

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 0 to 4 °E									
Correction to Latitude										Correction to Longitude									
0°	0°	1°	1°	2°	2°	3°	3°	4°	Longitude	0°	0°	1°	1°	2°	2°	3°	3°	4°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0.1	0.1	0.1	0.1	20° 0'	0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0.1	19° 45'	0.1	0	0	0	0	-0.1	-0.1	-0.1	0	
0	0.1	0	0	0	0.1	0.1	0.1	0.1	19° 30'	0	-0.1	0	0	0	-0.1	-0.1	-0.1	0	
0	0.1	0	0	0	0.1	0.1	0.1	0.1	19° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	19° 0'	0	0	0.1	0	0	-0.1	-0.1	-0.1	0	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 30'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	18° 15'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	18° 0'	0	0	0	0	-0.1	0	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	17° 45'	0	0	0	0	-0.1	0	-0.1	-0.1	0	
0.1	0	0.1	0.1	0	0	0.1	0.1	0	17° 30'	0	0	-0.1	0	-0.1	0	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0.1	0	17° 15'	0	0	-0.1	0	0	0	-0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	17° 0'	0	0	0	0	0	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	16° 45'	0	0	0	0	0	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	16° 30'	0	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	16° 15'	-0.1	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	16° 0'	-0.1	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0.1	0	0.1	0.1	0	0	0	15° 45'	-0.1	0	0	0	0	0	-0.1	0	0	
0.1	0.1	0	0	0	0.1	0	0	0	15° 30'	-0.1	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	-0.1	-0.1	0	
-0.1	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0	0	-0.1	0	
-0.1	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0	0	-0.1	0	
-0.1	0	0	-0.1	0	0	0	0	0	14° 0'	0	0	0	0	0	0	0	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	13° 45'	0	-0.1	0	0	0	0	0	-0.1	0	
0	-0.1	0	0	0	0	0	0	0	13° 30'	0	-0.1	0	0	0	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	13° 15'	0	-0.1	0	0	0	0	0	-0.1	0	
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	12° 45'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	11° 30'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	11° 15'	0	0	0	0	0	0.1	0	-0.1	-0.1	
0	0	0	0	0	-0.1	0	0	-0.1	11° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	0	0	-0.1	10° 45'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	-0.1	0	0	-0.1	0	10° 30'	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	0.1	0.1	0	0	0	0	
0	0	0	-0.1	0	0	0	0	0	10° 0'	-0.1	0	0	0.1	0.1	0	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N
Longitude 4 to 8 °E

