

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.1	0	0	0	-0.1	0	-0.1	-0.1	-0.1	10° 0'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	-0.1	-0.1	10° 15'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	-0.1	-0.1	0	0	0	0	0	10° 45'	0	0	0	0	0	0	0.1	0	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	11° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	11° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	11° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	-0.1	14° 30'	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	14° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	15° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	15° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	15° 30'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	-0.1	0	15° 45'	0	0	0	0	0.1	0.1	0.2	0.1	0.1	
0	0	0	0	0	0	0	0	0	16° 0'	0	0	0	0	0.1	0.1	0.2	0.1	0	
0	0	0	0	0	0	-0.1	0	0	16° 15'	0	0	0	0	0.1	0.1	0.2	0.1	0	
0	0	0	-0.1	-0.1	0	-0.1	0	0	16° 30'	0	0	0	0	0.1	0.1	0.2	0.1	0	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	0	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	17° 0'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	17° 30'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0.1	0.1	0	0.1	
-0.1	0	0	0	0	0	0	0	-0.1	18° 0'	0	0	0	0	0	0.1	0.1	0	0.1	
-0.1	0	0	0	0	0	0	-0.1	-0.1	18° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	18° 30'	0	0	0	0	0	0.1	0.2	0.1	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	18° 45'	0	0	0	0	0	0.1	0.2	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	19° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	19° 15'	0	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	0	19° 30'	0	0	0	0.1	0.1	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	19° 45'	0	0	0	0	0	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	20° 0'	0	0.1	0	0	0	0	0	0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 16 to 20 °E									
Correction to Latitude										Correction to Longitude									
16°	16°	17°	17°	18°	18°	19°	19°	20°	Longitude	16°	16°	17°	17°	18°	18°	19°	19°	20°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 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	-0.1	-0.1	-0.1	-0.1	-0.1	10° 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	10° 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	10° 45'	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	11° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	11° 15'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	11° 30'	0	-0.1	-0.2	-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	11° 45'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	-0.1	0	0	0	0	0	12° 0'	0	-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	12° 15'	0	-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	12° 30'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0	0	0	0	0	0	12° 45'	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	0	0	0	0	13° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	0	13° 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	13° 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	13° 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	14° 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	14° 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	14° 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	14° 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	15° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	15° 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	15° 30'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	15° 45'	-0.1	-0.1	-0.1	0	0	0	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	16° 0'	-0.1	-0.1	-0.1	0	0	0	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	16° 15'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	-0.1	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	-0.1	16° 45'	0	-0.1	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	17° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	0	0	17° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	17° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	17° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	18° 0'	-0.1	0	0	0	0	0	0	0	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 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	-0.1	-0.1	18° 30'	-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	-0.1	18° 45'	-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	-0.1	19° 0'	-0.1	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	19° 15'	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	19° 30'	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	-0.1	19° 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	-0.1	20° 0'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 30'	-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	-0.1	10° 45'	-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	-0.1	11° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	11° 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	-0.1	-0.1	11° 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	11° 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	12° 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	12° 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	12° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	-0.1	12° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	-0.1	13° 0'	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	13° 15'	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	13° 30'	-0.1	-0.1	-0.2	-0.1	0	0	0	0	-0.1	
0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	13° 45'	-0.1	-0.1	-0.2	-0.1	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	14° 0'	-0.1	-0.1	-0.2	-0.1	0	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	14° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	14° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	14° 45'	-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	15° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	0	-0.1	-0.1	15° 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	-0.1	-0.1	15° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	15° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	-0.1	0	16° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	16° 15'	0	-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	16° 30'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
-0.1	0	0	0	0	0	-0.1	-0.1	0	16° 45'	0	-0.1	-0.1	0	0	0	-0.1	0	0	
-0.1	0	0	0	0	0	0	0	0	17° 0'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	17° 30'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	-0.1	17° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	0	0	0	-0.1	0	0	-0.1	18° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	18° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	18° 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	0	19° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	19° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	19° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	19° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	20° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 24 to 28 °E									
Correction to Latitude										Correction to Longitude									
24°	24°	25°	25°	26°	26°	27°	27°	28°	Longitude	24°	24°	25°	25°	26°	26°	27°	27°	28°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0	0	0	10° 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	-0.1	0	0	10° 15'	0	0	0	0	-0.1	-0.1	0	0.1	-0.1	
-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	10° 30'	0	0	0	0	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	10° 45'	0	0	0	0	-0.1	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	11° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	0	11° 15'	0	0	0	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	11° 30'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	-0.1	0	0	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	12° 30'	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	0	0	0	12° 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	0	0	13° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	13° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	13° 30'	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	13° 45'	-0.1	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	14° 0'	-0.1	0	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	-0.1	0	0	0	0	-0.1	-0.1	-0.1	14° 15'	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	14° 30'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	14° 45'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	-0.1	15° 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	0	0	-0.1	15° 15'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	15° 30'	0	0	0	-0.1	-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	15° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	16° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	-0.1	-0.1	-0.2	-0.1	0.1	16° 15'	0	0	0	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	0	0.1	16° 30'	0	0	-0.1	0	0	0	-0.1	-0.2	-0.2	
0	0	0	0	-0.1	-0.1	-0.1	0	0.1	16° 45'	0	0	-0.1	0	0	0	-0.1	-0.2	-0.2	
0	0	0	0	-0.1	-0.1	0	0.1	0	17° 0'	0	-0.1	-0.1	0	0.1	0	-0.2	-0.3	-0.1	
0	0	0	-0.1	0	0	0.1	0	-0.1	17° 15'	-0.1	-0.1	0	0	0.1	0	-0.2	-0.2	-0.1	
0	0	-0.1	-0.1	0	0.1	0.1	0	-0.1	17° 30'	-0.1	-0.1	0	0	0	-0.1	-0.2	-0.2	0	
-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	-0.1	-0.1	17° 45'	-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	-0.1	-0.1	18° 0'	-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	-0.1	-0.1	18° 15'	0	0	0	-0.1	-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	18° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	18° 45'	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	-0.1	19° 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	-0.1	19° 15'	0	0	0	-0.1	-0.1	0	0	-0.1	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	19° 30'	0	0	0	-0.1	-0.1	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	19° 45'	-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	-0.1	-0.2	20° 0'	-0.1	0	0	-0.1	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 32 to 36 °E									
Correction to Latitude										Correction to Longitude									
32°	32°	33°	33°	34°	34°	35°	35°	36°	Longitude	32°	32°	33°	33°	34°	34°	35°	35°	36°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	-0.1	0	0.2	0.2	0	0	10° 0'	0	0	0	-0.2	-0.2	0.1	0	-0.1	0	
0	0.1	0.1	-0.1	-0.1	0.1	0.1	0	0	10° 15'	0	-0.1	0.1	-0.1	-0.3	0	0.1	-0.1	-0.1	
0	0.1	0.1	0	-0.1	0	0	-0.1	0	10° 30'	0	-0.1	0.1	0	-0.4	-0.1	0.1	0	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	10° 45'	-0.1	-0.1	0.1	0	-0.3	-0.1	0.1	0	-0.1	
0	0	0	0.1	0.1	0	0	0	0	11° 0'	-0.1	-0.1	0.1	0	-0.3	-0.1	0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0	0	0	11° 15'	-0.1	-0.1	0.1	0	-0.3	0	0.1	-0.1	-0.2	
0	0	0	0	0	0.1	0.1	0	0	11° 30'	-0.2	-0.1	0.1	0	-0.3	-0.1	0.2	0	-0.2	
0.1	0	0	0	0	0.1	0.1	0	0	11° 45'	-0.2	0	0.1	0	-0.3	-0.1	0.2	0	-0.2	
0.1	0	0	0	0	0	0.1	0.1	0	12° 0'	-0.2	0	0.1	-0.1	-0.4	-0.1	0.2	0	-0.2	
0.1	0	0	0.1	0	0	0	0	0	12° 15'	-0.1	0.1	0.1	-0.1	-0.3	-0.1	0.2	0	-0.2	
0	-0.1	0	0	0	-0.1	0	0	-0.1	12° 30'	0	0.1	0	-0.1	-0.3	-0.1	0.1	0	-0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	12° 45'	0	0.1	0	-0.1	-0.2	-0.1	0.1	0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 0'	0.1	0.1	0	-0.1	-0.2	-0.1	0.1	0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	13° 15'	0.1	0.1	0	-0.1	-0.3	-0.1	0.1	0.1	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	13° 30'	0.1	0	0	0	-0.3	-0.1	0.1	0	-0.1	
-0.1	0	0	0	-0.2	-0.2	-0.1	0	0	13° 45'	0.1	0	0	0	-0.2	-0.2	0	0	-0.1	
-0.1	0.1	0.1	0	-0.2	-0.2	-0.1	0	-0.1	14° 0'	0	0	0	0.1	-0.1	-0.2	0	-0.1	-0.1	
-0.1	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	14° 15'	-0.1	0	0	0.1	0	-0.2	-0.1	0	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	14° 30'	-0.1	0	0	0.1	0	-0.2	-0.1	0	-0.1	
-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.1	14° 45'	-0.1	0	0	0.1	0.1	-0.2	-0.1	0	0	
-0.1	-0.1	0	0.1	0.1	0	-0.1	-0.2	-0.1	15° 0'	-0.1	0	0	0	0.1	-0.1	-0.1	0	0	
-0.1	-0.1	0	0	0.1	0.1	-0.1	-0.2	-0.2	15° 15'	0	-0.1	-0.1	0	0.1	0	0	0	0	
0	-0.1	0	0	0.1	0.1	-0.1	-0.2	-0.1	15° 30'	0	-0.1	-0.1	0	0	0	0.1	0	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	15° 45'	0	-0.1	-0.1	0	0	0	0.1	0	-0.1	
-0.1	0	0	0	0	0	0	0.1	0	16° 0'	0	-0.1	-0.1	0	0	0	0.1	0	-0.1	
-0.1	-0.1	0	0	0	-0.1	0	0.1	0	16° 15'	0	-0.1	-0.1	0	0	0	0.1	0	-0.1	
-0.2	-0.1	0	0	0	-0.1	0	0.1	0	16° 30'	-0.1	-0.2	-0.1	0	0	0	0	0	0	
-0.2	-0.1	-0.1	0	0	-0.1	0	0	0	16° 45'	-0.1	-0.2	-0.1	0	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	17° 0'	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	17° 15'	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	0	0	-0.1	0	17° 30'	-0.2	-0.2	-0.2	-0.1	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	17° 45'	-0.2	-0.2	-0.3	-0.1	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	18° 0'	-0.1	-0.2	-0.3	-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	18° 15'	-0.1	-0.2	-0.3	-0.1	-0.1	-0.1	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 30'	-0.1	-0.1	-0.3	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 45'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	19° 0'	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 15'	-0.1	0	-0.2	-0.1	-0.1	-0.1	0	0	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 30'	-0.1	0	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	19° 45'	-0.1	0	-0.2	-0.1	-0.1	-0.1	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	20° 0'	-0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	-0.1	0	10° 0'	0	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	10° 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	10° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	0	
0	0.1	0	0	0	0.1	0	0	0	10° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0.1	0	0	0	0.1	0	0	0	11° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 15'	-0.2	-0.2	-0.1	-0.1	-0.1	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	11° 30'	-0.2	-0.2	-0.1	0	-0.1	0	0.1	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	11° 45'	-0.2	-0.2	-0.1	0	0	0	0.1	0	0	
0	0	-0.1	0	0	-0.1	0	0	0	12° 0'	-0.2	-0.1	-0.1	0	0	0	0.1	0	0	
0	0	0	0	-0.1	-0.1	0	0	0	12° 15'	-0.2	-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	12° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	12° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	13° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	13° 15'	-0.1	-0.1	-0.1	0	0.1	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	13° 30'	-0.1	-0.1	-0.1	0	0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	13° 45'	-0.1	0	-0.1	0	0.1	0	0	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	14° 0'	-0.1	0	-0.1	0	0	0	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	14° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	14° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	14° 45'	0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	15° 0'	0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	15° 15'	0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	15° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	0	15° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	0	16° 0'	-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	-0.2	0	16° 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	16° 30'	0	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	16° 45'	0	0	-0.1	0	0	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	17° 0'	0	0	0	0	-0.1	0	0	-0.1	-0.1	
0	0	-0.1	-0.2	-0.1	0	0	0	0	17° 15'	0	0	0	0	-0.1	0	0	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	17° 30'	0	0	0.1	0	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	17° 45'	0	0	0.1	0	-0.2	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	18° 0'	0	0	0.1	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	18° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	18° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0	18° 45'	0	0	-0.1	-0.1	-0.1	0	-0.1	0	0	
-0.2	-0.1	0	0.1	0	0	-0.1	-0.1	0	19° 0'	0.1	0	-0.1	-0.1	0	0	-0.1	0	0	
-0.1	-0.1	0.1	0.1	0	0	-0.1	-0.1	0	19° 15'	0.1	-0.1	-0.2	-0.1	0	0	0	0	0	
-0.1	0	0.1	0.1	0	0	-0.1	-0.1	0	19° 30'	0	-0.2	-0.2	-0.1	0	0	0	0	0	
0	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	19° 45'	0	-0.2	-0.2	-0.1	0	0.1	0	-0.1	0	
0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	20° 0'	-0.1	-0.2	-0.2	-0.1	0	0.1	0	-0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 0'	-0.1	-0.1	-0.1	0.1	0	-0.1	0	0	0	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 15'	-0.1	-0.1	-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	10° 30'	0	-0.1	-0.2	0.1	0	-0.1	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	10° 45'	0	-0.1	-0.3	0.1	0	-0.1	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	11° 0'	0	-0.1	-0.2	0.1	0	-0.1	0	0	0	
0	0	0	-0.1	0	-0.1	-0.2	-0.2	-0.1	11° 15'	0	-0.1	-0.2	0.1	0	-0.1	0.1	-0.1	-0.1	
0	0	0	-0.1	0	0	-0.1	-0.2	-0.2	11° 30'	0	-0.1	-0.1	0.1	0	0	0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.2	11° 45'	0	-0.1	-0.1	0	0	0	0.2	0	-0.1	
-0.1	0	0	0	0	0	0.1	0	-0.2	12° 0'	0	-0.1	-0.1	0	-0.1	0	0.2	0.1	-0.1	
-0.1	0	0	0	0	0	0.1	0.1	0	12° 15'	0	-0.1	-0.1	0	-0.1	0	0.2	0.2	-0.1	
-0.1	0	0	0	0	0	0.1	0.1	0.2	12° 30'	0	-0.1	-0.1	0	-0.1	0	0.1	0.2	-0.1	
0	0	0	0	0	-0.1	0	0.1	0.2	12° 45'	-0.1	-0.2	-0.1	-0.1	0	0	0.1	0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	13° 0'	-0.1	-0.2	0	-0.1	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	13° 15'	-0.1	-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	13° 30'	-0.1	-0.1	0	0	-0.1	0	0	0	0	
0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	13° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 0'	-0.1	-0.1	0	0.1	0	-0.1	0	-0.1	0	
