.2	-0.1	0.1	0.1	0.1	0	0	0	0
0	0	0	0	0.1	0.1	0.1	0	0	25° 45'	-0.3	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0	0
0	0	0	0	0	0	0	0	0	25° 30'	-0.3	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	25° 15'	-0.2	-0.2	-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	25° 0'	-0.2	-0.2	-0.1	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	24° 45'	-0.2	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0	0
0	0	0	0	0	-0.1	-0.1	0	0	24° 30'	-0.2	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0	0
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	24° 15'	-0.2	-0.1	-0.1	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	0	24° 0'	-0.2	-0.1	-0.1	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	0	23° 45'	-0.2	-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	-0.1	0	0	23° 30'	-0.2	-0.1	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	-0.1	23° 15'	-0.2	-0.1	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	23° 0'	-0.2	-0.1	0	0.1	0.1	0	0	0	0	0
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	22° 45'	-0.2	-0.1	0	0.1	0.1	0	0	0	0	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.3	22° 30'	-0.2	-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	-0.1	-0.3	-0.4	22° 15'	-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	-0.2	-0.3	22° 0'	-0.2	-0.1	0	0	0	0	0.1	0.3	0.1	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	21° 45'	-0.2	-0.1	0	0	0	0	0.1	0.3	0.1	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 30'	-0.2	-0.1	0	0	0	0	0.1	0.3	0.1	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	21° 15'	-0.2	-0.1	0	0	0	0	0.1	0.3	0.1	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	21° 0'	-0.2	-0.1	0	0	0	0	0.1	0.3	0.2	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	20° 45'	-0.2	-0.1	0	0	0	0	0.1	0.2	0.2	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	20° 30'	-0.2	-0.1	0	0.1	0	0	0	0.2	0.2	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	20° 15'	-0.2	-0.1	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	-0.1	-0.1	20° 0'	-0.3	-0.2	0	0.1	0.1	0.1	0	0.1	0.1	0.1



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 88 to 84 °W								
Correction to Latitude										Correction to Longitude								
88°	87°	87°	86°	86°	85°	85°	84°	84°	Longitude	88°	87°	87°	86°	86°	85°	85°	84°	84°
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'
-0.1	-0.1	0	-0.1	-0.1	0	0	0	0	30° 0'	0	0	0	0	0	0	0	0	0
-0.1	0	0	0	-0.1	-0.1	0	0	0	29° 45'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	0	0	0	29° 30'	-0.1	0	0	0	0	0	0	0	0
0.1	0.1	0.1	0.1	0	0	0	0	0	29° 15'	-0.1	0	0	0	0	0	0	0	0
0.2	0.2	0.1	0.1	0	0	0	-0.1	-0.1	29° 0'	-0.1	0	0	0.1	0.1	0	0	0	0
0.1	0.1	0.1	0	0	0	0	-0.1	-0.1	28° 45'	-0.1	0	0.1	0.1	0.1	0	0	0	0
0	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	28° 30'	-0.1	0	0.1	0.1	0.1	0	0	0.1	0
-0.1	0	0.1	0.1	0.1	0	0	-0.1	-0.1	28° 15'	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0
-0.1	-0.1	0	0.1	0.1	0	0	0	-0.1	28° 0'	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0
-0.1	-0.1	-0.1	0	0.1	0.1	0	0	0	27° 45'	-0.1	-0.1	0	0	0.1	0.2	0.1	0.1	0
-0.1	-0.2	-0.2	-0.1	0	0.1	0	0	0	27° 30'	-0.1	-0.1	-0.1	0	0.1	0.2	0.2	0.1	0
-0.1	-0.2	-0.2	-0.2	-0.1	0.1	0.1	0	0	27° 15'	-0.1	-0.1	-0.1	-0.1	0	0.2	0.2	0.1	0
-0.1	-0.1	-0.1	-0.2	-0.1	0	0.1	0	0	27° 0'	0	0	-0.1	-0.1	-0.1	0.1	0.2	0.1	0
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 45'	0	0	0	-0.1	-0.1	0	0.2	0.1	0
0	0	0	-0.1	-0.1	-0.1	0	0	0	26° 30'	0	0	0	0	-0.1	-0.1	0.2	0.1	0
0	0	0	0	-0.1	-0.1	0	0	0	26° 15'	0	0	0	0	-0.1	-0.1	0.2	0.1	0
0	0	0	0	-0.1	-0.1	0	0	0	26° 0'	0	0	0	0	-0.1	-0.1	0.1	0.1	0
0.1	0.1	0	0	-0.1	-0.1	0	0	-0.1	25° 45'	0	0	0	0	-0.1	-0.1	0.1	0.1	0
0.1	0.1	0	0	0	-0.1	0	0	-0.1	25° 30'	0	0.1	0.1	0	0	-0.1	0	0.2	0
0	0	0	0	0	-0.1	0	0	0	25° 15'	0.1	0.1	0.1	0	0	-0.1	0	0.2	0.1
-0.1	-0.1	0	0	0	0	0	0.1	0	25° 0'	0.1	0.1	0.1	0	0	-0.1	-0.1	0.2	0.1
-0.2	-0.1	0	0	0	0	0	0	0.1	24° 45'	0.1	0	0.1	0	0	-0.1	-0.1	0.2	0.2
-0.2	-0.2	-0.1	-0.1	0	0	0	0	0.1	24° 30'	0.1	0	0	0	0	-0.1	-0.1	0.1	0.2
-0.2	-0.2	-0.2	-0.1	0	0	0	0	0	24° 15'	0.1	-0.1	0	0	-0.1	0	-0.1	0.1	0.2
-0.2	-0.2	-0.2	-0.1	-0.1	0	-0.1	-0.1	0	24° 0'	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0.1
-0.2	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0	23° 45'	-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	-0.2	-0.2	-0.2	-0.1	-0.1	23° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	23° 15'	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	0
-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.2	23° 0'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0.1
-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.2	-0.2	22° 45'	0	0	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	-0.2	-0.1	22° 30'	0	0	0	-0.1	-0.2	-0.2	0	0.1	0.1
