

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

**Latitude 20 to 30 °S**
**Longitude 4 to 8 °E**

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

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



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 12 to 16 °E									
Correction to Latitude										Correction to Longitude									
12°	12°	13°	13°	14°	14°	15°	15°	16°	Longitude	12°	12°	13°	13°	14°	14°	15°	15°	16°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	-0.1	-0.1	20° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	20° 15'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	20° 30'	0.1	0	0	0	0	0	0.1	0.1	0	
0	0	-0.1	0	0	0	0	-0.1	-0.1	20° 45'	0.1	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	21° 0'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	21° 15'	0.1	0.1	0	0	0	0.1	0.1	0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	21° 30'	0.1	0.1	0	0	0	0.1	0.1	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	0	0	21° 45'	0.1	0.1	0	0	0	0.1	0.1	0	0	
0	0	0	0	-0.1	-0.1	0	0	0	22° 0'	0.1	0.1	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	22° 15'	0.1	0.1	0	0	0.1	0	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	22° 30'	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0	
0	0	0	-0.1	-0.1	0	0	0	0	22° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0.1	0.1	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	23° 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	23° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0	0	0	-0.1	-0.1	0	0	0	0	24° 15'	0.1	0.1	0.1	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0.1	0.2	0.1	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	24° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 0'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 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	25° 30'	0.1	0	0.1	0.1	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 45'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	26° 0'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	26° 15'	0.1	0.1	0.1	0.1	0	0	0.1	0	0.1	
0	0	0	0	0	0	0	0	0	26° 30'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	26° 45'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	27° 30'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	27° 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	28° 0'	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0	
0	0	0	0	0	0	0	0	0	28° 15'	0.1	0.1	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	0.1	0.1	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 45'	0.1	0.1	0	0	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 0'	0	0.1	0	0	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 15'	0	0.1	0	0	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	29° 30'	0	0.1	0.1	0	0.1	0.1	0	-0.1	0	
0	0	0	0	0	0	0	0	0	29° 45'	0	0.1	0.1	0	0.1	0.1	0	-0.1	0	
0	0	0	0	0	0.1	0	0	0	30° 0'	0	0.1	0.1	0	0.1	0.1	0	-0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 16 to 20 °E									
Correction to Latitude										Correction to Longitude									
16°	16°	17°	17°	18°	18°	19°	19°	20°	Longitude	16°	16°	17°	17°	18°	18°	19°	19°	20°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 0'	0	0	0	0	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	20° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 45'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 0'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	21° 15'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	0	0.1	0	0	0	21° 30'	0	0	0	0	0	0	-0.1	-0.1	-0.1	
0	0	-0.1	0	0	0.1	0.1	0	0	21° 45'	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	-0.1	-0.1	0	0	0.1	0.1	0	0	22° 0'	0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	22° 15'	0	0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	22° 30'	0	0	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	
0	-0.1	0	0	0	0	0	0	0	22° 45'	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	23° 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	23° 15'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	-0.1	25° 0'	0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	-0.1	0	0	0	0	0	0	0	25° 15'	0.1	0	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	0.1	0	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	25° 45'	0.1	0	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	0	26° 0'	0.1	0	-0.1	-0.2	-0.1	-0.1	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	26° 15'	0.1	0	-0.1	-0.2	-0.1	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	0	26° 30'	0.1	0	-0.2	-0.2	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	26° 45'	0.1	0	-0.2	-0.1	0	0	0	0	-0.1	
0	0.1	0	0	-0.1	-0.1	-0.1	0	0	27° 0'	0.1	0	-0.2	-0.1	0	0	0	-0.1	-0.1	
0	0.1	0	0	-0.1	-0.1	-0.1	0	0	27° 15'	0.1	0	-0.1	-0.1	0.1	0	0	-0.1	-0.1	
0	0.1	0	0	0	0	0	0	0	27° 30'	0	0	-0.1	0	0.1	0	-0.1	-0.2	-0.1	
0	0	0.1	0	0	0	0.1	0	0	27° 45'	0	0	0	0	0.1	0	-0.1	-0.1	-0.1	
0	0	0.1	0	0	0	0	0	0	28° 0'	0	0	0	0	0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	28° 15'	0	0	-0.1	0	0.1	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0	0	0	0	-0.1	0	0	
0	0	0	-0.1	0	0	0	-0.1	0	28° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 0'	0	0	0	0	0	0	0	0	-0.1	
0	0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	0	0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 30'	0	0.1	0.1	0.1	0.1	0	0	0	-0.1	
0	0	0	0	0	-0.1	-0.1	0	-0.1	29° 45'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	30° 0'	0	0	0.1	0.1	0.1	0	-0.1	0	0	



# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 32 to 36 °E									
Correction to Latitude										Correction to Longitude									
32°	32°	33°	33°	34°	34°	35°	35°	36°	Longitude	32°	32°	33°	33°	34°	34°	35°	35°	36°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	20° 0'	-0.1	0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	20° 15'	0	0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	20° 30'	0	0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
-0.2	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	20° 45'	0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	
-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	21° 0'	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	21° 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	21° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 45'	-0.1	-0.2	-0.1	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	22° 0'	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 15'	-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	-0.1	-0.1	-0.1	22° 30'	-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	-0.1	-0.1	-0.1	22° 45'	-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	-0.1	-0.1	-0.1	23° 0'	-0.2	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 15'	-0.2	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 30'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 0'	0	-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	-0.1	-0.1	24° 15'	0	-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	-0.1	-0.1	24° 30'	0	-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	-0.1	24° 45'	0	-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	0	-0.1	25° 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	0	-0.1	25° 15'	0.1	-0.2	-0.1	0	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 30'	0.1	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 45'	0.1	-0.2	-0.2	-0.1	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	26° 0'	0	-0.1	-0.2	-0.1	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 15'	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 30'	0	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	0	-0.2	-0.2	-0.1	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	27° 0'	0	-0.2	-0.2	-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	27° 15'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 30'	0	-0.2	-0.2	-0.1	0	0	0	-0.1	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	27° 45'	0	-0.2	-0.2	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	28° 0'	0	-0.3	-0.2	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	28° 15'	0	-0.3	-0.2	0	0	0	-0.1	0	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	28° 30'	-0.1	-0.3	-0.2	0	0	0	-0.1	0	-0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	28° 45'	-0.1	-0.3	-0.2	0	0	0	0	0	-0.1	
0	0	-0.1	0	0	0	-0.1	-0.1	-0.1	29° 0'	-0.2	-0.2	-0.1	0	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	-0.2	-0.2	-0.1	0	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 30'	-0.2	-0.2	-0.1	0	0	0	0	0	-0.1	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	-0.2	-0.1	-0.1	0	0	0	0	0	-0.1	
0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	30° 0'	-0.2	-0.1	0	0	0	0	0	0	-0.1	