0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 15'	0	-0.1	-0.1	0.1	0	-0.1	0	-0.1	0	
-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	14° 30'	0	-0.1	-0.2	0.1	0	-0.1	0	0	0	
-0.1	-0.1	0	0	0	-0.1	-0.1	0	-0.1	14° 45'	0	-0.1	-0.2	0.2	0.1	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	15° 0'	0	-0.1	-0.2	0.1	0.1	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	15° 15'	0	-0.1	-0.2	0.1	0.1	-0.1	-0.1	0	0	
-0.2	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.2	15° 30'	0	-0.2	-0.2	0.1	0	-0.1	-0.1	0	0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	15° 45'	0	-0.2	-0.2	0.1	0	-0.1	-0.1	0	0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	16° 0'	0	-0.2	-0.2	0.1	0	-0.1	0	0.1	0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	16° 15'	-0.1	-0.2	-0.1	0.1	0	-0.1	0	0.1	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	16° 30'	-0.1	-0.2	-0.1	0.1	0.1	0	0	0.1	0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	16° 45'	-0.1	-0.2	-0.1	0.1	0.1	0	0.1	0.1	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 0'	-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	-0.1	-0.1	-0.1	-0.1	17° 15'	-0.1	-0.1	-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	-0.1	17° 30'	-0.1	-0.1	-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	-0.1	17° 45'	-0.1	0	-0.1	0	0.1	0	0.1	0.1	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	18° 0'	0	0	0	0	0.1	0	0	0.1	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	18° 15'	0	0	0	0	0.1	0	0	0.1	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	18° 30'	0	0	0	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 45'	0	0	0	0	0.1	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	19° 0'	0	0	0.1	0	0.1	0.1	0	0	0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	19° 15'	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	-0.1	19° 30'	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	-0.1	19° 45'	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	-0.1	20° 0'	0	0	0	0	0.1	0.1	-0.1	0	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 44 to 48 °E									
Correction to Latitude										Correction to Longitude									
44°	44°	45°	45°	46°	46°	47°	47°	48°	Longitude	44°	44°	45°	45°	46°	46°	47°	47°	48°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	10 ° 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	0	0	10 ° 15 '	0	0	0	-0.1	0	0	0	0	0	-0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	10 ° 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	10 ° 45 '	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	11 ° 0 '	0	0	-0.1	0	0	0	0	0	-0.1	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	11 ° 15 '	-0.1	0	0	0	0	0	0	0.1	-0.1	0
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	11 ° 30 '	-0.1	0	0	0	0	0	0	0.1	0	0
-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.3	11 ° 45 '	-0.1	-0.1	-0.1	0	0	0	0	0	0	0
-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.2	-0.4	12 ° 0 '	-0.1	-0.1	-0.1	-0.1	0.1	0	0	0	0.2	0
0	-0.1	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.3	12 ° 15 '	-0.1	-0.1	-0.1	-0.1	0.1	-0.1	0	0	0.3	0
0.2	0.1	-0.2	-0.2	0	0	0	-0.1	-0.1	12 ° 30 '	-0.1	0.1	0	-0.2	0	0	0	0	0.3	0
0.2	0.1	0	-0.1	0	0.1	0	0	0	12 ° 45 '	-0.1	0.2	0.1	-0.3	-0.1	0	0	0	0.3	0.1
0.1	0.1	0.1	0.1	0	0	-0.1	0	0	13 ° 0 '	-0.1	0.2	0.1	-0.3	-0.1	0	0	0	0.3	0.1
0	0	0.2	0.1	-0.1	-0.1	-0.1	0	-0.1	13 ° 15 '	0	0.2	0.1	-0.2	0	0	0	0	0.2	0.2
0	0	0.2	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13 ° 30 '	0	0.1	0	0	0	0	0	0	0.2	0.2
0	0	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	13 ° 45 '	0	0	0	0	0	0	0	0.1	0.2	0.2
-0.1	0	0	0	0	0	-0.1	-0.1	0	14 ° 0 '	0	0	0	0	0	0	0	0.1	0.2	0.2
-0.1	0	-0.1	0	0	-0.1	-0.1	-0.1	0	14 ° 15 '	0	0	0	0	0	0	0.1	0.1	0.2	0.2
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	14 ° 30 '	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.2
-0.1	0	0	0	-0.1	-0.2	-0.2	-0.1	0	14 ° 45 '	-0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.2
0	-0.1	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	15 ° 0 '	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0	0.1
-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	15 ° 15 '	0	-0.1	0	0.1	0.2	0.1	0	0	0	0.1
-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	15 ° 30 '	0.1	0	0	0.1	0.1	0.1	0	0	0	0.1
-0.2	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	15 ° 45 '	0.1	0	0	0.1	0.1	0	0	0	0.1	0.1
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	16 ° 0 '	0.1	0.1	0	0	0	0	0	0.1	0.1	0.2
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	16 ° 15 '	0.1	0	0	0	0	0	0	0.1	0.2	0.2
-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	16 ° 30 '	0.1	0	0	0	0	0	0	0.1	0.2	0.1
-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	16 ° 45 '	0	0.1	0	0	0	0	0	0.2	0.1	0.1
-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	17 ° 0 '	0	0.1	0	0	0	0	0.1	0.2	0.1	0.1
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	17 ° 15 '	0	0.1	0	0	0	0	0.1	0.2	0	0
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	17 ° 30 '	0	0.1	0	0	0	0	0.1	0.1	0	0
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	17 ° 45 '	0	0.1	0.1	0	0	0	0.1	0.1	0	0
0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	18 ° 0 '	0	0.1	0.1	0.1	0	0	0.1	0.1	0	0
0	0	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	18 ° 15 '	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1
0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18 ° 30 '	0.1	0.1	0.1	0.2	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	18 ° 45 '	0.1	0	0.1	0.2	0.1	0	0	0	0	-0.1
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	0	19 ° 0 '	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	0	-0.2
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	0	19 ° 15 '	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	0	-0.2
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	19 ° 30 '	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	-0.1	-0.2
-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	19 ° 45 '	0.1	0	0	0.2	0.1	0.1	0.1	0.1	-0.1	-0.2
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	20 ° 0 '	0.1	0	0	0.2	0.2	0.1	0.1	0.1	-0.1	-0.2

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 48 to 52 °E									
Correction to Latitude										Correction to Longitude									
48°	48°	49°	49°	50°	50°	51°	51°	52°	Longitude	48°	48°	49°	49°	50°	50°	51°	51°	52°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	10° 0'	-0.1	0	0	0	0.1	0.1	0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	0	-0.1	0	0	-0.1	10° 15'	-0.1	0	0	0	0.1	0.1	0	-0.1	0	
0	-0.1	-0.1	-0.1	0	0	0	0	-0.1	10° 30'	0	0	0	0	0.1	0.1	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	10° 45'	0	0	0	0	0	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	11° 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	11° 15'	0	0	0	0	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	11° 30'	0	0.1	0.1	0	0	-0.1	0	0	0	
-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	11° 45'	0	0.1	0	0	-0.1	-0.1	0	0	0	
-0.4	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	12° 0'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	12° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	12° 30'	0	0	0	-0.1	-0.2	-0.1	0	0	0	
0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	12° 45'	0.1	0	0	-0.1	-0.2	-0.2	0	0	0	
0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	13° 0'	0.1	0.1	0	-0.1	-0.2	-0.2	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	13° 15'	0.2	0.1	0	0	-0.2	-0.2	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 30'	0.2	0.1	0	0	-0.2	-0.2	-0.1	0	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	13° 45'	0.2	0.1	0	0	-0.1	-0.2	-0.1	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 0'	0.2	0.1	0	0	-0.1	-0.2	-0.1	-0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 15'	0.2	0.1	-0.1	0	0	-0.2	-0.1	-0.1	0	
0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 30'	0.2	0.2	-0.1	0	0	-0.2	-0.1	-0.1	0	
0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	14° 45'	0.2	0.2	0	0	0	-0.2	-0.1	-0.1	-0.1	
-0.1	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	15° 0'	0.1	0.2	0	0	0	-0.2	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	15° 15'	0.1	0.2	0	-0.1	0	-0.2	-0.2	-0.1	0	
-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	15° 30'	0.1	0.2	0	-0.1	0	-0.1	-0.2	-0.1	0	
-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	-0.1	15° 45'	0.1	0.1	0	-0.2	0	-0.1	-0.2	-0.1	0	
-0.2	-0.2	-0.1	0	0	0	0	-0.1	-0.1	16° 0'	0.2	0.1	-0.1	-0.2	0	-0.1	-0.1	0	-0.1	
-0.2	-0.2	-0.1	0	0	0	0	0	-0.1	16° 15'	0.2	0.1	-0.1	-0.2	0	-0.2	-0.1	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	-0.1	16° 30'	0.1	0	-0.2	-0.2	-0.1	-0.2	-0.1	0	0	
-0.1	0	0	0	0	0	0	0	-0.1	16° 45'	0.1	0	-0.2	-0.1	-0.1	-0.2	-0.1	0	0	
-0.1	0	0	-0.1	0	0	0	0	-0.1	17° 0'	0.1	0	-0.2	-0.1	-0.1	-0.2	-0.1	0	0	
-0.1	0	0	-0.1	0	0	0	-0.1	0	17° 15'	0	0	-0.1	-0.1	-0.1	-0.2	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	17° 30'	0	0	-0.1	-0.1	-0.2	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	17° 45'	0	0	-0.1	-0.2	-0.2	-0.1	0	0	0	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	18° 0'	0	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	18° 15'	-0.1	-0.1	-0.2	-0.3	-0.2	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	18° 30'	-0.1	-0.1	-0.1	-0.3	-0.1	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	18° 45'	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	19° 0'	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	19° 15'	-0.2	-0.2	-0.2	-0.2	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 30'	-0.2	-0.2	-0.3	-0.2	0	0	0	0	0	
0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	19° 45'	-0.2	-0.2	-0.3	-0.2	0	0	0	0	0	
0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	20° 0'	-0.2	-0.2	-0.3	-0.2	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	-0.1	-0.1	0	-0.1	10 ° 0 '	0	0	-0.1	-0.1	-0.1	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	10 ° 15 '	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	-0.1	0	0	10 ° 30 '	0	0	0	-0.1	-0.1	-0.1	0	0	0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	10 ° 45 '	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	0	11 ° 0 '	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	0	11 ° 15 '	0	0	0	-0.1	-0.1	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11 ° 30 '	0	0	0	-0.1	-0.1	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11 ° 45 '	0	0	0	-0.1	-0.1	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12 ° 0 '	0	0	0	-0.1	0	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12 ° 15 '	0	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	12 ° 30 '	0	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	12 ° 45 '	0	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13 ° 0 '	0	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13 ° 15 '	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	-0.2	13 ° 30 '	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	-0.2	13 ° 45 '	0	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	-0.2	14 ° 0 '	0	0	0	0	-0.1	-0.1	-0.1	0	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	14 ° 15 '	0	0	0	0	-0.1	-0.1	-0.1	0	0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	14 ° 30 '	0	0	0	0	-0.1	-0.1	-0.1	0	0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14 ° 45 '	0	0	-0.1	0	-0.1	-0.1	-0.1	0.1	0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	15 ° 0 '	0	0	-0.1	0	-0.1	-0.1	-0.1	0.1	0.3	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	15 ° 15 '	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	-0.2	-0.3	-0.1	15 ° 30 '	0	0	0	0	0	-0.1	0	0.1	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.3	-0.1	15 ° 45 '	0	0	0	0	0	0	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.1	16 ° 0 '	0	0	0	0	0	0	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	16 ° 15 '	0	0	0	0	0	0.1	0.2	0	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	16 ° 30 '	0	0	-0.1	0	0	0.1	0.2	0	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	16 ° 45 '	0	0	-0.1	0	0	0.1	0.2	0	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	17 ° 0 '	0	0	-0.1	0	0	0.1	0.1	0	-0.1	
-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	0	17 ° 15 '	0	0	-0.1	0	0	0.1	0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	0	17 ° 30 '	0	0	0	0	0	0.1	0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0	17 ° 45 '	0	0	0	0	0	0.1	0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.2	-0.2	0	0	-0.1	18 ° 0 '	0	0	0	0	0	0	0.1	0	-0.1	
0	0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	18 ° 15 '	0	0	0	0	0.1	0	0	0	0	
0	-0.1	-0.2	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	18 ° 30 '	0	0	0.1	0	0.1	0	-0.1	0	0	
0	-0.1	-0.2	-0.3	-0.2	0	-0.1	-0.1	-0.1	18 ° 45 '	0	0.1	0.1	0.1	0	0	0	0	0	
-0.1	0	-0.1	-0.3	-0.3	0.1	0.1	0	-0.1	19 ° 0 '	0	0.1	0.2	0.1	-0.2	-0.1	0	0	0	
-0.1	0	0	-0.2	-0.2	0	0.1	0	0	19 ° 15 '	0	0	0.3	0.3	-0.3	-0.2	0.1	0	0	
-0.1	0	0.1	0	-0.1	0	0	0	-0.1	19 ° 30 '	-0.1	0	0.3	0.4	-0.4	-0.3	0.1	0	0	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	19 ° 45 '	-0.1	-0.1	0.3	0.4	-0.4	-0.3	0.1	0	0	
-0.2	-0.1	-0.2	0	0.1	-0.1	-0.1	-0.1	-0.1	20 ° 0 '	-0.1	-0.1	0.3	0.3	-0.4	-0.2	0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	10 ° 0 '	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	10 ° 15 '	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	10 ° 30 '	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	10 ° 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	-0.1	11 ° 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	-0.1	-0.1	-0.1	11 ° 15 '	-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	-0.1	-0.1	11 ° 30 '	-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	-0.1	-0.1	-0.1	11 ° 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	12 ° 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	12 ° 15 '	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	-0.1	-0.1	12 ° 30 '	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	-0.1	-0.1	12 ° 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	-0.1	-0.1	13 ° 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	-0.1	-0.1	-0.1	13 ° 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	13 ° 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	13 ° 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	-0.1	-0.1	14 ° 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	14 ° 15 '	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14 ° 30 '	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	14 ° 45 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15 ° 0 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15 ° 15 '	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	15 ° 30 '	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	15 ° 45 '	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16 ° 0 '	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16 ° 15 '	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	16 ° 30 '	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	16 ° 45 '	-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17 ° 0 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17 ° 15 '	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	17 ° 30 '	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	17 ° 45 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	18 ° 0 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18 ° 15 '	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18 ° 30 '	0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18 ° 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	19 ° 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	19 ° 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	19 ° 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	19 ° 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	-0.1	-0.1	20 ° 0 '	0	0	0	0	0	0	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 80 to 84 °E									
Correction to Latitude										Correction to Longitude									
80°	80°	81°	81°	82°	82°	83°	83°	84°	Longitude	80°	80°	81°	81°	82°	82°	83°	83°	84°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 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	-0.1	10° 15'	0	0	0	0	0	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 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	-0.1	-0.1	10° 45'	0	0	0	0	0	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 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	-0.1	11° 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	11° 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	11° 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	12° 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	12° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	12° 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	-0.1	-0.1	12° 45'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 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	-0.1	13° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 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	-0.1	-0.1	13° 45'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 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	-0.1	14° 15'	0	0	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 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	-0.1	-0.1	14° 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	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	15° 15'	0	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	15° 30'	0	0	0	0	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 45'	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	-0.1	16° 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	-0.1	16° 15'	0	0	0	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 30'	0	0	0	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 45'	0	0	0	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 0'	-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	-0.1	-0.1	17° 15'	-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	-0.1	-0.1	17° 30'	-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	17° 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	18° 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	-0.1	-0.1	-0.1	18° 15'	-0.1	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	18° 30'	-0.1	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	18° 45'	-0.1	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	19° 0'	-0.1	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	19° 15'	-0.1	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	19° 30'	-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	19° 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	-0.1	-0.1	20° 0'	-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	10° 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	0	10° 15'	0.1	0.1	0	0	0	0	0	0	0	0.1