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	22° 15'	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	0	0	0.1	22° 0'	0	0	0	-0.2	-0.3	-0.1	0.1	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	21° 45'	0	0	0	-0.2	-0.3	-0.1	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	21° 30'	0	0	0	-0.2	-0.3	-0.1	0	0	0
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	21° 15'	0	0	0	-0.3	-0.2	-0.1	0	0	0
-0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.1	-0.1	21° 0'	0	0	-0.1	-0.3	-0.2	0	0	0	0
-0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.1	-0.1	20° 45'	0	0	-0.1	-0.3	-0.1	0	0	0	-0.1
-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	20° 30'	0	0	-0.2	-0.2	-0.1	0	0	-0.1	-0.1
-0.1	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0	-0.1	-0.2	-0.2	0	0	0	-0.1	-0.1
-0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	20° 0'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	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	
0	0	0	0	0	0	0	0	0	29° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	0	
0	0	0	0	-0.1	0	0	0.1	0	29° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	0	
0	0	0	-0.1	-0.1	0	0	0	0	29° 15'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	0	
0	0	0	0	-0.1	0	0	0	0	29° 0'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	28° 45'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.2	0	
0	0	0	0	0	0	-0.1	-0.1	0	28° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	0	
0	0	0	0	0	0	-0.1	-0.1	0	28° 15'	-0.2	-0.1	0	-0.1	-0.1	-0.1	-0.3	-0.3	0	
0	-0.1	-0.1	-0.1	0	0	0	-0.1	0	28° 0'	-0.2	-0.1	0	-0.1	-0.1	0	-0.2	-0.3	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	27° 45'	-0.2	-0.1	0	-0.2	-0.2	0	-0.2	-0.3	0	
-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	0	27° 30'	-0.1	0	0	-0.2	-0.3	0	-0.2	-0.3	0	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	27° 15'	-0.1	0	0	-0.2	-0.3	-0.1	-0.2	-0.3	0	
-0.1	0	0	-0.1	-0.2	-0.3	-0.1	0	-0.1	27° 0'	-0.1	0	0.1	-0.1	-0.2	-0.1	-0.3	-0.3	0	
-0.1	0	0	0.1	-0.1	-0.2	-0.1	0	-0.1	26° 45'	-0.2	-0.1	0.1	-0.1	-0.1	-0.1	-0.4	-0.3	0	
0	0	0	0.1	0	0	0.1	0.1	0	26° 30'	-0.2	-0.1	0	-0.1	0	-0.1	-0.5	-0.3	0	
0	0	0	0	0	0.1	0.2	0.1	0	26° 15'	-0.2	-0.1	0	-0.1	0	-0.1	-0.5	-0.2	0.1	
0	0	-0.1	-0.1	0	0.2	0.1	-0.1	0	26° 0'	-0.2	-0.1	0	-0.1	-0.1	-0.2	-0.4	-0.2	0.1	
0	0	-0.1	-0.2	-0.1	0.1	-0.1	-0.3	-0.1	25° 45'	-0.2	0	0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	
0	0	-0.1	-0.1	0	0	-0.3	-0.4	-0.2	25° 30'	-0.2	0	0.1	-0.1	-0.3	-0.2	0	-0.2	-0.2	
0	0	0	0	0	-0.1	-0.3	-0.3	-0.2	25° 15'	-0.2	0	0.1	-0.1	-0.3	-0.1	0.1	-0.2	-0.4	
0	0	0	0	-0.1	-0.2	-0.2	-0.1	-0.2	25° 0'	-0.2	0	0.1	-0.1	-0.3	0	0.1	-0.3	-0.4	
0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	-0.2	24° 45'	-0.1	0	0.1	-0.1	-0.2	0	0	-0.2	-0.3	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	24° 30'	-0.1	0	0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	24° 15'	-0.1	0	0.1	0	-0.2	-0.2	-0.1	-0.1	-0.2	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	24° 0'	0	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.2	
-0.1	-0.1	0	0	-0.1	-0.2	-0.1	-0.2	-0.2	23° 45'	0	-0.1	0	0.1	-0.1	-0.2	-0.1	0	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	23° 30'	0	-0.1	0	0.1	-0.1	-0.2	-0.1	0	-0.1	
-0.1	-0.1	-0.1	0	0	-0.2	-0.2	-0.1	0	23° 15'	0	-0.1	0	0.1	0	-0.2	-0.1	0	-0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.1	0	23° 0'	0	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	0	0	0	-0.1	0	0	22° 45'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.2	-0.3	
-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.1	0	22° 30'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.2	-0.3	
0	-0.1	-0.1	-0.1	0	0.1	0.2	0.2	0.1	22° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	
0	-0.1	-0.1	-0.1	0	0.1	0.1	0.2	0.2	22° 0'	0	-0.1	-0.1	0	-0.1	-0.2	-0.2	-0.1	-0.1	
0.1	0	-0.1	-0.1	0	0	0	0.1	0.1	21° 45'	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	
0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	21° 30'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	
0	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4	21° 15'	0.1	0.1	0	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	
0	0.1	0.1	0	-0.1	-0.1	-0.2	-0.4	-0.5	21° 0'	0	0.1	0.1	-0.1	-0.2	0	-0.1	-0.1	-0.1	
-0.1	0.1	0.1	0.1	0	-0.1	-0.2	-0.3	-0.4	20° 45'	-0.1	0	0.1	0	-0.1	0	0	0	-0.1	
-0.2	-0.1	0	0.1	0	-0.1	0	0	-0.1	20° 30'	-0.1	0	0.1	0	0	0	0	0.1	0	
-0.2	-0.2	-0.2	0	0	0	0.1	0.3	0.3	20° 15'	-0.1	-0.1	0	0	0	0	0	0	0.1	
-0.1	-0.2	-0.1	0	0	0.1	0.2	0.4	0.5	20° 0'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	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	