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 40 to 44 °E									
Correction to Latitude										Correction to Longitude									
40°	40°	41°	41°	42°	42°	43°	43°	44°	Longitude	40°	40°	41°	41°	42°	42°	43°	43°	44°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 0'	0	0	0	0	0.1	0.1	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0	0	0	0	0	0.1	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 30'	0	0	0	0	0	0.1	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	20° 45'	0	0	0	0	0	0.1	0	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	21° 0'	0	0	0	0	0	0.1	0	0	0.1	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	21° 15'	0	0	0	0	0	0.1	0	0.1	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 30'	-0.1	0	0	0	0	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 45'	-0.1	0	0	0	0	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 0'	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	22° 15'	0	0	0	0	0	0	0.1	0.1	0	
0	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	22° 30'	0	0	0	0	-0.1	0	0.1	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	22° 45'	0	0	0	0	-0.1	0	0.1	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	23° 0'	0	0	0	0	-0.1	-0.1	0.1	0.2	0.1	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	23° 15'	0	0	0	0	0	-0.1	0.1	0.2	0.1	
-0.1	-0.1	0	0	-0.1	-0.1	0	0	0	23° 30'	0	0	0	0	0	-0.1	0	0.2	0.1	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	0	0	0	0	0	-0.1	0	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	24° 0'	0	0	0	0	0	-0.1	0	0.2	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	24° 15'	0	0	0	0	0	-0.1	0	0.2	0.2	
0	0	-0.1	-0.1	0	-0.1	-0.1	0	0	24° 30'	0	0	0	0	0	-0.1	0	0.2	0.2	
0	0	0	0	0	-0.1	-0.1	0	0	24° 45'	0	0	0	0	0	-0.1	-0.1	0.2	0.3	
0	0	0	0	-0.1	-0.1	-0.1	0	0	25° 0'	0	0	0	0	0	0	-0.1	0.1	0.3	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	25° 15'	0	0	0	0	0	0	0	0.1	0.2	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	25° 30'	0	0	0	0	0	0	0	0	0.2	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	25° 45'	0	0	0	0	0	0	0	0	0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	26° 0'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	26° 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	0	26° 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	0	26° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	27° 0'	0	0	0	0	0	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	0	0	0	0	0	0	-0.1	-0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 30'	0	0	0	0	0	0	-0.1	-0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 45'	0	0	0	0	0	0	-0.1	-0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 0'	0	0	0	0	0	0	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0	0	0	0	0	0	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	28° 30'	0	0	0	0	0	0	-0.1	0	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	28° 45'	0	0	0	0	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	29° 0'	0	0	0	0	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	0	0	0	0	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 30'	0	0	0	0	0	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	29° 45'	0	0	0	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	30° 0'	0	0	0	0	0.1	0	0	0.1	0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 44 to 48 °E									
Correction to Latitude										Correction to Longitude									
44°	44°	45°	45°	46°	46°	47°	47°	48°	Longitude	44°	44°	45°	45°	46°	46°	47°	47°	48°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	0	20° 0'	0.1	0	0	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	0	0	20° 15'	0.1	0	0	0.2	0.2	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	20° 30'	0.1	0	0	0.1	0.2	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	20° 45'	0.1	0	0	0.1	0.1	0.1	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	21° 0'	0.1	0	0.1	0.1	0.1	0.1	0	-0.2	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	21° 15'	0	0	0.1	0.1	0	0.1	-0.1	-0.2	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	21° 30'	0	0	0.1	0.2	0	0.1	-0.1	-0.2	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	21° 45'	0	0	0.1	0.2	0	0.1	-0.1	-0.2	0	
-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0	-0.1	0	22° 0'	0	0	0.1	0.2	0	0	-0.1	-0.2	-0.1	
-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0	-0.1	0	22° 15'	0	0	0.1	0.2	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	22° 30'	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	-0.1	0	22° 45'	0.1	0	0.1	0.1	0	-0.1	-0.1	0	-0.2	
0	0	-0.1	0	0	-0.1	0	-0.1	-0.1	23° 0'	0.1	0	0.1	0.1	0	-0.2	-0.1	0	-0.2	
0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	23° 15'	0.1	0	0.1	0.1	0	-0.2	-0.1	0	-0.2	
0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	0	23° 30'	0.1	0.1	0.1	0.1	0	-0.1	-0.1	0	-0.2	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	23° 45'	0.1	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.2	
-0.1	-0.1	-0.1	0	0	0	-0.1	0	0	24° 0'	0.1	0.1	0.1	0	0	-0.1	-0.1	-0.1	-0.2	
0	-0.1	0	0	0	0	0	0	0	24° 15'	0.2	0.1	0	0	0	-0.1	-0.1	-0.1	-0.2	
0	-0.1	0	0	0	0	0	0	0	24° 30'	0.2	0.1	0	0	0	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	-0.1	0	0	0	0	24° 45'	0.3	0.1	0	0	0	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	-0.1	-0.1	0	0	0	25° 0'	0.3	0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0	0	0	25° 15'	0.2	0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.1	
0	0.1	0	0	0	0	0	0	-0.1	25° 30'	0.2	0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0	0	-0.1	25° 45'	0.1	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	26° 0'	0	0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	26° 15'	0	0.1	0.1	0	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	26° 30'	0	0.1	0.1	0	0	0	0	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	0	0.1	0.1	0	0	0	0	-0.1	-0.1	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	27° 0'	0	0.2	0.1	0	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	0.1	0.2	0.1	0	0	-0.1	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 30'	0.1	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	27° 45'	0.1	0.2	0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	28° 0'	0.1	0.2	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0.1	0.1	0	0	0	0	0	0	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 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	28° 45'	0.1	0.1	0	0	0	0	0	0	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 0'	0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 30'	0.1	0	0	0	0	0	0	0	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	29° 45'	0.1	0	0	0	0	0	0	0	0	
-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	30° 0'	0.1	0	0	0	0	-0.1	0	-0.1	-0.1	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 48 to 52 °E									
Correction to Latitude										Correction to Longitude									
48° 0'	48° 30'	49° 0'	49° 30'	50° 0'	50° 30'	51° 0'	51° 30'	52° 0'	Longitude Latitude	48° 0'	48° 30'	49° 0'	49° 30'	50° 0'	50° 30'	51° 0'	51° 30'	52° 0'	
0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	20° 0'	-0.2	-0.2	-0.3	-0.2	0	0	0	0	0	
0	-0.1	0	0	-0.1	0	-0.1	-0.1	-0.1	20° 15'	-0.1	-0.2	-0.3	-0.1	0	0	0	0	0	
0	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 30'	-0.1	-0.2	-0.3	-0.1	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 45'	-0.1	-0.2	-0.3	-0.1	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 0'	0	-0.2	-0.3	-0.1	-0.1	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 15'	0	-0.2	-0.2	-0.1	-0.1	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 30'	0	-0.2	-0.2	0	-0.1	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 45'	0	-0.2	-0.2	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 0'	-0.1	-0.2	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 15'	-0.1	-0.2	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 30'	-0.1	-0.2	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	22° 45'	-0.2	-0.2	0	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	23° 0'	-0.2	-0.2	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	23° 15'	-0.2	-0.1	0	-0.1	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 30'	-0.2	-0.1	-0.1	-0.1	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	-0.2	-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	24° 0'	-0.2	-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	24° 15'	-0.2	-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	24° 30'	-0.2	-0.1	0	0	-0.1	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 45'	-0.1	-0.1	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	25° 0'	-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	25° 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	25° 30'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	25° 45'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	26° 0'	-0.1	-0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	26° 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	26° 30'	-0.1	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	-0.1	0	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	27° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 45'	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	28° 0'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 30'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 45'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 0'	0	0	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	0	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 30'	0	-0.1	-0.1	0	0	-0.1	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	0	-0.1	-0.1	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	30° 0'	-0.1	-0.1	0	0	0	0	0	0	0	



# Correct Astronomical Position to WGS84

**Latitude 20 to 30 °S**
**Longitude 56 to 60 °E**

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

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 60 to 64 °E									
Correction to Latitude										Correction to Longitude									
60°	60°	61°	61°	62°	62°	63°	63°	64°	Longitude	60°	60°	61°	61°	62°	62°	63°	63°	64°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	-0.1	20° 0'	0	0	0	0	0	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	20° 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	20° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	21° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	21° 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	21° 30'	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	21° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 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	22° 15'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	22° 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	22° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	23° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	23° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	24° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	24° 45'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	25° 0'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	25° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	-0.1	0	-0.1	-0.1	-0.1	-0.1	25° 30'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	25° 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	26° 0'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 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	26° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 0'	0	0	0	0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	0	0	0	0.1	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	27° 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	28° 0'	0	0	0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0	0	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	28° 30'	0	0	0.1	0	0	0	0	0	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	28° 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	0	29° 0'	0	-0.1	0	0	0	0	0	-0.1	-0.1	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	29° 15'	0	-0.1	0	0	0	0	0	-0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	29° 30'	0	-0.1	0	0	-0.1	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	29° 45'	0	-0.1	0	0	-0.1	0	-0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	30° 0'	-0.1	-0.1	0	0	-0.1	0	-0.1	0	0	



# Correct Astronomical Position to WGS84

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







# Correct Astronomical Position to WGS84

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



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 92 to 96 °E									
Correction to Latitude										Correction to Longitude									
92° 0'	92° 30'	93° 0'	93° 30'	94° 0'	94° 30'	95° 0'	95° 30'	96° 0'	Longitude Latitude	92° 0'	92° 30'	93° 0'	93° 30'	94° 0'	94° 30'	95° 0'	95° 30'	96° 0'	
0	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	20° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	-0.1	20° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	0	0	-0.1	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	-0.1	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	25° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	25° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	26° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 15'	0	0	0	0	0	0	0	0	0	0
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 45'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 0'	0	0	-0.1	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 15'	0	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	27° 30'	0	0	-0.1	-0.1	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 45'	0	0	0	-0.1	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 0'	0	0	0	0	0	0	0	0	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 15'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 30'	0	0	0	0	0	0	0	0	0	0
-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	28° 45'	-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	-0.1	-0.1	29° 0'	-0.1	0	0	0	0	0	0	-0.1	0	0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	29° 15'	-0.1	0	0	0	-0.1	0	0	-0.1	0	0
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	29° 30'	-0.1	0	0	-0.1	-0.1	0	0	0	0	0
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	29° 45'	-0.1	0	0	0	0	0	-0.1	0	-0.1	-0.1
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	30° 0'	0	0	0	0	0	0	-0.1	-0.1	-0.1	-0.1

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 96 to 100 °E									
Correction to Latitude										Correction to Longitude									
96°	96°	97°	97°	98°	98°	99°	99°	100°	Longitude	96°	96°	97°	97°	98°	98°	99°	99°	100°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	0	0	0	0	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0	0	0	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	25° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	-0.1	25° 15'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	-0.1	0	0	-0.1	-0.1	25° 30'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	25° 45'	0	0	0	0	0	0	0	0.1	0.1	
0	-0.1	-0.1	0	0	0	0	0	0	26° 0'	0	0	0	0	0	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0.1	26° 15'	0	0	0	0	0	0	0	0.1	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	26° 30'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	27° 15'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	27° 30'	0	0	0	0	0	0	-0.1	0	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	27° 45'	0	0	0	0	0.1	0	-0.1	0	0	
-0.1	-0.1	0	0	-0.1	-0.1	-0.1	0	0	28° 0'	0	0	0	0.1	0.1	0	-0.2	-0.1	0	
-0.1	-0.1	0	0	0	0	-0.1	0	0	28° 15'	0	-0.1	0	0.1	0.1	0	-0.2	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	-0.1	0	28° 30'	0	-0.1	0	0.1	0.1	0	-0.2	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	0	0.1	0.1	0	-0.1	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0	29° 0'	0	-0.1	0	0	0.1	0	-0.1	-0.1	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	29° 15'	0	-0.1	-0.1	0	0.1	0	-0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	29° 30'	0	-0.1	-0.1	0	0	-0.1	-0.1	0	0	
-0.1	0	-0.1	-0.1	0	0	0	0	0	29° 45'	-0.1	-0.1	0	0	0	0	-0.1	0	0	
-0.1	0	0	0	0	0	0	0	0	30° 0'	-0.1	-0.1	0	0	0	0	-0.1	0	0	