-0.1	-0.1	0	0	0	0	0	0	-0.1	10° 30'	0.1	0.1	0	0	0	0	0	0	0	0.1
-0.1	-0.1	0	0	0	0	-0.1	0	-0.1	10° 45'	0.1	0	0	0	0	0	0	0	0	0.1
-0.1	0	0	0	0	0	0	0	0	11° 0'	0.1	0	0	0	0	0.1	0	0	0	0.1
-0.1	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	0	0.1	0	0	0	0.2
-0.1	0	0	0	0	-0.1	0	0	-0.1	11° 30'	0	0	0	0	0.1	0.1	0	0	0	0.2
-0.1	0	0	0	-0.1	-0.1	0	0	-0.1	11° 45'	0	0	0	0	0.1	0.1	0	0.1	0	0.2
-0.1	0	0	-0.1	-0.1	-0.1	0	0	-0.1	12° 0'	0	0	0	0	0.1	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	12° 15'	-0.1	0	0	0	0.1	0	0	0.1	0	0.2
0	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	12° 30'	-0.1	0	0	0.1	0.1	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	12° 45'	-0.1	0	0	0.1	0	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	13° 0'	-0.1	0	0	0.1	0	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	13° 15'	-0.1	0	0	0	0	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 30'	-0.1	0	0	0	0	0	0	0.1	0	0.2
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	13° 45'	-0.1	0	0	0	0	0	0	0.1	0	0.1
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	14° 0'	-0.1	0	0	0	0.1	0.1	0	0	0	0.1
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	14° 15'	-0.1	0	0.1	0.1	0.1	0.1	0	0	0	0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	14° 30'	-0.1	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	-0.1	14° 45'	0	0	0.1	0.1	0.1	0.1	0	0	0	0.1
-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	15° 0'	0	0	0	0.1	0.1	0.1	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	15° 15'	0	0	0	0.1	0.1	0.1	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	15° 30'	0	0	0	0.1	0.1	0.1	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	15° 45'	0	0	0	0.1	0	0.1	0.1	0.1	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	16° 0'	0	0	0	0	0	0.1	0.1	0.1	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	16° 15'	0	0	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	16° 30'	0	0	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	16° 45'	0	0	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	17° 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	-0.1	-0.1	-0.1	17° 15'	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	-0.1	-0.1	17° 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	-0.1	-0.1	17° 45'	0	0	0	0	0	0	0.1	0.2	0	0
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	18° 0'	0	0	0	-0.1	0	0.1	0.1	0.2	0	0
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	18° 15'	0	0	0	-0.1	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	18° 30'	0	0	0	-0.1	0	0.1	0.2	0.1	-0.1	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	18° 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	-0.1	-0.1	-0.1	0	19° 0'	0	0	-0.1	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	19° 15'	0	-0.1	-0.1	0	0	0.1	0.1	0	-0.1	0
-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	19° 30'	0	-0.1	0	0	0	0.1	0.1	0	-0.1	0
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	19° 45'	0	-0.1	0	0	0	0.1	0.1	0	-0.1	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	20° 0'	0	0	0	0	0	0	0.1	0	-0.1	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	10° 0'	0.1	0.1	0	0	0	0.2	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	10° 15'	0.1	0.1	0	0	0	0.2	0.1	0	0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	10° 30'	0.1	0.1	0	0	0	0.2	0.1	0	0.1	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	0	10° 45'	0.1	0.1	0	0	0	0.2	0.1	0.1	0.1	
0	-0.1	-0.1	0	0	0	0	-0.1	0	11° 0'	0.1	0.2	0	-0.1	0	0.2	0.1	0.1	0.1	
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	11° 15'	0.2	0.2	-0.1	-0.1	0.1	0.2	0.1	0.1	0	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	0.1	11° 30'	0.2	0.2	-0.1	-0.1	0.1	0.2	0.1	0	0	
-0.1	0	0	0	-0.1	0	0	0	0.1	11° 45'	0.2	0.1	-0.1	-0.1	0.1	0.2	0.1	0	0	
-0.1	0	0	0	-0.1	0	0	0	0	12° 0'	0.2	0.1	-0.1	0	0.1	0.1	0.1	0	0	
-0.1	0	0	0	0	0	0	0	0	12° 15'	0.2	0.1	-0.1	0	0.1	0.1	0	0	0	
-0.1	-0.1	0	0	-0.1	0	0	0	0	12° 30'	0.2	0.1	-0.1	0	0.1	0.1	0	0	0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	12° 45'	0.2	0.1	-0.1	0	0.1	0.1	0	0.1	0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	13° 0'	0.2	0.1	-0.1	0	0.1	0.1	0	0.1	0.1	
-0.1	-0.1	0	0	-0.1	0	0	0	0	13° 15'	0.2	0.1	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	13° 30'	0.2	0.1	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	13° 45'	0.1	0	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	14° 0'	0.1	0	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	14° 15'	0.1	-0.1	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	-0.1	0	14° 30'	0.1	-0.1	-0.1	0	0.1	0	0	0.1	0.1	
-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	0	14° 45'	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	0	0	0	15° 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	0	0	15° 15'	0	-0.1	-0.1	0.1	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	15° 30'	0	-0.1	-0.1	0.1	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	15° 45'	0	-0.1	-0.1	0.1	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	16° 0'	0	-0.1	-0.1	0.1	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 15'	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	0	16° 30'	0.1	-0.2	-0.1	0.1	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	16° 45'	0.1	-0.2	-0.1	0.1	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	17° 0'	0	-0.2	-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	17° 15'	0	-0.2	-0.1	0	0	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	17° 30'	0	-0.2	-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	0	17° 45'	0	-0.2	-0.1	0	0	0.1	0	0	0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	18° 0'	0	-0.2	-0.1	0	0	0	-0.1	0	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	18° 15'	0	-0.2	-0.1	0	0	0	-0.1	0	0.1	
0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	18° 30'	-0.1	-0.2	-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	18° 45'	-0.1	-0.2	-0.1	0	0	0	0	0	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 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	-0.1	19° 15'	-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	-0.1	19° 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	-0.1	-0.1	0	19° 45'	-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	20° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	0	0.1	0.1	0.1	0.1	0.1	0	0	10° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
0	0	0	0.1	0	0.1	0.1	0	0	10° 15'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	
0	0	0	0	0	0	0	0	0	10° 30'	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0.1	10° 45'	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	
0	0	0	0	0	0	0	0.1	0.1	11° 0'	0.2	0.2	0	0.1	0.1	0.1	0.2	0.2	0.1	
0	0	0	0	0	0	0.1	0.1	0.2	11° 15'	0.2	0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.2	11° 30'	0.2	0.2	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	11° 45'	0.2	0.2	0	0	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	12° 0'	0.1	0.2	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	0.1	12° 15'	0.1	0.2	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	0.1	12° 30'	0.1	0.1	0	0.1	0.1	0	0.1	0	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	0.1	0.1	0	0.1	0.1	0	0.1	0	0.1	
0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	13° 0'	0.1	0	0	0.1	0.1	0	0.1	0	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	13° 15'	0.1	0	0	0.1	0.1	0	0.1	0	0.1	
0.1	0.1	0	0	0	0.1	0.1	0.1	0	13° 30'	0.1	0	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	13° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	
0.1	0.1	0	0	0	0.1	0	0	0	14° 0'	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	14° 15'	0	0.2	0.1	0	0	0	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0	0	0	0.1	14° 30'	0	0.2	0.1	0	0	0	0.1	0.1	0.1	
0.1	0	0.1	0.1	0.1	0.1	0	0.1	0.1	14° 45'	0	0.2	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	15° 0'	0.1	0.2	0.1	0	0	0.1	0.1	0	0.1	
0	0	0.1	0.1	0.1	0	0.1	0	0	15° 15'	0.1	0.2	0	0	0	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0	0	0	0	0	15° 30'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	15° 45'	0.2	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	16° 0'	0.2	0.1	0	0.1	0.1	0.1	0	0.1	0	
0	0	0.1	0	0	0	0	0	0	16° 15'	0.2	0	0	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0.1	0.1	16° 30'	0.2	0	0	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0.1	0.1	16° 45'	0.1	0	0	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	17° 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	17° 15'	0.1	0	0.1	0.1	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	17° 30'	0.1	0	0.1	0.1	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	17° 45'	0.1	0	0.1	0.1	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	18° 0'	0	0	0.1	0.1	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	18° 15'	0	0	0.1	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	18° 30'	0	0	0.1	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	18° 45'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	19° 0'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	19° 15'	0	0	0	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0	0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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										
0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	10° 0'	0.2	0.2	0.1	0.1	-0.1	-0.1	0	0	0.1	
0.1	0.1	0	0	0	0	-0.1	-0.1	0	10° 15'	0.2	0.2	0.1	0.1	-0.1	-0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	10° 30'	0.2	0.2	0.2	0.1	-0.1	-0.1	0	0	0	
0.1	0.1	0.1	0.2	0.2	0.1	0	0	-0.1	10° 45'	0.2	0.2	0.1	0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.2	0.2	0.1	0	0	0	11° 0'	0.2	0.2	0.1	0	-0.1	0	0.1	0.1	0.1	
0.1	0.1	0.2	0.2	0.2	0.1	0	0	0	11° 15'	0.2	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0.2	0.2	0.2	0.1	0.1	0	0	0	11° 30'	0.2	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	11° 45'	0.2	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	12° 0'	0.1	0.1	0.1	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	0.1	0.1	12° 15'	0.1	0.1	0.1	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	0.1	0.1	12° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	13° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	13° 15'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	13° 30'	0.1	0.1	0.2	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	0.2	13° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	14° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 15'	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	14° 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	0.2	0.1	14° 45'	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	0.1	0.1	0.1	0.1	15° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 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	15° 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	15° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 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	0.1	16° 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	0.1	0.1	0.1	16° 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	16° 45'	0.1	0.1	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	17° 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	0	0.1	0.1	0.1	17° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	17° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	17° 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	0.1	0.1	0.1	18° 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	18° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0.1	0.1	18° 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	18° 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	19° 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	19° 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	19° 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	19° 45'	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	0	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 112 to 116 °E									
Correction to Latitude										Correction to Longitude									
112° 0'	112° 30'	113° 0'	113° 30'	114° 0'	114° 30'	115° 0'	115° 30'	116° 0'	Longitude	112° 0'	112° 30'	113° 0'	113° 30'	114° 0'	114° 30'	115° 0'	115° 30'	116° 0'	
									Latitude										
0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4	10° 0'	0.1	0.2	0.2	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	10° 15'	0.1	0.1	0.2	0	0	0	0	0.1	0.1	
0	0.1	0.2	0.3	0.2	0.1	0.1	0	0	10° 30'	0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	
-0.1	-0.1	0.1	0.2	0.1	0.1	0.1	0	0	10° 45'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	0	0	0	0	0.1	0.1	11° 0'	0.1	0	-0.1	0	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	11° 15'	0.1	0	-0.1	0	0	0.1	0.1	0.1	0.1	
0	0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.1	11° 30'	0.1	0	-0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	11° 45'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	-0.1	-0.1	12° 0'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	12° 15'	0	0.1	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	0.1	12° 30'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	13° 0'	0.1	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	0.1	0.2	0.2	13° 15'	0.1	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	0.1	0.1	0.2	13° 30'	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	0.1	13° 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	0.1	14° 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	0.1	0.1	14° 15'	0.1	0.2	0.1	0	0	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 30'	0.1	0.2	0.1	0	0	0	0.1	0.1	0.1	
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	15° 0'	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	15° 15'	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	0.2	0.2	0.1	0.2	0.1	15° 30'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0.1	0.2	0.2	0.2	0.2	15° 45'	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	0.1	0.1	0.2	16° 0'	0.1	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	16° 15'	0.1	0.1	0.1	0	0	0.1	0.1	0	0.1	
0.1	0.1	0.1	0	0	0	-0.1	0	0.1	16° 30'	0.1	0.2	0.1	0	0	0.1	0.1	0	0.1	
0.1	0.1	0.1	0	0	0	0	0.1	0.1	16° 45'	0.1	0.2	0.1	0	0	0.2	0	0	0.1	
0.1	0.1	0.1	0.1	0	0.1	0.2	0.1	0.1	17° 0'	0.1	0.1	0.2	0	0	0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	17° 15'	0.1	0.1	0.2	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	0	17° 30'	0.1	0.1	0.2	0.1	0	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	17° 45'	0.1	0.1	0.2	0.1	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'	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	0.1	0	18° 30'	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	-0.1	18° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0.2	0.2	
0.1	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	19° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.3	0.2	
0.1	0	0	0.1	0.1	0.1	0	-0.1	-0.1	19° 15'	0.1	0.1	0.1	0.1	0	0	0.2	0.3	0.2	
0.1	0	0.1	0.1	0.1	0	-0.1	-0.1	0	19° 30'	0.1	0.1	0.1	0.1	0	0	0.2	0.3	0.1	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	19° 45'	0.1	0.1	0.1	0.1	0	0.1	0.3	0.3	0.1	
0	0.1	0.1	0.1	0.1	0	-0.1	0	0.1	20° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 116 to 120 °E									
Correction to Latitude										Correction to Longitude									
116°	116°	117°	117°	118°	118°	119°	119°	120°	Longitude	116°	116°	117°	117°	118°	118°	119°	119°	120°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0	10° 0'	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	
0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0	10° 15'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	
0	0	0	0	0	0.1	0.3	0.4	0	10° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	
0	0	0	0	0	0.1	0.1	0.3	0	10° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	
0.1	0	0	0.1	0.1	0	0	0.1	0	11° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.2	0.2	
0	0	0	0	0	0	-0.1	-0.1	0	11° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	11° 30'	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	11° 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	12° 0'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	12° 15'	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	0.1	0	0	12° 30'	0.1	0	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	0	12° 45'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	13° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	13° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	13° 30'	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	0.1	0.1	0.1	0	13° 45'	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	0.1	0.1	0.1	0	14° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0	14° 15'	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	0.1	0.2	0.1	0	14° 30'	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	0.1	0.1	0.1	0	14° 45'	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	0.1	0.1	0.1	0.1	0	15° 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	0.1	0.1	0.1	0.1	0.1	0	15° 15'	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	0.1	0.1	0	0.1	0	15° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	