Correction to Latitude
Correction to Longitude

Latitude										Longitude									
4°	4°	5°	5°	6°	6°	7°	7°	8°	Longitude	4°	4°	5°	5°	6°	6°	7°	7°	8°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0.1	0.1	0.1	0	0	0	0	20° 0'	-0.1	-0.1	0	0	-0.1	0	-0.1	0	0.1	
0.1	0	0.1	0.1	0.1	0	0	0	0	19° 45'	0	0	0	0	0	0	-0.1	0	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	19° 30'	0	0	-0.1	0	0	0	-0.1	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	19° 15'	0	0	0	0	0	0	-0.1	0	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	19° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0.1	0.1	0.1	0	0	0	0	0	0	18° 45'	0	0	0	0	0	0	0	0	0.1	0.1
0.1	0.1	0	0	0	0	0	0	0	18° 30'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	18° 15'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	18° 0'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0.1	17° 30'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0.1	17° 15'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0	0	0.1	17° 0'	0	0	0	0	0	0	0	0	0	0.1
0	0	0	0	0	0.1	0	0	0.1	16° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0.1	0	0	0	16° 30'	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	0	0	0	0	0
0	0	0	0	0	0.1	0.1	0.1	0.1	16° 0'	0	0	0	0	0	0	0	0	0	0
0	0.1	0	0	0	0	0.1	0.1	0.1	15° 45'	0	0	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0.1	15° 30'	0	0	0	0	-0.1	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	0	15° 0'	0	0	0	0	-0.1	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	14° 30'	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° 0'	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	13° 30'	0	0	0	0	0	0	0	0	0.1	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° 0'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 45'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 30'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 15'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	-0.1	0	-0.1	0	0	0	12° 0'	-0.1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	0	0	0	11° 45'	-0.1	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 30'	-0.1	0	0.1	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	0	11° 15'	-0.1	0	0.1	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	11° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	10° 45'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	10° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.2	-0.1	0	0	10° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.2	-0.1	0	0	10° 0'	0	0	0	0	0.1	0	-0.1	0	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 8 to 12 °E									
Correction to Latitude										Correction to Longitude									
8°	8°	9°	9°	10°	10°	11°	11°	12°	Longitude	8°	8°	9°	9°	10°	10°	11°	11°	12°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	19° 45'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	0	0	0	19° 30'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0	0	0	0	19° 15'	0.1	0.1	0	-0.1	-0.1	0	-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	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	18° 45'	0.1	0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0.1	0.1	0	0	0.1	0	0	18° 30'	0.1	0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	18° 15'	0.1	0.1	0	0	-0.1	-0.1	0	0	-0.1	
0	0	0	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	0	-0.1	
0	0.1	0.1	0.1	0.1	0	0	0.1	0.1	17° 45'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 30'	0.1	0.1	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'	0.1	0.1	0	-0.1	0	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 0'	0.1	0.1	0	0	0	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 45'	0	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	16° 30'	0	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	16° 15'	0	0	0	0	0	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	16° 0'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0	0.1	0	0	0	0.1	15° 45'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	15° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	15° 0'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	14° 0'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	13° 15'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	13° 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	-0.1	
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	12° 15'	0	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	0	0	0	-0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	11° 30'	0	0	0	0	-0.1	-0.1	0	-0.1	0	
0	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	-0.1	-0.1	0	-0.1	0	
0	-0.1	0	0	0	0	0	0	0	11° 0'	0	0	0	0	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	10° 45'	0	0	0	0	-0.1	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	10° 30'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	0	10° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	-0.1	0	0	0	0	0	0	10° 0'	0	0	0	-0.1	-0.1	-0.1	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 20 to 24 °E									
Correction to Latitude										Correction to Longitude									
20°	20°	21°	21°	22°	22°	23°	23°	24°	Longitude	20°	20°	21°	21°	22°	22°	23°	23°	24°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0	0	0	0	0	0	0	20° 0'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0.1	0	0	0	0	0	0	0	0	19° 45'	-0.1	-0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	19° 30'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0.1	0	0	0	19° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 30'	0	-0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 15'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	-0.1	0	0	0	18° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	17° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	17° 30'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	17° 0'	0.1	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 45'	0.1	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0.1	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	0	0	0	0	0	0	0	0.1	16° 0'	0	0	0	0	0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	15° 45'	0	0	0	0	0.1	0	0	0	-0.1	
0	0.1	0	0	0	0.1	0	0	0	15° 30'	0	0	0	0	0.1	0	0	0	-0.1	
0	0.1	0	0	0	0.1	0.1	0.1	0	15° 15'	0	0	0	0.1	0.1	0	0	0	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0	15° 0'	0	0	0	0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0.1	0	14° 45'	0	0	0	0.1	0	0	0	0	0	
0.1	0.1	0	0	0	0	0	0	0	14° 30'	0	0	0	0	0	0	-0.1	0	0	
0.1	0.1	0	0	0	0	0	0	0	14° 15'	-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	0	0	14° 0'	-0.1	0	0	0	0	0	0	0	0	
0.1	0	0.1	0.1	0.1	0.1	0.1	0	0	13° 45'	-0.1	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	13° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0	0	13° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	13° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	12° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	12° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	12° 15'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 0'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 45'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 30'	0	0	0	0	0	0	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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° 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	10° 45'	-0.1	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 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	10° 15'	-0.1	0	0	0	0	0	0	0	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	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 28 to 32 °E									
Correction to Latitude										Correction to Longitude									
28°	28°	29°	29°	30°	30°	31°	31°	32°	Longitude	28°	28°	29°	29°	30°	30°	31°	31°	32°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0.1	20° 0'	-0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	19° 45'	-0.1	0	0	-0.1	0	0	0	0	0	
0	0	0.1	0.1	0.1	0	0	0	0	19° 30'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	19° 15'	-0.1	0	-0.1	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	19° 0'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 45'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0.1	0.1	18° 30'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0.1	0.1	18° 15'	0	0	-0.1	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	17° 45'	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	17° 15'	0	0	0	0	-0.1	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	0.1	0	0	0	0	0	16° 45'	0	0	-0.1	0	0	0	0	0	0	
0	0	0	0.1	0	0	0	0	0	16° 30'	0	0	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	16° 15'	0	0	-0.1	0	0	0	0	-0.1	0	
0.1	0.1	0.1	0	0.1	0	0	0.1	0	16° 0'	0	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0	0	0	0.1	0	0.1	0	15° 45'	0	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	15° 30'	0	0	0	0	0	0	-0.1	-0.1	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	15° 15'	0	0	0	0	0	0	-0.1	0	0	
0	0.1	0	0	0	0.1	0.1	0	0	15° 0'	0	0	0	0	0	0	0	0	0	
0	0.1	0	0	0	0	0.1	0	0.1	14° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	14° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0.1	0.1	0	0.1	0.1	14° 15'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0.1	0.1	0.1	0.1	14° 0'	0	0	0	0	0	0	-0.1	0	0	
0.1	0	0	0	0	0.1	0.1	0	0	13° 45'	0	0	0	0	-0.1	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	13° 30'	0	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	13° 15'	0	0	0	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	13° 0'	0	0	0	0	-0.1	0	0	0	0	
0	0.1	0.1	0.1	0.1	0	0	0	0.1	12° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	0	-0.1	0	
0.1	0.1	0.1	0	0	0	0	0	0	12° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	0	12° 0'	0	0	0	0	0	0	0	0	-0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	11° 45'	0	0	0	0	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	11° 30'	0	0	0	0	0	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0	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° 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	10° 45'	0	0	0	0	0	-0.1	0	0	-0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 30'	0	0	0	0.1	0	-0.1	0	0	-0.1	
0	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	0	0	-0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 0'	-0.1	-0.1	0	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 36 to 40 °E									
Correction to Latitude										Correction to Longitude									
36°	36°	37°	37°	38°	38°	39°	39°	40°	Longitude	36°	36°	37°	37°	38°	38°	39°	39°	40°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0.1	0	20° 0'	0	0	-0.2	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	-0.1	-0.1	0	0	-0.1	0	0	
0.1	0	0	0	0	0	0	0	0	19° 30'	0	0	-0.1	-0.1	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	19° 15'	0	0	-0.1	-0.1	0	0	0	-0.1	0	
0.1	0	0	0	0	0	0.1	0	0	19° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0	0	0	0	0	0.1	0.1	0	18° 45'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	18° 30'	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	0.1	0	18° 15'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0	0	0.1	0	18° 0'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0.1	0.1	0.1	0.1	0	0	0	0	17° 45'	0	0	-0.1	-0.1	0	0	-0.1	0	0	
0	0.1	0.1	0	0	0	0	0	0	17° 30'	0	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0.1	0	0	0	0	0	0	0	17° 15'	0	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0	-0.1	-0.1	0	0	0	0	17° 0'	0	-0.1	0	0	0	0	0	0	0	
0.1	0	0	-0.1	-0.1	0	0	0	0	16° 45'	0	0	0	0	-0.1	-0.1	0	0	0	
0.1	0	0	0	0	0	0	0	0	16° 30'	0	0	0	0	-0.1	-0.1	-0.1	0	0	
0.1	0	0	0	0	-0.1	0	0.1	0	16° 15'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	-0.1	-0.1	0	0	16° 0'	0	0	0	0	0	-0.1	-0.2	-0.1	0	
0.1	0.1	0	0	0	-0.1	-0.1	0	0	15° 45'	0	0	0	0	0.1	0	-0.2	-0.1	0	
0	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	15° 30'	0	0	0	0	0.1	0	-0.2	-0.2	0	
0	0	0.2	0.3	0.3	0.2	0	-0.1	0	15° 15'	0	0	0	0	0.1	0.1	-0.2	-0.2	-0.1	
0	0	0.2	0.4	0.3	0.2	0.1	-0.1	0	15° 0'	0	-0.1	-0.1	0	0.2	0.2	0	-0.2	-0.1	
0	0	0.2	0.3	0.2	0.2	0.1	0	0	14° 45'	0	-0.1	-0.2	0	0.2	0.2	0.1	-0.1	-0.2	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	14° 30'	0	-0.1	-0.3	0	0.2	0.2	0.1	-0.1	-0.2	
0.1	0.1	0	-0.1	-0.1	0	0.1	0	0	14° 15'	0	-0.1	-0.2	0	0.2	0.2	0.1	-0.1	-0.2	
0.1	0.1	-0.1	-0.2	-0.1	0.1	0.1	0.1	0	14° 0'	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	-0.1	-0.2	
0	0	0	-0.2	-0.1	0	0.1	0	0	13° 45'	-0.1	0	0	0	0	0	0.1	0	-0.2	
0	0	0	-0.1	-0.1	-0.1	0	0	0	13° 30'	0	0	0	0	0	0	0.1	0	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	13° 15'	0	0	0	0.1	0	0	0.1	0	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	13° 0'	0.1	0	0	0.1	0.1	0	0	-0.1	-0.2	
0	-0.1	-0.1	-0.1	0	0	0	0.1	0	12° 45'	0.2	0	0	0.1	0.1	0	-0.1	-0.2	-0.2	
0	0	0	0	0	0.1	0.1	0.1	0	12° 30'	0.2	0	0	0	0	0	-0.1	-0.2	-0.1	
0	0.1	0	0	0.1	0.1	0.1	0.1	0	12° 15'	0.2	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	12° 0'	0.1	0	0	0	0	-0.1	-0.1	-0.2	-0.1	
0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0	11° 45'	0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0.1	0.2	0.1	0.1	0.1	0	11° 30'	0.1	0.1	0	0	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0	0	11° 15'	0.1	0.1	0	-0.1	0	0	0	-0.1	-0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	11° 0'	0.1	0	0	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0.1	0	0	0.1	0.1	0.1	0	10° 45'	0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0.1	0.1	0.1	0	0	0.1	0	0	10° 30'	0.1	0	-0.1	0	-0.1	-0.1	0	0	-0.1	
0	0.1	0.1	0.1	0	0	0	0	0	10° 15'	0.1	0	-0.1	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0.1	0	-0.1	-0.1	0	0	10° 0'	0	-0.1	-0.1	0	0	0	0	0	-0.2	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 52 to 56 °E									
Correction to Latitude										Correction to Longitude									
52°	52°	53°	53°	54°	54°	55°	55°	56°	Longitude	52°	52°	53°	53°	54°	54°	55°	55°	56°	
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	20° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0	0	0	0	0	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	19° 30'	0	-0.1	0	0	0	0	0	0	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	19° 15'	0	-0.1	-0.1	-0.1	0	0	0	0	0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	19° 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	0	18° 45'	0	-0.1	-0.1	-0.1	0	0	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	18° 30'	0	-0.1	-0.2	-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	18° 15'	0	-0.1	-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	18° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	17° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	17° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0.1	0	0	17° 15'	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.1	0	
0	-0.1	-0.1	0	0	0	0	0	0	17° 0'	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.1	0	
0	0	0	-0.1	0	0	0	-0.1	0	16° 45'	-0.1	-0.1	-0.2	-0.2	0	-0.1	-0.1	0	0	
0	0.1	0	-0.1	-0.1	0	0	0	0	16° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	
0	0.1	0	-0.1	-0.1	0	0	0	0.1	16° 15'	-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	16° 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° 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° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	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	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	
0.1	0	0	0	0	0	0	0	0	14° 45'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 30'	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 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	0.1	0.1	0.1	0.1	0.1	14° 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	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	13° 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	13° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0	0.1	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	
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	12° 45'	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 30'	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	12° 15'	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	12° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	11° 45'	-0.1	-0.1	-0.1	-0.2	-0.1	0	0	0	-0.1	
0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.1	11° 30'	-0.2	-0.1	-0.1	-0.2	-0.1	0	0.1	0	-0.1	
0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	11° 15'	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0.2	0.2	0.1	0	0	0.1	0.2	0.1	11° 0'	-0.2	-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	0.2	0.1	10° 45'	-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	0.1	0	10° 30'	-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	0.1	0.1	10° 15'	-0.3	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	10° 0'	-0.3	-0.1	0	-0.1	-0.1	0	-0.1	0	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 56 to 60 °E									
Correction to Latitude										Correction to Longitude									
56°	56°	57°	57°	58°	58°	59°	59°	60°	Longitude	56°	56°	57°	57°	58°	58°	59°	59°	60°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0.1	0.1	0.1	0	20° 0'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0.1	0.1	0.1	0	19° 45'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0.1	0	0	0.1	0.1	0.1	0	19° 30'	0.1	0.1	0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	19° 15'	0.1	0.1	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 0'	0.1	0	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	18° 45'	0.1	0	0	-0.1	-0.2	-0.2	-0.1	0	-0.2	
0	0	0	0.1	0.1	0.1	0	0	0.1	18° 30'	0.1	0	0	-0.1	-0.2	-0.2	0	-0.1	-0.3	
0	0	0	0.1	0.1	0.1	0	0	0.1	18° 15'	0	0	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.3	
0	0	0.1	0.1	0.1	0	0	0	0.1	18° 0'	0	0	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.4	
0	0.1	0.1	0.1	0.1	0	0	0	0.1	17° 45'	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.4	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	17° 30'	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.4	
0	0.1	0.1	0.1	0.1	0.1	0	0	0.1	17° 15'	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.5	
0	0	0	0.1	0.1	0.1	0	0	0.1	17° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	-0.2	-0.5	
0	0	0	0	0	0.1	0.1	0.1	0.1	16° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	-0.2	-0.5	
0	0	0	0	0	0.1	0.1	0.1	0.1	16° 30'	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	0.1	-0.2	-0.5	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	16° 15'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.2	-0.4	
0	0	0	0	0	0	0.1	0.2	0.1	16° 0'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	-0.2	-0.4	
0	0	0	0	0	0	0.1	0.2	0.1	15° 45'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.3	
0	0	0	0	0	0	0.1	0.2	0	15° 30'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2	
0	0	0	0	0	0	0.1	0.1	0	15° 15'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	15° 0'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	14° 45'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	0	-0.2	
0.1	0.1	0	0	0	0	0	0	0	14° 30'	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	0	-0.2	
0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	14° 15'	-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	0	0.1	0.1	0.1	0.1	14° 0'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	
0.1	0.1	0.1	0	0	0.1	0	0.1	0.1	13° 45'	-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	0.1	0.1	0	0.1	0.1	13° 30'	-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	0.1	0.1	13° 15'	-0.1	0	-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	0.1	0.1	0	13° 0'	-0.1	0	-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	0.1	0.1	0	12° 45'	-0.1	0	0	-0.1	-0.2	-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° 30'	-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	0	0	0	12° 15'	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	0	0	0	12° 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	0.1	0	0	0	0	11° 45'	-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	0	0	0	0	0	11° 30'	-0.1	0	-0.1	-0.2	0	-0.1	-0.1	-0.1	-0.1	
0.2	0.1	0.1	0.1	0	0	0	0	0	11° 15'	-0.1	0	-0.1	-0.2	0	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	-0.1	0	0	0	0	11° 0'	0	0	-0.1	-0.1	0.1	-0.1	-0.2	-0.1	-0.1	
0.1	0	0.1	-0.1	-0.1	0	0	0	0	10° 45'	0	0	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	0	0	0	0	0	10° 30'	0.1	0	-0.1	0	0	-0.2	-0.1	-0.1	-0.1	
0.1	0	0	0	0	0	0	0	0	10° 15'	0.1	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0.1	0	0	0	0	10° 0'	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 68 to 72 °E									
Correction to Latitude										Correction to Longitude									
68°	68°	69°	69°	70°	70°	71°	71°	72°	Longitude	68°	68°	69°	69°	70°	70°	71°	71°	72°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'	-0.2	-0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	19° 45'	-0.2	-0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	19° 30'	-0.2	-0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	
0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	19° 15'	-0.2	-0.2	0	0.1	0	-0.1	-0.1	-0.1	0	
0.1	0	0.1	0.2	0.2	0.1	0	0	0.1	19° 0'	-0.1	-0.2	-0.1	0.1	0.1	-0.1	-0.1	-0.1	0	
0.1	0	0	0.2	0.2	0.2	0.1	0.1	0.1	18° 45'	-0.1	-0.2	-0.1	0	0.1	0	-0.1	-0.1	0	
0.1	0.1	0	0.1	0.2	0.2	0.1	0.1	0.1	18° 30'	-0.1	-0.1	-0.1	0	0.1	0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	18° 15'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	18° 0'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	17° 45'	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	17° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	17° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	17° 0'	0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	16° 45'	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	0.2	16° 30'	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	16° 15'	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 0'	-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	15° 45'	-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	15° 30'	-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	0.1	15° 15'	-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	0.1	15° 0'	-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	0.1	14° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	14° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
0.1	0	0	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	0	-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	0	-0.1	0	
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	0	-0.1	0	
0.1	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	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	-0.1	-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	13° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	12° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	12° 30'	-0.1	-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	0.1	12° 15'	-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	12° 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	0	0.1	0.1	11° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	11° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	11° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	10° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	0	0.1	0.1	0.1	0.1	10° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	10° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 72 to 76 °E									
Correction to Latitude										Correction to Longitude									
72° 0'	72° 30'	73° 0'	73° 30'	74° 0'	74° 30'	75° 0'	75° 30'	76° 0'	Longitude	72° 0'	72° 30'	73° 0'	73° 30'	74° 0'	74° 30'	75° 0'	75° 30'	76° 0'	
									Latitude										
0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	20° 0'	0	0	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	19° 45'	0	0	-0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19° 30'	0	0	-0.2	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	19° 15'	0	0	-0.2	0	0.1	0	0	0	0	
0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	19° 0'	0	0	-0.1	0	0	0	0	0	0	
0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	18° 45'	0	0	-0.1	0	0	0	0	0	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	18° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	18° 15'	-0.1	-0.1	-0.1	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	0	-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	17° 45'	0	-0.2	-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	0.1	17° 30'	0	-0.1	-0.1	0	0.1	0	0	-0.1	0	
0.2	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	17° 15'	0	-0.1	-0.1	0	0.1	0	0	-0.1	0	
0.2	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	17° 0'	0	-0.1	-0.1	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	16° 45'	0.1	0	-0.1	0	0	0	0	0	0	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 30'	0.1	0	-0.1	0	0.1	0	0	0	0	
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	16° 15'	0	0	-0.1	0	0.1	0	-0.1	0	0	
0.1	0.2	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	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 45'	0	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	15° 30'	0	0.1	0	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 15'	0	0.1	0	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 0'	0	0.1	0	-0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 45'	0	0.1	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 30'	-0.1	0	0.1	0	-0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 15'	-0.1	0	0.1	0	-0.1	0	0	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	14° 0'	0	0	0.1	0	-0.1	0	0.1	0	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	13° 45'	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	13° 30'	0	-0.1	0	0.1	-0.1	-0.1	0.1	0.1	0.1	
0.1	0	0.1	0.1	0.1	0	0.1	0.1	0	13° 15'	0	-0.1	0	0.1	0	-0.1	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	13° 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	0	0	0	12° 45'	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	0	0	12° 30'	-0.1	-0.1	-0.1	0	0.1	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	12° 15'	-0.1	-0.1	-0.1	0	0.1	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	12° 0'	-0.1	-0.1	-0.1	0	0.1	0.1	0	0	0.1	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.2	11° 45'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	0.1	
0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	11° 30'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	0	0.1	
0.1	0	0	0	0.1	0.1	0.1	0	0	11° 15'	-0.1	0	-0.1	-0.1	0	0.1	0	0	0.1	
0.1	0	0	0	0	0.1	0.1	0	0	11° 0'	0	0	-0.1	-0.1	0	0	0.1	0	0	
0.1	0.1	0	0	0	0.1	0.1	0.1	0	10° 45'	0	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	10° 30'	0	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	10° 15'	0	0	-0.1	-0.1	-0.1	0	0	0.1	0	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	10° 0'	0	0	-0.1	-0.1	-0.1	0	0	0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 76 to 80 °E									
Correction to Latitude										Correction to Longitude									
76°	76°	77°	77°	78°	78°	79°	79°	80°	Longitude	76°	76°	77°	77°	78°	78°	79°	79°	80°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 0'	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	19° 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	19° 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	19° 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	19° 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	18° 45'	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	18° 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	18° 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	18° 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	17° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0	17° 30'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0	17° 15'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0	17° 0'	0	-0.1	0	0	0	0	-0.1	0	0.1	
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0	16° 45'	0	-0.1	0	0	0	0	-0.1	0	0.1	
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0	16° 30'	0	-0.1	0	0	0	0	-0.1	0	0.1	
0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0	16° 15'	0	-0.1	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0	16° 0'	0	-0.1	-0.1	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	15° 45'	0	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	
0.1	0	0	0.1	0.1	0.1	0.1	0.1	0	15° 30'	0	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	
0.1	0	0	0.1	0	0.1	0.1	0.1	0	15° 15'	0	-0.1	-0.1	-0.1	0	0	0	0.1	0	
0.1	0	0	0	0	0	0.1	0.1	0	15° 0'	0	0	-0.1	-0.1	0	-0.1	0	0.1	0	
0.1	0	0	0	0	0	0.1	0.1	0	14° 45'	0	0	-0.1	-0.1	0	-0.1	0	0.1	-0.1	
0.1	0	0	0	0	0	0	0.1	0	14° 30'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0.1	0	0	-0.1	-0.1	0	0	0.1	0	14° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	0	
0.1	0	0	-0.1	-0.1	-0.1	0	0.1	0	14° 0'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	0	
0.1	0	0	0	-0.1	-0.1	0	0	0	13° 45'	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	13° 30'	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0.1	0.1	0.1	0.1	0.1	0	0	13° 15'	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	13° 0'	0.1	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	
0	0.1	0.1	0.1	0.2	0.1	0.1	0	0	12° 45'	0.1	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	12° 30'	0.1	0	0	-0.1	0	0	-0.1	0	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	12° 15'	0.1	0	0	-0.1	0	0	0	0	-0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0	0	0	12° 0'	0.1	0	0	-0.1	0	0	0	0	-0.2	
0.2	0.1	0.1	0.1	0.1	0	0	0	0	11° 45'	0.1	0.1	0	-0.1	0	0	0	-0.1	-0.2	
0.1	0.1	0.2	0.2	0.1	0.1	0	0	0	11° 30'	0.1	0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.2	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0	11° 15'	0.1	0	-0.1	-0.1	0	0.1	0	0	-0.2	
0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0	11° 0'	0	0	-0.1	0	0	0.1	0	0	-0.2	
0	0.1	0.1	0	0	0.1	0.1	0.1	0	10° 45'	0	-0.1	0	0	0	0.1	0	0	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0	10° 30'	0	-0.1	0	0	0	0	0	0	-0.1	
0.1	0.1	0	0	0	0	0.1	0.1	0	10° 15'	0	-0.1	0.1	0	-0.1	0	0	0	-0.1	
0.1	0	0	0.1	0.1	0	0.1	0.1	0	10° 0'	0	0	0.1	0	0	0	0	0	-0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 80 to 84 °E									
Correction to Latitude										Correction to Longitude									
80°	80°	81°	81°	82°	82°	83°	83°	84°	Longitude	80°	80°	81°	81°	82°	82°	83°	83°	84°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0.1	0	0	0	0	0	0.1	20° 0'	0	0	0	0.1	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	19° 45'	0.1	0	0	0.1	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	19° 30'	0.1	0	0	0.1	0	0	0.1	0	0	
0.2	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	0.1	0	0	0	
0.1	0.2	0.1	0.1	0.2	0	0.1	0.1	0.1	19° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	0	
0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	18° 45'	0	0.1	0.1	0	0.1	0.2	-0.1	-0.1	0	
0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	18° 30'	0	0.1	0.1	0	0.2	0.2	-0.1	-0.1	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	18° 15'	0	0	0	0.1	0.2	0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0.2	0.2	0.2	0.2	18° 0'	0	0	0	0.1	0.2	0.1	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0.1	0.2	0.2	0.2	0.3	17° 45'	0	0	0.1	0.1	0.1	0	0	-0.1	-0.1	
0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	17° 30'	0	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	
0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	17° 15'	0	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	17° 0'	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	0	
0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.1	16° 45'	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	0.1	0.1	16° 30'	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	0	
0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	16° 15'	0.1	0.1	0	0	-0.1	-0.1	0	0	0.1	
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0	16° 0'	0.1	0.1	0	0	-0.1	-0.1	0	0	0.1	
0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0	15° 45'	0.1	0.1	0	0	-0.1	0	0	0	0.1	
0.1	0.2	0.2	0.2	0.2	0.2	0.1	0	0	15° 30'	0.1	0	0	-0.1	0	0	0	0.1	0.1	
0.1	0.2	0.2	0.2	0.2	0.1	0.1	0	0	15° 15'	0	0	0	-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	0.1	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	0	0.1	14° 45'	-0.1	-0.1	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	0	0.1	14° 30'	0	-0.1	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	14° 15'	0	-0.1	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	14° 0'	0	-0.1	0	0	0	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0.1	0	0	13° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0	
0	0.1	0.1	0.1	0.1	0	0.1	0	0	13° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	13° 15'	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	13° 0'	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 45'	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 30'	-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	12° 15'	-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	0.1	0.1	0.1	0.1	12° 0'	-0.2	-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	11° 45'	-0.2	-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	0	11° 30'	-0.2	-0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	0.1	0	0	0	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	0	0	11° 0'	-0.2	-0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	10° 45'	-0.1	-0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	10° 30'	-0.1	-0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	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	
0.1	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	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 84 to 88 °E									
Correction to Latitude										Correction to Longitude									
84° 0'	84° 30'	85° 0'	85° 30'	86° 0'	86° 30'	87° 0'	87° 30'	88° 0'	Longitude	84° 0'	84° 30'	85° 0'	85° 30'	86° 0'	86° 30'	87° 0'	87° 30'	88° 0'	Latitude
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	20° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	19° 45'	0	0	0	0	0	0	0	0	0.1	0.1
0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	19° 30'	0	0	0	-0.1	-0.1	0	0	0	0.1	0.1
0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	19° 15'	0	0	0	-0.1	-0.1	0	0	0	0.1	0.1
0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	19° 0'	0	0	-0.1	-0.1	0	0.1	0.1	0	0	0.1
0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	18° 45'	0	-0.1	-0.1	-0.1	0	0.1	0.1	0	0	0.1
0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	18° 30'	0	-0.1	-0.1	0	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	0.1	18° 15'	-0.1	-0.1	-0.1	0	0.2	0.1	0	0	0.1	0.1
0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'	-0.1	-0.1	-0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	17° 45'	-0.1	-0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	17° 30'	-0.1	-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	0.1	0.1	0.1	0.1	0	17° 15'	-0.1	0	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	0	17° 0'	0	0	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0	0	0	0.1	0	0	16° 45'	0	0	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0	0	0	0	0.1	0	0	16° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0	0	0	0	0	0.1	0	0	16° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	16° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	15° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0.1	0.1	0	0	0	0	0	0	15° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0.1	0.1	0	0	0	0	0	0	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	0.1	0	0	0	0	0	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	0	0	0	0	14° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0	0	0	0	0	14° 30'	0	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	14° 15'	0	0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0.1	0.1	0	0	0	0	0	14° 0'	0	0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0.1	0	0	0	0	0	13° 45'	0	0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0.1	0.1	0	0	0	0	13° 30'	0	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0.1	0	0	0	0	13° 15'	0	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
0	0	0	0	0.1	0.1	0	0	0	13° 0'	0.1	0	0	0.2	0.2	0.1	0.1	0.2	0.2	0.2
0.1	0	0	0	0.1	0	0	0	0	12° 45'	0.1	0	0	0.1	0.2	0.1	0.1	0.2	0.2	0.2
0.1	0	0	0	0	0	0	0	0	12° 30'	0.1	0	0	0.1	0.2	0.1	0.1	0.2	0.2	0.2
0.1	0	0	0	0	0	0	0	0	12° 15'	0.1	0.1	0	0.1	0.2	0.1	0.1	0.2	0.2	0.2
0.1	0	0	0	0	0	0	0	0	12° 0'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2
0.1	0	0	0	0	0	0	0	0	11° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	11° 30'	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	11° 15'	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	11° 0'	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	10° 45'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	10° 30'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	10° 15'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
0	0	0	0	0	0	0	0	0	10° 0'	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 88 to 92 °E									
Correction to Latitude										Correction to Longitude									
88° 0'	88° 30'	89° 0'	89° 30'	90° 0'	90° 30'	91° 0'	91° 30'	92° 0'	Longitude	88° 0'	88° 30'	89° 0'	89° 30'	90° 0'	90° 30'	91° 0'	91° 30'	92° 0'	
									Latitude										
0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	20° 0'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	19° 45'	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	0.2	19° 30'	0.1	0.1	0	0	0.1	0.1	0	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	19° 15'	0.1	0.1	0	0	0.1	0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	19° 0'	0.1	0.1	0	0.1	0.1	0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	18° 45'	0.1	0.1	0	0.1	0.1	0.1	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	18° 30'	0.1	0.1	0	0.1	0.1	0.1	0.1	0	0	
0.1	0.1	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	
0.1	0.1	0	0	0	0	0	0	0	18° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	
0.1	0	0	0	0	0	0	0	0	17° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	
0.1	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° 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° 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	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	16° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0.1	0	0	0	0	0	16° 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	16° 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° 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° 30'	0.1	0.1	0.1	0.2	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	0.2	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	0.2	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	14° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	0	0.1	14° 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	14° 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	14° 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	13° 45'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	13° 30'	0.1	0.2	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	13° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0.1	0	13° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	12° 45'	0.2	0.2	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	12° 30'	0.2	0.2	0.1	0.1	0.1	0.1	0	0	0.2	
0	0	0	0	0	0	0	0	0	12° 15'	0.2	0.2	0.1	0.1	0.1	0	0	0	0.2	
0	0	0	0	0	0	0	0	0	12° 0'	0.2	0.2	0.1	0.1	0.1	0	0	0	0.2	
0	0	0	0	0	0	0	0	0	11° 45'	0.2	0.2	0.1	0.1	0.1	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	11° 30'	0.2	0.2	0.1	0.1	0.1	0	-0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	11° 15'	0.2	0.2	0.1	0.1	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	11° 0'	0.2	0.2	0.2	0.1	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	10° 45'	0.2	0.2	0.2	0.1	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	0	10° 30'	0.2	0.2	0.2	0.1	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	-0.1	0	10° 15'	0.2	0.2	0.2	0.1	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	10° 0'	0.2	0.2	0.2	0.1	0.1	0	0	0.1	0	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 92 to 96 °E									
Correction to Latitude										Correction to Longitude									
92°	92°	93°	93°	94°	94°	95°	95°	96°	Longitude	92°	92°	93°	93°	94°	94°	95°	95°	96°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0.1	0	0	0	-0.2	-0.1	0	0.1	20° 0'	0.1	0.1	0	0.1	0	-0.1	0.1	0.1	0.2	
0.2	0.2	0.1	0	0	-0.1	-0.1	0	0	19° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.2	
0.2	0.2	0.1	0.1	0	-0.1	0	0	0	19° 30'	0.1	0.1	0.1	0.1	0.1	0	-0.1	0	0.2	
0.1	0.2	0.2	0.1	0.1	0	0	0	0	19° 15'	0.1	0.1	0.2	0.2	0.2	0	-0.1	0	0.2	
0	0.1	0.1	0.1	0.1	0	0	0	0	19° 0'	0	0.1	0.2	0.2	0.2	0.1	-0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0	0	0	0	18° 45'	0	0.1	0.2	0.2	0.3	0.1	-0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0	0	0	18° 30'	0	0	0.1	0.2	0.3	0.1	-0.1	0	0.1	
0	0	0	0.1	0.2	0.2	0.1	0	0	18° 15'	0	0	0.1	0.2	0.3	0.2	-0.1	0.1	0.1	
0	0	0	0.1	0.2	0.2	0.1	0	0	18° 0'	0	0	0.1	0.1	0.2	0.2	0	0.1	0.1	
0	0	0.1	0.1	0.2	0.2	0.1	0	0	17° 45'	0	0	0	0.1	0.2	0.2	0	0.1	0.2	
0	0	0	0.1	0.1	0.1	0	0	0	17° 30'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	17° 15'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	17° 0'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	16° 45'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	-0.1	0	0	0	0	16° 30'	0	0	0	0.1	0.2	0.2	0.1	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	16° 15'	0	-0.1	0	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	16° 0'	0	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	15° 45'	0	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.1	
0	0.1	0	0	0	0	0	0	0	15° 30'	0	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.1	
0	0.1	0	-0.1	0	0	0	0	0	15° 15'	0	-0.1	0	0.2	0.3	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	15° 0'	0	-0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	0	0.1	0	0	0	0	14° 45'	-0.1	-0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	
0.1	0	-0.1	0.1	0.1	0	0	0	0	14° 30'	0	0	0.1	0.1	0.3	0.2	0.1	0.1	0.1	
0	-0.1	-0.1	0.1	0.1	0	0	0	0	14° 15'	0	0.1	0	0	0.3	0.3	0.1	0.1	0.1	
0	-0.1	0	0.1	0.1	0	0.1	0	0	14° 0'	0	0.1	0	0	0.3	0.3	0.2	0.1	0.1	
0	-0.1	0	0.1	0	0	0	0	0	13° 45'	0	0.1	-0.1	0	0.3	0.3	0.2	0.2	0.1	
0	0	0	0	0	0	0	0	0	13° 30'	0.1	0.1	-0.1	0	0.4	0.2	0.1	0.2	0.1	
0	0	0.1	0	-0.1	-0.1	-0.1	0	0	13° 15'	0.1	0.1	-0.2	0.1	0.4	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	13° 0'	0.1	0.1	-0.1	0.1	0.4	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	12° 45'	0.1	0	-0.1	0.2	0.3	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	0	0	12° 30'	0.2	0	-0.1	0.2	0.3	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	12° 15'	0.2	0	0	0.3	0.3	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	12° 0'	0.2	0	0	0.3	0.3	0.2	0.1	0.1	0.1	
0	0	0	-0.1	0	0	0	0	-0.1	11° 45'	0.1	0	0.1	0.3	0.2	0.2	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	-0.1	11° 30'	0.1	-0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	
0	0	0.1	0	0	0	0	0	0	11° 15'	0.1	-0.1	0.1	0.4	0.2	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0	0	-0.1	0	0	11° 0'	0.1	-0.1	0.1	0.4	0.2	0.2	0.1	0.1	0.2	
0	0	0.1	0.1	0	0	-0.1	0	-0.1	10° 45'	0.1	-0.1	0.1	0.4	0.2	0.2	0.1	0.1	0.2	
0	0	0	0.1	0	-0.1	-0.1	0	-0.1	10° 30'	0	-0.1	0.1	0.4	0.3	0.2	0.1	0.1	0.2	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	10° 15'	0	-0.1	0	0.4	0.3	0.2	0.1	0.1	0.2	
0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	10° 0'	0	-0.1	0	0.4	0.4	0.2	0.1	0.1	0.2	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 96 to 100 °E									
Correction to Latitude										Correction to Longitude									
96°	96°	97°	97°	98°	98°	99°	99°	100°	Longitude	96°	96°	97°	97°	98°	98°	99°	99°	100°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.1	0	0	0.1	0	0	0	0	0	20° 0'	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	19° 45'	0.2	0.2	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	19° 30'	0.2	0.2	0	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	19° 15'	0.2	0.2	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	19° 0'	0.1	0.2	0.1	0.1	0.1	0.1	0	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	0.1	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	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	0.1	0.1	
0	0	0	0	0	0	0	0	0	18° 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	0	17° 45'	0.2	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	17° 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	17° 15'	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	0	17° 0'	0.2	0.1	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	-0.1	0	0	0	0	0	16° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	-0.1	0	0	0	-0.1	0	16° 30'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	-0.1	0	0	-0.1	-0.1	0	16° 15'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0.1	
0	-0.1	-0.1	0	0	0	0	0	-0.1	16° 0'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0.1	
0	-0.1	-0.1	0	0	0	0	0	0	15° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	15° 30'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	15° 15'	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	0	15° 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	0	14° 45'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 30'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 15'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	14° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	-0.1	0	0	0	0	-0.1	0	13° 45'	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	-0.1	0	0	0	0	-0.1	0	13° 30'	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	-0.1	0	0	0	0	-0.1	0	13° 15'	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	13° 0'	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0	
0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	12° 45'	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0	
0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	12° 30'	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	-0.1	12° 15'	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0	
0	0	-0.1	0	0	-0.1	-0.1	0	-0.1	12° 0'	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	11° 45'	0.1	0.2	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	-0.1	11° 30'	0.1	0.2	0.2	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	11° 15'	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
0	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	11° 0'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	10° 45'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 30'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 15'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 0'	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 108 to 112 °E									
Correction to Latitude										Correction to Longitude									
108°	108°	109°	109°	110°	110°	111°	111°	112°	Longitude	108°	108°	109°	109°	110°	110°	111°	111°	112°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 45'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 30'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	19° 15'	0.1	0.2	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	0	19° 0'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	18° 45'	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	
-0.1	0	0	-0.1	-0.1	0	0	0	0	18° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
0	0	0	0	-0.1	0	0	0	0	18° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	-0.1	-0.1	-0.1	0	0	0	-0.1	18° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	
0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	17° 45'	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.2	
0	0	-0.1	-0.1	0	0	0	-0.1	-0.1	17° 30'	0.1	0.1	0.1	0.1	0.1	0	0.1	0.2	0.2	
-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	17° 15'	0.1	0.2	0.2	0.1	0	0.1	0.1	0.2	0.2	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	17° 0'	0.1	0.1	0.2	0.1	0	0.1	0.2	0.2	0.2	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	16° 45'	0.1	0.1	0.2	0.1	0	0.1	0.2	0.2	0.2	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	16° 30'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	16° 15'	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 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	-0.1	-0.1	-0.1	-0.1	15° 45'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 30'	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	-0.1	15° 15'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-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	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	14° 45'	0.1	0.1	0	0.1	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	14° 30'	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	0	-0.1	-0.1	-0.1	14° 15'	0.1	0.1	0	0.1	0.1	0.1	0.2	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	14° 0'	0.1	0.1	0	0.1	0.1	0.1	0.2	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 45'	0.2	0.1	0	0	0.1	0.1	0.2	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 30'	0.2	0.1	0	0.1	0	0.1	0.2	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 15'	0.2	0.1	0	0.1	0	0.1	0.2	0.2	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 0'	0.2	0.1	0	0.1	0	0.1	0.1	0.1	0.2	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 45'	0.2	0.1	0	0.1	0	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 30'	0.2	0.1	0	0.1	0	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 15'	0.2	0.1	0	0.1	0	0.1	0.1	0.2	0.2	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 0'	0.2	0.1	0	0.1	0	0.1	0.1	0.2	0.2	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 45'	0.2	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	11° 30'	0.2	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	11° 15'	0.2	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	11° 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	10° 45'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 30'	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	10° 15'	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	10° 0'	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 124 to 128 °E									
Correction to Latitude										Correction to Longitude									
124° 0'	124° 30'	125° 0'	125° 30'	126° 0'	126° 30'	127° 0'	127° 30'	128° 0'	Longitude	124° 0'	124° 30'	125° 0'	125° 30'	126° 0'	126° 30'	127° 0'	127° 30'	128° 0'	Latitude
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0	0.1	0.1	0	0	0	0	0	20° 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	19° 45'
-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	0.1	0.1	0	0	0	0	19° 30'
-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	0.1	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	19° 0'	0.1	0.1	0	0.1	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	18° 45'	0.1	0.1	0	0.1	0	0.1	0	0	0	18° 45'
-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	0.1	0	0	0	0	0	18° 30'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	18° 15'	0.1	0.1	0	0.1	0	0	0	0	0	18° 15'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	18° 0'	0.1	0.1	0	0.1	0	0	0	0	0	18° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	17° 45'	0.1	0.1	0	0.1	0	0	0	0	0	17° 45'
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 30'	0.1	0.1	0	0	0	0	0	0	0	17° 30'
-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 15'	0.2	0.1	0	0	0	0	0	0	0	17° 15'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 0'	0.2	0.1	0	0	0	0	0	0	0	17° 0'
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 45'	0.2	0.1	0	0	0	0	0	0	0	16° 45'
0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 30'	0.2	0.1	0	0	0	0	0	0	0	16° 30'
0	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	16° 15'	0.2	0.1	0	0	0	0	0	0	0	16° 15'
0	0	0	0	0	0	-0.1	-0.1	-0.1	16° 0'	0.2	0.1	0	0	0	0	0	0	0	16° 0'
0	0.1	0	0	0	0	-0.1	-0.1	0	15° 45'	0.2	0.1	0	0	0	0	0	0	0	15° 45'
-0.1	0.1	0.1	0	0	0	-0.1	-0.1	0	15° 30'	0.1	0.1	0.1	0.1	0	0	0	0	0	15° 30'
-0.2	0	0.1	0	0	0	-0.1	-0.1	-0.1	15° 15'	0	0	0.1	0.1	0	0	0	0	0	15° 15'
-0.3	-0.1	0	0	0	0	-0.1	-0.1	-0.1	15° 0'	-0.1	-0.1	0.1	0.1	0.1	0.1	0	0	0	15° 0'
-0.3	-0.3	0	0	0	0	-0.1	-0.1	-0.1	14° 45'	-0.1	-0.2	0	0.1	0.1	0.1	0	0	0	14° 45'
-0.3	-0.3	-0.1	0	0	0	-0.1	-0.1	-0.1	14° 30'	-0.1	-0.3	-0.1	0.2	0.1	0.1	0	0	0	14° 30'
-0.2	-0.2	-0.1	0	0	0	0	-0.1	-0.1	14° 15'	0	-0.4	-0.2	0.2	0.1	0.1	0	0	0	14° 15'
-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	14° 0'	0	-0.3	-0.3	0.1	0.2	0.1	0	0	0	14° 0'
0	0	0	0	0	0	0	0	-0.1	13° 45'	0	-0.3	-0.3	0.1	0.2	0.1	0.1	0	0	13° 45'
0	0.1	0	0.1	0	0	-0.1	0	-0.1	13° 30'	0	-0.3	-0.3	0.1	0.3	0.1	0.1	0	0	13° 30'
0	-0.1	-0.1	0	0.1	0	0	-0.1	-0.1	13° 15'	-0.1	-0.3	-0.3	0	0.3	0.2	0.1	0	0	13° 15'
-0.1	-0.2	-0.3	-0.2	0.1	0	0	-0.1	-0.1	13° 0'	-0.1	-0.2	-0.3	-0.1	0.3	0.2	0.1	0.1	0	13° 0'
-0.2	-0.3	-0.5	-0.3	0	0	0	0	-0.1	12° 45'	0	-0.2	-0.3	-0.2	0.2	0.2	0.1	0.1	0	12° 45'
-0.2	-0.3	-0.5	-0.5	-0.1	0.1	0	0	-0.1	12° 30'	0.1	-0.1	-0.2	-0.4	0.1	0.3	0.1	0.1	0	12° 30'
-0.2	-0.2	-0.4	-0.5	-0.1	0.1	0	0	-0.1	12° 15'	0.1	0	-0.2	-0.5	-0.1	0.3	0.2	0.1	0	12° 15'
-0.1	-0.2	-0.3	-0.4	-0.2	0.1	0	0	-0.1	12° 0'	0.1	0.1	-0.1	-0.5	-0.3	0.3	0.2	0.1	0	12° 0'
-0.1	-0.2	-0.2	-0.4	-0.2	0.1	0	0	-0.1	11° 45'	0.1	0.1	0	-0.5	-0.5	0.2	0.2	0.1	0.1	11° 45'
-0.1	-0.1	-0.1	-0.3	-0.2	0	0	0	-0.1	11° 30'	0.1	0.1	0	-0.5	-0.6	0.2	0.3	0.1	0.1	11° 30'
-0.1	-0.1	-0.1	-0.3	-0.3	0	0	0	-0.1	11° 15'	0.1	0.1	0.1	-0.4	-0.7	0.1	0.3	0.1	0.1	11° 15'
-0.1	-0.1	-0.1	-0.3	-0.4	-0.1	0.1	-0.1	-0.1	11° 0'	0.1	0.1	0.1	-0.3	-0.8	0	0.3	0.1	0.1	11° 0'
-0.1	-0.1	-0.1	-0.2	-0.3	-0.1	0.1	0	0	10° 45'	0.1	0.1	0.2	-0.2	-0.8	-0.2	0.4	0.2	0.1	10° 45'
-0.1	0	0	0	-0.3	-0.1	0.1	0	0	10° 30'	0.1	0.1	0.2	-0.1	-0.8	-0.4	0.4	0.2	0.1	10° 30'
-0.1	0	0.1	0.1	-0.2	-0.2	0	0	0	10° 15'	0.1	0	0.1	0	-0.7	-0.5	0.3	0.3	0.1	10° 15'
0	0	0.2	0.2	-0.2	-0.2	0	0	0	10° 0'	0.1	0	0.1	0.1	-0.6	-0.6	0.3	0.3	0.1	10° 0'

