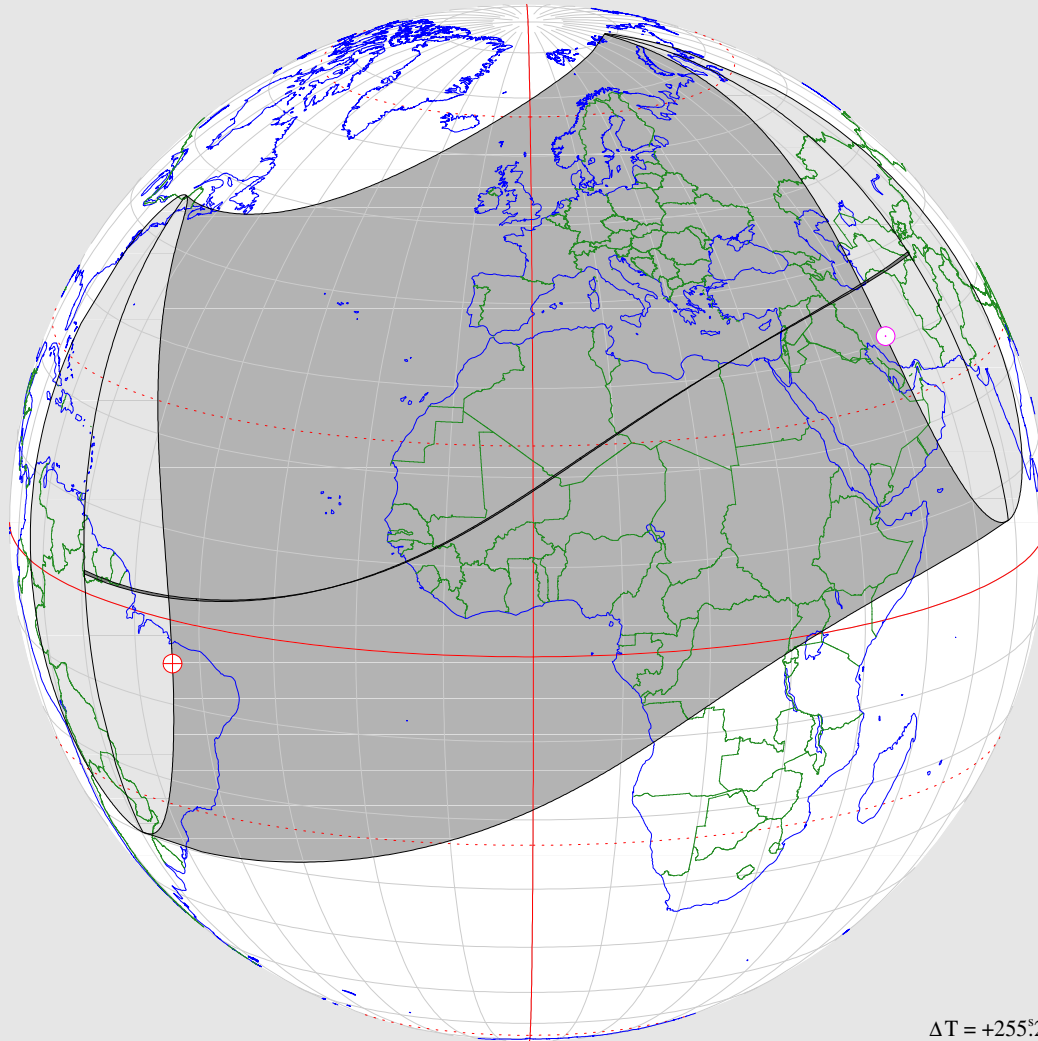


I. - Annular-Total Eclipse of the Sun

1513 March 07



©HM Nautical Almanac Office

$\Delta T = +255^s.2$
Globe centred on W 0°6 and N 15°0

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	9 04.9	W 44 06.8	S 5 02.4
Beginning of southern limit of penumbra	10 03.8	W 59 35.0	S 29 54.3
Beginning of southern limit of umbra	10 07.1	W 59 29.7	N 2 03.4
Beginning of centre line; central eclipse begins	10 07.3	W 59 31.2	N 2 15.4
Beginning of northern limit of umbra	10 07.4	W 59 32.8	N 2 27.4
Beginning of northern limit of penumbra	11 00.3	W 71 18.4	N 45 40.9
Central eclipse at local apparent noon	12 01.7	E 1 47.8	N 19 41.0
End of northern limit of penumbra	12 38.7	E 73 00.1	N 81 06.8
End of northern limit of umbra	13 32.0	E 68 03.8	N 38 07.7
End of centre line; central eclipse ends	13 32.1	E 68 02.6	N 37 57.3
End of southern limit of umbra	13 32.2	E 68 01.4	N 37 46.9
End of southern limit of penumbra	13 35.9	E 68 06.0	N 5 50.2
⊙ Eclipse ends; last contact with Earth	14 34.5	E 52 44.1	N 30 40.6