0.2	0.2	0.1	0.1	0.1	0.1	0	0	0	15° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	
0.2	0.2	0.2	0.2	0.1	0	0	0	0	16° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	
0.1	0.1	0.1	0.2	0.1	0	0	0	0	16° 15'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	
0.1	0	0.1	0.1	0.1	0	0	0	0	16° 30'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	
0.1	0	0	0.1	0.1	0	0	0	0	16° 45'	0.1	0.1	0	0.1	0.3	0.3	0.2	0.2	0.1	
0.1	0.1	0	0	0	0	0	0.1	0	17° 0'	0.1	0.1	0	0.1	0.3	0.3	0.2	0.2	0.1	
0.1	0.1	0.1	0	0	0	0	0.1	0	17° 15'	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.1	
0	0.1	0.1	0	0	0	0	0.1	0	17° 30'	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.1	
0	0	0	0	-0.1	0	0	0.1	0	17° 45'	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	
0.1	0	0	-0.1	-0.1	0	0.1	0.1	0	18° 0'	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0.1	0	0	-0.1	0	0.1	0.1	0.1	0	18° 15'	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	0	0	0.1	0.1	0	0	18° 30'	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	0.1	0.1	0.1	0	0	18° 45'	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	0	0	0	0.1	0	0.1	0.1	0	19° 0'	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	0.1	0.1	0	19° 15'	0.2	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	19° 30'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	19° 45'	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	0.1	0	20° 0'	0	0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 120 to 124 °E									
Correction to Latitude										Correction to Longitude									
120° 0'	120° 30'	121° 0'	121° 30'	122° 0'	122° 30'	123° 0'	123° 30'	124° 0'	Longitude	120° 0'	120° 30'	121° 0'	121° 30'	122° 0'	122° 30'	123° 0'	123° 30'	124° 0'	Latitude
0.4	0.3	0.2	0	0	0	0	0.1	0.3	10° 0'	0.2	-0.1	-0.2	-0.2	-0.2	0	0.2	0.2	0.1	10° 0'
0.5	0.4	0.3	0	-0.1	-0.1	-0.1	0.1	0.2	10° 15'	0.2	-0.1	-0.1	-0.1	-0.2	0	0.2	0.1	0.1	10° 15'
0.5	0.4	0.2	0	-0.1	-0.2	-0.1	0.1	0.1	10° 30'	0.2	0	0	0	-0.1	0	0.1	0	0.1	10° 30'
0.4	0.3	0.1	0.1	0	-0.2	-0.1	0	-0.1	10° 45'	0.2	0.1	0.1	0.1	-0.1	0	0.1	0	0.1	10° 45'
0.2	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.2	11° 0'	0.2	0.1	0.1	0.1	0	0	0	0	0.2	11° 0'
0	0.1	0.1	0.1	0	-0.1	-0.2	-0.2	-0.3	11° 15'	0.2	0.1	0.1	0.1	0	0.1	0	0.1	0.2	11° 15'
-0.1	0	0.1	0.1	0	-0.1	-0.2	-0.2	-0.2	11° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 30'
-0.1	0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	11° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	11° 45'
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0.1	0.1	0.2	0.2	0.1	0	0	12° 0'
0	-0.1	-0.1	0	0	0	0.1	0.1	0	12° 15'	0.1	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	12° 15'
0	0	-0.1	0	0	0.1	0.1	0.1	0	12° 30'	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	12° 30'
0	0	0	0	0	0.1	0.1	0.1	0.1	12° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	13° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 30'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	13° 30'
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 45'	0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	13° 45'
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 0'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	14° 0'
0.1	0.1	0	0	0	0.1	0	0	0.1	14° 15'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	14° 15'
0.1	0.1	0	0	0	0	0	0	0.1	14° 30'	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 30'
0.1	0	0	0	0	0	0	0.1	0.1	14° 45'	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 45'
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	15° 0'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	15° 0'
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	15° 15'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	15° 15'
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	15° 30'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	15° 30'
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 0'
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 15'
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 30'	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 45'
0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	17° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 0'
0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	17° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 15'
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	17° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 30'
0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	17° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	18° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	18° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 30'
0	0	0	0	0.1	0.1	0.1	0.1	0.1	18° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	19° 0'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	19° 0'
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.2	19° 15'	0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	19° 15'
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.2	19° 30'	0.1	0.1	0.1	0	0	0	0	0	0.1	19° 30'
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	19° 45'	0.1	0.2	0.1	0	0	0	0	0	0.1	19° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'	0.1	0.2	0.1	0	0	0	0	0	0.1	20° 0'

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 128 to 132 °E									
Correction to Latitude										Correction to Longitude									
128°	128°	129°	129°	130°	130°	131°	131°	132°	Longitude	128°	128°	129°	129°	130°	130°	131°	131°	132°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	0	10° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	10° 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	10° 30'	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	0	0	0	10° 45'	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	0	0	0.1	11° 0'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 15'	0.1	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	0.1	0.1	11° 30'	0.1	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	0.1	0.1	11° 45'	0.1	0	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	0.1	0.1	12° 0'	0.1	0	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	0.1	0.1	12° 15'	0.1	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	0.1	0.1	12° 30'	0.1	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	0.1	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	13° 0'	0.1	0.1	0	0	0.2	0.1	0.1	0.1	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	13° 15'	0.1	0.1	0	0	0.2	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 30'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 45'	0.1	0.2	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	14° 0'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	14° 15'	0	0.1	0	0	0.1	0	0.1	0.1	0.1	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	14° 30'	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	14° 45'	0	0	0	0.1	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 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	0.1	0.1	15° 15'	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	0.1	0.1	0.1	15° 30'	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	0.1	0.1	15° 45'	0	0	0	0	0.1	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 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	0.1	16° 15'	0	-0.1	0	0	0.1	0.1	0	0.1	0.1	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	16° 30'	0	-0.1	0	0.1	0.1	0.1	0	0.1	0.1	
0	0.1	0.1	0	0	0.1	0.1	0.1	0.1	16° 45'	0	-0.1	0	0.1	0.1	0	0	0.1	0.1	
0	0.1	0.1	0	0	0.1	0.1	0.1	0.1	17° 0'	-0.1	-0.1	0	0.1	0.1	0	0	0.1	0.1	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	17° 15'	-0.1	-0.1	0.1	0.1	0.1	0	0	0.1	0.1	
0.2	0.1	0.1	0	0	0.1	0.1	0.1	0.1	17° 30'	-0.1	-0.1	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	0.1	0.1	17° 45'	-0.1	0	0.1	0.1	0	0	0	0	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	-0.1	0	0.1	0.1	0	0	0	0	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'	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	18° 30'	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	18° 45'	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	19° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 15'	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	0.1	19° 30'	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	0.2	19° 45'	0.1	0.1	0.1	0	0	0	0	0	0.1	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	20° 0'	0.1	0.1	0.1	0	0	0	0	0	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	0	0	0	0.1	0.1	0	10° 0'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	10° 0'
0	0	0	0	0.1	0.1	0.1	0.1	0.1	10° 15'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	10° 15'
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	10° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	10° 30'
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 45'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	10° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 0'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	11° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	11° 15'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	11° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	11° 30'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	11° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	11° 45'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	11° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 0'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	12° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 15'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	12° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	12° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	12° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 0'	0	0.1	0.1	0	0	0	0.1	0.1	0	13° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 15'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	13° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 30'	0.1	0.1	0.1	0	0	0	0.1	0.1	0	13° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 45'	0.1	0.1	0.1	0	0	0	0	0.1	0	13° 45'
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	14° 0'	0.1	0.1	0.1	0	0	0	0	0.1	0.1	14° 0'
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 15'	0.1	0.1	0.1	0	0	0	0	0.1	0.1	14° 15'
0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 30'	0.1	0.1	0.1	0	0	0	0	0.1	0.1	14° 30'
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	14° 45'	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0.1	14° 45'
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	15° 0'	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0.1	15° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 15'	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	15° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	15° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 0'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 15'	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	16° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 30'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	16° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 45'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	16° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 0'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	17° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 15'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	17° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 30'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	17° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 45'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	17° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 30'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	19° 0'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 15'	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	19° 15'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 30'
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 45'
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	20° 0'

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 136 to 140 °E									
Correction to Latitude										Correction to Longitude									
136° 0'	136° 30'	137° 0'	137° 30'	138° 0'	138° 30'	139° 0'	139° 30'	140° 0'	Longitude	136° 0'	136° 30'	137° 0'	137° 30'	138° 0'	138° 30'	139° 0'	139° 30'	140° 0'	
									Latitude										
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 0'	0	0	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	10° 15'	0	0	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	10° 30'	0	0	0	0	0.1	0.1	0.1	0	0	
0.1	0.1	0	0.1	0.1	0	0.1	0.1	0.1	10° 45'	0	0	0	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	11° 0'	0	0	0	0	0.1	0.1	0	0	0	
0.1	0	0	0	0	0.1	0.1	0.1	0.1	11° 15'	0	0	0	0	0.1	0	0	0	0	
0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	11° 30'	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	11° 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	12° 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	12° 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	12° 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	12° 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	13° 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	13° 15'	0	0	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 30'	0	0	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 45'	0	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 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	0.1	0.1	14° 15'	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	0.1	0.1	14° 30'	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	0.1	0.1	14° 45'	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	0.1	0.1	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	0.1	15° 15'	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	0	15° 30'	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	0	15° 45'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	16° 0'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	16° 15'	0	0	0	0	0.1	0.1	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	16° 30'	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	0	0	16° 45'	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	17° 0'	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	0.1	0.1	17° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 30'	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 45'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 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	0.1	18° 30'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'	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	0.1	0.1	0	19° 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	0.1	0	0	0	19° 15'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	19° 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	19° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 140 to 144 °E									
Correction to Latitude										Correction to Longitude									
140° 0'	140° 30'	141° 0'	141° 30'	142° 0'	142° 30'	143° 0'	143° 30'	144° 0'	Longitude	140° 0'	140° 30'	141° 0'	141° 30'	142° 0'	142° 30'	143° 0'	143° 30'	144° 0'	
									Latitude										
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	10° 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	0.1	0	0	0.1	10° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	10° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 30'	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	0.1	0.1	11° 45'	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	0.1	0.2	12° 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	0.1	0.1	0.1	0.1	12° 15'	0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 30'	0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.2	-0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	12° 45'	0	0	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	0.1	0.1	0	13° 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	0	13° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	13° 30'	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	0.1	0.1	0.1	0.1	0	13° 45'	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	14° 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	0.1	0.1	0.1	0.1	0.1	14° 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	0.1	14° 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	14° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 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	0.1	0	15° 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	0.1	15° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0.1	0.1	0.1	0.1	0.1	16° 0'	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	0.1	0.1	16° 15'	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	0.1	0.1	16° 30'	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	0.1	0.1	16° 45'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 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	0.1	0.1	0.1	17° 15'	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	17° 30'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 45'	0	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	0	0	18° 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	0	0	18° 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	0	0	18° 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	0	0	18° 45'	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	0.1	0	0	19° 0'	0.1	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	0.1	0.1	19° 15'	0.1	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	0.1	0.1	19° 30'	0.1	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	0.2	0.2	0.1	19° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0.1	0	0.1	0.1	0.1	0.1	0.2	0.2	20° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 144 to 148 °E									