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 140 to 144 °E									
Correction to Latitude										Correction to Longitude									
140°	140°	141°	141°	142°	142°	143°	143°	144°	Longitude	140°	140°	141°	141°	142°	142°	143°	143°	144°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	19° 45'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	19° 15'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	19° 0'	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	0	0	
0	0	0	0	0	0	0	0	0	18° 30'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	18° 15'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	18° 0'	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	
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° 15'	0	0	0	0	0	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	16° 45'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 30'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 15'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	15° 45'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	15° 30'	0	0	0	0	0	0	0.1	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	15° 0'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	-0.1	0	0	14° 30'	0	0	0	0	0	0.1	0	0	0	
0	0	0	0	0	0	-0.1	0	0	14° 15'	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	0.1	0	0	0	
0	0	0	0	0	0	0	0	0.1	13° 45'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	13° 30'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0.1	0.1	13° 15'	0	0	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0.1	13° 0'	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	0.3	12° 45'	0	0	0	0	0.1	0	0	-0.1	-0.2	
0	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.5	12° 30'	-0.1	-0.1	0	0	0.1	0	0	-0.1	-0.3	
0	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.6	12° 15'	-0.1	-0.1	-0.1	0	0.1	0	0	-0.3	-0.4	
0	0	0.1	0.4	0.6	0.5	0.5	0.5	0.4	12° 0'	-0.1	-0.2	-0.1	-0.1	0.1	0.1	-0.1	-0.4	-0.4	
0	0	0.2	0.5	0.6	0.6	0.5	0.4	0	11° 45'	-0.1	-0.2	-0.2	-0.2	0	0.1	0	-0.3	-0.2	
0.1	0.1	0.2	0.3	0.4	0.4	0.3	0.1	-0.4	11° 30'	-0.1	-0.3	-0.4	-0.4	0	0.1	0.1	-0.1	0.1	
0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.3	-0.5	11° 15'	0	-0.3	-0.4	-0.3	0	0.1	0.1	0.1	0.2	
0	0	-0.1	-0.4	-0.6	-0.5	-0.5	-0.5	-0.5	11° 0'	0	-0.3	-0.4	-0.2	0	0.1	0.1	0.2	0.2	
-0.3	-0.2	-0.3	-0.6	-0.7	-0.6	-0.5	-0.4	-0.3	10° 45'	-0.1	-0.2	-0.3	0	0.1	0	0.1	0.1	0.1	
-0.4	-0.4	-0.5	-0.5	-0.5	-0.4	-0.3	-0.3	-0.2	10° 30'	-0.1	-0.3	-0.2	0.1	0	0	0	0.1	0.1	
-0.4	-0.4	-0.5	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1	10° 15'	-0.1	-0.2	-0.1	0	0	0	0	0.1	0.1	
-0.2	-0.2	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	10° 0'	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 144 to 148 °E										
Correction to Latitude										Correction to Longitude										
144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'	Longitude	144° 0'	144° 30'	145° 0'	145° 30'	146° 0'	146° 30'	147° 0'	147° 30'	148° 0'		
										Latitude										
0	-0.1	-0.1	-0.1	0	0	0	0.1	0.1	20° 0'	0	-0.1	-0.1	-0.2	-0.3	-0.4	-0.2	0.2	0.2		
0	-0.1	0	0	-0.1	-0.1	-0.1	0	0.1	19° 45'	0	-0.1	-0.1	-0.2	-0.3	-0.4	-0.2	0.2	0.3		
0	0	0	0	-0.1	-0.1	-0.1	0	0.1	19° 30'	0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	0.1	0.2		
0	-0.1	0	0	-0.1	-0.1	-0.2	0	0.1	19° 15'	0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	0	0.2		
0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0.1	19° 0'	0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	0.2		
0	0	-0.1	-0.1	0	0	-0.1	0	0	18° 45'	0	-0.1	-0.1	-0.2	-0.3	-0.2	-0.2	-0.2	0.2		
0	0	-0.1	-0.1	-0.1	0	-0.1	0	0.1	18° 30'	0	-0.1	-0.1	-0.2	-0.3	-0.2	-0.2	-0.2	0.2		
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0.1	18° 15'	0	-0.1	-0.1	-0.2	-0.4	-0.2	-0.2	-0.3	0.2		
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0.1	18° 0'	0	0	-0.1	-0.2	-0.3	-0.2	-0.3	-0.3	0.2		
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	17° 45'	0	0	-0.1	-0.2	-0.3	-0.2	-0.3	-0.3	0.2		
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	17° 30'	0	0	-0.1	-0.1	-0.3	-0.3	-0.4	-0.3	0.2		
0	0	-0.1	-0.1	-0.2	-0.1	0	0	0	17° 15'	0	0	-0.1	-0.1	-0.3	-0.3	-0.4	-0.3	0.2		
0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	17° 0'	0	0	-0.1	-0.1	-0.2	-0.4	-0.4	-0.3	0.2		
0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	16° 45'	0	0	-0.1	-0.1	-0.2	-0.4	-0.4	-0.3	0.2		
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	16° 30'	0	0	-0.1	0	-0.2	-0.4	-0.4	-0.3	0.2		
0	0	0	-0.1	-0.1	0	0	-0.1	-0.2	16° 15'	0	0	0	0	-0.2	-0.5	-0.4	-0.2	0.2		
0	0	0	-0.1	0	0.1	0	0	-0.1	16° 0'	0	0	0	0	-0.3	-0.5	-0.3	-0.2	0.3		
0	0	0	0	0.1	0.1	0.1	0	-0.1	15° 45'	0	0	0	0	-0.3	-0.5	-0.3	-0.1	0.3		
0	0	0	0	0.1	0.1	0.1	0	-0.1	15° 30'	0	0	0	0	-0.4	-0.5	-0.3	0	0.3		
0	0	-0.1	0	0.1	0.1	0.1	0	-0.1	15° 15'	0	0	0	-0.1	-0.4	-0.4	-0.4	0	0.3		
0	0	-0.1	0	0.1	0.1	0.2	0	-0.1	15° 0'	0	0	0	-0.2	-0.4	-0.4	-0.4	0.1	0.3		
0	0	0	0.1	0.2	0.2	0.2	0	-0.1	14° 45'	0	0	0	-0.3	-0.4	-0.4	-0.3	0.2	0.3		
0	0	0	0.2	0.2	0.3	0.2	-0.1	-0.1	14° 30'	0	0	0	-0.3	-0.4	-0.5	-0.2	0.3	0.2		
0	0	0.1	0.2	0.2	0.3	0.1	-0.1	-0.1	14° 15'	0	0	-0.1	-0.4	-0.4	-0.5	-0.1	0.4	0.2		
0	0	0.1	0.2	0.3	0.3	0	-0.2	-0.1	14° 0'	0	0	-0.1	-0.4	-0.5	-0.4	0.1	0.4	0.2		
0.1	0	0.1	0.2	0.3	0.3	-0.1	-0.2	-0.1	13° 45'	0	0.1	-0.2	-0.5	-0.6	-0.3	0.2	0.4	0.2		
0.1	0.1	0.2	0.4	0.4	0.1	-0.3	-0.2	-0.1	13° 30'	0	0	-0.3	-0.6	-0.6	-0.1	0.4	0.4	0.1		
0.1	0.2	0.5	0.5	0.3	-0.1	-0.3	-0.3	-0.1	13° 15'	0	-0.1	-0.4	-0.6	-0.5	0.1	0.4	0.3	0.1		
0.1	0.4	0.7	0.6	0.1	-0.3	-0.4	-0.2	-0.1	13° 0'	-0.1	-0.2	-0.4	-0.5	-0.2	0.3	0.4	0.2	0		
0.3	0.6	0.7	0.3	-0.2	-0.5	-0.3	-0.1	-0.1	12° 45'	-0.2	-0.4	-0.4	-0.3	0.1	0.4	0.3	0.2	0		
0.5	0.6	0.4	-0.1	-0.4	-0.4	-0.2	-0.1	0	12° 30'	-0.3	-0.5	-0.3	0	0.2	0.4	0.2	0.1	0		
0.6	0.4	0	-0.4	-0.4	-0.3	-0.1	0	0	12° 15'	-0.4	-0.3	0	0.2	0.3	0.3	0.1	0.1	-0.1		
0.4	0	-0.4	-0.5	-0.4	-0.2	-0.1	0	0	12° 0'	-0.4	-0.1	0.2	0.2	0.2	0.2	0.1	0	0		
0	-0.4	-0.6	-0.5	-0.3	-0.2	-0.1	0	0	11° 45'	-0.2	0.2	0.2	0.1	0.1	0.1	0	0	0		
-0.4	-0.6	-0.5	-0.3	-0.3	-0.2	-0.1	0	0	11° 30'	0.1	0.3	0.2	0.1	0	0.1	0	-0.1	0		
-0.5	-0.5	-0.4	-0.2	-0.2	-0.1	-0.1	-0.1	0	11° 15'	0.2	0.2	0.1	0	0	0	-0.1	-0.1	-0.1		
-0.5	-0.3	-0.3	-0.2	-0.2	-0.1	0	-0.1	-0.1	11° 0'	0.2	0.2	0	0	0	0	-0.1	-0.1	-0.1		
-0.3	-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	10° 45'	0.1	0.1	0	0	-0.1	0	-0.1	-0.1	-0.1		
-0.2	-0.2	-0.2	-0.1	-0.1	0	-0.1	0	-0.1	10° 30'	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	-0.2	10° 15'	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0		
-0.1	0	0	0	-0.1	-0.1	0	-0.1	-0.2	10° 0'	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	0.1		

