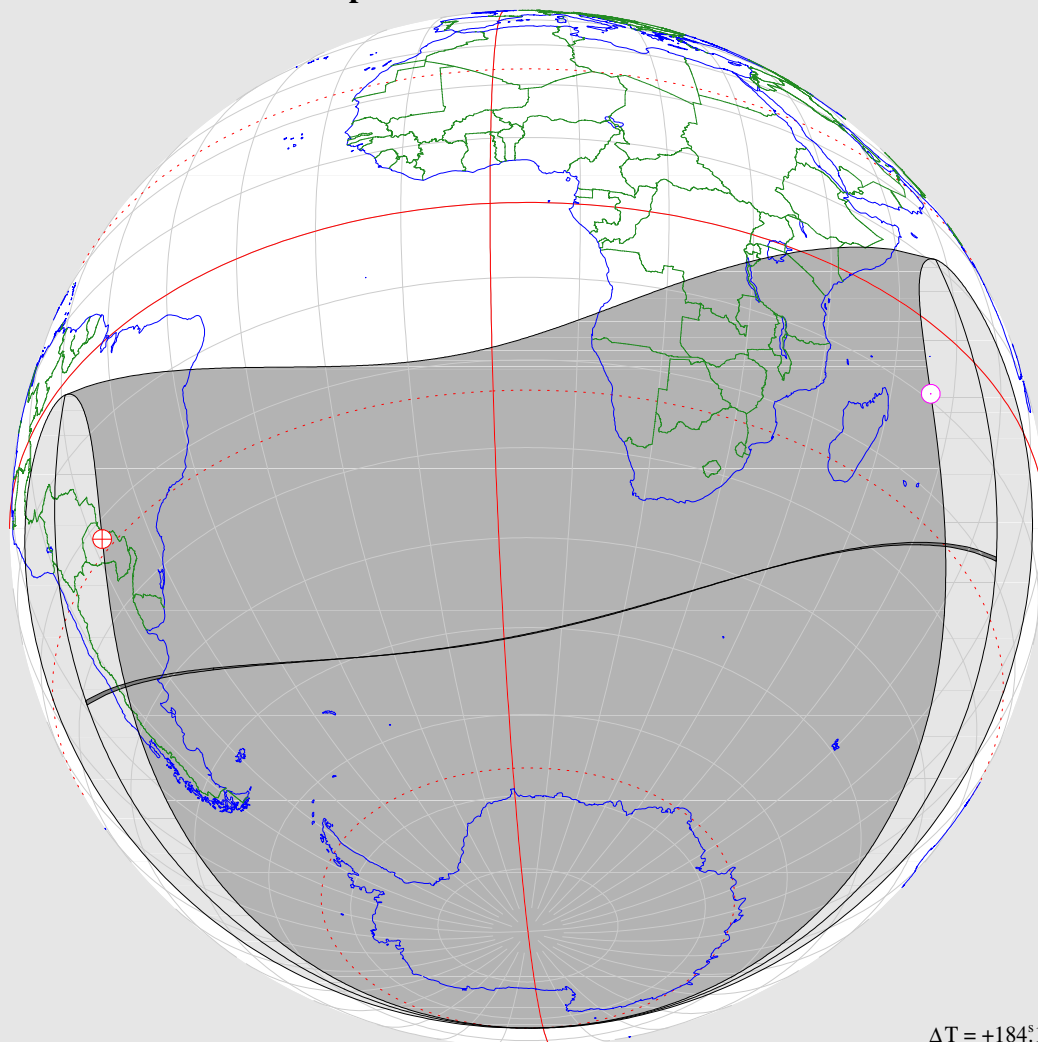


IV. - Annular-Total Eclipse of the Sun

1563 December 15



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$\Delta T = +184^s.1$
Globe centred on E 4°2' and S 39°0'

Circumstances	Time (UT)	Longitude	Latitude
	^h ^m	^o /	^o /
⊕ Eclipse begins; first contact with Earth	9 13.0	W 58 09.1	S 21 58.9
Beginning of northern limit of penumbra	9 54.2	W 59 08.4	S 1 49.0
Beginning of northern limit of umbra	10 16.5	W 78 52.6	S 30 43.9
Beginning of centre line; central eclipse begins	10 16.7	W 79 03.8	S 30 56.1
Beginning of southern limit of umbra	10 17.0	W 79 15.1	S 31 08.3
Central eclipse at local apparent noon	11 46.7	E 3 31.6	S 50 49.7
End of southern limit of umbra	13 28.5	E 76 23.3	S 18 25.4
End of centre line; central eclipse ends	13 28.8	E 76 14.4	S 18 14.1
End of northern limit of umbra	13 29.0	E 76 05.5	S 18 02.9
End of northern limit of penumbra	13 51.2	E 57 30.9	N 11 08.0
⊙ Eclipse ends; last contact with Earth	14 32.4	E 56 06.8	S 9 06.8