Correction to Latitude										Correction to Longitude									
144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'	Longitude	144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'	
									Latitude										
0.1	0.1	0	0	-0.1	0	0.1	0.3	0.4	10° 0'	0	-0.1	-0.1	0	-0.1	0	0.1	0.2	0.1	
0.1	0.1	0	0	-0.1	-0.1	0	0.2	0.3	10° 15'	-0.1	-0.1	-0.1	0	-0.1	0	0.1	0.1	0.1	
0	0.1	0	0	0	-0.1	0	0.1	0.2	10° 30'	-0.1	-0.1	0	0	0	0	0	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0.1	10° 45'	-0.1	-0.1	0	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0.1	11° 0'	-0.1	-0.1	0	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	11° 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	11° 30'	-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	0.1	11° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	0	12° 0'	-0.1	0	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	12° 15'	-0.1	0	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	12° 30'	-0.2	0	0.1	0	0	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	-0.2	0	0.1	0	0	-0.1	0	0	0	
0	0	0.1	0.1	0.1	0.1	0	0.1	0.1	13° 0'	-0.1	0	0.1	0	0	0	0	0	0	
0	0	0.1	0	0.1	0.1	0	0	0.1	13° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0.1	0	0	0	0	13° 30'	-0.1	-0.1	0	0	0	0	0	-0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	13° 45'	-0.1	-0.1	0	0	0	0	0	-0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	14° 0'	0	-0.1	-0.1	0	0	0	0	0	-0.1	
0.1	0	-0.1	0	0	0.1	0.1	0	0	14° 15'	0.1	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0.1	0	0	0	14° 30'	0.1	0	0	-0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0.1	0	0	0	14° 45'	0.1	0	0	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0	0	0.1	0	0	0	15° 0'	0	0	0	-0.1	-0.1	0	0.1	0	0	
0	0.1	0.1	0	0	0.1	0.1	0	0	15° 15'	0.1	0	0	-0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	15° 30'	0.1	0	0	-0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	15° 45'	0.1	0	0	0	-0.1	0	0.1	0.1	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	16° 0'	0.1	0	0	0	-0.1	0	0.1	0.1	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	16° 15'	0.1	0	0.1	0	-0.1	-0.1	0	0.1	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	16° 30'	0.1	0.1	0.1	0	-0.1	-0.1	0	0.1	0.1	
0.1	0.1	0	0	0	0	0	0.1	0.1	16° 45'	0.1	0.1	0.1	0	-0.1	-0.1	0	0.1	0.1	
0.1	0.1	0	0	0.1	0	0	0.1	0.1	17° 0'	0.1	0.1	0.1	0	0	-0.1	-0.1	0.1	0.1	
0.1	0.1	0	0	0.1	0	0	0.1	0.1	17° 15'	0.1	0.1	0.1	0	0	-0.1	-0.1	0	0.1	
0.1	0	0.1	0.1	0.1	0	0	0.1	0.1	17° 30'	0.1	0.1	0.1	0	0	-0.1	-0.1	0	0.1	
0.1	0	0.1	0.1	0.1	0	0	0	0.1	17° 45'	0.1	0.1	0.1	0	0	0	-0.1	0	0.1	
0	0	0	0.1	0.1	0	0	0	0	18° 0'	0.1	0.1	0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0.1	0	0	0	18° 15'	0.1	0.1	0.1	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0.1	0	0	0	18° 30'	0.1	0.1	0	0	0	0	0	-0.1	0	
0	0	0	0.1	0	0	0	0	0	18° 45'	0.1	0.1	0	0	0	0	0	0	0	
0	0.1	0.1	0.1	0	0	0	0	0	19° 0'	0.1	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	19° 15'	0.1	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0	0	19° 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	19° 45'	0.1	0.1	0	0	0	0	0	0	0	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 0'	0.1	0.1	0.1	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S
Longitude 152 to 156 °E

Correction to Latitude
Correction to Longitude

Correction to Latitude										Longitude	Correction to Longitude									
152° 0'	152° 30'	153° 0'	153° 30'	154° 0'	154° 30'	155° 0'	155° 30'	156° 0'		152° 0'	152° 30'	153° 0'	153° 30'	154° 0'	154° 30'	155° 0'	155° 30'	156° 0'		
0	0.1	0.1	0.1	0	0	0.1	0	0	10° 0'	0	0	0	0	0	0	-0.1	0	0		
0	0	0	0	0	0	0	0	0.1	10° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	0	-0.1		
0	0	0	0	0.1	0	0	0	0.1	10° 30'	-0.1	0	0	0	0	-0.1	0	0	-0.1		
0	0	0	0	0	0	0	0.1	0.2	10° 45'	-0.1	0	0	-0.1	0	0	0	-0.1	-0.2		
0.1	0.1	0	0	0	0	0.1	0.2	0.2	11° 0'	-0.1	0	0	-0.1	0	0	-0.1	-0.2	-0.1		
0.3	0.2	0.1	0	0	0.1	0.2	0.3	0.1	11° 15'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	0		
0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.1	-0.1	11° 30'	0	0.1	0.1	0	-0.1	-0.2	-0.2	-0.1	0.1		
0.3	0.3	0.3	0.3	0.3	0.2	0.1	-0.1	-0.2	11° 45'	0	0.1	0.1	0	-0.1	-0.2	-0.1	0	0.1		
0.1	0.2	0.3	0.3	0.3	0.2	0	-0.2	-0.2	12° 0'	0	0	0	0	0	-0.1	0	0.1	0.1		
0	0.1	0.1	0.2	0.2	0	-0.1	-0.2	-0.1	12° 15'	0	0	0	0	0	0	0.1	0.1	0		
0	0	0	0	0	0	-0.1	-0.1	0	12° 30'	0	0	0	0	0	0.1	0.1	0.1	0		
0.1	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0		
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0.1	0.1	0.1	0		
0	0	0	0	0	0.1	0.1	0.1	0.1	13° 15'	0	0	0	0	0	0.1	0.1	0	0		
0	0	0	0	0	0.1	0.1	0.1	0.1	13° 30'	0	0	0	0	0	0.1	0.1	0.1	0		
0.1	0	0	0	0	0.1	0.1	0.1	0.1	13° 45'	0	0	0	0	0	0	0.1	0.1	0		
0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	14° 0'	0	0	0	0	0	0	0.1	0.1	0		
0.1	0	0	0	0	0.1	0.1	0.1	0.1	14° 15'	0	0	0	0	0	0	0.1	0	0		
0.1	0	0	0	0	0	0.1	0.1	0.1	14° 30'	0	0	0	0	0	0	0.1	0	0		
0	0	0.1	0	0	0	0.1	0.1	0.1	14° 45'	0	0	0	0	0	0	0.1	0	0		
0	0	0.1	0.1	0	0	0	0.1	0	15° 0'	0	0	0	0	0	0	0	0	0		
-0.1	0	0.1	0.1	0.1	0.1	0	0	0	15° 15'	0	0	0	0	0	0	0	0	0		
-0.1	0	0	0	0	0	0	0.1	0.1	15° 30'	0	-0.1	0	0	0	0	0	0	0		
-0.1	0	0	0	0	0	0	0.1	0.1	15° 45'	0	-0.1	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0.1	0.1	16° 0'	-0.1	-0.1	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0	16° 15'	-0.1	-0.1	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0	16° 30'	0	-0.1	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0	16° 45'	0	-0.1	0	0	0	0	0	0	0		
0	0	0	0	0	0	0	0	0	17° 0'	0	-0.1	0	0	0	0	0.1	0	-0.1		
0.1	0	0	0	0	0	0	0	0	17° 15'	0	-0.1	0	0	0	0	0.1	0	-0.1		
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	17° 30'	0	-0.1	0	0	0	0	0.1	0	0		
0.1	0.1	0.1	0.1	0.1	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0	0		
0.1	0.1	0.1	0.1	0.1	0	0	0	0	18° 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	0.1	18° 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	18° 30'	0	0	0	0	0	0.1	0	0	0		
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'	0	-0.1	0	0	0	0.1	0	0	0		
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	19° 0'	0	-0.1	-0.1	0	0	0	0	0	0		
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	19° 15'	0	-0.1	-0.1	0	0	0	0	0	0		
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	19° 30'	0	-0.1	-0.1	0	0	0	0	0	0		
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	19° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	0		
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	20° 0'	0	0	-0.1	-0.1	0	0	0	0	0		

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S
Longitude 156 to 160 °E

Correction to Latitude
Correction to Longitude

Correction to Latitude										Correction to Longitude									
156°	156°	157°	157°	158°	158°	159°	159°	160°	Longitude	156°	156°	157°	157°	158°	158°	159°	159°	160°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0.1	0.1	0	-0.1	-0.1	-0.1	0.1	0	10° 0'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0.1	
0.1	0.1	0	-0.2	-0.2	-0.1	-0.1	-0.1	0	10° 15'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	0	10° 30'	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0.2	0.1	-0.1	-0.1	0	0.1	0	-0.1	0	10° 45'	-0.2	0	0.2	0	-0.2	-0.1	0	-0.1	-0.2	
0.2	0	0	0.1	0.2	0.1	0.1	0	0	11° 0'	-0.1	0.1	0.2	-0.1	-0.2	-0.1	0	0	-0.2	
0.1	-0.1	0	0.2	0.1	0	0.1	0.1	0	11° 15'	0	0.2	0.1	-0.1	-0.1	-0.1	0	0.1	-0.1	
-0.1	-0.1	0	0.1	0	0	0	0.1	0	11° 30'	0.1	0.2	0	-0.1	-0.1	-0.1	0	0.2	0	
-0.2	-0.1	0	0	-0.1	-0.1	0	0.1	0	11° 45'	0.1	0.1	0	-0.1	0	-0.1	-0.1	0.2	0.1	
-0.2	0	0	0	-0.1	0	-0.1	0.1	0	12° 0'	0.1	0	0	0	-0.1	-0.1	-0.1	0.2	0.1	
-0.1	0	0	0	0	0	-0.1	0	0	12° 15'	0	0	0	0	-0.1	-0.1	-0.1	0.1	0.2	
0	0	0	0	0	0	0	-0.1	0	12° 30'	0	0	0	0	-0.1	0	-0.1	0	0.2	
0	0	0	0.1	0.1	0	0	0	0	12° 45'	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0	0	0	13° 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	0	0	0	13° 15'	0	0	-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	13° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	13° 45'	0	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0.1	0	0	14° 0'	0	-0.1	-0.1	0	0.1	0	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	14° 15'	0	-0.1	0	0	0.1	0	-0.1	0	0	
0.1	0.1	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0.1	0	-0.1	0.1	0	
0.1	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	15° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	15° 15'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0.1	0	0	0	15° 30'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0.1	0	0	0	15° 45'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0.1	0	0.1	0	16° 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	0	16° 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	16° 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	16° 45'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0	0.1	0	17° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0	0	0.1	0	17° 15'	-0.1	0	0	0	0	0	0	0	0	
0.1	0	0	0.1	0.1	0	0	0.1	0	17° 30'	0	0	0	-0.1	0	0.1	-0.1	0	0	
0.1	0	0.1	0.1	0.1	0	0	0.1	0	17° 45'	0	0	0	-0.1	0	0.1	-0.1	0	0.1	
0	0.1	0.1	0.1	0.1	0	0	0.1	0	18° 0'	0	0	0	-0.1	0	0.1	-0.1	0	0.1	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	18° 15'	0	0	0	-0.1	0	0.1	-0.1	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	18° 30'	0	0	0	-0.1	0.1	0.1	-0.2	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	18° 45'	0	0	0	-0.1	0.1	0.1	-0.2	0	0.1	
0.1	0.1	0.1	0	0	0	-0.1	-0.1	0	19° 0'	0	0	0	-0.1	0.1	0.1	-0.2	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	19° 15'	0	0	0	-0.1	0.1	0.2	-0.2	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	19° 30'	0	0	0	0	0.1	0.2	-0.2	0	0	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	19° 45'	0	-0.1	0	0	0.1	0.1	-0.2	0	0	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0	20° 0'	0	0	0	0	0.1	0.1	-0.2	0	0.1	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °S										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'	
0.4	0.3	0.1	-0.2	-0.3	-0.2	0	0	0	10° 0'	0.1	0	-0.1	-0.1	-0.2	0.1	0.2	0	-0.1	
0.2	0.3	0.2	-0.1	-0.4	-0.3	0	0	0.1	10° 15'	0	0.1	0.1	0.1	-0.2	-0.1	0.1	0	-0.1	
-0.1	0.1	0.2	0.1	-0.2	-0.2	0.1	0.2	0.2	10° 30'	-0.2	0	0.1	0.2	-0.1	-0.2	0	-0.1	-0.1	
-0.2	-0.1	0.1	0.3	0.2	0.2	0.3	0.3	0.2	10° 45'	-0.2	-0.1	0.1	0.3	0	-0.3	-0.1	0	-0.1	
-0.2	-0.2	0	0.3	0.4	0.4	0.3	0.2	0.1	11° 0'	-0.2	-0.2	-0.1	0.2	0	-0.3	-0.1	0	-0.1	
-0.1	-0.2	-0.2	0	0.3	0.2	0	-0.1	-0.1	11° 15'	-0.1	-0.2	-0.2	0	-0.1	-0.2	0	0.1	0	
-0.1	-0.2	-0.3	-0.2	-0.1	-0.2	-0.3	-0.3	-0.2	11° 30'	0	-0.2	-0.2	-0.1	-0.1	-0.1	0	0.1	0	
0	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	11° 45'	0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	12° 0'	0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0	0	-0.1	-0.1	-0.1	0	0	-0.1	12° 15'	0.2	-0.1	-0.1	0	-0.1	0	0	0	-0.1	
0.1	0	0	-0.1	0	0	0	0	-0.1	12° 30'	0.2	0	-0.1	0	-0.1	-0.1	0	0	-0.1	
0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	12° 45'	0.1	0	-0.1	-0.1	-0.1	0	0	0	0	
0	0.1	0	0	0	-0.1	-0.1	0	-0.1	13° 0'	0.1	0.1	0	0	-0.1	0	0	0	0	
0	0.1	0.1	0	0	0	0	0	0	13° 15'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0.1	13° 45'	0	0	0	0	0	-0.1	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	14° 0'	0	0	0	-0.1	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	14° 15'	0	0	0	-0.1	0	0	0	0	-0.1	
0	0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	14° 30'	0	0	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0	0.1	0.1	0	0	-0.1	-0.1	-0.1	14° 45'	0	0	-0.1	-0.1	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0	-0.1	0	0	15° 0'	0	-0.1	-0.1	0	0	0	0.1	0	-0.1	
0.1	0.1	0.1	0	0	0	0	0.1	0.1	15° 15'	0	-0.1	-0.1	0	0	0.1	0.1	0	-0.1	
0.1	0.1	0	0	0	0	0.1	0.2	0.2	15° 30'	0	-0.1	-0.1	0	0	0.1	0	-0.1	0	
0.1	0.1	0	0	0	0	0.1	0.2	0.1	15° 45'	0	0	-0.1	0	0	0	-0.1	-0.1	0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0	16° 0'	0	0	-0.1	0	0.1	0	-0.2	-0.1	0.1	
0.1	0.1	0	0.1	0	0	0.1	0	0	16° 15'	0	0	-0.1	0	0.1	0	-0.2	0	0.1	
0	0.1	0.1	0	0	0.1	0	-0.1	-0.1	16° 30'	0	0	-0.1	0	0.1	0	-0.1	0	0.1	
0	0.1	0.1	0	0	0.1	0	-0.1	0	16° 45'	0	0	0	0	0.1	-0.1	-0.1	0	0	
0	0.1	0.1	0	0	0.1	0	0	0	17° 0'	0	0	0	0.1	0.1	-0.1	0	0.1	0	
0	0	0.1	0.1	0	0	0	0	0	17° 15'	0	-0.1	0	0.1	0	-0.1	0	0.1	0	
0	0	0	0	0	0	-0.1	0	0	17° 30'	0	-0.1	0	0.1	0.1	-0.1	0	0	0	
0	0	0	0	0	-0.1	-0.2	-0.1	0	17° 45'	0.1	0	-0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	18° 0'	0.1	0	-0.1	0	0.1	0.1	0	-0.1	0	
0.1	0.1	0	0	0	0.1	0	0	0	18° 15'	0.1	0	0	0	0.1	0.1	0	-0.1	0	
0	0	0	0	0	0.1	0.1	0	0	18° 30'	0.1	0	0	0	0.1	0.1	0.1	-0.1	0	
0	0	0	0	0	0.1	0.2	0	0	18° 45'	0.1	0	0	0	0	0.1	0.2	-0.1	0	
0	0	0	0	0	0.1	0.1	0	0	19° 0'	0	0	0	0	0	0	0.2	0	-0.1	
0	0	0	0	0.1	0	0.1	0.1	0	19° 15'	0	-0.1	0	0	0	0	0.2	0	-0.1	
0.1	0	0	0	0.1	0	0.1	0.1	0	19° 30'	0	0	0	0	0	0	0.1	0.1	0	
0	0	-0.1	0	0	0	0.1	0.2	0	19° 45'	0	0	0	0	0	0	0.1	0.1	0.1	
0	-0.1	-0.1	0	0	0	0.1	0.1	0	20° 0'	0.1	0	0	-0.1	0	0	0	0.2	0.2	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °S										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	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	10° 0'	-0.1	-0.1	0	0	0	0	0	-0.1	0	
0.1	0.2	0.2	0.1	0	0	0	-0.1	-0.1	10° 15'	-0.1	-0.1	0	0.1	0	0	0	-0.1	-0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0	-0.1	-0.1	10° 30'	-0.1	-0.1	0.1	0.1	0	0	0	0	0	-0.1
0.2	0.1	0.2	0.3	0.2	0.1	0	-0.1	-0.1	10° 45'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	
0.1	0	0.1	0.3	0.3	0	0	-0.1	-0.1	11° 0'	-0.1	-0.1	-0.1	0	0.2	0.1	0.1	0	0	
-0.1	-0.2	-0.1	0.3	0.3	0	0	-0.1	-0.1	11° 15'	0	-0.1	-0.2	-0.1	0.3	0.2	0.1	0	0	
-0.2	-0.2	-0.1	0.1	0.3	0.1	0	-0.1	-0.1	11° 30'	0	-0.1	-0.3	-0.2	0.4	0.3	0.1	0	0	
-0.2	-0.1	-0.2	0	0.2	0.2	0	-0.1	-0.1	11° 45'	-0.1	-0.1	-0.4	-0.4	0.4	0.4	0.1	0	0	
-0.1	-0.1	-0.1	-0.2	0.1	0.2	0	0	-0.1	12° 0'	-0.1	-0.1	-0.3	-0.4	0.3	0.4	0.2	0.1	0	
-0.1	-0.1	-0.1	-0.2	0	0.1	0	0	0	12° 15'	-0.1	-0.1	-0.3	-0.5	0.1	0.5	0.3	0.1	0	
-0.1	-0.1	-0.1	-0.2	-0.1	0.1	0	0	0	12° 30'	-0.1	-0.1	-0.2	-0.5	0	0.5	0.3	0.1	0	
-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.1	0	0	12° 45'	0	-0.1	-0.2	-0.5	-0.1	0.5	0.3	0.1	0	
-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	13° 0'	0	-0.1	-0.2	-0.4	-0.2	0.5	0.3	0.1	0.1	
0	-0.1	-0.2	-0.3	-0.1	0.1	0	-0.1	-0.1	13° 15'	0	0	-0.2	-0.4	-0.3	0.5	0.3	0.1	0.1	
0	0	-0.1	-0.2	-0.1	0.1	0.1	-0.1	-0.1	13° 30'	0	0	-0.1	-0.4	-0.5	0.4	0.4	0.1	0	
0.1	0.1	0	-0.1	-0.1	0.1	0.1	0	-0.1	13° 45'	0	0	0	-0.4	-0.5	0.3	0.5	0.2	0	
0.1	0.2	0.1	0	-0.2	-0.1	0	0	0	14° 0'	0	0	0	-0.3	-0.6	0.2	0.5	0.3	0	
0	0.1	0.1	0.1	-0.1	-0.3	-0.1	0.1	0	14° 15'	-0.1	0	0.1	-0.2	-0.5	0.2	0.4	0.3	0	
-0.1	0	0.1	0.2	-0.1	-0.3	-0.2	0.1	0.1	14° 30'	-0.1	0	0	-0.2	-0.3	0.2	0.3	0.2	0.1	
-0.1	-0.1	0.1	0.2	0	-0.3	-0.2	0	0	14° 45'	-0.1	-0.1	-0.1	-0.2	-0.1	0.3	0.1	0.1	0.1	
0	0	0	0.1	-0.1	-0.2	-0.2	-0.1	0	15° 0'	-0.1	-0.1	-0.1	-0.2	0	0.4	0	0	0.2	
0.1	0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	15° 15'	-0.1	-0.1	-0.1	-0.2	0.1	0.4	0	0	0.2	
0.2	0	-0.1	-0.2	-0.2	-0.1	0	0	0	15° 30'	0	0	-0.1	-0.1	0	0.3	0.1	-0.1	0.2	
0.1	0	-0.1	-0.1	-0.1	0	0.1	0	0	15° 45'	0.1	0.1	0	-0.1	0	0.2	0.1	0	0.2	
0	0	0	0	0	0.1	0.2	0	-0.1	16° 0'	0.1	0.1	0	0	-0.1	0.1	0.1	0	0.1	
0	0	0.1	0.1	0	0.1	0.2	0	-0.1	16° 15'	0.1	0.1	0	0	0	0	0.1	0.2	0.2	
-0.1	0	0	0	0	0	0.1	0.2	0.1	16° 30'	0.1	0	0	0	0	0	0.1	0.2	0.2	
0	0	0	0	-0.1	0	0.1	0.3	0.2	16° 45'	0	0	0	0	0	0	0	0.2	0.3	
0	0	0	-0.1	-0.1	0	0.1	0.3	0.3	17° 0'	0	0	0	0	0	-0.1	-0.1	0.1	0.4	
0	0	0	0	0	0	0	0.2	0.2	17° 15'	0	0	0	0	0	-0.1	-0.2	0.1	0.5	
0	0	0	0	0	0	0	0.1	0.1	17° 30'	0	0	0	0	0	-0.1	-0.2	0	0.5	
0	0	0	0	0	0	0	0	0.1	17° 45'	0	0	0	0	0	-0.1	-0.2	0	0.5	
0	0	0	0	0	0	0	0.1	0.2	18° 0'	0	0	0	0	0	-0.1	-0.3	0	0.4	
0	0	0	0	0	0	0	0.1	0.2	18° 15'	0	0	0	0	0	-0.1	-0.3	-0.1	0.4	
0	0	-0.1	0	0	0	0	0	0.1	18° 30'	0	0.1	0	0	0	-0.1	-0.3	-0.2	0.4	
0	0	0	0	0	0	0	0	0.1	18° 45'	0	0.1	0	0	0	-0.1	-0.2	-0.2	0.3	
0	0.1	0	0	0	0	0	-0.1	0.1	19° 0'	-0.1	0.1	0	0	-0.1	0	-0.2	-0.2	0.2	
0	0.1	0.1	0	0	0	0	-0.1	0.1	19° 15'	-0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.3	0.1	
0	0	0.1	0	-0.1	0	0	-0.1	0.1	19° 30'	0	0	0.1	0.1	-0.1	-0.1	-0.1	-0.3	-0.1	
0	-0.1	0	0.1	0	-0.1	0	-0.1	0	19° 45'	0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.3	
0	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0.2	-0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.4	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °S										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'	
-0.1	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.2	-0.2	10° 0'	0	0	-0.1	-0.1	-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	-0.2	10° 15'	-0.1	0	-0.1	-0.1	-0.1	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	10° 30'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	10° 45'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	0	11° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	11° 15'	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	-0.2	-0.2	-0.2	11° 30'	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	-0.2	-0.2	-0.2	11° 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	-0.2	12° 0'	0	0	0	0	0	0	-0.1	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 15'	0	0	0	0	0	0	-0.1	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 30'	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	12° 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	13° 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	13° 15'	0.1	0	0	0	0	0	0	0	0	