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 148 to 152 °E									
Correction to Latitude										Correction to Longitude									
148° 0'	148° 30'	149° 0'	149° 30'	150° 0'	150° 30'	151° 0'	151° 30'	152° 0'	Longitude	148° 0'	148° 30'	149° 0'	149° 30'	150° 0'	150° 30'	151° 0'	151° 30'	152° 0'	
									Latitude										
0.1	0	-0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.2	20° 0'	0.2	0.2	0	-0.1	0.1	-0.2	-0.2	0	-0.2	
0.1	0.1	0	0.1	0.2	0	-0.1	-0.1	-0.1	19° 45'	0.3	0.3	0	-0.2	0.2	-0.1	-0.2	0	-0.2	
0.1	0.1	0.2	0.1	0.1	0.1	0	0	0	19° 30'	0.2	0.3	0	-0.2	0.2	0	-0.1	0	-0.1	
0.1	0.1	0.1	0	0	0.1	0	0.1	0	19° 15'	0.2	0.2	0	-0.1	0.1	0	-0.1	0	-0.1	
0.1	0	0	-0.1	-0.1	0.1	0	0	0	19° 0'	0.2	0.2	0.1	0	0	0	-0.1	0	0	
0	0	0	-0.1	-0.1	0	-0.1	0	0	18° 45'	0.2	0.2	0.1	0	0	0	-0.1	-0.1	0	
0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.1	0	18° 30'	0.2	0.3	0.1	0	0	0	0	-0.1	-0.1	
0.1	0.1	0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	18° 15'	0.2	0.3	0.1	0	0	0	-0.1	-0.1	-0.1	
0.1	0	0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	18° 0'	0.2	0.3	0.2	0.1	0	0.1	-0.1	-0.2	-0.1	
0	0	0	0	-0.1	-0.1	0	0	-0.1	17° 45'	0.2	0.3	0.2	0.1	0.1	0.1	-0.2	-0.2	-0.1	
0	-0.1	0	0	-0.1	0	0.1	0.1	-0.1	17° 30'	0.2	0.3	0.2	0.1	0.1	0.1	-0.2	-0.1	0	
0	-0.1	0	-0.1	-0.1	0	0.2	0.1	-0.1	17° 15'	0.2	0.3	0.1	0.1	0.1	0	-0.2	0	0	
-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0	-0.1	17° 0'	0.2	0.3	0.1	0.2	0.1	-0.1	-0.2	0.1	0	
-0.1	-0.1	-0.1	0	0.1	0.1	0	0	0	16° 45'	0.2	0.3	0.1	0.1	0	-0.1	-0.2	0.1	0	
-0.2	-0.2	-0.1	0	0.1	0.1	0	0	0.1	16° 30'	0.2	0.3	0.1	0	0	-0.1	-0.2	0.1	0	
-0.2	-0.2	-0.1	0	0	0	0	-0.1	0	16° 15'	0.2	0.3	0.1	0	-0.1	0	-0.1	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	16° 0'	0.3	0.3	0	0	-0.1	0	-0.1	0.1	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	15° 45'	0.3	0.2	0	0	-0.1	-0.1	-0.1	0.1	0	
-0.1	0	0	0	0	0	0	0	0.1	15° 30'	0.3	0.2	0	0.1	-0.1	-0.1	-0.1	0.1	0	
-0.1	0	0	0	0	0	0	0	0.2	15° 15'	0.3	0.1	0	0.1	0	-0.1	-0.1	0	0	
-0.1	0	0	0	0	0	0	0	0.1	15° 0'	0.3	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	
-0.1	0	-0.1	0	0	0	0	0	0	14° 45'	0.3	0.1	0.1	0	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	14° 30'	0.2	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	14° 15'	0.2	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	14° 0'	0.2	0	0	0	0	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	13° 45'	0.2	0	0	0	0	-0.1	0	-0.1	0	
-0.1	-0.1	0	-0.1	0	0	0	0	0	13° 30'	0.1	0	0	0	-0.1	-0.1	0	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	13° 15'	0.1	0	0	0	-0.1	-0.1	0	-0.1	0	
-0.1	0	-0.1	0	0	0	0	0	0	13° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
-0.1	0	0	0	0	0	0	0	0	12° 45'	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	12° 30'	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	12° 15'	-0.1	0	0	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	12° 0'	0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	11° 45'	0	0	-0.1	0	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	11° 30'	0	0	-0.1	0	-0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	11° 15'	-0.1	0	0	0	-0.1	0	0	-0.1	0	
-0.1	0	0	0	0	0	0	0	0	11° 0'	-0.1	-0.1	0	0	-0.1	0	0	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	10° 45'	-0.1	-0.1	0	-0.1	0	0	0	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	-0.1	10° 30'	0	-0.1	-0.1	0	0	0	0	0	0	
-0.2	-0.1	0	0	0	0	0	0	-0.1	10° 15'	0	-0.1	-0.1	0	0	-0.1	0	0	0	
-0.2	-0.1	0	-0.1	-0.1	0	-0.1	0	-0.1	10° 0'	0.1	-0.2	-0.2	0	0	0	0	0	0	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N