0	0	0	0	0	0	-0.1	0	0	29° 45'	0	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0	0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0	27° 45'	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	0	0	0	0	0	27° 30'	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	27° 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	26° 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	26° 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	26° 15'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	25° 45'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	0	0	0	0	0	0	0	0	25° 30'	-0.2	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	0	0	0	0	0	0	0	0	25° 15'	-0.4	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	0	0	0	0	0	0	0	25° 0'	-0.4	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.1	0	0	-0.1	-0.1	0	0	24° 45'	-0.3	-0.2	-0.1	0	-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	0	24° 30'	-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.2	-0.1	0	0	0	-0.1	-0.1	24° 15'	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.1	0	0	0	-0.1	0	24° 0'	-0.2	-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	0	0	0	0	23° 45'	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	23° 30'	-0.1	-0.2	-0.3	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.2	-0.1	0	0	0	23° 15'	-0.1	-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	-0.1	-0.2	-0.2	-0.1	0	0	23° 0'	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	
0	0.1	0	-0.1	-0.2	-0.2	-0.1	0	0	22° 45'	-0.3	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.2	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	22° 30'	-0.3	-0.2	-0.1	0.1	-0.1	-0.2	-0.2	-0.2	-0.1	
0.1	0	0	0.1	0.1	0	0	-0.1	-0.3	22° 15'	-0.2	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.2	-0.1	
0.2	0.1	0	0.1	0.1	0.1	0.1	-0.1	-0.3	22° 0'	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.2	0	-0.1	
0.1	0.1	0	0.1	0.1	0.1	0.1	0	-0.1	21° 45'	-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	0.2	0.1	21° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	0.1	0.1	
-0.4	-0.3	-0.2	0	0.1	0	0	0.2	0.3	21° 15'	-0.1	-0.1	-0.2	-0.2	0	0	-0.3	0	0.1	
-0.5	-0.5	-0.4	-0.2	0	0.1	0.1	0.2	0.3	21° 0'	-0.1	-0.2	-0.3	-0.3	0	0	-0.3	-0.1	0.2	
-0.4	-0.5	-0.5	-0.4	-0.1	0.1	0	0	0.2	20° 45'	-0.1	-0.2	-0.4	-0.4	-0.1	-0.1	-0.3	-0.1	0.2	
-0.1	-0.2	-0.3	-0.3	-0.2	0	-0.2	-0.3	-0.1	20° 30'	0	-0.2	-0.4	-0.5	-0.3	-0.1	-0.3	-0.2	0.1	
0.3	0.2	0	-0.1	-0.2	-0.3	-0.5	-0.6	-0.4	20° 15'	0.1	-0.1	-0.4	-0.5	-0.4	-0.1	-0.1	-0.2	-0.1	
0.5	0.5	0.3	0	-0.3	-0.5	-0.7	-0.7	-0.7	20° 0'	0.1	0	-0.3	-0.3	-0.2	0	0	-0.2	-0.2	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 72 to 68 °W									
Correction to Latitude										Correction to Longitude									
72°	71°	71°	70°	70°	69°	69°	68°	68°	Longitude	72°	71°	71°	70°	70°	69°	69°	68°	68°	
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	30° 0'	-0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 45'	-0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 30'	-0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 15'	-0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	28° 0'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	27° 45'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	27° 30'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	27° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	24° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0.1	0	0	0	0	0	0	0	22° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	22° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.3	-0.2	0	0	0	0	0	0	0	22° 15'	-0.1	-0.2	-0.1	0	0	0	0	0	0	
-0.3	-0.3	-0.1	0	0	0	0	0	0	22° 0'	-0.1	-0.3	-0.2	-0.1	0	0	0	0	0	
-0.1	-0.2	-0.1	0	0	0	0	0	0	21° 45'	0	-0.3	-0.2	-0.1	0	0	0	0	0	
0.1	0	-0.2	-0.1	-0.1	0	0	0	0	21° 30'	0.1	-0.3	-0.3	-0.2	0	0	0	0	0	
0.3	0.1	-0.2	-0.2	-0.2	-0.2	0	0	0	21° 15'	0.1	-0.1	-0.2	-0.2	0	-0.1	0	0	0	
0.3	0.2	0	0	-0.2	-0.2	0	0	0	21° 0'	0.2	0.1	-0.1	-0.2	0	-0.2	-0.1	0	0	
0.2	0.2	0.2	0.1	-0.1	-0.1	-0.1	0	0.1	20° 45'	0.2	0.1	-0.1	-0.1	0.1	-0.2	-0.2	0	0	
-0.1	0.1	0.2	0.1	0	0.1	0	0	0.2	20° 30'	0.1	0.1	-0.1	0	0.2	-0.2	-0.2	-0.1	0	
-0.4	-0.2	-0.2	-0.1	0	0.2	0.1	0.2	0.4	20° 15'	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.1	-0.2	-0.1	