# Correct Astronomical Position to WGS84

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



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 108 to 112 °E									
Correction to Latitude										Correction to Longitude									
108°	108°	109°	109°	110°	110°	111°	111°	112°	Longitude	108°	108°	109°	109°	110°	110°	111°	111°	112°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0.1	0.1	0.1	0	0	0	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	20° 15'	0.1	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	20° 30'	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	
0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	21° 0'	0	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	0.1	21° 15'	0	0.1	0	0	0.1	0	0.1	0.1	0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	21° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	21° 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	0.1	0	22° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	22° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	22° 30'	0	0	0	0	0	0.1	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0.1	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	-0.1	23° 0'	0	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	0	0	0	0	0	0	-0.1	23° 15'	0	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	0	0	0	0	0	0	-0.1	23° 30'	0.1	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0	-0.1	0	0	0.1	0.2	0.2	0.2	
0.1	0.1	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0.1	0.2	0.2	0.2	
0.1	0.1	0	0	0	0	0	0	0	24° 30'	0.1	0	0	0	0	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	24° 45'	0.1	0	0	0	0	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0	0	25° 0'	0.1	0	0	0	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0.1	0	0	0	0	0	25° 15'	0.1	0.1	0	0	0.1	0.1	0.2	0.2	0.2	
0.1	0.1	0.1	0	0	0	0	0.1	0.1	25° 30'	0.1	0.1	0.1	0	0.1	0.1	0.1	0.2	0.2	
0	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	25° 45'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	26° 30'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	
0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	26° 45'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.2	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	27° 0'	0	0	0	0	0.1	0.1	0.1	0.2	0.2	
0.1	0	0	0	0	0.1	0.1	0.1	0.1	27° 15'	0	0	0	0	0.1	0.1	0.1	0.2	0.2	
0.1	0	0	0	0	0	0.1	0.1	0.1	27° 30'	0	0	0	0	0	0.1	0.1	0.2	0.2	
0	0	0	0	0	0	0.1	0.1	0.1	27° 45'	0	0	0	0	0	0.1	0.1	0.1	0.2	
0	0	0	0	0	0	0	0.1	0.1	28° 0'	0	0	0	0	0	0	0.1	0.1	0.2	
0	0	0	0	0	0	0	0.1	0.1	28° 15'	0	0	0	0.1	0	0	0.1	0.1	0.2	
0	0	0	0	0	0	0	0	0.1	28° 30'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0.1	28° 45'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 15'	0	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 45'	0	0	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	0	0.1	0.1	0.1	

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 116 to 120 °E									
Correction to Latitude										Correction to Longitude									
116° 0'	116° 30'	117° 0'	117° 30'	118° 0'	118° 30'	119° 0'	119° 30'	120° 0'	Longitude	116° 0'	116° 30'	117° 0'	117° 30'	118° 0'	118° 30'	119° 0'	119° 30'	120° 0'	
									Latitude										
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 0'	0	0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 15'	0.1	0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	
0	0	0	0.1	0.1	0.1	0.1	0.1	0	20° 30'	0.1	0	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	20° 45'	0.1	0	0	0.1	0.1	0.1	0.2	0.2	0.1	
0	0	0	0	0.1	0.1	0.1	0.1	0	21° 0'	0.1	0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
0	0	0	0	0	0.1	0.1	0.1	0	21° 15'	0	0	0.1	0	0	0.1	0.2	0.2	0.1	
0	0	0	0	0	0.1	0.1	0.1	0	21° 30'	0	0	0.1	0	0	0.1	0.2	0.2	0.1	
0	0	0	0	0	0	0.1	0.1	0	21° 45'	0	0	0.1	0	0	0.1	0.1	0.2	0.1	
0	0	0	0	0	0	0	0	0.1	22° 0'	0	0	0.1	0	0	0	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	22° 15'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0.1	0	0.1	0.1	0	-0.1	0	0	0	22° 30'	0.1	0.1	0	0	0.1	0.1	0	0	0.1	
0.1	0	0.1	0.1	0	0	0	0	0	22° 45'	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	23° 0'	0.1	0.1	0	0.1	0.1	0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	23° 15'	0.1	0.1	0	0.1	0.1	0.1	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	23° 30'	0.1	0.1	0	0	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	23° 45'	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	24° 0'	0.1	0.1	0	0	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	24° 15'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0	24° 30'	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	0.2	0.2	0.2	0	24° 45'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0	25° 0'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0.1	0.1	0.1	0	25° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0	0	0	25° 30'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	25° 45'	0.1	0	0	0	0.1	0.1	0.1	0.1	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	26° 0'	0.1	0	0	0	0	0.1	0.1	0.1	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	26° 15'	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	26° 30'	0.1	0	0	0	0	0.1	0.1	0.1	0.1	
0	0	0	0	0	0	0.1	0.1	0	26° 45'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0	0.1	0	0	0	0.1	0.1	0.1	0	27° 0'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0	27° 15'	0.1	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	27° 30'	0	0	0	0	0	0	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	27° 45'	0	0	0	0	0	0	0.1	0	0.1	
0.1	0.1	0.1	0.1	0	0	0.1	0.1	0	28° 0'	0	0	0	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	28° 15'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	28° 30'	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	28° 45'	0	0	0	0	0.1	0	0	0	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0	29° 0'	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	29° 15'	0.1	0	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	29° 30'	0.1	0	0.1	0	0	0	0	0	0	
0.1	0	0.1	0.1	0.1	0.1	0	0	0	29° 45'	0.2	0.1	0.1	0	0	0.1	0	0	0	
0.1	0	0	0.1	0	0.1	0.1	0.1	0	30° 0'	0.2	0.1	0.1	0	0	0.1	0	0	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 120 to 124 °E									
Correction to Latitude										Correction to Longitude									
120° 0'	120° 30'	121° 0'	121° 30'	122° 0'	122° 30'	123° 0'	123° 30'	124° 0'	Longitude	120° 0'	120° 30'	121° 0'	121° 30'	122° 0'	122° 30'	123° 0'	123° 30'	124° 0'	Latitude
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 0'	0.1	0.2	0.1	0	0	0	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 15'	0.1	0.2	0.1	0	0	0	0	0.1	0.1	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	20° 30'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 45'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 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	21° 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	21° 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	21° 45'	0.1	0.1	0.1	0.1	0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	22° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	23° 0'	0.1	0.1	0.1	0	0.1	0.1	0	0	0	
0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	23° 15'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	23° 30'	0	0.1	0.1	0	0	0	0	0	0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23° 45'	0	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	24° 0'	0	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24° 15'	0.1	0	0	0	0	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24° 30'	0.1	0	0	0	0	0	0	0	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24° 45'	0.1	0	0	0	0	0	0	0	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 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	0.1	25° 15'	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	25° 30'	0.1	0.1	0.1	0	0	0	0	0	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	25° 45'	0	0	0.1	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 0'	0	0	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 15'	0.1	0	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 30'	0.1	0	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 45'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 0'	0.1	0.1	0	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	27° 15'	0.1	0.1	0.1	0	0	0	0	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	27° 30'	0.1	0.1	0.1	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 45'	0.1	0.1	0	0	0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28° 0'	0	0.1	0	0	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28° 15'	0	0.1	0.1	0	0.1	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28° 30'	0	0.1	0.1	0.1	0	0.1	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	28° 45'	0	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	29° 0'	0	0	0.1	0.1	0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 15'	0	0	0	0.1	0.1	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 30'	0	0	0	0.1	0.1	0	0	0	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 45'	0	0	0	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	30° 0'	0	0	0	0	0.1	0	0	0	0.1	

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 128 to 132 °E									
Correction to Latitude										Correction to Longitude									
128° 0'	128° 30'	129° 0'	129° 30'	130° 0'	130° 30'	131° 0'	131° 30'	132° 0'	Longitude	128° 0'	128° 30'	129° 0'	129° 30'	130° 0'	130° 30'	131° 0'	131° 30'	132° 0'	Latitude
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	20° 0'	0.1	0.1	0.1	0	0	0	0	0	0	0.1
0.1	0.2	0.2	0.2	0.2	0.1	0.1	0	0.1	20° 15'	0.1	0.1	0.1	0.1	0	0	0	0	0	0
0.2	0.2	0.2	0.2	0.1	0.1	0	0	0	20° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0	20° 45'	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	0.1	0.1	0.1	0	21° 0'	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	0.2	0.2	0.2	0.1	21° 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	0.2	0.2	0.2	0.2	0.2	21° 30'	0.1	0	0.1	0.1	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	21° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	22° 0'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	22° 15'	0	0.1	0	0	0	0	0.1	0.1	0.1	0.1
0.1	0.2	0.2	0.1	0.1	0	0	0.1	0	22° 30'	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 45'	0	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	0.2	0.2	0.3	0.2	23° 0'	0	0	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	23° 15'	0	0	0.1	0.1	0.1	0	0	0.1	0.2	0.2
0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	23° 30'	0	0	0	0	0	0	0	0.1	0.2	0.2
0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	23° 45'	0	0	0	0	0	0	0	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24° 0'	0	0	0	0	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0	0	0	0	0	0	0.1	24° 15'	0	0	0	0	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0	0	0	0	0	0	0.1	24° 30'	0.1	0.1	0	0	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0	0	0	0	0	0.1	0.1	24° 45'	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	25° 0'	0.1	0.1	0.1	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0.1	0.1	0.2	25° 15'	0.1	0.1	0.1	0	0	0	0	0	0	0.1
0	0	0	0	0	0	0.1	0.1	0.1	25° 30'	0	0.1	0.1	0	0	-0.1	0	0	0	0.1
0	0	-0.1	0	0	0	0	0	0	25° 45'	0	0.1	0.1	0	-0.1	-0.1	-0.1	0	0	0.1
0.1	0	0	0	0	0	-0.1	-0.1	-0.1	26° 0'	0	0.1	0.1	0	-0.1	-0.1	-0.1	0	0	0.1
0.2	0.2	0.1	0.1	0.1	0	-0.1	-0.1	-0.1	26° 15'	0.1	0.1	0.1	0	-0.1	-0.1	0	0	0	0
0.3	0.3	0.3	0.2	0.2	0.1	0	0	0	26° 30'	0.1	0.1	0.2	0.1	0	0	0	0.1	0	0
0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1	0.2	26° 45'	0.1	0.1	0.2	0.1	0	0	0	0	0	0
0.2	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	27° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0
0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	27° 15'	0	0	0.1	0.1	0.1	0.1	0	0	0	0
0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	27° 30'	0	0	0.1	0.1	0.1	0.1	0	0	0	0
0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	27° 45'	0	0	0	0.1	0.1	0.1	0	0	0	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	28° 0'	0	0	0	0.1	0.1	0.1	0	0.1	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	28° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.1	28° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0	0	0	0	28° 45'	0	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0	0	0	0	29° 0'	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	29° 15'	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	0.1	0.1	29° 30'	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 45'	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 0'	0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 136 to 140 °E									
Correction to Latitude										Correction to Longitude									
136°	136°	137°	137°	138°	138°	139°	139°	140°	Longitude	136°	136°	137°	137°	138°	138°	139°	139°	140°	
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	20° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	20° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	21° 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	22° 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	22° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	22° 45'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23° 0'	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23° 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	23° 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	0.2	0.2	23° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	24° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	24° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	24° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	25° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	25° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	25° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 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	26° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 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	27° 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	0	0.1	0.1	0.1	28° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0.1	0	0	0.1	0.1	0.1	28° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0	0	0	0	0	0.1	0.1	0	28° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0	0	0	0	0	0	28° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	29° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0.1	0.1	0	0	0	0	0	29° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0.1	0	0	0	0	29° 30'	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
0.1	0.1	0	0	0.1	0	0	0	0	29° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	
0.1	0.1	0	0	0	0	0	0	0	30° 0'	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0	0.1	





# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 156 to 160 °E									
Correction to Latitude										Correction to Longitude									
156° 0'	156° 30'	157° 0'	157° 30'	158° 0'	158° 30'	159° 0'	159° 30'	160° 0'	Longitude Latitude	156° 0'	156° 30'	157° 0'	157° 30'	158° 0'	158° 30'	159° 0'	159° 30'	160° 0'	
0.1	0.1	0	0	0.1	0.1	0.1	0.1	0	20° 0'	0	0	0	0	0.1	0.1	-0.2	0	0.1	
0.1	0.1	0	0	0.1	0.1	0	0	0	20° 15'	0	0	0	0	0	0.1	-0.1	0	0.1	
0	0.1	0	0	0.1	0.1	0	0	0	20° 30'	0	0	0	-0.1	0	0.2	-0.1	-0.1	0.1	
0	0	0.1	0.1	0	0	0	0	0	20° 45'	0	0	0	0	0	0.2	-0.1	-0.1	0.1	
0	0	0.1	0.1	0	0.1	0.1	0	0	21° 0'	0	0	0	0	0	0.2	0	-0.2	0	
0.1	0	0	0.1	0	0.2	0.1	0	0	21° 15'	0	0	0	0	0	0.1	0	-0.1	0	
0.1	0	0	0.1	0.1	0.2	0.1	0	0	21° 30'	0	0	0	0	0	0.1	0.1	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	21° 45'	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	0.1	0.1	0	22° 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	0.1	0.1	0	22° 15'	0	0	0	0	-0.1	0.1	0.2	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	22° 30'	0	0	0	0	0	0.1	0.2	-0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	22° 45'	0	0	0	0	0	0.1	0.2	-0.1	-0.1	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	23° 0'	0	0	0	0	0	0.1	0.1	0	-0.1	
0	0	0.1	0.1	0.1	0	0.1	0.1	0	23° 15'	0	0	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	23° 30'	0	0	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	23° 45'	0	0	0	0	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	24° 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	0	24° 15'	0.1	0	0	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0	0.1	0.1	0	0	24° 30'	0.1	0.1	0	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	24° 45'	0.1	0.1	0	0	0	0	0.1	0.1	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	25° 0'	0	0.1	0.1	0	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	25° 15'	0	0.1	0.1	0	0	0	0.2	0.2	-0.1	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0	25° 30'	0	0	0.1	0	0	0	0.2	0.2	-0.1	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0	25° 45'	0	0	0.1	0	0	0	0.1	0.1	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	26° 0'	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	0	26° 15'	0	0	0	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	26° 30'	0	0	0	0.1	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	26° 45'	0	0	0	0.1	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	27° 0'	0	0	0	0.1	0	0.1	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	27° 15'	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	0.1	0	27° 30'	-0.1	0	0.1	0.1	0	0	0.1	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	27° 45'	-0.2	0	0.1	0.1	0	0	0.1	0	0	
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 0'	-0.2	0	0.1	0.1	0	0	0	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 15'	-0.2	-0.1	0.1	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	28° 30'	-0.2	-0.1	0.1	0	0	0	0.1	0	0	
0.1	0.1	0.1	0.1	0.1	0	0	0	0	28° 45'	-0.1	0	0.1	0.1	0.1	0	0.1	0	0	
0.1	0	0.1	0.1	0	0	0	0.1	0	29° 0'	-0.1	0	0	0.1	0.1	0.1	0.1	0	0	
0.1	0.1	0.1	0	0	0	0.1	0.1	0	29° 15'	0	0	0	0.1	0.1	0	0.1	0	0	
0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	29° 30'	0	0	0	0.1	0	0	0.1	0	0	
0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0	29° 45'	0	0	0.1	0.1	0	0	0.1	0	0	
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	30° 0'	0	0	0.1	0.1	0	0	0.1	0	0	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 164 to 168 °E								
Correction to Latitude										Correction to Longitude								
164° 0'	164° 30'	165° 0'	165° 30'	166° 0'	166° 30'	167° 0'	167° 30'	168° 0'	Longitude	164° 0'	164° 30'	165° 0'	165° 30'	166° 0'	166° 30'	167° 0'	167° 30'	168° 0'
									Latitude									
0	-0.1	-0.1	0.1	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0.2	-0.1	0	0.1	0	-0.1	-0.1	-0.2	-0.4
0.1	-0.1	-0.2	0	0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0.3	0	-0.1	0	0.1	-0.1	-0.2	-0.2	-0.4
0.2	0.1	-0.2	-0.1	0.1	0	-0.1	-0.1	-0.2	20° 30'	0.3	0.1	-0.1	-0.1	0.1	0	-0.1	-0.2	-0.4
0.2	0.2	0	-0.2	0	0.1	0	-0.1	-0.2	20° 45'	0.2	0.3	0	-0.2	0	0.1	0	-0.2	-0.4
0.2	0.3	0.2	-0.1	-0.1	0.1	0.1	0	-0.2	21° 0'	0.1	0.3	0.2	-0.1	-0.2	0	0.1	-0.1	-0.3
0.1	0.3	0.4	0.1	-0.1	0	0.1	0.1	-0.1	21° 15'	0.1	0.3	0.3	0.1	-0.2	-0.1	0.1	0	-0.2
0	0.2	0.4	0.3	0	-0.2	0	0.1	0	21° 30'	0	0.1	0.3	0.2	-0.1	-0.2	0	0.1	-0.1
0	0.1	0.2	0.3	0.2	-0.1	-0.1	0	0.1	21° 45'	0	0	0.2	0.3	0.1	-0.1	-0.1	0	0
0	0	0.1	0.3	0.3	0.1	-0.1	0	0.1	22° 0'	0	0	0.1	0.3	0.3	0	-0.2	-0.1	0
0	0	0	0.1	0.3	0.2	0	-0.1	0	22° 15'	0	0	0	0.1	0.3	0.2	-0.1	-0.1	0
0	0	0	0	0.2	0.2	0.1	0	0	22° 30'	0	0	0	0.1	0.2	0.2	0	-0.1	-0.1
0	0	0	0	0.1	0.2	0.2	0.1	0	22° 45'	0	0	0	0	0.1	0.2	0.1	0	-0.1
0	0	0	0	0	0.1	0.2	0.1	0	23° 0'	0	0	0	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	23° 15'	0	0	0	0	0.1	0.1	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23° 30'	0	0	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	0.1	23° 45'	0	0	0.1	0	0	0.1	0.1	0.1	0
0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24° 0'	-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	0.1	0.1	0.1	0.1	24° 15'	-0.1	0	0.1	0.1	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	24° 30'	0	0	0.1	0.1	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	24° 45'	0	0	0.1	0.1	0	0.1	0.1	0.1	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 0'	0	0	0	0.1	0	0.1	0.1	0.1	0
0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25° 15'	0	0	0	0.1	0	0	0.1	0.1	0
0.1	0	0	0.1	0.1	0.1	0	0.1	0.1	25° 30'	0	0	0	0.1	0	0.1	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	25° 45'	0	0	0	0.1	0	0.1	0.1	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 0'	0	0	0	0.1	0	0.1	0.1	0	0
0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	26° 15'	0	0	0	0.1	0	0.1	0.1	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	26° 30'	0	0	0	0.1	0	0	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	26° 45'	0	-0.1	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	27° 0'	0	-0.1	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	27° 15'	-0.1	0	0	0.1	0.1	0	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 30'	-0.1	0	0	0.1	0.1	0	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	27° 45'	0	0	0	0.1	0.1	0	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	28° 0'	0	0	0	0.1	0.1	0.1	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	28° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	28° 30'	0	0	0	0.1	0.1	0.1	0.1	0.1	0
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	28° 45'	0	0	0	0.1	0.1	0.1	0.1	0.2	0
0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0	29° 0'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 15'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	29° 30'	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	0.1	0.1	0.1	29° 45'	0	0	0	0.1	0.1	0.1	0.1	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	30° 0'	0	0	0	0.1	0.1	0.1	0.1	0.2	0







# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 180 to 176 °W									
Correction to Latitude										Correction to Longitude									
180°	179°	179°	178°	178°	177°	177°	176°	176°	Longitude	180°	179°	179°	178°	178°	177°	177°	176°	176°	
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	20° 15'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 0'	0	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 15'	0	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0.1	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	22° 15'	0	0.1	0.1	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0	22° 30'	0	0.1	0.1	0	0	0	0	0	0	-0.1
0	0	0	0	0	0	0	0	0.1	22° 45'	0	0.1	0.1	0	0	0	0	0	0	-0.2
0	0	0	0	0	0	0	0	0.1	23° 0'	0	0.1	0.1	0	0	0	0	0	0	-0.3
0	0	0	0	0	0	0	0	0.1	23° 15'	0	0.1	0.1	0	0	0	0	0	0	-0.4
0	0	0	0	0	0	0	0.1	0.2	23° 30'	0	0.1	0.1	0	0	0	-0.1	0	0	-0.5
0	0	0	0	0	0	0	0.1	0.3	23° 45'	0	0.1	0.1	0	0	0	-0.1	-0.1	0	-0.6
0	0	0	0	0	0	0.1	0.1	0.2	24° 0'	0	0.1	0	0	0	0	-0.1	-0.2	0	-0.7
0	0	0	0	0	0	0.1	0.1	0.2	24° 15'	0	0.1	0	0	0	0	-0.1	-0.2	0	-0.8
0	0	0	0	0	0	0	0.1	0.2	24° 30'	0	0.1	0	0	0	-0.1	-0.1	-0.3	0	-0.8
0	0	0	0	0	0	0	0	0.1	24° 45'	0	0.1	0	0	0	-0.1	-0.1	-0.3	0	-0.8
0	0	0	0	0	0	0	0.1	0.1	25° 0'	0	0.1	0	0	0	-0.1	-0.1	-0.3	0	-0.8
0	0	0	0	0	0	0	0.1	0.1	25° 15'	0	0.1	0	0	0	-0.1	-0.1	-0.4	0	-0.8
0	0	0	0	0	0	0.1	0.2	0.2	25° 30'	0	0.1	0	0	0	-0.1	-0.2	-0.5	0	-0.7
0	0	0	0	0	0.1	0.1	0.2	0.2	25° 45'	0	0.1	0	0	0	-0.1	-0.2	-0.5	0	-0.7
0	0	0	0	0	0.1	0.1	0.2	0.2	26° 0'	0	0.1	0	0	0	-0.1	-0.3	-0.5	0	-0.6
0	0	0	0	0	0.1	0.1	0.1	0.2	26° 15'	0	0.1	0	0	0	-0.1	-0.3	-0.6	0	-0.6
0	0	0	0	0	0.1	0.1	0.1	0.1	26° 30'	0	0.1	0	0	0	-0.1	-0.3	-0.6	0	-0.6
0	0	0	0	0	0.1	0.1	0.1	0.1	26° 45'	0	0.1	0	0	0	-0.2	-0.3	-0.6	0	-0.6
0	0	0	0	0	0.1	0.1	0.1	0.1	27° 0'	0	0.1	0	0	0	-0.2	-0.3	-0.7	0	-0.6
0	0	0	0	0	0.1	0.1	0.1	0.1	27° 15'	0.1	0.1	-0.1	0	0	-0.2	-0.3	-0.7	0	-0.6
0	0	0	0	0	0.1	0.1	0.2	0.1	27° 30'	0.1	0.1	-0.1	0	-0.1	-0.2	-0.3	-0.7	0	-0.6
0	0	0	0	0	0.1	0.2	0.2	0.1	27° 45'	0.1	0.1	-0.1	0	-0.1	-0.3	-0.3	-0.8	0	-0.5
0	0	0	0	0	0.1	0.2	0.2	0.1	28° 0'	0.1	0.1	-0.1	0	-0.1	-0.3	-0.3	-0.7	0	-0.4
0	0	0	0	0	0.1	0.2	0.2	0.1	28° 15'	0.1	0	-0.1	0	-0.2	-0.4	-0.4	-0.7	0	-0.3
0	0	0	0	0.1	0.1	0.2	0.2	0.1	28° 30'	0.1	0	-0.1	0	-0.2	-0.4	-0.5	-0.7	0	-0.2
0	0	0	0	0.1	0.2	0.2	0.2	0	28° 45'	0.1	0	-0.1	0	-0.2	-0.4	-0.5	-0.6	0	-0.1
0	0	0	0	0.1	0.2	0.2	0.2	0	29° 0'	0.1	0	-0.1	0	-0.3	-0.5	-0.5	-0.6	0	0.1
0	0	0	0	0.2	0.2	0.2	0.2	0	29° 15'	0.1	0	0	-0.1	-0.4	-0.5	-0.6	-0.5	0	0.2
0	0	0	0.1	0.2	0.2	0.3	0.2	0	29° 30'	0.1	-0.1	0	-0.1	-0.4	-0.5	-0.6	-0.4	0	0.3
0	0	0	0.1	0.2	0.2	0.3	0.1	-0.1	29° 45'	0	-0.1	0	-0.2	-0.5	-0.5	-0.5	-0.2	0	0.4
0	0	0	0.1	0.2	0.2	0.3	0.1	-0.1	30° 0'	0	-0.1	0	-0.3	-0.5	-0.6	-0.5	-0.1	0	0.4

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 176 to 172 °W									
Correction to Latitude										Correction to Longitude									
176°	175°	175°	174°	174°	173°	173°	172°	172°	Longitude	176°	175°	175°	174°	174°	173°	173°	172°	172°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	-0.1	0	0.2	0.2	0	-0.1	-0.1	20° 0'	0	0	0	-0.3	-0.8	-0.8	0	0.2	0.1	
0	0	-0.1	0	0.2	0.2	-0.1	-0.1	0	20° 15'	0	0	0	-0.3	-0.9	-0.7	0.1	0.2	0	
0	0	0	0.1	0.2	0.1	-0.1	-0.1	0	20° 30'	0	0	0	-0.4	-1	-0.6	0.1	0.2	0	
0	0	0	0.2	0.3	0.1	-0.1	-0.1	0	20° 45'	0	0	0	-0.5	-1	-0.4	0.2	0.1	0	
0	0	0.1	0.3	0.4	0.1	-0.1	0	0	21° 0'	0	0	-0.1	-0.6	-0.9	-0.3	0.2	0.1	0	
0	0	0.2	0.4	0.4	0	-0.1	0	0	21° 15'	0	0	-0.2	-0.7	-0.8	-0.1	0.2	0	0	
0	0	0.3	0.5	0.3	-0.1	-0.1	0	0	21° 30'	0	-0.1	-0.4	-0.8	-0.6	0.1	0.2	0	0	
0	0.1	0.3	0.5	0.2	-0.1	-0.1	0	0	21° 45'	0	-0.2	-0.6	-0.8	-0.4	0.2	0.1	0	0	
0	0.1	0.4	0.5	0.1	-0.1	-0.1	0	0	22° 0'	0	-0.3	-0.8	-0.7	-0.1	0.2	0.1	0	0	
0	0.2	0.4	0.3	0	-0.1	0	0	0	22° 15'	-0.1	-0.4	-0.9	-0.6	0.1	0.2	0.1	0	0	
0	0.3	0.5	0.2	-0.1	-0.1	0	0	0	22° 30'	-0.1	-0.5	-0.9	-0.4	0.2	0.2	0	0	-0.1	
0.1	0.3	0.5	0.1	-0.1	-0.1	0	0	0	22° 45'	-0.2	-0.7	-0.9	-0.2	0.3	0.1	0	0	-0.1	
0.1	0.4	0.4	0	-0.2	-0.1	-0.1	0	0	23° 0'	-0.3	-0.9	-0.8	0	0.3	0.1	0	0	-0.1	
0.1	0.4	0.3	-0.1	-0.2	-0.1	-0.1	0	0	23° 15'	-0.4	-1	-0.6	0.2	0.3	0.1	0	-0.1	-0.1	
0.2	0.4	0.2	-0.2	-0.1	-0.1	0	0	0	23° 30'	-0.5	-1.1	-0.4	0.3	0.2	0	0	-0.1	-0.1	
0.3	0.3	0	-0.2	-0.1	-0.1	0	0	0	23° 45'	-0.6	-1	-0.2	0.4	0.2	0	0	-0.1	-0.1	
0.2	0.2	-0.1	-0.2	-0.1	-0.1	0	0	0	24° 0'	-0.7	-0.9	0	0.4	0.1	0	0	-0.1	-0.1	
0.2	0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	24° 15'	-0.8	-0.8	0.1	0.3	0.1	0	-0.1	-0.1	-0.1	
0.2	0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	24° 30'	-0.8	-0.7	0.2	0.3	0.1	0	-0.1	-0.1	-0.1	
0.1	0	-0.1	-0.1	0	0	0	0	0	24° 45'	-0.8	-0.6	0.2	0.2	0.1	0	-0.1	-0.1	-0.1	
0.1	0	-0.1	-0.1	0	0	0	0	0	25° 0'	-0.8	-0.5	0.2	0.2	0.1	0	-0.1	-0.1	-0.1	
0.1	0	-0.1	-0.1	0	0	0	0	0	25° 15'	-0.8	-0.4	0.2	0.2	0.1	0	-0.1	-0.1	-0.1	
0.2	0	-0.1	-0.1	0	0	0	0	0	25° 30'	-0.7	-0.3	0.2	0.1	0.1	0	-0.1	-0.1	-0.1	
0.2	0.1	-0.1	-0.1	0	0	0	0	0	25° 45'	-0.7	-0.1	0.3	0.1	0	0	-0.1	-0.1	-0.1	
0.2	0.1	0	-0.1	0	0	0	0	0	26° 0'	-0.6	0	0.3	0	0	0	-0.1	-0.1	-0.1	
0.2	0.1	0	0	0	0	0	0	0	26° 15'	-0.6	0	0.4	0	0	0	-0.1	-0.1	-0.1	
0.1	0.1	0	0	0	0	0	0	0	26° 30'	-0.6	0.1	0.4	0	-0.1	0	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0.1	0	0	0	26° 45'	-0.6	0.1	0.4	0.1	-0.1	0	-0.1	-0.1	-0.1	
0.1	0.1	0.1	0	0	0	0	0	0	27° 0'	-0.6	0.1	0.4	0.1	-0.1	0	0	-0.1	-0.1	
0.1	0	0	0	-0.1	0	0	0	0	27° 15'	-0.6	0.2	0.4	0.2	-0.1	-0.1	0	-0.1	-0.1	
0.1	0	0	0	-0.1	0	0	0	0	27° 30'	-0.6	0.2	0.4	0.2	-0.1	-0.2	0	-0.1	-0.1	
0.1	0	0	0.1	0	-0.1	0	0	0	27° 45'	-0.5	0.3	0.4	0.3	0	-0.2	-0.1	-0.1	-0.1	
0.1	0	0	0.1	0.1	0	0	0	0	28° 0'	-0.4	0.3	0.3	0.2	0	-0.2	-0.1	-0.1	-0.1	
0.1	-0.1	0	0.1	0.2	0	0	0.1	0	28° 15'	-0.3	0.4	0.2	0.2	0.1	-0.1	-0.2	-0.1	-0.1	
0.1	-0.1	0	0.1	0.1	0	0	0.1	0	28° 30'	-0.2	0.4	0.2	0.1	0.1	0	-0.2	-0.1	0	
0	-0.1	0	0	0.1	0.1	0	0.1	0	28° 45'	-0.1	0.4	0.1	0	0.1	0	-0.2	-0.1	0	
0	-0.1	0	0	0	0.1	0.1	0	0	29° 0'	0.1	0.4	0.1	0	0.1	0	-0.2	-0.1	0	
0	-0.1	0	0	0	0.1	0.1	0	0	29° 15'	0.2	0.4	0.1	0	0	0	-0.1	-0.1	0	
0	-0.1	0	0	0	0	0	0.1	0.1	29° 30'	0.3	0.3	0.1	0	0	0	-0.1	-0.1	0	
-0.1	-0.1	0	0	0	0	0	0	0.1	29° 45'	0.4	0.3	0.1	0	0	0	-0.2	-0.1	0	
-0.1	0	0	0	0	0	0	0	0.1	30° 0'	0.4	0.2	0.1	0	0	0	-0.2	-0.2	0	