Correction to Latitude

Longitude 156 to 160 °E

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

Correct Astronomical Position to WGS84

Latitude 20 to 20 °N										Longitude 160 to 164 °E									
Correction to Latitude										Correction to Longitude									
160°	160°	161°	161°	162°	162°	163°	163°	164°	Longitude	160°	160°	161°	161°	162°	162°	163°	163°	164°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.2	-0.1	0.1	0	-0.2	-0.2	0	0.1	0	20° 0'	0.1	0	-0.2	0	0	-0.1	0	-0.1	-0.1	
-0.1	0	0.1	0	-0.1	-0.1	0.1	0.1	0	19° 45'	0.1	-0.2	-0.2	0.1	0.1	-0.2	-0.1	-0.1	0	
0	0.1	0	0	0	0	0	0	-0.1	19° 30'	0.1	-0.2	-0.1	0.1	0.1	-0.2	-0.1	-0.1	0	
0.1	0.1	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	19° 15'	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
0.1	0	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	19° 0'	0	-0.1	0	-0.1	0	-0.1	0	-0.1	0	
0	0	0	-0.1	0	0	-0.1	-0.1	-0.1	18° 45'	0	0	0	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	18° 30'	-0.1	0	0	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	18° 15'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	18° 0'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	0	-0.1	17° 45'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	17° 30'	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	0	0	0	17° 15'	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	17° 0'	0	-0.1	-0.1	-0.1	0	0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	0	16° 45'	-0.1	0	0	-0.1	0	0.1	-0.1	-0.1	0	
-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	16° 30'	-0.1	0	0	-0.1	0	0.1	0	-0.1	0	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	16° 15'	0	-0.1	0	0	0	0.1	0	-0.1	0	
-0.1	-0.1	0	-0.1	-0.1	0	-0.1	0	0	16° 0'	0	-0.2	-0.1	0	-0.1	0.1	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	15° 45'	0	-0.2	-0.1	0	-0.1	0.1	0	-0.2	0	
0	-0.1	-0.1	0	-0.1	-0.1	0	0	0	15° 30'	0.1	-0.1	-0.1	0	-0.1	0.1	0	-0.2	0	
0	-0.1	-0.1	0	0	0	0	0	0	15° 15'	0.1	-0.1	-0.1	0	0	0.1	0	-0.1	0	
0	-0.1	-0.1	0	0	0	0.1	0	0	15° 0'	0.1	0	-0.2	-0.1	0	0	0	-0.1	0	
0	0	-0.1	-0.1	0	0	0.1	0	0	14° 45'	0.1	0	-0.2	-0.1	0	0	0	-0.1	-0.1	
0	0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	14° 30'	0.1	0	-0.1	-0.1	-0.1	0	0	0	-0.1	
0	0.1	0	-0.1	-0.1	0	-0.1	-0.2	-0.2	14° 15'	0	0	0	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	14° 0'	0	0	0.1	-0.1	-0.1	0	0.1	0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	13° 45'	-0.1	0	0.1	-0.1	-0.1	0	0.1	0.1	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	0.1	0.1	13° 30'	0	0	0.1	-0.1	-0.1	0	0	0.1	-0.1	
0	0	0	0	0	-0.1	0	0.1	0.2	13° 15'	0	0	0.1	-0.1	-0.1	0	-0.1	0	0	
0	0	0	0.1	0	0	0	0	0.1	13° 0'	0	0	0.1	-0.1	0	0	-0.1	-0.1	0	
-0.1	0	0	0.1	0	0	0	-0.1	0	12° 45'	-0.1	0	0	-0.1	0	0	-0.1	-0.1	0	
-0.1	0	0	0	-0.1	0	0	-0.1	-0.1	12° 30'	-0.1	-0.1	0	-0.1	0	0	0	-0.1	0	
0	0	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	12° 15'	-0.1	-0.1	0	-0.1	0	-0.1	0	0	0	
0	0	-0.1	-0.1	-0.2	-0.2	0	-0.1	0	12° 0'	-0.1	-0.1	0.1	0	0	-0.2	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	11° 45'	-0.1	-0.1	0.1	0	0.1	-0.2	-0.1	0	0	
-0.1	-0.2	-0.1	0	0	0	0	0	-0.1	11° 30'	-0.1	0	0.1	0	0.1	-0.2	-0.1	0	-0.1	
-0.1	-0.2	-0.1	0	0.1	0.1	0	0	-0.1	11° 15'	0	0	0	0	0.1	-0.2	-0.1	0	-0.1	
-0.1	-0.2	-0.1	0	0.1	0	-0.1	0	0	11° 0'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	10° 45'	0.1	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.1	0	10° 30'	0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	10° 15'	0.1	0	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	0	0.1	0	0	10° 0'	0.1	0	-0.1	-0.1	0.1	0	-0.2	-0.1	0	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °N										Longitude 164 to 168 °E									
Correction to Latitude										Correction to Longitude									
164°	164°	165°	165°	166°	166°	167°	167°	168°	Longitude	164°	164°	165°	165°	166°	166°	167°	167°	168°	
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	-0.2	-0.1	-0.1	20° 0'	-0.1	0	0	0	0	0	0	-0.1	0	
0	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	19° 45'	0	0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	19° 30'	0	0.1	-0.2	-0.1	0	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	-0.1	19° 15'	0	0.2	-0.2	-0.2	0	0.1	0	-0.1	-0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	0	19° 0'	0	0.1	-0.1	-0.2	0	0.1	0	-0.1	-0.1	
-0.1	0	0	-0.1	-0.1	0	0	0	-0.1	18° 45'	-0.1	0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	18° 30'	-0.1	0	0	-0.1	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	18° 15'	-0.1	0	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	18° 0'	-0.1	0	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	17° 45'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	17° 30'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	17° 15'	0	-0.1	0	0	0	0	0	-0.1	0	
0	0	-0.1	-0.1	0	0	-0.1	-0.1	0	17° 0'	0	-0.1	0	0	-0.1	0	0	-0.1	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	16° 45'	0	0	0	0	-0.1	0	0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	-0.1	0	0	-0.1	16° 30'	0	0	0	-0.1	-0.1	0	0.1	-0.1	-0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	16° 15'	0	0	-0.1	0	-0.1	0	0	-0.1	-0.1	
0	-0.1	0	0	-0.1	-0.1	0.1	0	0	16° 0'	0	0	-0.1	0	0	0	0	-0.1	0	
0	0	0	-0.1	-0.1	0	0	0	0	15° 45'	0	0	-0.1	0	0	-0.1	0	0	0	
0	0	0	-0.1	0	0	0	0	0	15° 30'	0	0	0	0	-0.1	-0.1	-0.1	0	0	
0	0	0	-0.1	-0.1	0	0	0	0	15° 15'	0	0	0	0	-0.1	-0.1	-0.1	0	0	
0	0	0	-0.1	-0.1	0	-0.1	0	0	15° 0'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	-0.1	-0.1	0	-0.1	-0.2	-0.1	14° 45'	-0.1	0	0	0.1	-0.1	-0.1	0	-0.1	0	
-0.1	-0.1	0	0	-0.1	0	-0.2	-0.3	-0.2	14° 30'	-0.1	0	0	0.1	-0.1	-0.1	0.1	-0.1	-0.1	
-0.2	-0.1	0	0	0	0	-0.2	-0.3	-0.2	14° 15'	-0.1	-0.1	0	0.1	-0.2	-0.1	0.2	-0.1	-0.2	
-0.2	-0.1	0	0	0	0	-0.1	-0.2	-0.1	14° 0'	-0.1	-0.1	0	0.1	-0.1	0	0.3	-0.1	-0.3	
-0.1	-0.1	-0.1	0	0	-0.1	0	0.1	0	13° 45'	-0.1	-0.2	-0.1	0	-0.1	0	0.2	-0.1	-0.3	
0.1	0	-0.1	0	0	0	0.1	0.2	0.1	13° 30'	-0.1	-0.1	-0.1	0	-0.1	0	0.1	-0.1	-0.2	
0.2	0	-0.1	0	0	-0.1	0.1	0.2	0.1	13° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0.1	0	0	0	-0.1	-0.1	0	0.1	0	13° 0'	0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	-0.1	0	0	-0.1	-0.1	-0.1	0	0	12° 45'	0	0	-0.1	0	0	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	12° 30'	0	0	-0.1	0	0	-0.1	-0.1	0	0.1	
-0.1	-0.1	-0.2	-0.2	0	-0.1	-0.2	-0.1	-0.1	12° 15'	0	0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	-0.2	-0.2	0	-0.1	-0.2	-0.2	-0.1	12° 0'	0	0.1	0	-0.2	0	0	-0.1	-0.1	0	
-0.1	0	0	-0.1	0	-0.2	-0.2	-0.2	-0.2	11° 45'	0	0.1	0	-0.2	0	0.1	-0.1	-0.1	-0.1	
-0.1	0	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	11° 30'	-0.1	0.1	0.1	-0.2	0	0.1	-0.1	-0.1	-0.2	
-0.1	0	0.2	0.1	0	0	0.1	0.1	0	11° 15'	-0.1	0	0	-0.1	0	0.1	-0.1	-0.1	-0.2	
0	0	0.1	0.1	0	0.1	0.2	0.2	0.1	11° 0'	0	-0.1	0	0	0.1	0.1	-0.1	-0.1	-0.1	
0	0	0	0	-0.1	0.1	0.2	0.1	0.1	10° 45'	0	-0.1	0	0	0	0	-0.1	0	-0.1	
0	0	0	0	-0.1	0	0.1	0.1	0	10° 30'	0	-0.1	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	10° 15'	-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	10° 0'	0	-0.1	0	0	0	-0.1	-0.1	0	0	