-0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	13° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	13° 45'	0	0	0	0	0	-0.1	0	-0.1	0	
0	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	14° 0'	0	0	0	0	0	-0.1	0	-0.1	-0.1	
0	0	0	-0.1	0	-0.1	0	0	0	14° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0.1	0	0	-0.1	0	0	0	0	0	14° 30'	0.1	0	0	0	0	0	0	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	14° 45'	0.1	0	0	0	0	0	0	-0.1	0	
0	-0.1	0	0	0	0	0	0	0	15° 0'	0.2	0	0	0	0	0	0	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	15° 15'	0.2	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	15° 30'	0.2	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	15° 45'	0.2	0	0	0	0	0	0	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	16° 0'	0.1	0	0	0	0	0	0	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	16° 15'	0.2	0	0	0	0	0	0	0	-0.1	
0.1	0	0	0	0	0	0	0	0	16° 30'	0.2	0	0	0	0	0	0	0	-0.1	
0.2	0	0	0	0	0	0	0	0	16° 45'	0.3	0	0	0	0	0	0	0	0	
0.3	0	0	0	0	0	0	0	0	17° 0'	0.4	0.1	0	0	0	0	0	0	0	
0.2	0	0	0	0	0	0	0	0	17° 15'	0.5	0.2	0	0	0	0	0	0	-0.1	
0.1	0	0	0	0	0	0	0	0	17° 30'	0.5	0.2	0	0	0	0	0	0	-0.1	
0.1	0.1	0.1	0	0	0	0	0	0	17° 45'	0.5	0.2	0	0	0	0	0	0	0	
0.2	0.2	0.1	0	0	0	0	0	0	18° 0'	0.4	0.2	0.1	0.1	0	0	0	0	0	
0.2	0.2	0	0	0	0	0	0	0	18° 15'	0.4	0.3	0.2	0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	18° 30'	0.4	0.4	0.2	0.1	0	0	0	0	0	
0.1	0.1	0	0.1	0	0	0	0	0	18° 45'	0.3	0.4	0.2	0.1	0	0	0	0	0	
0.1	0.2	0.1	0.1	0	0	0	0	0	19° 0'	0.2	0.4	0.2	0.1	0	0	0	0	0	
0.1	0.4	0.2	0.1	0.1	0	0	0	0	19° 15'	0.1	0.4	0.3	0.1	0	0	0	0	0	
0.1	0.4	0.3	0.1	0.1	0.1	0	0	0	19° 30'	-0.1	0.4	0.4	0.1	0.1	0	0	0	0	
0	0.3	0.3	0.1	0.1	0	0	0	0	19° 45'	-0.3	0.3	0.5	0.2	0.1	0	0	0	0	
-0.1	0.1	0.3	0.1	0.1	0	0	0	0	20° 0'	-0.4	0.1	0.6	0.3	0.1	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °S
Correction to Latitude
Longitude 172 to 176 °E
Correction to Longitude

Correction to Latitude										Correction to Longitude									
172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	Longitude	172° 0'	172° 30'	173° 0'	173° 30'	174° 0'	174° 30'	175° 0'	175° 30'	176° 0'	Latitude
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	10° 0'	-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	0	10° 0'
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	10° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	10° 15'
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 30'
0	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	10° 45'	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	10° 45'
0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	11° 0'	0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	11° 0'
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	-0.3	11° 15'	0	0	-0.1	0	-0.1	-0.1	0	0	-0.2	11° 15'
-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	11° 30'	0	-0.1	0	0	-0.1	-0.1	0	0	-0.1	11° 30'
-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	-0.1	11° 45'
-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.2	-0.1	-0.1	12° 0'	-0.1	-0.2	-0.1	0	-0.1	-0.1	0	0	-0.1	12° 0'
-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	12° 15'	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	12° 15'
-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	12° 30'	0	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	12° 30'
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	12° 45'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	12° 45'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 0'	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	13° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 15'	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	13° 15'
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	13° 30'	0	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	13° 30'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	13° 45'
-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	14° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 0'
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 15'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	14° 15'
0	0	0	0	0	-0.1	-0.1	-0.1	0	14° 30'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 30'
0	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	14° 45'	0	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	14° 45'
0	0	0	0	0	0	0	0	-0.1	15° 0'	-0.1	-0.1	0	0	-0.1	0	0	-0.1	-0.1	15° 0'
0	0	0	0	0	0	0	0	-0.1	15° 15'	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	15° 15'
0	0	-0.1	0	0	0	0	-0.1	0	15° 30'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	-0.1	15° 30'
0	0	-0.1	0	0	0	-0.1	0	0	15° 45'	-0.1	0	-0.1	-0.1	0	-0.1	0	-0.1	-0.1	15° 45'
0	0	0	-0.1	0	0	0	0	0	16° 0'	-0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.1	16° 0'
0	0	0	0	0	0	0	0	-0.1	16° 15'	-0.1	0	0	0	-0.1	0	-0.1	-0.1	0	16° 15'
0	0	0	0	0	0	0	0	0	16° 30'	-0.1	0	0	0	-0.1	0	-0.1	0	-0.1	16° 30'
0	0	0	0	0	0	0	0	0	16° 45'	0	0	-0.1	0	-0.1	0	-0.1	0	-0.1	16° 45'
0	0	0	0	0	0	0	0	0	17° 0'	0	0	-0.1	0	-0.1	0	-0.1	0	-0.1	17° 0'
0	0	0	0	0	0	0	0	0	17° 15'	-0.1	0	-0.1	0	-0.1	0	0	-0.1	-0.1	17° 15'
0	0	0	0	0	0	0	0	0	17° 30'	-0.1	0	0	0	-0.1	0	0	-0.1	-0.1	17° 30'
0	0	0	0	0	0	0	0	0	17° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	17° 45'
0	0	0	0	0	0	0	0	0	18° 0'	0	0	-0.1	0	0	-0.1	-0.1	0	-0.1	18° 0'
0	0	0	0	0	0	0	0	0	18° 15'	0	0	-0.1	0	0	-0.1	-0.1	0	-0.1	18° 15'
0	0	0	0	0	0	0	0	0	18° 30'	0	0	0	-0.1	0	-0.1	-0.1	0	-0.1	18° 30'
0	0	0	0	0	0	0	0	0	18° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	18° 45'
0	0	0	0	0	0	0	0	0	19° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 0'
0	0	0	0	0	0	0	0	0	19° 15'	0	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	19° 15'
0	0	0	0	0	0	0	0	0	19° 30'	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 30'
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	19° 45'
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	20° 0'

Correct Astronomical Position to WGS84

Latitude 20 to 20 °S										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'	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	10° 0'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	10° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	10° 30'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	10° 45'	0	-0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	11° 0'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 15'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	0	-0.1	-0.1	0	0	0	0	11° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0	0	0	11° 45'	0	-0.1	-0.1	0	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.2	-0.2	0	0	0	0	12° 0'	0	-0.1	0	0	-0.1	-0.1	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	12° 15'	0	-0.1	0	0	-0.1	-0.2	-0.1	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	-0.1	0	0	-0.2	-0.2	-0.1	0	0	
-0.1	0	-0.1	0	0	0	-0.1	-0.2	-0.1	12° 45'	0	-0.1	0	0	-0.2	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.2	-0.2	13° 0'	-0.1	-0.1	0	0	-0.2	-0.1	0	0	-0.1	
-0.1	0	-0.1	-0.1	0	0	-0.2	-0.2	-0.3	13° 15'	-0.1	-0.1	0	-0.1	-0.2	-0.1	0.1	0	-0.2	
0	0	-0.1	0	0	0	-0.1	-0.1	-0.2	13° 30'	-0.2	0	0	-0.1	-0.2	0	0.1	0	-0.1	
-0.1	0	0	0	0	0	0	0	0	13° 45'	-0.2	0	0	-0.1	-0.2	0	0.1	0	0	
-0.2	-0.1	-0.1	-0.1	0	0	0.1	0.2	0.1	14° 0'	-0.2	-0.1	0	-0.1	-0.2	0	0.1	0	0	
-0.2	-0.2	-0.2	-0.2	-0.1	0	0.3	0.3	0.2	14° 15'	-0.2	-0.1	0	-0.1	-0.2	-0.1	0	0.1	0	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0.2	0.3	0.2	14° 30'	-0.2	-0.1	0	-0.1	-0.3	-0.3	-0.1	0.1	0.1	
-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	0	0.3	0.2	14° 45'	-0.1	-0.1	0	-0.1	-0.3	-0.4	-0.2	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.4	-0.2	0.2	0.2	15° 0'	-0.1	-0.1	0	-0.1	-0.2	-0.4	-0.4	0.1	0.2	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.4	-0.3	0	0.2	15° 15'	0	-0.1	0	-0.1	-0.1	-0.3	-0.6	-0.1	0.3	
0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.1	0.2	15° 30'	0	-0.1	0	-0.1	-0.1	-0.2	-0.7	-0.3	0.3	
0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0.1	15° 45'	0	-0.1	0	-0.1	-0.1	-0.2	-0.6	-0.4	0.2	
0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	16° 0'	0	0	0	-0.1	-0.1	-0.2	-0.6	-0.5	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	16° 15'	0	0	0	0	-0.1	-0.3	-0.5	-0.5	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	16° 30'	0	0	-0.1	0	-0.1	-0.3	-0.6	-0.5	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	16° 45'	0	0	-0.1	0	-0.1	-0.3	-0.6	-0.5	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	17° 0'	0	0	0	0	-0.1	-0.3	-0.7	-0.5	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	17° 15'	0	0	0	0	-0.1	-0.3	-0.7	-0.5	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0	17° 30'	0	0	0	0	-0.1	-0.3	-0.8	-0.4	0.3	
-0.1	-0.1	-0.1	0	0	0.1	0.2	0	0	17° 45'	0	0	0	0	-0.1	-0.4	-0.8	-0.4	0.3	
0	0	-0.1	0	0	0.2	0.2	0	-0.1	18° 0'	0	0	0	-0.1	-0.1	-0.4	-0.8	-0.2	0.3	
-0.1	-0.1	-0.1	-0.1	0	0.2	0.2	-0.1	-0.2	18° 15'	0	0	0	-0.1	-0.2	-0.5	-0.7	-0.1	0.2	
-0.1	-0.1	0	0	0	0.2	0.3	-0.1	-0.1	18° 30'	0	0	0	-0.1	-0.2	-0.7	-0.6	0.1	0.1	
-0.1	-0.1	0	0	0	0.2	0.2	0	0	18° 45'	0	0	0	-0.1	-0.3	-0.8	-0.5	0.2	0.1	
0	-0.1	0	0	0.1	0.2	0.2	0.1	0.1	19° 0'	0	0	0	-0.1	-0.4	-0.9	-0.4	0.3	0.1	
0	-0.1	-0.1	0	0.1	0.2	0.1	0	0.1	19° 15'	0	0	0	-0.1	-0.5	-0.9	-0.4	0.3	0.1	
-0.1	0	-0.1	-0.1	0.1	0.2	0	-0.1	0	19° 30'	0	0	0	-0.1	-0.6	-0.9	-0.3	0.2	0.1	
0	0	-0.1	0	0.1	0.2	0	-0.1	0	19° 45'	0	0	0	-0.2	-0.7	-0.8	-0.1	0.2	0.1	
0	0	-0.1	0	0.2	0.2	0	-0.1	-0.1	20° 0'	0	0	0	-0.3	-0.8	-0.8	0	0.2	0.1	

Correct Astronomical Position to WGS84

Latitude 20 to 20°S										Longitude 168 to 164°W									
Correction to Latitude										Correction to Longitude									
168°	167°	167°	166°	166°	165°	165°	164°	164°	Longitude	168°	167°	167°	166°	166°	165°	165°	164°	164°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	10° 0'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 15'	0	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	0	0	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	10° 45'	-0.1	0	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	11° 0'	-0.1	0	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	11° 15'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0.1	0	0	0	0	11° 30'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0	0	0	11° 45'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0.1	0	0	12° 0'	0	-0.1	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	-0.1	-0.1	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	-0.1	-0.1	0	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	13° 0'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	13° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	13° 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	13° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	14° 0'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	14° 15'	-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	14° 30'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	14° 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	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	0	15° 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	15° 30'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	15° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	16° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	16° 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	16° 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	17° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	17° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	17° 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	17° 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	-0.1 -0.1	18° 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	18° 15'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	18° 30'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	18° 45'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	19° 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	19° 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	19° 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	19° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	20° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	0	0	0	0	0	0	0	0	10° 0'	-0.1	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 15'	0	0	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 45'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 15'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 30'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 30'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 0'	-0.1	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	18° 15'	0	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	18° 30'	0	-0.1	0	0	0	0	0	0	-0.1	0
0	-0.1	-0.1	0	0	0	0	0	0	18° 45'	0	-0.1	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	0	0	0	0	0	19° 0'	0	-0.1	0	-0.1	-0.1	-0.1	0	0	0	0
0.1	0	0	-0.1	-0.1	0	0	0	0	19° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	0	0
0	0.1	0	0	-0.1	-0.1	0	0	0	19° 30'	0	0	0	0	-0.1	-0.1	-0.1	0	0	0
0	0	0	0	0	-0.1	0	0	0	19° 45'	0	0	0	0	-0.1	-0.1	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	0.1	10° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0.1	10° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	10° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0	10° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	11° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	11° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	12° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0	-0.1	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0	-0.1	-0.1	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	15° 45'	0	0	0	0	0	-0.1	0	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	16° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	16° 15'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	16° 30'	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	16° 45'	0	0	0	0	0	-0.1	0	0.1	0.1	0.1
0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	17° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0.1	17° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	17° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	18° 0'	0	-0.1	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	18° 15'	0	-0.1	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0.1	0	0	18° 30'	0	0	0	0	-0.1	0	0	0	-0.1	0
0	0	0	0	0	0	0.1	0.1	0	18° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0.1	0.1	19° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	19° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	19° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	-0.1	-0.1	0	0	0	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	0	0	0	0	0	0	0	0	10° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 45'	0	0	0	-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	-0.1	0	0	0	0	0	0
0	0.1	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	14° 15'	0	-0.1	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	14° 30'	0	-0.1	-0.1	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	14° 45'	0	-0.1	-0.1	0	0	0	0	0	0	0
0	0	-0.1	-0.1	0	0	0	0	0	15° 0'	0	-0.1	-0.1	-0.1	0	0	0	0	0	0
0.1	0.1	-0.1	-0.1	0	0	0	0	0.1	15° 15'	0	0	-0.1	-0.1	-0.1	0	-0.1	0	0	0
0.1	0.1	0	-0.1	-0.1	-0.1	0	0	0	15° 30'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0
0.1	0.1	0	0	-0.1	-0.1	-0.1	0	0	15° 45'	-0.1	0.1	0	-0.1	-0.1	0	-0.1	-0.1	0	0
0	0.1	0.1	0.1	0	0	0	-0.1	-0.1	16° 0'	-0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0
0	0.1	0.2	0.2	0.1	0	0	-0.1	-0.1	16° 15'	-0.1	0.1	0.1	0	0	0	0	-0.1	0	0
0	0	0.2	0.2	0.1	0.1	0	0	0	16° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	16° 45'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	-0.1	0	0	0.1	0.1	0.1	0.1	0.1	17° 0'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	-0.1	0	0	0.1	0.1	0.1	0.1	17° 15'	-0.1	-0.1	0	0	0	0	-0.1	0	0	0
0	0	0	0	0	0	0	0	0.1	17° 30'	-0.1	-0.1	0	-0.1	0	0	-0.1	0	0	0
0	0	0	0	0	0	0	0	0	17° 45'	-0.1	-0.1	0	-0.1	0	0	-0.1	0	0	0
0	0	0.1	0	0	0.1	0	0	0	18° 0'	-0.1	-0.1	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0.1	0	0	18° 15'	-0.1	-0.1	0	0	-0.1	0	0	0	0	0
0.1	0	0	0	0	0	0.1	0	0	18° 30'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	0
0.1	0	0	0	0	0	0	0	0	18° 45'	-0.1	0	-0.1	0	0	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 0'	-0.1	0	-0.1	0	0	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 15'	-0.1	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 30'	-0.1	0	0	-0.1	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0	19° 45'	0	0	0	-0.1	0	0	0	-0.1	0	0
0.1	0	0	0	0	0	0	0	0	20° 0'	0	0	0	-0.1	0	0	0	-0.1	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 80 to 76 °W									
Correction to Latitude										Correction to Longitude									
80°	79°	79°	78°	78°	77°	77°	76°	76°	Longitude	80°	79°	79°	78°	78°	77°	77°	76°	76°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.3	0.2	0.1	0.2	0.1	-0.1	-0.1	-0.3	10° 0'	0.2	0.3	0.3	0.4	0.3	0.1	0.1	0.1	0.1	
0	0.2	0.2	0.2	0.2	0.1	-0.1	-0.1	-0.2	10° 15'	0.1	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	
0	0.2	0.2	0.2	0.2	0.1	-0.1	-0.1	-0.1	10° 30'	0	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.3	
-0.1	0.1	0.2	0.2	0.1	0.1	0	-0.1	0	10° 45'	-0.1	0.2	0.4	0.4	0.4	0.3	0.3	0.1	0.2	
-0.1	0	0.1	0.2	0.1	0	0	-0.1	0	11° 0'	-0.1	0.1	0.3	0.4	0.4	0.4	0.3	0.1	0.1	
-0.1	-0.1	0.1	0.1	0.1	0	0	-0.1	0	11° 15'	-0.1	0	0.3	0.4	0.4	0.4	0.4	0.1	0	
-0.1	-0.1	0	0.1	0.2	0.1	0.1	0	0	11° 30'	-0.1	-0.1	0.2	0.4	0.4	0.4	0.4	0.1	0	
-0.1	-0.1	0	0.1	0.2	0.2	0.2	0.1	0	11° 45'	-0.1	-0.1	0.1	0.4	0.5	0.4	0.4	0.2	0.1	
-0.1	-0.2	-0.1	0.1	0.2	0.2	0.2	0.1	-0.1	12° 0'	0	-0.1	0	0.3	0.4	0.4	0.4	0.2	0.1	