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 168 to 164 °W									
Correction to Latitude										Correction to Longitude									
168°	167°	167°	166°	166°	165°	165°	164°	164°	Longitude	168°	167°	167°	166°	166°	165°	165°	164°	164°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	-0.1	-0.1	-0.1	-0.1	0	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	0	22° 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	22° 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	23° 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	23° 15'	-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	23° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	23° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 0'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 15'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 30'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 45'	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 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	25° 30'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 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	26° 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	27° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	27° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 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	29° 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	29° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 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	30° 0'	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	-0.1	-0.1	







# Correct Astronomical Position to WGS84

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

































# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 84 to 80 °W									
Correction to Latitude										Correction to Longitude									
84°	83°	83°	82°	82°	81°	81°	80°	80°	Longitude	84°	83°	83°	82°	82°	81°	81°	80°	80°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0.1	0.1	0.1	0.1	0	0	0	
0	0	0	0	0	0	0	0	0	21° 0'	0	0.1	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0.1	0.1	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0.1	0.1	0.1	0	-0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0.1	0	0.1	0	-0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 0'	0	0.1	0.1	0	0.1	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	22° 15'	0	0.1	0.1	0	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	22° 30'	0	0.1	0	0	0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0.1	0	0	0.1	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0.1	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0.1	0	0	0.1	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0.1	0	0.1	0.1	0	0	0.1	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0.1	0	0.1	0	0	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0	0	0	0	0.1	0	0	0.1	
0	0	0	0	-0.1	0	0	0	0	24° 30'	0.1	0	0	0	0	0.1	0	0	0.1	
0	0.1	0.1	0	-0.1	0	0	0	0	24° 45'	0	0	0	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0.1	0.1	0	0	0.1	0	0	
-0.1	-0.1	-0.1	0	0	0	0	0	0	25° 15'	0	0	0.1	0.1	0	0	0.1	0	0	
-0.1	-0.1	-0.1	0	0.1	0	0	0	0	25° 30'	0	0	0.1	0.1	0	0	0.1	0	0	
0	0	0	0	0.1	0	0	0	0	25° 45'	0	0	0	0	0	0	0.1	0	0	
0.1	0.1	0.1	0	0	0	0	0	0	26° 0'	0	0.1	0	0	0	0.1	0.1	0.1	0	
0	0.1	0.1	0	0	0	0	0	0	26° 15'	0	0.1	0	0	0.1	0	0.1	0.1	0	
0	0	0	0	0	0	0	0	0	26° 30'	0	0	0.1	0	0.1	0	0	0.1	0.1	
-0.1	-0.1	0	0	0	0	0	0	0	26° 45'	0	0	0	0	0	0	0	0.1	0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0	0	0	0	0	0.1	0	0	0.1	
0	0	0	0	0	0	0	0	0	27° 30'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0.1	0	27° 45'	0	0	0	0	0	0	0	0	0.1	
0	0	0	0	0	0	0	0	0	28° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	28° 15'	0	0	0	0	0	0	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	28° 30'	0	0	0.1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	28° 45'	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 0'	0	0	0	0	0	0	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 15'	0	0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 30'	0	0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	29° 45'	0	0.1	0	0	0	0	0.1	0.1	0.1	
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0	0	0	0	0.1	0.1	0	

## Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 80 to 76 °W									
Correction to Latitude										Correction to Longitude									
80°	79°	79°	78°	78°	77°	77°	76°	76°	Longitude	80°	79°	79°	78°	78°	77°	77°	76°	76°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	20° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	20° 30'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	20° 45'	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	21° 0'	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	21° 15'	0	0	0.1	0	0.1	0	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	21° 30'	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	21° 45'	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	22° 0'	0.1	0	0.1	0	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	23° 30'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	23° 45'	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	24° 0'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	24° 15'	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	24° 30'	0.1	0	0	0	0.1	0	0.1	0.1	0.1	0
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0.1	0	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	25° 15'	0	0	0.1	0.1	0.1	0	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	25° 30'	0	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	25° 45'	0	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	26° 0'	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	26° 15'	0	-0.1	0	0.1	0	0.1	0.1	0	0.1	0.1
0	0	0	0	0	0	0	0	0	26° 30'	0.1	0	0	0.1	0	0.1	0.1	0	0.1	0.1
0.1	0	0	0	0	0	0	0	0	26° 45'	0.1	0	0	0.1	0.1	0.1	0	0	0.1	0.1
0.1	0	0	0	0	0	0	0	0	27° 0'	0.1	0	0	0.1	0.1	0.1	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	27° 15'	0.1	0.1	0	0.1	0.1	0.1	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	27° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	27° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1
0	0	0	0	0	0	0	0	0	28° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1
0	0	0	0	0	0	0	0	0	28° 15'	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	28° 30'	0	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	28° 45'	0	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 0'	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 15'	0.1	0	0.1	0.1	0	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 30'	0.1	0	0.1	0.1	0	0	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	29° 45'	0.1	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1
0	0	0	0	0	0	0	0	0	30° 0'	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 76 to 72 °W									
Correction to Latitude										Correction to Longitude									
76°	75°	75°	74°	74°	73°	73°	72°	72°	Longitude	76°	75°	75°	74°	74°	73°	73°	72°	72°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	-0.1	20° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	-0.4	
0	0	0	0	0	0	0	0	0.1	-0.1	20° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	20° 30'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	20° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	21° 0'	0.1	0.1	0.1	0.1	0	0.1	0	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	21° 15'	0	0.1	0.1	0.1	0	0.1	0	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	21° 30'	0	0.1	0.1	0.1	0	0.1	0	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	21° 45'	0	0.1	0.1	0.1	0	0.1	0.1	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	22° 0'	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	-0.2
0	0	0	0	0	0	0	0	0	0	22° 15'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	-0.2
0	0	0	0	0	0	0	0	0	0	22° 30'	0.1	0.1	0.1	0.1	0	0.1	0.1	0	-0.3
0	0	0	0	0	0	0	0	0	0	22° 45'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	23° 0'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	23° 15'	0.1	0.1	0.1	0.1	0.1	0.1	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	23° 30'	0	0.1	0.1	0.1	0.1	0.1	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	23° 45'	0	0.1	0.1	0.1	0	0	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	24° 0'	0	0.1	0.1	0.1	0	0	0	0	-0.3
0	0	0	0	0	0	0	0	0	0	24° 15'	0	0.1	0.1	0.1	0	0	0	0	-0.2
0	0	0	0	0	0	0	0	0	0	24° 30'	0	0.1	0.1	0.1	0	0	0	-0.1	-0.2
0	0	0	0	0	0	0	0	0	0	24° 45'	0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.2
0	0	0	0	0	0	0	0	0	0	25° 0'	0.1	0.1	0.1	0.1	0	0	0	-0.1	-0.2
0	0	0	0.1	0.1	0	0	0	0	0	25° 15'	0.1	0.1	0.1	0.1	0	0.1	0	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0	25° 30'	0.1	0.1	0	0	0	0.1	0.1	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0	25° 45'	0.1	0.1	0	0	0	0.1	0.1	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0.1	26° 0'	0.1	0	0.1	0.1	0.1	0	0	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0.1	26° 15'	0.1	0	0.1	0.1	0.1	0	0	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0.1	26° 30'	0.1	0.1	0.1	0.1	0.1	0	0	-0.1	-0.3
0	0	0	0	0	0	0	0	0	0.1	26° 45'	0.1	0.1	0.1	0.1	0.1	0	0	-0.2	-0.3
0	0	0	0	0	0	0	0	0.1	0	27° 0'	0.1	0.1	0.1	0.1	0.1	0	0	-0.2	-0.3
0	0	0	0.1	0	0	0.1	0.1	0	0	27° 15'	0.1	0.1	0.1	0.1	0.1	0	0	-0.2	-0.3
0	0	0	0.1	0	0	0.1	0.1	0	0	27° 30'	0.1	0.1	0	0.1	0.1	0	0	-0.2	-0.2
0	0	0	0	0	0	0	0	0.1	0	27° 45'	0.1	0.1	0	0.1	0.1	0	0	-0.2	-0.1
0	0	0	0	0	0	0	0	0.1	0	28° 0'	0.1	0.1	0	0.1	0.1	0	-0.1	-0.2	0
0	0	0	0	0	0	0	0	0.1	0	28° 15'	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.2	0.2
0	0	0	0	0	0	0	0	0.1	0	28° 30'	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.2	0.3
0	0	0	0	0	0	0	0.1	0.1	-0.1	28° 45'	0.1	0.1	0.1	0.1	0.1	0	-0.1	-0.2	0.4
0	0	0	0	0	0	0	0.1	0.1	-0.1	29° 0'	0.1	0.1	0	0.1	0	0	-0.2	-0.2	0.5
0	0	0	0	0	0	0	0.1	0.1	0	29° 15'	0.1	0.1	0	0.1	0	0	-0.2	-0.1	0.5
0	0	0	0	0	0	0	0.1	0.1	0	29° 30'	0.1	0.1	0	0.1	0	-0.1	-0.2	-0.1	0.6
0	0	0	0	0	0	0	0.1	0	0	29° 45'	0.1	0.1	0	0.1	0	-0.1	-0.2	-0.1	0.6
0	0	0	0	0	0	0	0	0	-0.1	30° 0'	0.1	0	0.1	0.1	0	-0.1	-0.2	0	0.6