Correct Astronomical Position to WGS84

Latitude 20 to 20 °N										Longitude 168 to 172 °E									
Correction to Latitude										Correction to Longitude									
168°	168°	169°	169°	170°	170°	171°	171°	172°	Longitude	168°	168°	169°	169°	170°	170°	171°	171°	172°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	0	-0.1	0	0	0	0	20° 0'	0	-0.1	0	0	0	-0.1	-0.1	0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	19° 45'	-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	-0.1	-0.1	0	19° 30'	-0.1	-0.1	0	0	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	19° 15'	-0.1	-0.1	0	0	0	-0.1	0	0	-0.2	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	19° 0'	-0.1	-0.1	0	0	0	-0.1	0.1	0	-0.2	
-0.1	-0.1	-0.1	0	0	-0.1	-0.2	-0.1	-0.1	18° 45'	-0.1	-0.1	-0.1	0	0	0	0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.1	-0.1	18° 30'	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	18° 15'	-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	0	0.1	0.1	0	18° 0'	-0.1	-0.1	-0.1	-0.1	0	0.1	0	-0.1	-0.1	
0	0	0	-0.1	-0.1	0	0.1	0.1	0	17° 45'	-0.1	-0.1	0	0	-0.1	0	0	-0.1	0	
0	0	0	-0.1	-0.1	0	0.1	0.1	0	17° 30'	0	-0.1	0	0	-0.1	0	0	-0.1	0	
0	0	0	0	0	0	0	0	0	17° 15'	0	0	0	0	-0.1	0	0	-0.1	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	17° 0'	0	0	0	0	-0.1	0	0	-0.1	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 45'	-0.1	0	0	0	-0.1	0	0	-0.1	0	
-0.1	0	0	0	0	-0.1	0	0	-0.1	16° 30'	-0.1	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 15'	-0.1	0	0	0	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	16° 0'	0	-0.1	0	0	0	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	0	15° 45'	0	-0.1	0	0	0	0	0	-0.1	0	
0	0	-0.1	0	0	0	0	-0.1	0	15° 30'	0	0	0	0	0	0	0	-0.1	0	
0	-0.1	-0.1	-0.1	0	0	0	0	0	15° 15'	0	0	0	-0.1	0	0	0	0	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	0	0	15° 0'	0	0.1	0	-0.1	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	14° 45'	0	0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.2	0	0	0	0	0	0	0	0	14° 30'	-0.1	0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.2	0	0.1	0	0	-0.1	0	0	0	14° 15'	-0.2	0	0	-0.1	0	0	0	0	0	
-0.1	0	0.1	0	-0.1	-0.1	0	0	0	14° 0'	-0.3	-0.1	0	-0.1	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	13° 45'	-0.3	-0.1	0	0	0	0	0	0	0	
0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	13° 30'	-0.2	-0.1	0	0	0	0	0	0	0	
0.1	0	-0.1	-0.1	-0.1	0	0	0	0	13° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	13° 0'	0	0	0	0	-0.1	0	0	0	0	
0	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0	12° 45'	0	0	0	0	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	12° 30'	0.1	0	-0.1	0	0	-0.1	-0.1	0	-0.1	
-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	12° 15'	0	0.1	-0.1	0	0.1	-0.1	-0.1	0	-0.1	
-0.1	0	0	0	0	0	-0.1	-0.1	-0.1	12° 0'	0	0.1	-0.1	0	0.1	-0.1	-0.1	0	0	
-0.2	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	11° 45'	-0.1	0	-0.1	0	0	-0.1	0	0	0	
-0.1	0	0	-0.2	-0.1	0	-0.1	-0.1	-0.1	11° 30'	-0.2	-0.1	0	0.1	-0.1	-0.1	0	-0.1	0	
0	0	0	-0.1	-0.1	-0.1	0	0	-0.1	11° 15'	-0.2	-0.1	0.1	0.1	-0.2	-0.1	0	-0.1	0	
0.1	0	0	0	0	-0.1	0	0	-0.1	11° 0'	-0.1	-0.1	0.1	0.2	-0.1	-0.1	0	0	0	
0.1	0	-0.1	0	0	-0.1	-0.1	0	0	10° 45'	-0.1	-0.1	0	0.1	-0.1	-0.1	0	0	0	
0	-0.1	-0.2	-0.1	0	-0.1	-0.1	0	0	10° 30'	0	0	0	0.1	0	-0.1	-0.1	0	0	
0	-0.1	-0.2	-0.1	0	0	0	0	0	10° 15'	0	0	0	0	-0.1	0	-0.1	0	0	
-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	10° 0'	0	0.1	0.1	-0.1	-0.1	0	-0.1	0	0	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 20 to 20°N
Correction to Latitude
Longitude 176 to 180°E
Correction to Longitude

Latitude										Longitude									
176°	176°	177°	177°	178°	178°	179°	179°	180°	Longitude	176°	176°	177°	177°	178°	178°	179°	179°	180°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	-0.1	0	0	0	-0.1	20° 0'	0	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 45'	0	0	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 15'	0	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	0	0	0	0	0
0	0	0	0	-0.1	0	0	0	0	18° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	-0.1	-0.1	0	0	0	18° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	0	0	0	18° 15'	0	0	0	0	0	0	0	0	0	0
0	-0.1	0	0	0	0	0	0	0	18° 0'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	0	0	0	0	0	0	17° 45'	0	0	0	0	0	0	0	0	0	0
0	0	-0.1	-0.1	0	0	0	0	0	17° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	-0.1	0	0	0	0	0	17° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	-0.1	-0.1	0	0	0	0	17° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	-0.1	0	0	0	16° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	16° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	16° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	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	0	15° 45'	0	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	-0.1	15° 15'	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	-0.1	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	14° 45'	0	0	0	0	-0.1	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	14° 30'	0	0	0	0	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	14° 15'	0	0	0	0	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	-0.1	0	0	14° 0'	-0.1	0	0	0	-0.1	-0.1	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	13° 45'	-0.1	0	0	0	-0.1	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	13° 30'	-0.1	0	0	-0.1	-0.1	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	13° 15'	-0.1	0	0	-0.1	0	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	13° 0'	-0.1	0	0	-0.1	0	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	12° 45'	0	0	0	0	0	0	0	-0.1	0	0
0	0	0	0	0	0	0	0	0	12° 30'	0	0	0	0	0	0	-0.1	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	12° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	12° 0'	0	0	0	0	0	0	0	-0.1	0	0
-0.1	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	11° 30'	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	-0.1	0	0	0	0
0	0	-0.1	0	0	0	0	0	0	11° 0'	0	0	0	0	0	-0.1	0	0	0	0
0	0	-0.1	0	0	0	0	0	0	10° 45'	0	0	0	-0.1	0	0	0	0	0	0
-0.1	-0.1	0	0	0	-0.1	-0.1	0	0	10° 30'	0	0	0	-0.1	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	10° 15'	0	0	0	-0.1	0	0	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	10° 0'	0	0	0	-0.1	0	0	-0.1	-0.1	0	0

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 20 to 20 °N										Longitude 164 to 160 °W									
Correction to Latitude										Correction to Longitude									
164°	163°	163°	162°	162°	161°	161°	160°	160°	Longitude	164°	163°	163°	162°	162°	161°	161°	160°	160°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 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	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 15'	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	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	18° 30'	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	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	17° 45'	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	17° 15'	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	16° 45'	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° 15'	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	15° 45'	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° 15'	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	14° 45'	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° 15'	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	13° 45'	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° 15'	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	12° 45'	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	-0.1	-0.1	0	0	12° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	12° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	11° 45'	0	0	0	0	0	0	0	-0.1	0	
-0.1	0	0	0	0	0	0	0	0	11° 30'	0	0	0	0	0	0	0	-0.1	0	
-0.1	0	-0.1	-0.1	0	0	0	0	0	11° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	11° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	0	0	0	0	0	10° 45'	0	-0.1	0	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	10° 30'	0	-0.1	0	-0.1	0	0	0	0	0	
0	0	0	-0.1	-0.1	0	0	0	0	10° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	0	0	-0.1	0	10° 0'	0	0	0	0	-0.1	0	0	0	0	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 136 to 132 °W									
Correction to Latitude										Correction to Longitude									
136°	135°	135°	134°	134°	133°	133°	132°	132°	Longitude	136°	135°	135°	134°	134°	133°	133°	132°	132°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	19° 45'	-0.1	-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	19° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	19° 15'	-0.1	-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	19° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1
0	0	0	0	0	0	0	0	0	18° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	18° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	18° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	18° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	17° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	17° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	-0.1	17° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	17° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	16° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	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	0	0	0	0	0	16° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
-0.1	0	0	0	0	0	0	0	0	16° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	15° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	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	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	-0.1
-0.1	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	-0.1
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	-0.1
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	-0.1
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	-0.1
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	-0.1
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	-0.1
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	-0.1
0	0	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	-0.1
0	0	0	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	0	0	0	0	0	0	0	0	12° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	12° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	12° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	12° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	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	0	11° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	-0.1	0	0	0	0	0	0	0	11° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	-0.1	0	0	0	0	0	0	0	11° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	10° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	-0.1	10° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	10° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1
0	0	0	0	0	0	0	0	0	10° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 112 to 108 °W									
Correction to Latitude										Correction to Longitude									
112°	111°	111°	110°	110°	109°	109°	108°	108°	Longitude	112°	111°	111°	110°	110°	109°	109°	108°	108°	Longitude
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude
0	0	0	0	0	0	0	0	0	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	19° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	19° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	19° 15'	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	19° 0'	0.1	0.1	0.1	0	0.1	0.1	0	0	0	0.1
0	0	0	0	0	0	0	0	0	18° 45'	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0.1
0	0	0	0	0	0	0	0	0	18° 30'	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
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	0.1	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	0	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	0	0	0	17° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	17° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	17° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	16° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	16° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	16° 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	0	16° 0'	0.1	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	15° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	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	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	0.1
0	0	0	0	0	0	0	0	0	15° 0'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	14° 45'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	14° 30'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	14° 15'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	14° 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	0	13° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	13° 30'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	13° 15'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	13° 0'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 45'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	11° 45'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	11° 30'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	11° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	11° 0'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	10° 45'	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	10° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
0	0	0	0	0	0	0	-0.1	0	10° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
0	0	0	0	0	0	0	0	0	10° 0'	0.1	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 °N										Longitude 108 to 104 °W									
Correction to Latitude										Correction to Longitude									
108°	107°	107°	106°	106°	105°	105°	104°	104°	Longitude	108°	107°	107°	106°	106°	105°	105°	104°	104°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	-0.1	0	0.1	0.1	0	0	20° 0'	0	0.1	0	-0.1	0.2	0.3	0.3	0.2	0.1	
0	0	0	-0.1	0	0.1	0.1	0.1	0.1	19° 45'	0	0	0	-0.1	0.1	0.3	0.3	0.2	0.1	
0	0	0	-0.1	0	0.1	0.1	0.1	0.1	19° 30'	0.1	0	0	0	0.1	0.3	0.3	0.2	0.1	
0	0	-0.1	-0.1	-0.1	0	0.1	0.2	0.1	19° 15'	0.1	0.1	0	0	0	0.2	0.3	0.2	0.1	
0	0	0	-0.1	-0.1	-0.1	0.1	0.2	0.1	19° 0'	0.1	0.1	0	0	0	0.1	0.2	0.2	0.2	
0	0	0	-0.1	-0.2	-0.2	0	0.2	0.2	18° 45'	0.1	0.1	0.1	0	0	0	0.1	0.2	0.2	
0	0	0	0	-0.1	-0.2	-0.1	0.1	0.2	18° 30'	0	0.1	0.1	0.1	0	0	0	0.1	0.2	
0	0	0	0	0	-0.1	-0.1	-0.1	0.1	18° 15'	0	0.1	0.1	0.1	0.1	0	0	0	0.2	
0	0	0	0	0	0	-0.1	-0.1	0	18° 0'	0	0.1	0.1	0.1	0.1	0.1	0	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	17° 45'	0	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.2	17° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	17° 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	-0.1	17° 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	16° 45'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	16° 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	16° 15'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	16° 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° 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° 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	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° 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° 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° 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° 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° 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	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	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° 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° 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	12° 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	12° 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	12° 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	12° 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	11° 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	11° 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	11° 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	11° 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° 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	10° 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	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° 0'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 104 to 100 °W									
Correction to Latitude										Correction to Longitude									
104°	103°	103°	102°	102°	101°	101°	100°	100°	Longitude	104°	103°	103°	102°	102°	101°	101°	100°	100°	Latitude
0'	30'	0'	30'	0'	30'	0'	30'	0'		0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	19° 45'	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	0.1	0.1	0	19° 30'	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	0.1	0	0.1	0.1	0	19° 15'	0.1	0.1	0	0.1	0.2	0.1	0	0.2	0.2	
0.1	0	-0.1	-0.1	0	0	0	0	0.1	19° 0'	0.2	0.1	0.1	0.1	0.1	0.1	0	0.2	0.1	
0.2	0.1	-0.1	-0.1	0	0	0	0	0.1	18° 45'	0.2	0.2	0.1	0.1	0.1	0.1	0	0.2	0.1	
0.2	0.1	0.1	0	0	0	-0.1	-0.1	0	18° 30'	0.2	0.3	0.2	0	0.1	0.1	0	0.1	0	
0.1	0.2	0.2	0.2	0.1	0	-0.1	-0.1	-0.1	18° 15'	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0	
0	0.2	0.3	0.3	0.2	0	-0.1	-0.2	-0.1	18° 0'	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0	0	
-0.1	0	0.2	0.3	0.2	0.1	0	-0.1	-0.1	17° 45'	0	0.1	0.2	0.1	0.2	0.3	0.2	0	0	
-0.2	-0.1	0	0.1	0.2	0.2	0.2	0.1	0	17° 30'	-0.1	0	0.1	0.1	0.3	0.3	0.2	0.1	0	
-0.1	-0.2	-0.1	0	0.1	0.3	0.4	0.3	0.2	17° 15'	0	0	0	0.1	0.2	0.3	0.2	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	0	0.1	0.3	0.4	0.3	17° 0'	0	0	0	0	0.1	0.2	0.2	0.2	0.2	0.2
0	-0.1	-0.1	-0.2	-0.1	0	0.1	0.3	0.3	16° 45'	0	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	0	0.1	0.2	16° 30'	0.1	0	0	0	0	0	0	0.1	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	16° 15'	0.1	0.1	0.1	0	0	0	0	0	0	0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	16° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	-0.1	-0.1	-0.2	15° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	-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	0	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	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	0.1
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	0.1
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	0.1
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	0.1
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	0.1
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	0.1
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	0.1
0	0	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	0.1
0	0	0	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	0	0	0	0	0	0	0	0	12° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	12° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	12° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	11° 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	0	11° 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	0	11° 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	0	11° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 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	0	10° 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	0	10° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 92 to 88 °W									
Correction to Latitude										Correction to Longitude									
92°	91°	91°	90°	90°	89°	89°	88°	88°	Longitude	92°	91°	91°	90°	90°	89°	89°	88°	88°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 0'	0.1	0.1	0	0	0	0	0	0.1	0	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 45'	0.1	0.1	0	0	0	0	0	0.1	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	19° 30'	0	0	0	0	0.1	0	0	0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	19° 15'	0	0	0	0	0.1	0.1	0	0.1	-0.1	
0	-0.1	-0.1	-0.1	0	-0.1	0	0	0	19° 0'	0	0.1	0	0	0.1	0	0	0	0	-0.1
0	-0.1	-0.1	-0.1	0	-0.1	0	0	0.1	18° 45'	0	0.1	0	0	0.1	0	0	0	0	-0.1
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	18° 30'	0	0.1	0	0	0.1	0	0	0	0	-0.1
0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	18° 15'	0.1	0.1	0	0	0.1	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	18° 0'	0.1	0.1	0	0	0.1	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	17° 45'	0.1	0.1	0	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° 30'	0	0	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	17° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	17° 0'	-0.1	0	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	16° 45'	-0.2	-0.1	0.1	0.1	0	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	0	16° 30'	-0.1	-0.1	0	0.1	0.1	0	0	-0.1	-0.1	
-0.1	-0.2	-0.1	0	-0.1	0	0	-0.1	-0.1	16° 15'	-0.1	0	0	0.1	0.1	0	-0.1	-0.1	-0.1	
-0.2	-0.3	-0.2	-0.1	-0.1	0	0	-0.1	-0.2	16° 0'	0	0	-0.1	0	0.1	0	0	-0.1	0	
-0.2	-0.3	-0.2	-0.2	-0.1	0	-0.1	-0.2	-0.2	15° 45'	0.1	0	-0.1	0	0	0	0	0	0	
-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	15° 30'	0.1	0	-0.1	0	0	-0.1	0	0	0	
0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	15° 15'	0.2	0	-0.1	0	-0.1	0	0	0	0	
0.3	0.2	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	15° 0'	0.3	0.1	0	0	-0.1	0	0	0	0	
0.3	0.3	0.2	0.1	0	0	-0.1	-0.1	-0.1	14° 45'	0.2	0.2	0	0	-0.1	0	0	0	0	
0.2	0.3	0.3	0.2	0	0	0	0	-0.1	14° 30'	0.1	0.1	0.1	0	0	0.1	0	0	0	
0	0.2	0.2	0.2	0.1	0	0	0	0	14° 15'	0.1	0.1	0.1	0.1	0	0.1	0	0	0	
0	0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	14° 0'	0.1	0	0.1	0.1	0.1	0.1	0	0	0	
0.1	0	0	0.1	0.2	0.1	0.1	0.1	0.1	13° 45'	0.1	0.1	0	0	0.1	0.1	0	0.1	0	
0.1	0.1	0	0	0.1	0.1	0.1	0.2	0.1	13° 30'	0.2	0.1	0	0	0.1	0.1	0	0.1	0.1	
0	0.1	0.2	0.1	0	0.1	0.1	0.1	0.2	13° 15'	0.1	0.1	0	0	0.1	0.1	0	0.1	0.1	
-0.2	0	0.2	0.1	0.1	0.1	0	0.1	0.2	13° 0'	0	0	0	0.1	0.1	0.1	0	0	0.1	
-0.2	-0.2	0	0.1	0.1	0.1	0.1	0	0.1	12° 45'	-0.1	-0.1	0	0.1	0.1	0.1	0	0	0.1	
-0.2	-0.2	-0.2	-0.1	0	0.1	0.1	0.1	0	12° 30'	0	-0.1	-0.1	0	0	0.1	0.1	0	0	
-0.1	-0.2	-0.3	-0.2	-0.1	0	0.1	0.1	0	12° 15'	0	0	-0.1	-0.1	0	0	0.1	0	0.1	
0	-0.1	-0.2	-0.2	-0.3	-0.2	0	0.1	0.1	12° 0'	0	0	0	-0.1	-0.1	0	0	0	0.1	
0	0	0	-0.1	-0.2	-0.3	-0.2	-0.1	0	11° 45'	0	0	0	0	0	-0.1	-0.1	0	0.1	
0	0	0	0	-0.1	-0.2	-0.3	-0.3	-0.1	11° 30'	0	0	0	0	0	-0.1	-0.1	-0.1	0	
0	0	0	0	0	-0.1	-0.2	-0.3	-0.2	11° 15'	0	0	0	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	-0.1	-0.2	-0.3	11° 0'	0.1	0	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.2	10° 45'	0	0	0	0	0	0	0.1	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	10° 30'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	10° 15'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	10° 0'	0	0	0	0	0	0.1	0	0	0.1	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 88 to 84 °W									
Correction to Latitude										Correction to Longitude									
88°	87°	87°	86°	86°	85°	85°	84°	84°	Longitude	88°	87°	87°	86°	86°	85°	85°	84°	84°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	0	0	0	-0.1	-0.1	-0.1	0	-0.1	20° 0'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	-0.1	
-0.1	0	0	0	-0.1	-0.1	0	0	-0.1	19° 45'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	0	
-0.1	0	0	-0.1	-0.1	-0.1	0	0	-0.1	19° 30'	-0.1	-0.2	-0.2	0	0	0	-0.1	-0.1	0	
0	0	0	-0.1	-0.1	0	0	-0.1	-0.2	19° 15'	-0.1	-0.2	-0.2	0	0	0	-0.1	0	0	
0	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.2	19° 0'	-0.1	-0.2	-0.2	0	0	-0.1	0	0	0.1	
0.1	0	-0.1	-0.1	0	0	0	-0.1	-0.1	18° 45'	-0.1	-0.2	-0.1	0	0	-0.1	0	0.1	0.1	
0.1	0	0	-0.1	0	-0.1	-0.1	-0.1	0	18° 30'	-0.1	-0.1	-0.1	0	0	-0.1	0	0.1	0.1	
0	0	0	-0.1	0	-0.1	-0.1	0	0	18° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	-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	-0.1	-0.2	17° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	17° 30'	-0.1	-0.1	0	0	0	0	0	0	0.1	0
-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.2	-0.2	-0.2	17° 15'	-0.1	-0.1	0	0	0	0	0	0	0.1	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	17° 0'	-0.1	-0.1	0	0	0	0	0	0	0.1	0
0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.2	-0.2	-0.1	16° 45'	-0.1	-0.1	0	0	0.1	0.1	0	0	0	0
0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	16° 30'	-0.1	-0.1	0	0	0.1	0	0	0	0	0
-0.1	-0.2	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	16° 15'	-0.1	0	0	0.1	0.1	0	0	0	0	0
-0.2	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	16° 0'	0	0.1	0.1	0	0	0	0	0	0	0
-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	15° 45'	0	0.1	0	0	0	0	0	0	-0.1	-0.1
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	15° 30'	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	0	-0.1	15° 15'	0	0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	15° 0'	0	0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	14° 45'	0	0.1	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	-0.1	-0.1	-0.1	14° 30'	0	0	0	0	0	0	0	0	-0.1	-0.1
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	14° 15'	0	0.1	0	0	0	0	0	0	-0.1	0
0.1	0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	14° 0'	0	0.1	0	0	0	0	0	0	-0.1	0
0.1	0.1	0	-0.1	-0.1	0	0	-0.1	0	13° 45'	0	0.1	0.1	0	0	0	0	0	-0.1	0
0.1	0.1	0	0	0	0	0	-0.1	-0.1	13° 30'	0.1	0.1	0.1	0.1	0	0	0	0	-0.1	-0.1
0.2	0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	13° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	-0.1
0.2	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	13° 0'	0.1	0.2	0.2	0.1	0	0	0	0	0	-0.1
0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	-0.1	12° 45'	0.1	0.2	0.2	0.1	0.1	0	0	0	-0.1	-0.1
0	0.1	0.2	0.1	0	0	0	-0.1	-0.1	12° 30'	0	0.1	0.2	0.1	0.1	0.1	0	0	-0.1	-0.1
0	0	0.1	0.1	0	0	0	-0.1	0	12° 15'	0.1	0.1	0.1	0.2	0.1	0.1	0	0	-0.1	-0.1
0.1	0	0.1	0.1	0	0	0	0	0	12° 0'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0	-0.1	-0.1
0	0	0	0.1	0	0	0	0	0	11° 45'	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0	0	-0.1
-0.1	0	0	0	0	0	0	0	-0.1	11° 30'	0	0.1	0.1	0.2	0.2	0.1	0.1	0	0	-0.1
-0.2	-0.1	0	-0.1	-0.1	-0.1	0	0	-0.1	11° 15'	-0.1	0	0.1	0.2	0.2	0.1	0.1	0	0	-0.1
-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	11° 0'	-0.1	-0.1	0.1	0.2	0.2	0.1	0	0	0	0
-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	10° 45'	-0.1	-0.1	0	0.3	0.2	0	0	0	0	0
-0.1	-0.2	-0.2	0	0	-0.1	-0.1	-0.1	-0.2	10° 30'	0	-0.1	0	0.2	0.3	0	0	0.1	0	0
0	-0.1	-0.2	0	0.1	0	-0.1	-0.1	-0.2	10° 15'	0.1	-0.1	-0.1	0.2	0.3	0.1	0	0.1	0	0
0	0	-0.2	-0.1	0.1	0.1	0	0	-0.1	10° 0'	0.1	0	-0.1	0.1	0.3	0.1	0	0.1	0.1	0.1