-0.1	-0.1	-0.1	0	0.1	0.2	0.2	0.1	-0.1	12° 15'	0	-0.1	0	0.2	0.4	0.4	0.4	0.3	0.2	
-0.1	-0.1	-0.1	0	0.1	0.2	0.2	0.1	-0.1	12° 30'	0	0	-0.1	0.1	0.4	0.4	0.5	0.4	0.3	
0	-0.1	-0.1	-0.1	0.1	0.2	0.2	0.2	0.1	12° 45'	0.1	0	-0.1	0	0.3	0.4	0.5	0.5	0.3	
0	-0.1	-0.1	-0.1	0	0.2	0.2	0.3	0.3	13° 0'	0.1	0	0	0	0.2	0.3	0.4	0.5	0.5	
0	0	-0.1	-0.1	0	0.1	0.1	0.2	0.3	13° 15'	0.1	0	0	0	0.1	0.3	0.4	0.4	0.5	
0	0	-0.1	-0.1	-0.1	0.1	0.1	0.2	0.2	13° 30'	0.1	0.1	0	0	0	0.3	0.4	0.4	0.6	
0	0	0	-0.1	-0.1	0.1	0.2	0.1	0.2	13° 45'	0.1	0.1	0	0	0	0.2	0.4	0.4	0.5	
0	0	0	-0.1	-0.1	0	0.2	0.2	0.2	14° 0'	0.1	0.1	0.1	0	-0.1	0.1	0.3	0.4	0.5	
0	0	0	-0.1	-0.1	-0.1	0.1	0.2	0.2	14° 15'	0.1	0.1	0.1	0	0	0	0.3	0.4	0.4	
0	0	0	-0.1	-0.1	-0.1	0	0.2	0.3	14° 30'	0.1	0.1	0.1	0.1	0	-0.1	0.1	0.4	0.4	
0	0	0	0	-0.1	-0.1	-0.1	0.2	0.3	14° 45'	0.1	0.1	0.1	0	0	-0.1	0	0.3	0.4	
0	0	0	0	0	-0.1	-0.1	0.1	0.3	15° 0'	0.1	0.1	0.1	0.1	0.1	0	-0.1	0.1	0.4	
0	0	0	0	-0.1	-0.1	-0.2	0	0.2	15° 15'	0.1	0.1	0.1	0.1	0.1	0	-0.1	0	0.3	
0	0	0	0	0	-0.1	-0.1	-0.2	0.1	15° 30'	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0.2	
0	0	0	0	0	0	-0.1	-0.2	-0.1	15° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	0	
0	0	0	0	0	0	0	-0.1	-0.1	16° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	16° 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	-0.1	16° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	16° 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	17° 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	17° 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	17° 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	17° 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	18° 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	18° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	18° 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	18° 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	19° 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	19° 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	19° 30'	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	19° 45'	0	0	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	0	0	0.1	0.1	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.3	-0.4	-0.3	-0.2	-0.2	-0.1	0	0	0	10° 0'	0.1	-0.1	-0.2	-0.1	0	0.1	0	0	0	
-0.2	-0.3	-0.2	-0.3	-0.2	-0.1	0	0	0	10° 15'	0.2	-0.1	-0.2	-0.1	0	0.1	0	0	0	
-0.1	0	-0.2	-0.3	-0.2	-0.1	0	0	0	10° 30'	0.3	-0.1	-0.2	-0.1	-0.1	0.1	0	0	0	
0	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	10° 45'	0.2	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	
0	0.1	0	0	-0.1	-0.1	-0.1	0	0	11° 0'	0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	0	
0	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	11° 15'	0	0	0	0	-0.1	0	-0.1	-0.1	0	
0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	11° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.2	-0.2	11° 45'	0.1	0	-0.1	0	0	0	-0.1	0	-0.1	
-0.1	-0.1	0	0	0	0	-0.1	-0.2	-0.3	12° 0'	0.1	0	-0.1	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.3	12° 15'	0.2	0	-0.1	0	0	0.1	0	0.1	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.3	12° 30'	0.3	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	-0.2	-0.3	-0.4	12° 45'	0.3	0	-0.1	0	-0.1	0.1	0.1	0.1	0	
0.3	0	-0.1	0	-0.1	-0.2	-0.2	-0.3	-0.4	13° 0'	0.5	0.1	-0.1	0	-0.1	0.1	0.2	0.2	0	
0.3	0.1	-0.1	0.1	0	-0.2	-0.2	-0.2	-0.2	13° 15'	0.5	0.2	-0.1	0	0	0.1	0.3	0.2	0.1	
0.2	0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	-0.1	13° 30'	0.6	0.4	-0.1	-0.1	0.1	0.2	0.2	0.2	0.1	
0.2	0.2	-0.1	-0.2	-0.1	-0.1	0	0	0	13° 45'	0.5	0.4	0	-0.1	0.1	0.1	0.2	0.2	0.1	
0.2	0.3	0.1	-0.2	-0.1	-0.1	-0.1	0	0	14° 0'	0.5	0.5	0.1	-0.1	0.1	0.1	0.2	0.2	0.1	
0.2	0.4	0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 15'	0.4	0.5	0.3	0	0	0.1	0.2	0.1	0	
0.3	0.3	0.3	0	0	-0.1	-0.2	-0.1	0	14° 30'	0.4	0.5	0.5	0.1	0	0.1	0.2	0.1	0	
0.3	0.3	0.3	0.2	0	0	-0.1	0	0	14° 45'	0.4	0.5	0.5	0.2	0	0.2	0.2	0.1	0	
0.3	0.3	0.3	0.3	0.1	0	0	0	0	15° 0'	0.4	0.5	0.5	0.2	0.1	0.2	0.2	0.1	0	
0.2	0.4	0.4	0.4	0.1	0	0.1	0.1	0	15° 15'	0.3	0.5	0.5	0.3	0.2	0.2	0.2	0.1	0	
0.1	0.4	0.5	0.4	0.2	0.1	0.1	0.1	0.1	15° 30'	0.2	0.5	0.5	0.4	0.3	0.2	0.1	0.1	0.1	
-0.1	0.3	0.5	0.5	0.4	0.3	0.2	0.2	0.2	15° 45'	0	0.3	0.4	0.5	0.4	0.2	0.1	0.1	0.1	
-0.1	0.1	0.4	0.6	0.6	0.5	0.4	0.3	0.2	16° 0'	-0.1	0.1	0.4	0.5	0.5	0.2	0.2	0.1	0.1	
-0.1	-0.1	0.2	0.5	0.7	0.7	0.6	0.4	0.3	16° 15'	-0.1	-0.1	0.2	0.4	0.5	0.3	0.2	0.2	0.2	
-0.1	-0.2	0	0.3	0.7	0.7	0.7	0.5	0.4	16° 30'	-0.1	-0.1	0	0.2	0.4	0.4	0.3	0.3	0.3	
0	-0.2	-0.1	0.1	0.4	0.6	0.7	0.6	0.5	16° 45'	0	-0.1	-0.1	0	0.2	0.3	0.4	0.4	0.3	
0	-0.1	-0.2	-0.1	0.1	0.4	0.5	0.5	0.5	17° 0'	0	-0.1	-0.1	-0.1	0.1	0.3	0.4	0.4	0.4	
0	-0.1	-0.1	-0.2	-0.1	0.2	0.4	0.4	0.5	17° 15'	0	0	-0.1	-0.1	-0.1	0.1	0.3	0.4	0.4	
0	0	-0.1	-0.2	-0.2	-0.1	0.2	0.3	0.4	17° 30'	0	0	0	-0.1	-0.2	0	0.2	0.3	0.4	
0	0	0	-0.1	-0.2	-0.3	0	0.2	0.3	17° 45'	0	0	0	0	-0.1	-0.1	0.1	0.3	0.4	
0	0	0	-0.1	-0.2	-0.3	-0.1	0.1	0.3	18° 0'	0.1	0	0	0	-0.1	-0.2	-0.1	0.2	0.3	
0	0	0	0	-0.1	-0.2	-0.2	0	0.2	18° 15'	0.1	0.1	0	0	0	-0.1	-0.2	0	0.3	
0	0	0	0	0	-0.1	-0.3	-0.2	0.1	18° 30'	0.1	0.1	0	0	0.1	0	-0.2	-0.1	0.2	
0	0	0	0	0	0	-0.2	-0.2	0	18° 45'	0.1	0.1	0.1	0	0.1	0	-0.1	-0.2	0	
0	0	0	0	0	0	-0.1	-0.2	-0.1	19° 0'	0.1	0.1	0.1	0.1	0	0.1	0	-0.3	-0.2	
0	0	0	0	0	0	0	-0.2	-0.2	19° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.2	-0.3	
0	0	0	0	0	0	0	-0.1	-0.2	19° 30'	0.1	0.1	0	0.1	0.1	0.1	0.1	-0.1	-0.4	
0	0	0	0	0	0	0	0	-0.2	19° 45'	0.1	0.1	0	0.1	0.1	0.1	0.1	-0.1	-0.4	
0	0	0	0	0	0	0	0	-0.1	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.4	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 72 to 68 °W									
Correction to Latitude										Correction to Longitude									
72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	Longitude Latitude	72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	
0	0	0	-0.1	-0.1	0	0	0	-0.1	10° 0'	0	0	0.1	0	-0.1	0	0	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	0	0	-0.1	10° 15'	0	0	0.1	0	-0.1	0	0	0	-0.1	
0	0	0	0	0	-0.1	0	0	-0.1	10° 30'	0	0	0.1	0	-0.1	0	-0.1	0	0	
0	0	0	0	0	-0.1	-0.1	0	-0.1	10° 45'	0	0	0.1	0	0	0	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	11° 0'	0	0	0.1	0	0	0	-0.1	0	0	
-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	11° 15'	0	0	0.1	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	11° 30'	-0.1	0	0	0	0	0	0	0	0	
-0.2	-0.1	0	0	0.1	0	0	-0.1	-0.1	11° 45'	-0.1	0	0	0	0.1	0	0	0	0	
-0.3	-0.2	0	0	0	0	0	-0.1	-0.1	12° 0'	-0.1	-0.1	-0.1	0	0.1	0	0	0	0	
-0.3	-0.2	-0.1	0	0	0	0	-0.1	-0.1	12° 15'	-0.1	-0.2	-0.1	0	0.1	0	0.1	0	0.1	
-0.3	-0.4	-0.2	-0.1	-0.1	-0.1	0	0	0	12° 30'	-0.1	-0.2	-0.2	0	0.1	0	0.1	0.1	0.1	
-0.4	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	0	0	12° 45'	0	-0.2	-0.3	-0.1	0	0	0	0	0.1	
-0.4	-0.5	-0.6	-0.5	-0.3	-0.2	-0.1	0.1	0.1	13° 0'	0	-0.2	-0.3	-0.2	0	0	-0.1	0	0.1	
-0.2	-0.4	-0.6	-0.7	-0.4	-0.2	-0.1	0	0	13° 15'	0.1	0	-0.2	-0.3	-0.2	-0.1	-0.1	0	0.2	
-0.1	-0.2	-0.4	-0.6	-0.5	-0.2	-0.1	-0.1	0	13° 30'	0.1	0.1	-0.1	-0.3	-0.4	-0.2	-0.2	0	0.1	
0	0	-0.1	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	13° 45'	0.1	0.2	0.1	-0.3	-0.5	-0.3	-0.2	0	0	
0	0	0.1	0	-0.3	-0.4	-0.3	-0.2	-0.1	14° 0'	0.1	0.2	0.1	-0.2	-0.4	-0.3	-0.2	-0.1	-0.1	
-0.1	0	0.2	0.1	-0.2	-0.5	-0.4	-0.2	0	14° 15'	0	0.1	0.1	0	-0.2	-0.3	-0.3	-0.1	-0.2	
0	0	0.1	0.1	-0.1	-0.4	-0.4	-0.2	0	14° 30'	0	0	0	0	0	-0.2	-0.3	-0.3	-0.3	
0	0	0	0	0	-0.1	-0.3	-0.2	-0.1	14° 45'	0	0	0	0	0.1	-0.1	-0.4	-0.3	-0.4	
0	0	0	0	0.1	0.1	-0.1	-0.3	-0.2	15° 0'	0	0	0	0	0	0	-0.3	-0.4	-0.4	
0	0	0	0	0.1	0.1	-0.1	-0.3	-0.2	15° 15'	0	0	0	0	0	0	-0.2	-0.4	-0.4	
0.1	0	0.1	0.1	0	0.1	0	-0.3	-0.3	15° 30'	0.1	0	0	0	0	0	0	-0.3	-0.5	
0.2	0.1	0.1	0.1	0	0	0	-0.2	-0.3	15° 45'	0.1	0	0	0	0	0	0	-0.2	-0.5	
0.2	0.1	0.1	0	0	0	0	-0.1	-0.2	16° 0'	0.1	0.1	0	0	0	0	0.1	-0.1	-0.5	
0.3	0.2	0.1	0.1	0	0	0.1	0	-0.1	16° 15'	0.2	0.1	0.1	0	0	0	0.1	0	-0.4	
0.4	0.3	0.2	0.1	0	0	0	0.1	-0.1	16° 30'	0.3	0.2	0.1	0.1	0	0	0.1	0	-0.3	
0.5	0.3	0.2	0.1	0	0	0	0.1	-0.1	16° 45'	0.3	0.2	0.2	0.1	0	0	0	0	-0.2	
0.5	0.4	0.3	0.2	0.1	0	0	0	-0.1	17° 0'	0.4	0.3	0.2	0.2	0.1	0	0	0	-0.1	
0.5	0.4	0.4	0.3	0.2	0	0	0	0	17° 15'	0.4	0.4	0.2	0.2	0.2	0	0	0	0	
0.4	0.4	0.4	0.4	0.2	0	0	0	0	17° 30'	0.4	0.4	0.2	0.3	0.3	0.1	0	0	0	
0.3	0.3	0.4	0.3	0.2	0.1	0	0	0	17° 45'	0.4	0.4	0.2	0.3	0.4	0.1	0	0	0	
0.3	0.3	0.3	0.3	0.2	0.1	0	0	0	18° 0'	0.3	0.3	0.2	0.4	0.5	0.2	0	0	0	
0.2	0.3	0.2	0.2	0.1	0.1	0	0	0	18° 15'	0.3	0.3	0.3	0.4	0.5	0.3	0	0	0	
0.1	0.3	0.2	0.1	0.1	0.1	0	0	0	18° 30'	0.2	0.3	0.3	0.4	0.5	0.3	0	0	0	
0	0.2	0.2	0.1	0	0.1	0	0	0	18° 45'	0	0.3	0.4	0.5	0.5	0.3	0	0	0	
-0.1	0.2	0.2	0	0	0.1	0.1	0	0	19° 0'	-0.2	0.3	0.4	0.5	0.5	0.3	0	0	0	
-0.2	0.1	0.2	0	0.1	0.1	0.1	0	0	19° 15'	-0.3	0.2	0.5	0.6	0.5	0.3	0.1	0	0	
-0.2	0.1	0.2	0.1	0.1	0.1	0	0	0	19° 30'	-0.4	0	0.5	0.6	0.5	0.3	0.1	0	0	
-0.2	0	0.1	0.1	0.1	0.1	0	0	0	19° 45'	-0.4	-0.1	0.5	0.6	0.4	0.3	0.1	0	0	
-0.1	0	0.1	0	0.1	0.1	0.1	0	0	20° 0'	-0.4	-0.2	0.5	0.7	0.4	0.3	0.2	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	10° 0'	-0.1	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	-0.1	-0.1	-0.1	10° 15'	-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	10° 30'	0	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	10° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	11° 0'	0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	11° 15'	0	0	0	-0.1	-0.2	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	11° 30'	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 45'	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 0'	0	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 15'	0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	12° 30'	0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	12° 45'	0.1	0	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
0.1	0	0.1	0.1	0	-0.2	-0.2	-0.2	-0.1	13° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	13° 15'	0.2	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0	0.1	0.1	0	0	0	0	0	0	13° 30'	0.1	0	-0.1	0	0	0	0	-0.1	-0.2	
-0.1	0.1	0.1	0	0	0	0	0	0	13° 45'	0	-0.1	0	0	0	0	-0.1	-0.1	-0.2	
-0.1	0.2	0.1	0	0	0.1	0.1	0.1	0.1	14° 0'	-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.2	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	14° 15'	-0.2	-0.1	0.1	0	0	0	-0.1	-0.1	-0.2	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	14° 30'	-0.3	-0.1	0.1	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0.1	0.1	0.1	0.1	0	-0.1	14° 45'	-0.4	-0.1	0	0	0	0	0	-0.1	-0.1	
-0.2	-0.1	-0.1	0.1	0.1	0.1	0.1	0	-0.1	15° 0'	-0.4	-0.2	-0.1	0	0	0	0	0	-0.1	
-0.2	-0.2	-0.1	0	0.1	0.1	0.1	0	0	15° 15'	-0.4	-0.2	-0.2	-0.1	0	0	0	0	-0.1	
-0.3	-0.2	-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	15° 30'	-0.5	-0.2	-0.2	-0.2	0	0	0.1	0	0	
-0.3	-0.2	-0.1	-0.1	0	0.1	0.2	0.3	0.2	15° 45'	-0.5	-0.2	-0.2	-0.2	-0.1	0	0	0	0	
-0.2	-0.2	-0.2	-0.1	0	0.1	0.2	0.3	0.3	16° 0'	-0.5	-0.3	-0.2	-0.3	-0.1	-0.1	-0.1	0	0.1	
-0.1	-0.3	-0.2	-0.2	-0.2	0	0.1	0.2	0.2	16° 15'	-0.4	-0.3	-0.2	-0.3	-0.2	-0.1	-0.2	0	0.2	
-0.1	-0.3	-0.4	-0.4	-0.4	-0.1	0	0	0	16° 30'	-0.3	-0.2	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	0.2	
-0.1	-0.3	-0.4	-0.5	-0.5	-0.4	-0.3	-0.3	-0.1	16° 45'	-0.2	-0.1	-0.2	-0.2	-0.4	-0.3	-0.2	-0.1	0.2	
-0.1	-0.3	-0.4	-0.5	-0.6	-0.6	-0.5	-0.4	-0.2	17° 0'	-0.1	0	-0.1	-0.2	-0.4	-0.4	-0.2	-0.2	0	
0	-0.1	-0.2	-0.2	-0.4	-0.6	-0.6	-0.5	-0.3	17° 15'	0	0	-0.1	-0.1	-0.3	-0.4	-0.2	-0.3	-0.1	
0	0	0	0	-0.1	-0.4	-0.4	-0.4	-0.3	17° 30'	0	0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.2	
0	0.1	0.1	0	0	-0.1	-0.2	-0.2	-0.3	17° 45'	0	0.1	0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	
0	0.1	0.1	0	0	0	0	-0.1	-0.2	18° 0'	0	0	0	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	
0	0	0	0	-0.1	0	0	0	0	18° 15'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	
0	0	0	0	-0.1	0	-0.1	0	0.1	18° 30'	0	0	0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	18° 45'	0	0	0	0	-0.1	-0.2	-0.2	-0.3	-0.3	
0	0	0	0	0	-0.1	-0.1	-0.1	0	19° 0'	0	0	0	0	-0.1	-0.1	-0.2	-0.3	-0.4	
0	0	0	0	0	-0.1	-0.1	-0.1	0	19° 15'	0	0	0.1	0	-0.1	-0.1	-0.1	-0.4	-0.4	
0	0	0	0	0	-0.1	-0.1	0	0	19° 30'	0	0	0	0	-0.1	-0.1	-0.2	-0.4	-0.4	
0	0	0	0.1	0	-0.1	-0.1	0	0	19° 45'	0	0	0	0	0	-0.1	-0.2	-0.4	-0.4	
0	0	0	0	0	-0.1	0	0	0	20° 0'	0	0	0	0	0	0	-0.3	-0.5	-0.4	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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'	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 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	10° 15'	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	-0.1	-0.1	-0.1	-0.1	10° 30'	0	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	-0.1	-0.1	10° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	11° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	11° 15'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 30'	0	0	0	-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	-0.1	11° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	12° 0'	0	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	12° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	12° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	
-0.1	0	0	0	0	0	0	-0.1	-0.1	12° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.2	
-0.1	0	0	0	0	0	0	0	-0.1	13° 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	0	0	-0.1	13° 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	13° 30'	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	13° 45'	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	14° 0'	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	0	14° 15'	-0.2	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	14° 30'	-0.1	-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	0	-0.1	14° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	15° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	15° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	15° 30'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.2	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	15° 45'	0	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0.3	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	16° 0'	0.1	0	0	-0.1	0	0	-0.1	-0.1	-0.1	
0.2	0.1	0	0	0	0	-0.1	-0.1	0	16° 15'	0.2	0.1	0	0	0	0	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	-0.1	-0.1	16° 30'	0.2	0.1	0	0	0	0	-0.1	-0.1	-0.2	
-0.1	0	0	0	0	0.1	0	0	-0.1	16° 45'	0.2	0.1	0	0	0	0	0	-0.1	-0.2	
-0.2	0	0	0	0	0	0	0	0	17° 0'	0	0.1	0	0	0	0	0	-0.1	-0.2	
-0.3	-0.1	0	0	0	0	0	0	0	17° 15'	-0.1	0	0	0	0	0	0	-0.1	-0.2	
-0.3	-0.1	0	0.1	0	0	0	0	0	17° 30'	-0.2	-0.1	0	0	0	0	0	-0.1	-0.1	
-0.3	-0.2	0	0.1	0	0	0	0	-0.1	17° 45'	-0.3	-0.2	-0.1	0	0.1	0	0	0	-0.1	
-0.2	-0.1	0	0	0	0	0	0	0	18° 0'	-0.2	-0.3	-0.2	0	0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	18° 15'	-0.2	-0.4	-0.2	0	0	0	0	0	-0.1	
0.1	0.1	0	0	-0.1	0	0	0.1	0.1	18° 30'	-0.3	-0.4	-0.1	0	0	0	0	0	-0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0.1	18° 45'	-0.3	-0.3	-0.1	0.1	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0.1	19° 0'	-0.4	-0.3	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	0	0	0	0	0	19° 15'	-0.4	-0.3	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	0	19° 30'	-0.4	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0	0	0	0	0	0	0	0	-0.1	19° 45'	-0.4	-0.2	-0.1	0	0	-0.1	0	-0.1	-0.2	
0	0	0	0	0	0.1	0	0	-0.1	20° 0'	-0.4	-0.2	-0.1	0	0	-0.1	0	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 60 to 56 °W									
Correction to Latitude										Correction to Longitude									
60°	59°	59°	58°	58°	57°	57°	56°	56°	Longitude	60°	59°	59°	58°	58°	57°	57°	56°	56°	
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	-0.1	-0.1	0	-0.1	10° 0'	-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	0	0	0	0	10° 15'	-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	0	0	0.1	0.1	10° 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	0.1	0.1	10° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	0.1	11° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	-0.1	0	11° 15'	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.2	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	11° 30'	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	11° 45'	-0.2	-0.1	0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	12° 0'	-0.2	-0.1	0.1	0	-0.2	-0.2	-0.2	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	12° 15'	-0.2	-0.1	0.1	0	-0.2	-0.2	-0.2	-0.2	-0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	12° 30'	-0.2	-0.1	0.1	0	-0.2	-0.2	-0.3	-0.2	-0.2	
-0.1	-0.1	-0.1	0	0	-0.1	0	0	0	12° 45'	-0.2	-0.1	0.1	0	-0.2	-0.2	-0.3	-0.2	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	13° 0'	-0.1	-0.1	0.1	0	-0.1	-0.2	-0.3	-0.2	-0.1	
-0.1	-0.1	0	0.1	0	0	0	0	0	13° 15'	-0.1	-0.1	0	0	-0.1	-0.2	-0.3	-0.2	-0.1	
0	-0.1	0	0.1	0	0	0	0	0	13° 30'	-0.1	-0.1	0	0	0	-0.2	-0.3	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0	0	13° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.2	-0.3	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0	0	14° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.2	-0.3	-0.2	-0.1	
0	0	0	0	0.1	0.1	0.1	0	0	14° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	
-0.1	0	0	0	0.1	0.1	0	0	0	14° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	
-0.1	0	0	0	0.1	0.1	0	-0.1	-0.1	14° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	15° 0'	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	15° 15'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	15° 30'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	15° 45'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	16° 0'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	16° 15'	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	16° 30'	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	16° 45'	-0.2	-0.1	-0.2	-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	0	17° 0'	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	17° 15'	-0.2	-0.1	-0.2	-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	17° 30'	-0.1	-0.1	-0.2	-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	17° 45'	-0.1	-0.2	-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	18° 0'	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 15'	-0.1	-0.2	-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	18° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 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	-0.1	-0.1	-0.1	19° 0'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	