-0.7	-0.6	-0.5	-0.4	-0.1	0.1	0.1	0.3	0.5	20° 0'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.3	-0.2	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0	0	0	0	30° 0'	0.1	0.1	0.1	0	0	0	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 45'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 30'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 15'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	28° 45'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	28° 30'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	28° 15'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	28° 0'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	27° 45'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	27° 30'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 15'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 0'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 45'	0.1	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 30'	0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0.1	0.1	0	0	0	26° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	25° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	22° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	21° 45'	0	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0.1	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	21° 0'	0	0	0	0	0	0	0	0	0	0
0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	20° 45'	0	0	0	-0.1	0	0	0	0.1	0.1	0
0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.2	20° 30'	0	0	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0
0.4	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	20° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0
0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.5	0.4	20° 0'	-0.2	-0.1	-0.2	-0.1	0	0.1	0.1	0.1	0.1	0.1

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	0.1	0.1	0.1	0.1	0.1	30° 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	0.1	29° 45'	0	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	29° 30'	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	29° 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	29° 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	28° 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	28° 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	28° 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	28° 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	27° 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	27° 30'	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	27° 15'	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	27° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	-0.1	20° 45'	0	0	0	0	0	0	0	0	0.1	
0.2	0.2	0.2	0.1	0.1	0	0	0	-0.1	20° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0.4	0.3	0.3	0.2	0.1	0	0	0	-0.1	20° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.4	0.4	0.4	0.3	0.2	0.1	0	0	0	20° 0'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 56 to 52 °W									
Correction to Latitude										Correction to Longitude									
56°	55°	55°	54°	54°	53°	53°	52°	52°	Longitude	56°	55°	55°	54°	54°	53°	53°	52°	52°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0.1	0.1	0.1	0.1	0	0	0	30° 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	0.1	0	29° 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	0	0.1	0.1	29° 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	0.1	0	0	0.1	0.1	29° 15'	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	0.1	0.1	0.1	0.1	29° 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	0.1	0.1	0.1	0.1	28° 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	0.1	0.1	0.1	0.1	28° 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	0.1	0.1	0.1	0.1	0.1	28° 15'	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	0	28° 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	0	0.1	0	27° 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	0	0	0	0	27° 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	0	0	0	0	0	27° 15'	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	0	27° 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	26° 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	26° 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	26° 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	26° 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	0.1	0.1	0.1	25° 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	0.1	0.1	0.1	25° 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	0.1	0.1	0.1	0.1	0.1	25° 15'	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	0.1	0	25° 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	24° 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	24° 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	24° 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	24° 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	23° 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	23° 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	23° 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	23° 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	22° 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	0.1	0.1	22° 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	22° 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	22° 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	21° 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	21° 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	21° 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	21° 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	20° 45'	0.1	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	0	20° 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	0.1	0.1	20° 15'	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	0.1	20° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1













# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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'	
0.1	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	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	29° 45'	0	0	0	0	0	0.1	0.2	0	-0.3	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	29° 30'	0	0	0	0	0	0.1	0.1	0	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	29° 15'	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	0.2	0.1	29° 0'	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	28° 45'	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	0	28° 30'	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	28° 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	28° 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	27° 45'	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	27° 30'	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	0	27° 15'	0.1	0.1	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	27° 0'	0.1	0	0.1	0.1	0	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	26° 45'	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	0.1	0.1	0.1	0.1	26° 30'	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	0.1	0.1	0.1	0.1	26° 15'	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	0.1	0.1	0.1	0.1	26° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 45'	0.1	0.1	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	0.1	0.1	25° 30'	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	25° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	25° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0.1	0.1	0	0.1	0.1	24° 45'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	24° 30'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	0.1	0.1	0.1	0	0	0	0	30° 0'	-0.3	-0.1	0	0	0	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0	0	0	0	29° 45'	-0.3	-0.1	0	0	0	0	0	0	0
0.2	0.1	0.1	0.1	0.1	0	0.1	0	0	29° 30'	-0.2	0	0	0	0	0	0	0	0
0.2	0.1	0.1	0.1	0.1	0	0.1	0	0	29° 15'	-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	0.1	29° 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	28° 45'	0	0	0	0	0	0	0	0	0
0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	28° 30'	0	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0.1	0.1	0.1	0.1	28° 15'	0	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0.1	28° 0'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	27° 45'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	27° 0'	0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0	0	0	26° 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	0	26° 30'	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	26° 15'	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	26° 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	25° 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	25° 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	25° 15'	0	0	0	0	0	0	0	0	0.1
0.1	0.1	0.1	0.1	0.1	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0.1	0.1
0.1	0.1	0.1	0.1	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0.1	0
0.1	0.1	0.1	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0.1	0
0	0.1	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0.1	0
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0.1	0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0.1	0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0.1	0.1	0	0	0.1	0
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0.1	0.1	0	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0.1	0	0	0.1
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-0.1	-0.1	0	20° 30'	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	-0.1	0	0	20° 15'	0	0	0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0.1	0.1	0.1	0	0	0	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0	0	0	0	0.1	30° 0'	0	0	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0.1	29° 45'	0	0	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0.1	0	0.1	29° 30'	0	0	0.1	0	0.1	0.1	0	0	0	