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 76 to 72 °W									
Correction to Latitude										Correction to Longitude									
76°	75°	75°	74°	74°	73°	73°	72°	72°	Longitude	76°	75°	75°	74°	74°	73°	73°	72°	72°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.5	0.5	0.3	0	-0.3	-0.5	-0.7	-0.7	-0.7	20° 0'	0.1	0	-0.3	-0.3	-0.2	0	0	-0.2	-0.2	
0.3	0.4	0.2	-0.1	-0.4	-0.5	-0.5	-0.6	-0.7	19° 45'	0	0	-0.1	-0.1	0	0.1	0	-0.2	-0.2	
0	0	0	-0.2	-0.3	-0.3	-0.2	-0.3	-0.4	19° 30'	0	0	0	0.1	0.1	0.1	0	-0.1	-0.1	
-0.3	-0.2	-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.2	19° 15'	0	0	0	0.1	0	0	0	0	0	
-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	19° 0'	0	-0.1	0	0	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0	18° 45'	0	-0.1	0	0	0	0	0	0	-0.1	
-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0	0	18° 30'	0	-0.1	0	0	0	0	0	-0.1	-0.1	
-0.2	-0.1	-0.1	0	0	0.1	0.2	0.2	0.2	18° 15'	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	0.1	0.2	0.3	0.3	0.3	0.3	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	0.1	0.2	0.3	0.2	0.2	0.2	17° 45'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.2
0	-0.1	-0.1	0	0	0	0	0	0	17° 30'	-0.1	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.1
0	0	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	17° 15'	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.1
-0.1	0	0	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	17° 0'	0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	16° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 30'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	16° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	
0	0	0	0	-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	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	15° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	15° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	0	-0.1	15° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	14° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	14° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0.1	0.1	0.1	14° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	0	0	0	0	0.1	0.1	0.1	0.1	14° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0.1	0.1	0.1	0.1	13° 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	0.1	0.1	0	13° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	-0.1	0	0	0	0	0	0	0	13° 15'	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.1	0	0	0	0.1	0	-0.1	-0.1	-0.2	13° 0'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	-0.1	-0.3	-0.3	12° 45'	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.2	-0.4	-0.4	12° 30'	-0.2	-0.2	-0.2	-0.2	-0.1	0	0.1	0.1	-0.1	
0	-0.1	0	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	12° 15'	-0.2	-0.2	-0.2	-0.2	-0.1	0.1	0.2	0.1	-0.1	
0	-0.1	-0.1	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	12° 0'	-0.2	-0.2	-0.2	-0.1	-0.1	0.1	0.2	0.1	-0.1	
0	-0.1	-0.2	-0.4	-0.5	-0.5	-0.3	-0.1	-0.1	11° 45'	-0.1	-0.2	-0.1	0	-0.1	0	0.1	0	-0.1	
0	-0.1	-0.3	-0.4	-0.7	-0.7	-0.4	-0.2	-0.1	11° 30'	-0.1	-0.1	0	0.1	0	-0.1	0	0	-0.1	
-0.1	-0.2	-0.3	-0.3	-0.7	-0.9	-0.5	-0.3	-0.1	11° 15'	-0.1	-0.1	0	0.2	0.2	-0.2	-0.2	-0.1	-0.1	
-0.1	-0.2	-0.2	-0.2	-0.5	-0.7	-0.5	-0.3	-0.1	11° 0'	0	0	0	0.3	0.4	-0.3	-0.3	-0.2	-0.2	
-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.3	-0.2	0	10° 45'	0	0	-0.1	0.3	0.5	-0.3	-0.4	-0.3	-0.3	
-0.2	-0.1	-0.1	0	0.3	0.2	-0.1	-0.1	0	10° 30'	0	0	-0.1	0.2	0.5	-0.1	-0.3	-0.4	-0.3	
-0.2	-0.2	-0.1	0	0.4	0.4	0.1	0.1	0	10° 15'	0	0	-0.1	0.1	0.4	0	-0.2	-0.5	-0.3	
-0.2	-0.2	-0.1	0	0.2	0.2	0.1	0.1	0	10° 0'	0	-0.1	-0.1	0	0.2	0.1	-0.2	-0.4	-0.2	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 68 to 64 °W									
Correction to Latitude										Correction to Longitude									
68°	67°	67°	66°	66°	65°	65°	64°	64°	Longitude	68°	67°	67°	66°	66°	65°	65°	64°	64°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.5	0.4	20° 0'	-0.2	-0.1	-0.2	-0.1	0	0.1	0.1	0.1	0.1	
0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	19° 45'	-0.2	-0.1	-0.2	0	0	0.1	0.1	0.1	0.1	
-0.1	0	0	0	-0.1	-0.2	-0.3	-0.3	-0.2	19° 30'	-0.2	-0.2	-0.2	0	0.1	0.2	0.2	0.1	0.1	
-0.5	-0.4	-0.4	-0.6	-0.6	-0.6	-0.6	-0.6	-0.4	19° 15'	-0.2	-0.2	-0.1	0	0.1	0.2	0.2	0.1	-0.1	
-0.7	-0.7	-0.8	-0.9	-0.9	-0.9	-0.8	-0.7	-0.5	19° 0'	-0.3	-0.3	-0.1	0.1	0.1	0.2	0.2	0	-0.2	
-0.6	-0.7	-0.9	-1	-1	-0.8	-0.6	-0.4	-0.4	18° 45'	-0.3	-0.2	0	0.1	0	0.1	0.1	-0.1	-0.2	
-0.3	-0.5	-0.7	-0.7	-0.7	-0.5	-0.3	-0.2	-0.3	18° 30'	-0.2	-0.1	0.1	0.1	0	0	0	-0.1	-0.2	
0	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	18° 15'	-0.1	0.1	0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0.1	0	0.1	0.1	0.1	0.1	0	0	-0.2	18° 0'	0	0.1	0.1	0.1	-0.1	-0.1	0	0	0	
0	0.1	0.2	0.3	0.2	0.1	0.1	0	-0.1	17° 45'	0	0.1	0	0	-0.1	-0.1	0	0	0.1	
-0.1	0	0.1	0.1	0.1	0.1	0	0	-0.1	17° 30'	0	0	-0.1	0	0	0	0	0	0.1	
-0.2	-0.1	-0.1	-0.1	0	-0.1	0	0	0	17° 15'	0	0	-0.1	0	0	0	0	0	0.1	
-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	17° 0'	0	0	0	0	0	0	0	0	0.1	
-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	16° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 30'	-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	-0.1	-0.1	16° 15'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	16° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 45'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 30'	-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	-0.1	-0.1	15° 15'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	15° 0'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	14° 45'	-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	
0.1	0	0	0	0	0	-0.1	-0.1	0	14° 30'	-0.1	-0.1	0	0	-0.1	0	0	0	0	
0.1	0	0	0	0	0	-0.1	-0.1	-0.1	14° 15'	0	0	0	0	-0.1	0	0	0	0	
0.1	0	0	0.1	0	0	0	-0.1	-0.1	14° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	13° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.1	13° 30'	0	0	0	0	0	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	13° 15'	0	0	0	0	0	0.1	0.1	0	0	
-0.1	0	0.1	0.1	0.1	0.1	0.1	0	0	13° 0'	-0.1	-0.1	0	0	0	0.1	0.1	0	0	
-0.3	-0.2	-0.1	0	0	0.1	0.1	0	0	12° 45'	-0.1	-0.1	0	-0.1	0	0.1	0.1	0.1	0.1	
-0.5	-0.4	-0.4	-0.3	-0.2	-0.1	0	-0.1	-0.1	12° 30'	-0.2	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	
-0.5	-0.5	-0.5	-0.5	-0.4	-0.2	-0.1	-0.2	-0.1	12° 15'	-0.2	-0.1	-0.1	-0.2	-0.1	0	0.1	0.1	0	
-0.4	-0.4	-0.5	-0.6	-0.5	-0.3	-0.2	-0.3	-0.2	12° 0'	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0.1	0.2	-0.1	
-0.2	-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	11° 45'	-0.2	-0.1	0	-0.1	-0.2	-0.2	0.1	0.2	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	0	0	11° 30'	-0.2	-0.1	0	0	-0.2	-0.2	0.1	0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	11° 15'	-0.2	-0.1	0	0	-0.2	-0.1	0	0	0	
-0.1	-0.2	-0.3	-0.2	-0.1	-0.1	0	0	0	11° 0'	-0.2	0	0	-0.1	-0.2	-0.1	-0.1	0	0	
-0.2	-0.3	-0.3	-0.2	-0.1	0	0	0	0	10° 45'	-0.2	0	0	-0.2	-0.2	-0.1	-0.1	0	0	
-0.2	-0.3	-0.2	-0.1	-0.1	-0.1	0	0	0	10° 30'	-0.1	0.1	0	-0.2	-0.3	-0.2	-0.1	0	-0.1	
-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	0	0.1	10° 15'	-0.1	0	-0.1	-0.3	-0.3	-0.2	-0.1	0	-0.1	
-0.1	-0.1	0	0	-0.2	-0.2	-0.2	0	0.2	10° 0'	0	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 64 to 60 °W									
Correction to Latitude										Correction to Longitude									
64°	63°	63°	62°	62°	61°	61°	60°	60°	Longitude	64°	63°	63°	62°	62°	61°	61°	60°	60°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0.4	0.4	0.4	0.3	0.2	0.1	0	0	0	20° 0'	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.1	19° 45'	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1
-0.2	0	0.2	0.3	0.3	0.3	0.3	0.2	0.1	19° 30'	0.1	0	0	0.2	0.3	0.2	0.1	0.1	0.1	0.1
-0.4	-0.2	-0.1	0.1	0.3	0.3	0.3	0.3	0.2	19° 15'	-0.1	-0.1	-0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1
-0.5	-0.4	-0.4	-0.2	0.1	0.3	0.3	0.3	0.2	19° 0'	-0.2	-0.2	-0.1	-0.1	0.1	0.2	0.2	0.2	0.2	0.2
-0.4	-0.5	-0.7	-0.5	-0.1	0.1	0.3	0.3	0.2	18° 45'	-0.2	-0.1	-0.1	-0.3	-0.1	0.1	0.2	0.2	0.2	0.2
-0.3	-0.5	-0.7	-0.6	-0.4	-0.1	0.2	0.2	0.2	18° 30'	-0.2	0	-0.1	-0.4	-0.2	-0.1	0.1	0.2	0.3	0.3
-0.2	-0.4	-0.4	-0.6	-0.7	-0.4	0	0.1	0.2	18° 15'	-0.1	0.1	-0.1	-0.4	-0.3	-0.3	0	0.2	0.3	0.3
-0.2	-0.2	-0.2	-0.4	-0.7	-0.6	-0.1	0.1	0.2	18° 0'	0	0.1	0	-0.2	-0.3	-0.5	-0.2	0.2	0.3	0.3
-0.1	-0.1	0	-0.2	-0.5	-0.5	-0.2	0.1	0.1	17° 45'	0.1	0.1	0	0	-0.2	-0.7	-0.4	0.1	0.2	0.2
-0.1	-0.1	0	-0.1	-0.2	-0.3	-0.2	0.1	0.1	17° 30'	0.1	0	0	0.1	-0.1	-0.7	-0.6	0	0.3	0.3
0	-0.1	0	0	0	-0.1	-0.2	0.1	0.1	17° 15'	0.2	0	0	0.1	0	-0.6	-0.7	-0.1	0.3	0.3
0	0	0	0	0.1	0	-0.2	-0.1	0.1	17° 0'	0.2	0	0	0	0	-0.5	-0.8	-0.2	0.3	0.3
0	0	0	0	0	-0.1	-0.4	-0.3	0.1	16° 45'	0.1	0	0	0	0	-0.4	-0.7	-0.4	0.2	0.2
-0.1	0	0	0	0	-0.2	-0.5	-0.4	0	16° 30'	0.1	0	0	0	0	-0.2	-0.6	-0.6	0.1	0.1
-0.1	-0.1	0	0	0	-0.1	-0.4	-0.4	-0.1	16° 15'	0.1	0	0	0	0	-0.1	-0.5	-0.7	-0.1	-0.1
-0.1	-0.1	0	0	0	0	-0.1	-0.2	-0.1	16° 0'	0.1	0	0	0	0	0	-0.4	-0.8	-0.2	-0.2
-0.1	-0.1	0	0	0	0	0	-0.1	-0.1	15° 45'	0.1	0	-0.1	0	0	0	-0.4	-0.7	-0.2	-0.2
-0.1	0	0	0	0	0	0	-0.2	-0.2	15° 30'	0.1	0	-0.1	0	0	0	-0.3	-0.7	-0.3	-0.3
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.3	-0.2	15° 15'	0.1	0	-0.1	-0.1	0	0.1	-0.3	-0.6	-0.4	-0.4
-0.1	-0.1	-0.1	0	0	0	-0.1	-0.3	-0.3	15° 0'	0.1	0	-0.1	-0.1	0	0.1	-0.2	-0.6	-0.5	-0.5
0	-0.1	-0.1	0	0	0	0	-0.2	-0.3	14° 45'	0.1	0	-0.1	-0.1	0	0.1	-0.1	-0.5	-0.5	-0.5
0	-0.1	-0.1	0	0	0	0	-0.2	-0.3	14° 30'	0	0	-0.1	-0.1	-0.1	0.1	0	-0.4	-0.5	-0.5
-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.3	14° 15'	0	0	-0.1	-0.1	-0.1	0.1	0.1	-0.3	-0.5	-0.5
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	14° 0'	0	0	-0.1	-0.1	0	0.1	0.1	-0.3	-0.4	-0.4
-0.1	-0.1	0	0	0	-0.1	-0.1	0	-0.1	13° 45'	0	0	-0.2	-0.1	0	0.1	0	-0.3	-0.3	-0.3
-0.1	0	0	0	0	-0.1	0	0.2	0.1	13° 30'	0	0	-0.2	-0.2	0	0.2	0	-0.3	-0.2	-0.2
-0.1	0	0	0	0	-0.1	0	0.2	0.2	13° 15'	0	-0.1	-0.2	-0.1	0	0.2	-0.2	-0.3	-0.1	-0.1
0	0	0.1	0.1	0	-0.1	0.1	0.2	0.2	13° 0'	0.1	-0.1	-0.2	-0.1	0.1	0.2	-0.2	-0.4	-0.1	-0.1
0	0	0.1	0.1	-0.1	-0.1	0.1	0.1	0.1	12° 45'	0.1	-0.1	-0.2	-0.1	0.1	0.2	-0.3	-0.4	-0.1	-0.1
-0.1	0	0	-0.1	-0.1	0	0.2	0.1	0	12° 30'	0.1	-0.2	-0.2	-0.1	0.1	0.1	-0.4	-0.3	-0.1	-0.1
-0.1	0	-0.1	-0.2	-0.2	0	0.2	0	0	12° 15'	0	-0.2	-0.2	0	0.1	0	-0.4	-0.3	-0.1	-0.1
-0.2	-0.1	-0.2	-0.2	-0.1	0.1	0.1	-0.1	-0.1	12° 0'	-0.1	-0.2	-0.1	0	0	-0.2	-0.3	-0.2	-0.1	-0.1
-0.1	-0.2	-0.3	-0.2	0	0.1	0	-0.2	-0.1	11° 45'	-0.1	-0.2	-0.1	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1
0	-0.2	-0.2	-0.1	0	0.1	-0.1	-0.1	-0.1	11° 30'	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.1	-0.1
0	-0.1	-0.1	0	0.1	0	-0.1	-0.1	-0.1	11° 15'	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1
0	0	0.1	0.1	0.1	0	0	0	-0.1	11° 0'	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1
0	0.1	0.2	0.2	0.2	0.1	0.1	0	-0.1	10° 45'	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0
0	0.2	0.3	0.3	0.3	0.1	0	-0.1	-0.1	10° 30'	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	-0.1	0	0
0.1	0.2	0.3	0.3	0.2	0.1	0	-0.1	-0.2	10° 15'	-0.1	-0.3	-0.3	-0.2	0	0.1	0	0	0	0
0.2	0.2	0.1	0.1	0	-0.1	-0.1	-0.2	-0.2	10° 0'	-0.2	-0.3	-0.3	-0.2	0	0.1	0.1	0	0	0