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 72 to 68 °W									
Correction to Latitude										Correction to Longitude									
72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	Longitude Latitude	72° 0'	71° 30'	71° 0'	70° 30'	70° 0'	69° 30'	69° 0'	68° 30'	68° 0'	
-0.1	0	0.1	0	0.1	0.1	0.1	0	0	20° 0'	-0.4	-0.2	0.5	0.7	0.4	0.3	0.2	0	0	
-0.1	-0.1	0	0	0.1	0.2	0.1	0	0	20° 15'	-0.3	-0.2	0.5	0.7	0.4	0.3	0.2	0.1	0	
0	-0.1	0	0	0.1	0.2	0.1	0	0	20° 30'	-0.2	-0.3	0.5	0.7	0.3	0.2	0.3	0.1	-0.1	
0	0	0	0	0.1	0.2	0.1	0.1	0	20° 45'	-0.2	-0.3	0.4	0.7	0.3	0.2	0.4	0.1	0	
0	0	0	0	0.1	0.1	0.1	0.1	0	21° 0'	-0.2	-0.3	0.4	0.7	0.2	0.2	0.4	0.1	0	
0	0	0	0	0	0	0	0	0	21° 15'	-0.2	-0.3	0.4	0.7	0.2	0.2	0.4	0.2	0	
0	0	0	0	-0.1	-0.1	0	0	0	21° 30'	-0.2	-0.3	0.4	0.7	0.3	0.2	0.4	0.2	0.1	
0	0	0	0	-0.1	-0.1	0	0	0	21° 45'	-0.2	-0.3	0.4	0.7	0.3	0.1	0.3	0.2	0.1	
0	0.1	0	-0.1	-0.1	0	0	0.1	0	22° 0'	-0.2	-0.3	0.5	0.8	0.3	0	0.3	0.2	0.1	
0	0	0	-0.1	-0.1	0	0	0.1	0.1	22° 15'	-0.2	-0.3	0.5	0.8	0.3	0	0.3	0.2	0.2	
0	0	0	-0.1	0	0	0	0.1	0.1	22° 30'	-0.3	-0.3	0.5	0.8	0.2	0	0.2	0.2	0.2	
0	0	0	0	0.1	0	0	0.1	0.1	22° 45'	-0.3	-0.3	0.6	0.8	0.2	0	0.2	0.1	0.3	
0	0	0	0	0.1	0.1	0.1	0.1	0.1	23° 0'	-0.3	-0.2	0.6	0.8	0.2	0.1	0.2	0.1	0.3	
0	0	0	0	0.1	0.2	0.1	0.1	0.1	23° 15'	-0.3	-0.2	0.6	0.7	0.1	0.1	0.2	0.1	0.3	
0	0	-0.1	0	0.1	0.1	0.1	0.1	0	23° 30'	-0.3	-0.2	0.6	0.7	0	0.1	0.2	0.1	0.3	
0	0	-0.1	-0.1	-0.1	0	0	-0.1	0	23° 45'	-0.3	-0.2	0.7	0.6	0	0.1	0.2	0.2	0.3	
0	0	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1	24° 0'	-0.3	-0.1	0.7	0.7	-0.1	0.1	0.3	0.2	0.2	
0	0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	24° 15'	-0.2	-0.1	0.8	0.7	-0.1	0	0.3	0.2	0.1	
0	0	0	-0.1	-0.1	-0.2	-0.1	-0.1	0	24° 30'	-0.2	-0.1	0.8	0.8	-0.1	0	0.3	0.2	0	
0	0	0	0.1	0	-0.2	-0.1	0	0	24° 45'	-0.2	-0.1	0.8	0.8	0	0	0.2	0.1	0	
0	0	0	0.1	0.1	-0.1	-0.1	0	0	25° 0'	-0.2	0	0.8	0.7	0.1	0.1	0.2	0.1	0.1	
0	0	0	0.1	0.1	-0.1	-0.1	0	-0.1	25° 15'	-0.3	0	0.8	0.7	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	0	0	0	-0.1	-0.1	-0.1	25° 30'	-0.3	0	0.8	0.6	0.2	0.2	0.1	0.1	0.1	
0	0	-0.1	0	0	0	-0.1	-0.1	0	25° 45'	-0.3	0.1	0.8	0.6	0.2	0.3	0.1	0.1	0.1	
0.1	0	-0.1	0	0	0	0	-0.1	0	26° 0'	-0.3	0.1	0.8	0.5	0.2	0.3	0.2	0.1	0.1	
0.1	0	-0.1	0	0	-0.1	0	0	0	26° 15'	-0.3	0.2	0.8	0.5	0.3	0.3	0.2	0.1	0.1	
0.1	0	-0.1	0	0	-0.1	0	0	0	26° 30'	-0.3	0.3	0.8	0.5	0.3	0.3	0.1	0.1	0	
0.1	0	-0.1	0	0	0	0	0	0.1	26° 45'	-0.3	0.4	0.8	0.4	0.3	0.2	0.1	0.1	-0.1	
0	-0.1	-0.1	0	0	0	0	0	0.2	27° 0'	-0.3	0.4	0.8	0.4	0.4	0.2	0.2	0	-0.2	
0	-0.1	0	0	0	0.1	0	0	0.2	27° 15'	-0.3	0.5	0.7	0.4	0.4	0.3	0.2	-0.1	-0.4	
0	-0.1	-0.1	0	0	0.1	0.1	0.1	0.2	27° 30'	-0.2	0.5	0.6	0.4	0.4	0.2	0.2	-0.1	-0.5	
0	-0.2	-0.1	-0.1	-0.1	0	0.2	0.3	0.2	27° 45'	-0.1	0.5	0.6	0.4	0.3	0.2	0.2	-0.1	-0.4	
0	-0.2	-0.2	-0.1	-0.1	0	0.1	0.3	0.2	28° 0'	0	0.6	0.5	0.3	0.3	0.1	0	-0.1	-0.3	
0	-0.2	-0.1	-0.1	-0.1	0	0.1	0.2	0.2	28° 15'	0.2	0.7	0.4	0.3	0.3	0	-0.1	-0.2	-0.2	
0	-0.2	-0.2	-0.1	-0.1	0	0.1	0.2	0.1	28° 30'	0.3	0.7	0.4	0.3	0.3	0	-0.2	-0.2	-0.1	
-0.1	-0.2	-0.2	-0.2	-0.1	0.1	0.1	0.1	0.1	28° 45'	0.4	0.8	0.4	0.3	0.2	-0.1	-0.2	-0.2	0	
-0.1	-0.1	-0.1	-0.2	-0.1	0.1	0.1	0.1	0	29° 0'	0.5	0.8	0.4	0.3	0.1	-0.1	-0.2	-0.2	0	
0	0	-0.1	-0.1	0	0.1	0.1	0.1	0.1	29° 15'	0.5	0.8	0.5	0.3	0	-0.1	-0.2	-0.2	0.1	
0	0	0	-0.1	0	0.1	0.1	0.1	0.1	29° 30'	0.6	0.8	0.5	0.3	-0.1	-0.1	-0.3	-0.2	0.1	
0	0	0	0	0.1	0.1	0.1	0.2	0.2	29° 45'	0.6	0.8	0.5	0.2	-0.1	-0.1	-0.3	-0.2	0.1	
-0.1	-0.1	0	0	0.1	0.1	0.2	0.2	0.2	30° 0'	0.6	0.8	0.5	0.2	-0.1	-0.2	-0.4	-0.2	0.2	

# Correct Astronomical Position to WGS84

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



# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 60 to 56 °W									
Correction to Latitude										Correction to Longitude									
60°	59°	59°	58°	58°	57°	57°	56°	56°	Longitude	60°	59°	59°	58°	58°	57°	57°	56°	56°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	-0.1	0	0	0	0	0	0	20° 0'	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	
-0.1	-0.1	0	0	0	0	0	0	0	20° 15'	-0.1	-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	20° 30'	-0.1	-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	20° 45'	-0.1	-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	21° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	0	0	21° 15'	-0.1	-0.1	-0.2	-0.1	0	-0.1	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	0	0	21° 30'	-0.1	-0.1	-0.2	-0.1	0	0	-0.1	-0.2	-0.2	
0	0	0	0	0	0	0	0	0	21° 45'	0	-0.1	-0.2	-0.1	0	0	-0.2	-0.2	-0.1	
0.1	0	0	0	0	0	0	0	0	22° 0'	0	-0.1	-0.1	-0.1	0	0	-0.2	-0.2	-0.1	
0.1	0	0	0	0	0	0	0	0	22° 15'	0	-0.1	-0.1	-0.1	0	0	-0.2	-0.2	-0.1	
0	0	0	0	0	0	0	0	0	22° 30'	0	-0.1	-0.1	-0.1	0	-0.1	-0.2	-0.2	-0.1	
0	0	0	0	0	0	0	0	0	22° 45'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	
0	0	0	0	0	0	0	0	0	23° 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	0	23° 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	23° 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	23° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	24° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	25° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 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	26° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	26° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 15'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 30'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	27° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 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	29° 30'	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	29° 45'	-0.1	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	-0.1	30° 0'	0	0	0	-0.1	-0.1	0	-0.1	-0.1	0	