0	0.1	0	0	0.1	0.1	0.1	0.1	0	29° 15'	0	0	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	29° 0'	0	0	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	28° 45'	0	0	0.1	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 30'	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	0	28° 15'	0	0	0	0	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	28° 0'	0	0	0	0	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	27° 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	27° 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	27° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	27° 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	26° 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	26° 30'	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	26° 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	26° 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	25° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	25° 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	0.1	25° 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	25° 0'	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	0.1	0.1	24° 45'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0	0.1	24° 30'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	24° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	24° 0'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	23° 45'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0.1	0.1	0.1	23° 30'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0.1	23° 15'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	0	0	0	0	20° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	20° 15'	0	0	0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	20° 0'	0	0	0.1	0	0	0	0	0	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	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	
0.1	0	0	0	0	0	0	0	0.1	29° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0	
0.1	0	0	0	-0.1	-0.1	0	0.1	0.1	29° 30'	0	0.1	0	0	0.1	0	0	0	0	
0	0	0	-0.1	-0.2	-0.1	0	0	0	29° 15'	0	0.1	0	0.2	0.1	-0.1	0	0	0	
0	0	0	-0.1	-0.2	-0.2	-0.3	-0.4	-0.2	29° 0'	0	0.1	0.1	0.3	0.1	-0.2	0	0	-0.1	
0	0	0	0	0	-0.2	-0.6	-0.6	-0.4	28° 45'	0	0.1	0.1	0.3	0.2	0	0.2	-0.1	-0.3	
0	0	0	0	0.1	-0.1	-0.4	-0.5	-0.4	28° 30'	0.1	0.1	0.1	0.3	0.2	0.2	0.4	-0.2	-0.5	
0	0	0	0	0.1	0.1	0	0.1	-0.1	28° 15'	0.1	0.1	0.1	0.2	0.2	0.4	0.4	-0.2	-0.4	
0	0	0	0	0.1	0.2	0.5	0.6	0.3	28° 0'	0.1	0.1	0.1	0.2	0.1	0.3	0.3	-0.1	-0.2	
0	0	0	0	0.1	0.3	0.6	0.7	0.5	27° 45'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	
0	0	0	0.1	0.1	0.2	0.4	0.5	0.4	27° 30'	0.1	0.1	0.1	0.2	0	-0.1	-0.1	0	0.2	
0	0	0	0.1	0.2	0.1	0.1	0.1	0.3	27° 15'	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0.2	27° 0'	0.1	0.1	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	26° 45'	0.1	0.1	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0.1	0.1	0	26° 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	-0.1	26° 15'	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	26° 0'	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	25° 45'	0.1	0.1	0	0	-0.1	-0.1	-0.1	0.1	0.1	
0.1	0	0	0	0	0	0	-0.1	-0.1	25° 30'	0.1	0.1	0	0	-0.1	-0.1	0	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.1	25° 15'	0.1	0.1	0.1	0	-0.1	-0.1	0	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	-0.1	0	25° 0'	0.1	0.1	0	0	-0.1	-0.1	0	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	-0.1	0	24° 45'	0.1	0.1	0	0	0	-0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	0	24° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	24° 15'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	24° 0'	0.1	0.1	0.1	0	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	23° 45'	0.1	0.1	0.1	0	0.1	0.1	0.2	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	23° 30'	0.1	0.1	0	0	0.1	0.2	0.2	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	23° 15'	0.1	0	0	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	23° 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	0	0	0	0	22° 45'	0	0	0	0	0.1	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	22° 30'	0	0	0	0	0.1	0.2	0.2	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	22° 15'	0	0	0	0	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0.1	0	21° 30'	0	0	0	0.1	0.2	0.2	0.1	0.2	0.1	
0	0	0	0	-0.1	0	0	0.1	0.1	21° 15'	0	0	0	0.1	0.2	0.2	0.1	0.2	0.1	
0	0	0	-0.1	-0.1	0	0	0.1	0.1	21° 0'	0	0	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	20° 45'	0	0	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	20° 30'	0	0	0.1	0.1	0.2	0.1	0	0.1	0.1	
0	0	0	0	0.1	0.1	0	0	0	20° 15'	0	0	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0.1	0.1	0.1	0	0	20° 0'	0	0	0	0.1	0.1	0.1	0.1	0	0.1	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °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	0.1	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	
0.1	0	-0.1	-0.1	0	0	0.1	0.2	0.4	29° 45'	-0.2	0	0.1	0.2	0.1	0.1	0.1	0	-0.1	
0	0	-0.1	0	0	0.1	0.2	0.3	0.3	29° 30'	-0.1	0	0.1	0.1	0.1	0	0	-0.1	-0.1	