0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 15'	-0.2	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0	0	-0.1	0	0	19° 30'	-0.2	0	0.1	0	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	0	0	0	0	0	0	0	19° 45'	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	-0.1	0	0	0	0	0	0	20° 0'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	10 ° 0'	-0.2	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	10 ° 15'	-0.2	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	-0.1	0	0	10 ° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	10 ° 45'	-0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	11 ° 0'	-0.2	0	0	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	11 ° 15'	-0.2	0	0	0	0	0	0	0	0	-0.1
-0.2	-0.1	-0.1	0	0	0	0	0	-0.1	11 ° 30'	-0.2	0	0	0	0.1	0	0	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	-0.1	11 ° 45'	-0.2	0	0	0	0	0	0	-0.1	-0.1	
-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1	12 ° 0'	-0.2	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
-0.2	-0.2	-0.1	-0.1	0	0	0	-0.1	-0.1	12 ° 15'	-0.2	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	12 ° 30'	-0.2	-0.1	-0.1	-0.1	0	0	0.1	0	-0.1	
0	0	0	-0.1	-0.1	0	0	0	-0.1	12 ° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0.1	0	-0.1	
0	0	0	-0.1	-0.1	0	0	0	-0.1	13 ° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.1	
0	0	0	-0.1	0	0	0	0	0	13 ° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	13 ° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	-0.1	-0.1	0	0	0	13 ° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0	0	0	-0.1	-0.1	0	0	0	14 ° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14 ° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14 ° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	14 ° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	15 ° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	15 ° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	15 ° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
-0.1	0	0	-0.1	-0.1	0	0	0	0	15 ° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	16 ° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	16 ° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	0	0	0	0	0	0	0	0	16 ° 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	16 ° 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	17 ° 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	17 ° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0.1	17 ° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0.1	17 ° 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	0	0	0	0	0.1	18 ° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	18 ° 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	0.1	0	0	18 ° 30'	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0.1	0	0	18 ° 45'	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	19 ° 0'	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0	0	0	0	19 ° 15'	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	19 ° 30'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	
0	0	0	0	0	0	0	0	0	19 ° 45'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20 ° 0'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 48 to 44 °W									
Correction to Latitude										Correction to Longitude									
48°	47°	47°	46°	46°	45°	45°	44°	44°	Longitude	48°	47°	47°	46°	46°	45°	45°	44°	44°	
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	0	10° 0'	0	0	0	0	0.1	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	10° 15'	0	0	0	0	0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	10° 30'	0	0	0	0	0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	10° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0.1	0.1	0.1	11° 0'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	-0.1	-0.1	0	11° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	11° 45'	0	-0.1	0	0	0	0	0	0	0	0
0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	12° 0'	-0.1	-0.1	0	0.1	0	0	0	0	0	0
0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	12° 15'	-0.1	-0.1	0	0.1	0	0	0	0	0	0
0	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	12° 30'	-0.1	-0.1	0	0.1	0	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	12° 45'	-0.2	-0.1	0	0.1	0.1	0	0	0	0	-0.1
0	0	0	0	0	-0.1	-0.1	-0.1	0	13° 0'	-0.2	-0.1	0.1	0.2	0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	13° 15'	-0.2	-0.1	0.1	0.2	0.1	0	0	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	-0.1	13° 30'	-0.2	-0.1	0.1	0.2	0.1	0	0	0	0	-0.1
0	-0.1	-0.1	0	0	0	0	0	0	13° 45'	-0.2	-0.1	0	0.1	0.1	0	0	0	0	0
0	-0.1	-0.1	0	0	0	0	0	0	14° 0'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	0
0	-0.1	0	0	0	0	0	0	0	14° 15'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 30'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	0
0	0	-0.1	-0.1	0	0	0	0	0	14° 45'	-0.1	-0.1	0	0.1	0.1	0	0	0	0	0
0	0	-0.1	-0.1	-0.1	0	0	0	0	15° 0'	-0.1	-0.1	0	0	0.1	0	0	0	0	0
0	-0.1	-0.1	-0.1	0	0	0	0	0	15° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	0	0	0.1	0	0	0	15° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0.1	0	0	15° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0	0	0	16° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0	0	0	16° 15'	0	0	0	0	-0.1	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	0	0	0	-0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	-0.1	0	0	0	0.1	0.1	
0	0	0	0	0	-0.1	0	0	0	17° 0'	0	0	-0.1	-0.1	0	0	0	0.1	0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	17° 15'	0	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	17° 30'	0	0	0	0	0	0	0	0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 45'	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	18° 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	18° 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	0	0	18° 30'	0.1	0.1	0	0	-0.1	0	0	0	0	0.1
-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	18° 45'	0.1	0.1	0	0	-0.1	-0.1	0	0	0	0
0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	19° 0'	0	0.1	0.1	0	-0.1	-0.1	0	0	0	0
0	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	19° 15'	0	0.1	0.1	0	-0.1	0	0	0	0	0
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	19° 30'	0	0.1	0.1	0	-0.1	0	0.1	0	0	0
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	19° 45'	0	0.1	0.1	0	-0.1	0	0.1	0	0	0
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0	0	0	0	0	0.1	0.1	0	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 44 to 40 °W									
Correction to Latitude										Correction to Longitude									
44°	43°	43°	42°	42°	41°	41°	40°	40°	Longitude	44°	43°	43°	42°	42°	41°	41°	40°	40°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	-0.1	0	0	10° 0'	0	-0.1	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	-0.1	0	0	10° 15'	0	-0.1	0	0	0	0.1	0	0.1	0	
0.1	0	0	0	0	0	0	0	0	10° 30'	0	0	0	0	0	0.2	0.1	0	0	
0.1	0	0	0	0	0	0	0	0	10° 45'	0	0	0	0	0	0.2	0.1	0	0	
0.1	0	0	-0.1	-0.1	-0.1	0	0	0	11° 0'	0.1	0	0	0	0	0.1	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	11° 15'	0.1	0	0	0	0	0.1	0	0	0	
0	0	0	0	-0.1	-0.1	0	0	0	11° 30'	0	0	0.1	0	0.1	0.1	0	0	0	
-0.1	0	0	0	-0.1	0	0	0	0	11° 45'	0	0	0.1	0.1	0.1	0.1	0	0	0.1	
-0.1	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0.1	0.1	0	0	0	0.1	
-0.1	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0.1	0.1	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0.2	0.1	0	0	0	0	
0	0	0	0	0	-0.1	0	-0.1	0	12° 45'	-0.1	-0.1	0	0.2	0.1	0	0	0	0	
0	0	-0.1	0	0	0	-0.1	-0.1	0	13° 0'	-0.1	0	0	0.1	0.1	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	13° 15'	-0.1	0	0	0.1	0.1	0	0	0.1	0	
-0.1	0	-0.1	-0.1	0	0	0	0	0	13° 30'	-0.1	0	0	0	0.1	0.1	0	0.1	0	
0	0	-0.1	-0.1	0	0.1	0	0	0	13° 45'	0	0	0	0	0	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	-0.1	0	0	0	0	14° 15'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	14° 30'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	14° 45'	0	0	0.1	0	0	0	0.1	0	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	15° 0'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	15° 15'	0	0	0.1	0.1	0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0.1	0.1	0.1	0	0	-0.1	0	
0	-0.1	0	0	0	0.1	0	0	0	15° 45'	0	0	0.1	0.1	0.1	0	0	0	0	
0	-0.1	0	0	0.1	0.1	0	0	0	16° 0'	0	0	0	0	0.1	0.1	0	0	0	
0	-0.1	0	0	0.1	0.1	0	0	0	16° 15'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0.1	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 45'	0.1	0	-0.1	0	0	0.1	0.1	0	0	
0	0	0	-0.1	-0.1	0	0	0	0	17° 0'	0.1	0	0	0	0	0	0.1	0	0	
0	0	-0.1	-0.1	-0.1	0	0	0	0	17° 15'	0.1	0	0	0.1	0	0	0.1	0	0	
-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	17° 30'	0	0	0	0.1	0	0	0	0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0.1	0	0	0	0	18° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0.1	0	0	0	0	18° 15'	0.1	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	-0.1	0	18° 30'	0.1	0	0	0	0	0	0	0	0.1	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	0	18° 45'	0	0	-0.1	0	0	0.1	0	0	0.1	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	0	19° 0'	0	-0.1	-0.1	0	0.1	0.1	0	0	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	19° 15'	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	19° 30'	0	-0.1	-0.1	0.1	0.2	0.1	0	0	0	
-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	0	19° 45'	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	0	20° 0'	0	-0.1	-0.1	0.2	0.1	0	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 40 to 36 °W									
Correction to Latitude										Correction to Longitude									
40°	39°	39°	38°	38°	37°	37°	36°	36°	Longitude	40°	39°	39°	38°	38°	37°	37°	36°	36°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0.1	0.1	10° 0'	0.1	0	-0.1	0.1	0.1	0	0	0	0	
0	0	0	0.1	0	0	0	0	0	10° 15'	0	0	-0.1	0	0.2	0	0	0	-0.1	
0	0	0	0.1	0	0	0	0	0	10° 30'	0	0	-0.1	0	0.2	0	0	0	-0.1	
0	0	0	0.1	0	0	0.1	0	0.1	10° 45'	0	0	-0.1	0.1	0.2	0	0	0	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	11° 0'	0	-0.1	-0.1	0.1	0.2	0	0	0	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	11° 15'	0	-0.1	-0.1	0.1	0.2	0	0	0	-0.1	
0	0	-0.1	-0.1	0	0.1	0.1	0.1	0.1	11° 30'	0	0	-0.1	0.1	0.2	-0.1	0	0	0	
0	0	-0.1	-0.1	0	0	0	0	0	11° 45'	0.1	0	-0.1	0.1	0.1	-0.1	0	0	0	
0	0	0	-0.1	0	0	0	0	0	12° 0'	0.1	0	-0.1	0.1	0.1	-0.1	0	0	0	
0	0	0	-0.1	0	0	0	0	0	12° 15'	0	0	0	0	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	-0.1	0	0	0	
-0.1	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	13° 15'	0	0	0	0	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	0	0	0	0	0	0	13° 30'	0	0	0	0	0	-0.1	0	0	0	
0	0	-0.1	0	0	0	0	0	0	13° 45'	0	0	0	-0.1	0	-0.1	0	0	0	
0	0	0	0	0.1	0.1	0	0	0	14° 0'	0	0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0.1	0.1	0	0	0	14° 15'	0	0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0.1	0	0	0	0	14° 30'	0	0.1	-0.1	-0.1	0	0	0	0	0	
0.1	0	-0.1	0	0	0	0	0	0	14° 45'	0	0.1	-0.1	-0.2	-0.1	0	0	0.1	0	
0	0	-0.1	-0.1	0	0	0	0	0	15° 0'	0	0.1	-0.1	-0.2	-0.1	0	0	0.1	0.1	
0	0	0	-0.1	0	0	0	0	0	15° 15'	0	0.1	0	-0.2	-0.1	0	0	0.1	0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	0	15° 30'	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	0	0	15° 45'	0	0.1	0	-0.1	-0.2	-0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	16° 0'	0	0	0.1	0	-0.2	-0.2	0	0.1	0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	16° 15'	0	0	0.1	0	-0.2	-0.2	0	0.1	0.1	
0	0	0	0.2	0.2	-0.1	-0.2	-0.1	0	16° 30'	0	0	0	-0.1	-0.1	-0.1	0	0.1	0.1	
0	0	0	0.2	0.1	-0.1	-0.2	-0.1	0	16° 45'	0	0.1	0	-0.2	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	17° 0'	0	0.1	-0.1	-0.2	0.1	0.1	0	0	0	
0	0	0	-0.2	-0.2	-0.1	0	0	-0.1	17° 15'	0	0.1	0	-0.1	0.1	0	0	0	0	
0	0	0	-0.2	-0.2	-0.1	0.1	0	-0.2	17° 30'	0	0.1	0	-0.1	0	-0.1	-0.1	0.1	0.1	
0	0	0	-0.1	-0.2	0	0	0	-0.1	17° 45'	0	0	0.1	0	0	-0.2	-0.1	0.2	0.1	
0	-0.1	0	-0.1	0	0	0	0	0.1	18° 0'	0.1	0	0.1	0.1	0	-0.2	-0.1	0.2	0.1	
0	0	-0.1	-0.1	0	0.1	0	0	0.1	18° 15'	0.1	0.1	0.1	0.1	-0.1	-0.2	-0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0	0	0.1	18° 30'	0.1	0.1	0.1	0	-0.2	-0.2	0	0.1	0	
-0.1	0	0	0	0.1	0.1	0	0	0	18° 45'	0.1	0.1	0.1	0	-0.2	-0.1	0.1	0.1	0	
-0.1	0	0.1	0	0	0	0	0	0	19° 0'	0	0	0.1	0	-0.3	-0.1	0.1	0	0	
-0.1	0	0.1	0	-0.1	-0.1	0	0	0	19° 15'	0	0	0.1	0.1	-0.3	-0.1	0.1	0	0.1	
0	0	0.1	0.1	0	-0.1	-0.1	0	0	19° 30'	0	-0.1	0	0.1	-0.2	-0.2	0	0	0.1	
0	0.1	0.1	0.2	0	-0.1	-0.1	-0.1	-0.2	19° 45'	0	-0.1	0	0.2	-0.1	-0.1	0	0	0	
0	0.1	0.1	0.2	0.1	-0.1	-0.1	-0.2	-0.2	20° 0'	-0.1	-0.2	0	0.2	-0.1	-0.1	0	0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 36 to 32 °W									
Correction to Latitude										Correction to Longitude									
36°	35°	35°	34°	34°	33°	33°	32°	32°	Longitude	36°	35°	35°	34°	34°	33°	33°	32°	32°	
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	10° 0'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	10° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	11° 0'	-0.1	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	11° 15'	-0.1	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	-0.1	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	-0.1	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	-0.1	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 0'	0.1	0	0.1	0	0	0	0	0	0	
0	0	-0.1	0	0	0	0	0	0	15° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	-0.1	0	0	0	0	0	0	15° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 45'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	0.1	0.1	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	16° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	17° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	17° 15'	0	0	0	0	0	0	0	0	0	
-0.2	-0.1	0	0	0	0	0	0	0	17° 30'	0.1	-0.1	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	0	0	17° 45'	0.1	-0.1	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	18° 0'	0.1	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	18° 15'	0.1	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	18° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 0'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 15'	0.1	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 30'	0.1	0	0	0.1	0.1	0	0	0	0	
-0.2	0	0	0	0	0	0	0	0	19° 45'	0	0	0.1	0	0.1	0	0	0	0	
-0.2	-0.1	-0.1	-0.1	0	0	0	0	0	20° 0'	0	-0.1	0.1	0	0	0.1	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										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	10° 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	10° 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	10° 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	10° 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	11° 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	11° 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	11° 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	11° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0.1	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	15° 45'	0	0	0.1	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	16° 0'	0	0	0.1	0	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	16° 15'	0	0	0.1	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	0.1	0.1	0.1	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	16° 45'	0.1	0.1	0.1	0.1	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	17° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	17° 15'	0	0.1	0.1	0.1	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	17° 30'	0	0.1	0.1	0.1	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	17° 45'	0	0.1	0.1	0.1	0.1	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	18° 0'	0	0	0.1	0.1	0.1	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	18° 15'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 30'	0	0.1	0.1	0.1	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	18° 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	19° 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	19° 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	19° 30'	0	0	0	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0.1	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °S										Longitude 16 to 12 °W									
Correction to Latitude										Correction to Longitude									
16°	15°	15°	14°	14°	13°	13°	12°	12°	Longitude	16°	15°	15°	14°	14°	13°	13°	12°	12°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	10° 0'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 15'	0.1	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	11° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	11° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0.1	0.1	0	11° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	12° 45'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 0'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	13° 45'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 0'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	15° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 0'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 30'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 15'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	18° 30'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	18° 45'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	19° 0'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	19° 15'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0.1	0.1	0.1	0	