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 56 to 52 °W									
Correction to Latitude										Correction to Longitude									
56°	55°	55°	54°	54°	53°	53°	52°	52°	Longitude	56°	55°	55°	54°	54°	53°	53°	52°	52°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0	0	
0	0	0	0	0	0	0	0	0	20° 15'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	-0.1	
0	0	0	0	0	0	0	0	0	20° 30'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	20° 45'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	21° 0'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	21° 15'	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	21° 30'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	21° 45'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	22° 0'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	0	22° 15'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	-0.1	-0.1	22° 30'	-0.1	-0.2	-0.2	-0.2	-0.1	0	-0.1	-0.1	-0.1	
0	0	0	0	0	0	0	-0.1	-0.1	22° 45'	-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	
0	0	0	0	0	0	0	0	-0.1	23° 0'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	-0.1	
0	0	0	0	-0.1	-0.1	-0.1	0	0	23° 15'	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	0	23° 30'	-0.1	-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	-0.1	-0.1	23° 45'	-0.1	-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	-0.1	-0.1	24° 0'	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	
0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	24° 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	24° 30'	-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	-0.1	24° 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	-0.1	25° 0'	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	25° 15'	-0.1	-0.2	-0.1	-0.1	0	0	-0.1	0	0.1	
0	0	0	0	0	0	0	-0.1	-0.1	25° 30'	-0.1	-0.2	-0.1	-0.1	0	0	0	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	25° 45'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0.1	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	26° 0'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0.1	
0	0	0	0	0	0	-0.1	-0.1	-0.1	26° 15'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	26° 30'	-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 45'	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0.1	0	
0	0	0	0	0	0	0	0	0	27° 0'	-0.1	-0.2	-0.1	-0.1	-0.1	0	0	0.1	0	
0	0	0	0	0	-0.1	-0.1	-0.1	0	27° 15'	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	27° 30'	-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	0	27° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	0	0	-0.1	-0.1	0	0	0	28° 0'	-0.1	-0.1	0	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 15'	-0.1	-0.1	-0.1	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	28° 30'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	28° 45'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0	29° 0'	-0.1	-0.1	-0.1	0	0	0	0	0	-0.1	
0	0	0	0	0	0	0	0	0.1	29° 15'	-0.1	-0.1	-0.1	0	0	0	0	-0.1	-0.1	
0	0	0	0	0	0	0	0	0	29° 30'	-0.1	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	
-0.1	-0.1	-0.1	0	0	0	0	0	0	29° 45'	-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	-0.1	30° 0'	0	-0.1	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 48 to 44 °W									
Correction to Latitude										Correction to Longitude									
48°	47°	47°	46°	46°	45°	45°	44°	44°	Longitude	48°	47°	47°	46°	46°	45°	45°	44°	44°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1	-0.1	20° 0'	0	0	0	0	0	0.1	0.1	0	0	
-0.1	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	-0.1	20° 15'	0	0	0	0	0	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	20° 30'	0.1	0	0	0	0	0.1	0.1	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	-0.1	-0.1	20° 45'	0.1	0	0	0	0	0.1	0.1	0	0	
0	0	-0.1	-0.1	-0.1	-0.1	0	0	0	21° 0'	0.1	0.1	0	0	0	0	0.1	0	0	
0	0	0	-0.1	-0.1	-0.1	0	0	0	21° 15'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	21° 30'	0	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	0	0	21° 45'	0	0	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0.1	22° 0'	0	0	0.1	0.1	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0.1	0.1	0	0	0	0	-0.1	0
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0.1	0.1	0	0	0	0	-0.1	-0.1
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0.1	0.1	0	0	0	0	-0.1	-0.1
-0.1	-0.1	-0.1	0	0	0	0	0	0	23° 0'	0	0	0.1	0.1	0	0	0	0	0	-0.1
-0.1	-0.1	-0.1	0	0	0	0	0	0.1	23° 15'	0	0.1	0.1	0	0	0	0	0	0	-0.1
-0.1	-0.1	-0.1	0	0	0	0	0	0.1	23° 30'	0	0.1	0.1	0	0	0	0	0	0	0
-0.1	0	0	0.1	0	0	0	0	0.1	23° 45'	0	0.1	0	-0.1	0	0	-0.1	0	0	0
-0.1	0	0	0.1	0	0	0	0	0.1	24° 0'	-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	0	0.1	24° 15'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
0	0	0	-0.1	0	0	0	0	0.1	24° 30'	-0.1	0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1
-0.1	-0.1	-0.1	-0.1	0	0.1	0.1	0.1	0.1	24° 45'	-0.1	0	0	-0.1	0	-0.1	-0.2	-0.2	-0.1	-0.1
-0.1	-0.1	-0.1	0	0	0.1	0.1	0.1	0.1	25° 0'	0	0	0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1
-0.1	-0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	25° 15'	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1
0	0	0	0.1	0.1	0.1	0.1	0.1	0	25° 30'	0	0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0	0
0	0	0.1	0.1	0.1	0.1	0.1	0	0	25° 45'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	0	0
0	0	0	0	0.1	0.1	0.1	0	0	26° 0'	0	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	0	0	0
0	0	0	0	0.1	0.1	0	0	0	26° 15'	0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0
0	0	0	0	0	0	-0.1	0	0	26° 30'	0	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0	0	0
0	0	0	0	0	-0.1	-0.1	-0.1	0	26° 45'	0	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	0
0	0	0	0	0	-0.1	-0.1	0	0	27° 0'	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0
0	0	0	0	0	-0.1	0	0	0	27° 15'	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	27° 30'	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0
0	0	0	0	0	0	0	0	0	27° 45'	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0
-0.1	-0.1	-0.1	0	0	0	0	0	0	28° 0'	0	-0.1	-0.2	-0.2	-0.1	0	-0.1	-0.1	0	0
-0.1	0	-0.1	0	0	0	0	0	0	28° 15'	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	0	0	-0.1	28° 30'	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0
0	0	0	0	0	0	0	-0.1	-0.1	28° 45'	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0
0.1	0.1	0.1	0	0	0	0	0	-0.1	29° 0'	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0.1	0	0	0	0	0	0	29° 15'	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 30'	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	29° 45'	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	30° 0'	-0.2	-0.2	-0.1	-0.1	-0.1	0	0	0	0	0

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

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

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 36 to 32 °W									
Correction to Latitude										Correction to Longitude									
36°	35°	35°	34°	34°	33°	33°	32°	32°	Longitude	36°	35°	35°	34°	34°	33°	33°	32°	32°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
-0.2	-0.1	-0.1	-0.1	0	0	0	0	0	20° 0'	0	-0.1	0.1	0	0	0.1	0	0	0	
-0.1	-0.2	-0.2	-0.2	-0.1	0	0	0	-0.1	20° 15'	0	-0.1	0.1	0	0	0	0	0	0	
0	-0.1	-0.2	-0.2	-0.1	0	0	0	0	20° 30'	0	0	0.1	-0.1	0	0	0	0.1	0	
0.2	0.1	0	0	0	0	0	0	0	20° 45'	0.1	0	0.1	0	-0.1	0	0	0.1	0	
0.2	0.2	0.2	0.2	0.1	0.1	0	0.1	0.1	21° 0'	0.1	0.1	0.1	0	0	0	0	0.1	0	
0.1	0.1	0.2	0.2	0.1	0.1	0	0	0.1	21° 15'	0.1	0	0.1	0	0	0	0	0	0	
0	0	0.1	0.1	0.1	0.1	0	0	0	21° 30'	0	0	0.1	0.1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 30'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	25° 45'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	26° 0'	0.1	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	-0.1	0	26° 15'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	0	0	26° 30'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	26° 45'	0.1	0.1	0	0.1	0	0	0	0	0	
0	0	-0.1	-0.1	0	0	0	0	-0.1	27° 0'	0.1	0.1	0.1	0.1	0	0	0	0	0	
0	0	-0.1	0	0	0	0	-0.1	-0.1	27° 15'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	0	0	-0.1	-0.1	-0.1	27° 30'	0.1	0.1	0.1	0	0	0	0	0.1	0	
0	0	0	0	0	-0.1	-0.1	-0.1	0	27° 45'	0.1	0.1	0.1	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	0	28° 0'	0	0.1	0.1	0	0	0.1	0	0	0	
0	0	0	0	-0.1	0	-0.1	-0.1	-0.1	28° 15'	0	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	28° 30'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
0	0	0	0	0	0	0	0	-0.1	28° 45'	0	0	0.1	0.1	0.1	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	29° 0'	0.1	0	0.1	0.1	0.1	0.1	0.1	0	0	
-0.1	-0.1	-0.1	-0.1	0	0	0	0	0	29° 15'	0.1	0	0.1	0.1	0	0.1	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	29° 30'	0	0	0.1	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	29° 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	0	0	30° 0'	0	0	0.1	0	0	0	0	0	0	0

# Correct Astronomical Position to WGS84

Latitude 20 to 30 °S										Longitude 32 to 28 °W									
Correction to Latitude										Correction to Longitude									
32°	31°	31°	30°	30°	29°	29°	28°	28°	Longitude	32°	31°	31°	30°	30°	29°	29°	28°	28°	
0'	30'	0'	30'	0'	30'	0'	30'	0'	Latitude	0'	30'	0'	30'	0'	30'	0'	30'	0'	
0	0	0	0	0	0	0	0	0	20° 0'	0	0	0	0	0	0	0	0	0	
-0.1	0	0	0	0	0	0	-0.1	0	20° 15'	0	0	0	0	0	0.1	0	-0.1	0	
0	0	0	0	0	0	0	0	0	20° 30'	0	-0.1	0	0	0	0.1	-0.1	-0.1	0	
0	0	0	0	0	0	0	0	0	20° 45'	0	-0.1	0	0	0	0.1	-0.1	-0.1	0	
0.1	0.1	0	0	0	0.1	0.1	0	0	21° 0'	0	-0.1	0	0	0	0	0	0	0	
0.1	0.1	0	0	0	0	0.1	0	0	21° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	21° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	22° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	23° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 30'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	24° 45'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 0'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	25° 15'	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	-0.1	25° 30'	0	0	0	0	0	0	0	0	0	
-0.1	0	-0.1	-0.1	0	0	-0.1	-0.1	-0.1	25° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 0'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	26° 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	26° 30'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	0	-0.1	-0.1	0	0	0	26° 45'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	0	27° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	27° 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	27° 30'	0	0	0	0	0	0	0	0	0	
0	0	-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	27° 45'	0	0	0	0	0	0	0	0	0	
0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	28° 0'	0	0	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	28° 15'	0	0.1	0	0	0	0	0	0	0	
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0	0	0	28° 30'	0	0.1	0	-0.1	0	0	0	0	0	
-0.1	-0.1	0	-0.1	-0.1	-0.1	-0.1	0	0	28° 45'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	-0.1	-0.1	-0.1	-0.1	-0.1	29° 0'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 15'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	-0.1	-0.1	29° 30'	0	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	-0.1	29° 45'	0.1	0.1	0	0	0	0	0	0	0	
0	0	0	0	0	-0.1	-0.1	0	0	30° 0'	0	0.1	0	0	0.1	0	0	0	0	













# Correct Astronomical Position to WGS84

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