0	0	0	0	0.1	0.2	0.3	0.3	0.2	29° 15'	0	0	0.1	0.1	0.1	0	-0.1	-0.2	-0.1	
0	0	0	0.1	0.2	0.2	0.2	0.2	0.1	29° 0'	0	0	0	0	0.1	0	-0.1	-0.1	0	
0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	28° 45'	0	0	0	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	28° 30'	-0.1	0	0	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0	0.1	0.1	0	0	0.1	28° 15'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 45'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0.1	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0.1	0.1	26° 45'	0	0	0.1	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0.1	0.1	26° 30'	0	0	0	0	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	26° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	26° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0	0	0.1	25° 45'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0.1	0	0	0	0	25° 30'	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	0	25° 15'	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	25° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0	0	24° 45'	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	24° 30'	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	24° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0.1	0.1	0	24° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0.1	0.1	0	0.1	0.1	0.1	23° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0.1	0.1	0.1	0	0	0	0.1	23° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0.1	0.1	0.1	0	0	0	0	23° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	23° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0.1	0	0	0	0	22° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0.1	0.1	0	0	0	0	22° 0'	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	
0	0	0.1	0.1	0.1	0	0	0	0	21° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0.1	0.1	0	0.1	21° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	21° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	21° 0'	0	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	
0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	20° 45'	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	
0.1	0	0	0	0	0	0	0	0	20° 30'	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	20° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	20° 0'	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	





# Correct Astronomical Position to WGS84

Latitude 20 to 30 °N										Longitude 4 to 0 °W									
Correction to Latitude										Correction to Longitude									
4°	3°	3°	2°	2°	1°	1°	0°	0°	Longitude	4°	3°	3°	2°	2°	1°	1°	0°	0°	
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	30° 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	29° 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	29° 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	0.1	0.1	0.1	0	29° 15'	-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	29° 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	0.2	0.1	0.1	0.1	0	28° 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	0.2	0.1	0.1	0.1	0	28° 30'	-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	28° 15'	-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	0.1	0	28° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0	27° 45'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	27° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0.1	0.1	0	0	0	0.1	0.1	0	27° 15'	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	27° 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	26° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	26° 30'	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	0	0	0	26° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	26° 0'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	25° 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	0	25° 30'	-0.1	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	25° 15'	-0.1	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	25° 0'	-0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	24° 45'	-0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0.1	0	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0.1	0.1	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0.1	0.1	0	0	0.1	0.1	
-0.1	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0.1	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	21° 45'	0	0	0	0.1	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	21° 30'	0	0	0	0.1	0.1	0	0	0.1	0.1	
0	-0.1	-0.1	0	-0.1	0	0	0	0	21° 15'	0	0	0	0.1	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	0.1	0.1	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	0.1	0.1	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	20° 15'	0	0	0	0.1	0.1	0	0	0	0.1	
0	0	0	0	0.1	0.1	0	0	0	20° 0'	0	0	0	0.1	0.1	0.1	0	0	0.1	