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 52 to 48 °W									
Correction to Latitude										Correction to Longitude									
52° 0'	51° 30'	51° 0'	50° 30'	50° 0'	49° 30'	49° 0'	48° 30'	48° 0'	Longitude	52° 0'	51° 30'	51° 0'	50° 30'	50° 0'	49° 30'	49° 0'	48° 30'	48° 0'	Latitude
0.1	0.1	0	0	0	0	0.1	0.1	0.1	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'
0	0	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	19° 45'
0	0	0.1	0.1	0	0	0	0	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	0	0	0.1	0	0	0.1	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° 15'
0	0	0	0	0	0	0.1	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° 0'
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	18° 45'
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	18° 30'
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	0.1	0.1	18° 15'
0	0	0	0	0	0	0	0	0	18° 0'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	18° 0'
0.1	0	0	0	0	0	0	0	0	17° 45'	0	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	0	0	17° 30'	0	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	0	0	17° 15'	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	0	0	17° 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	0	0	16° 45'	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	16° 30'	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	16° 15'	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	0	0	0	0	0	16° 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	0	0	0	0	0	15° 45'	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	0	0	0	0	15° 30'	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	0	0	15° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	15° 15'
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	15° 0'	0	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	0.1	0.1	0.1	0.1	14° 45'	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	14° 45'
0	0	0	0	0.1	0.1	0.1	0.1	0.1	14° 30'	0	0	0	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	14° 15'	0	0	0	0.1	0	0.1	0.1	0.1	0.1	14° 15'
0	0	0	0	0	0	0	0	0.1	14° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	14° 0'
0	0	0	0	0	0	0	0	0	13° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	13° 45'
0	0	0	0	0	0	0.1	0.1	0	13° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	13° 30'
0	0	0	0	0	0	0.1	0.1	0.1	13° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	13° 15'
0	0	0	0	0	0	0	0	0.1	13° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	13° 0'
0	0	0	0	0	0	0	0	0	12° 45'	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	12° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	12° 30'
0	0	0	0	0	0.1	0.1	0.1	0	12° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	12° 15'
0	0	0	0	0	0	0.1	0.1	0.1	12° 0'	0	0	0	0	0	0	0.1	0.1	0.1	12° 0'
0	0	0	0	0	0	0	0	0.1	11° 45'	0	0	0	0	0	0	0.1	0.1	0.1	11° 45'
0	0	0	0	0	0	0	0	0	11° 30'	0	0	0	0	0	0	0.1	0.1	0.1	11° 30'
0	0	0	0	0	0	0	0	0	11° 15'	0	0	0	0	0	0	0.1	0.1	0.1	11° 15'
0	0	0	0	0	0	0	0	0	11° 0'	0	0	0	0	0	0	0.1	0.1	0.1	11° 0'
0	0	0	0	0	0	0	0	0	10° 45'	0	0	0	0	0	0	0.1	0.1	0.1	10° 45'
0	0	0	0	0	0	0	0	0	10° 30'	0	0	0	0	0	0	0.1	0.1	0.1	10° 30'
0	0	0	0	0	0	0	0	0	10° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	10° 15'
0	0	0	0	0	0	0	0	0	10° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	10° 0'

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 24 to 20 °W									
Correction to Latitude										Correction to Longitude									
24°	23°	23°	22°	22°	21°	21°	20°	20°	Longitude	24°	23°	23°	22°	22°	21°	21°	20°	20°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	20° 0'	0	0	0.1	0	0	0	0	0	0	
0	0	0	-0.1	0	0	0	0	0	19° 45'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 15'	0	0	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	19° 0'	0	0	0.1	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	18° 30'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	18° 15'	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	17° 45'	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	
-0.1	0	-0.1	-0.1	0	0	0	0	0	17° 15'	0	0.1	0	0	0	0	0	0	0	
-0.1	0	-0.2	-0.1	0.1	0.1	0	0	0	17° 0'	-0.1	0.1	0.1	-0.1	0	0	0	0	0	
0	0	-0.2	-0.2	0	0.1	0	0	0	16° 45'	-0.1	0.1	0.1	-0.2	-0.1	0	0	0	0	
0.1	0	-0.1	-0.1	0	0.1	0.1	0.1	0	16° 30'	-0.1	0.2	0.2	-0.3	-0.2	0	0	0	0	
0.2	0	-0.1	0	0	0.1	0.1	0.1	0.1	16° 15'	-0.1	0.3	0.2	-0.3	-0.2	0	0	0	0	
0.1	-0.1	0	0.1	0	0.1	0.1	0.1	0.1	16° 0'	0	0.4	0.2	-0.3	-0.2	0	0	0	0	
-0.1	-0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	15° 45'	0.2	0.4	0	-0.3	-0.2	0	0	0	0	
-0.1	-0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	15° 30'	0.2	0.3	-0.2	-0.2	-0.1	0	0	0.1	0	
-0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.1	15° 15'	0.2	0.2	-0.3	-0.2	0	0	0	0.1	0	
0.1	0.3	0.3	0.2	0.1	0.1	0	0.1	0	15° 0'	0.1	0.1	-0.2	-0.1	0	0	0	0.1	0	
0.3	0.4	0.3	0.1	0.1	0.1	0	0	0.1	14° 45'	0	0	-0.1	0	0	0	0.1	0	0	
0.3	0.3	0.2	0.1	0.1	0	0	0	0.1	14° 30'	0	0	0	0	0	0	0.1	0	0	
0.2	0.2	0.1	0.1	0.1	0	0	0.1	0.1	14° 15'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0.1	14° 0'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0	0	0	0	0	13° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	13° 30'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0.1	0	0	0	0	13° 15'	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	13° 0'	0	0	0	0	0	0	0	0	0	
0	0	0.1	0	0	0	0	0	0	12° 45'	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	0	0	0	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° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0.1	0.1	0	11° 45'	0	0	0	0	0	0	0	0	0	
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	0	0	11° 15'	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	10° 45'	0.1	0	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	0	0	0	0	0	0	0	0	10° 15'	0.1	0.1	0	0	0	0	0	0	0.1	
0	0	0	0	0	-0.1	-0.1	0	0	10° 0'	0.1	0	0.1	0	0	0	0	0	0.1	

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

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

Correct Astronomical Position to WGS84

Latitude 10 to 20 °N										Longitude 8 to 4 °W									
Correction to Latitude										Correction to Longitude									
8°	7°	7°	6°	6°	5°	5°	4°	4°	Longitude	8°	7°	7°	6°	6°	5°	5°	4°	4°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	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	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	19° 15'	0	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	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	0	18° 30'	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	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	0	17° 45'	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° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	-0.1	-0.1	17° 0'	0	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	0	16° 30'	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	0	16° 0'	0	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	0	15° 30'	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	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	-0.1	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	14° 30'	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° 0'	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	13° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 15'	0	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	13° 0'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 45'	-0.1	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	12° 30'	-0.1	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° 0'	0	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 45'	0	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 30'	0	-0.1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	11° 15'	0	-0.1	0	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	11° 0'	0	-0.1	0	0	0	0	0	0	-0.1	0
0	0	0	0	0	0.1	0	0	0	10° 45'	0	-0.1	-0.1	0	0	0	0	0	-0.1	0
0	0	0	0	0	0	0.1	0	0	10° 30'	0	-0.1	-0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	10° 15'	0	-0.1	-0.1	0	0	0	0	0	0	0
-0.1	0	0	0	0	0	0	0	0	10° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	0	0

