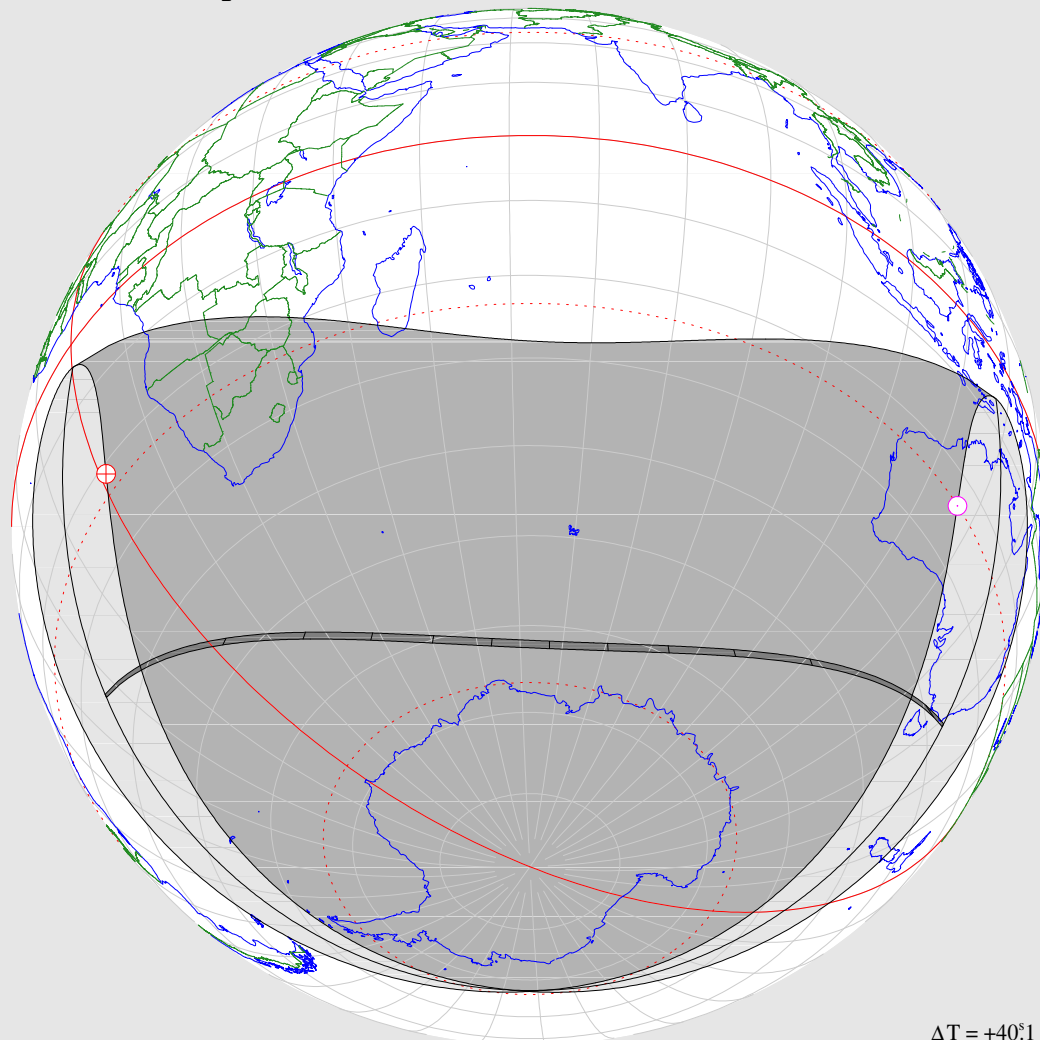


# IV. - Total Eclipse of the Sun

1657 December 05



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$\Delta T = +40^s.1$   
Globe centred on E 62°3' and S 49°0'

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	5 10.4	E 1 02.7	S 21 09.0
Beginning of northern limit of penumbra	5 44.0	E 0 12.8	S 3 56.7
Beginning of northern limit of umbra	6 17.2	W 23 05.2	S 34 41.1
Beginning of centre line; central eclipse begins	6 17.4	W 23 14.1	S 34 49.8
Beginning of southern limit of umbra	6 17.7	W 23 23.0	S 34 58.6
Central eclipse at local apparent noon	7 40.5	E 62 45.1	S 62 06.0
End of southern limit of umbra	9 00.2	E 151 12.2	S 37 17.1
End of centre line; central eclipse ends	9 00.4	E 151 04.0	S 37 09.4
End of northern limit of umbra	9 00.6	E 150 55.8	S 37 01.8
End of northern limit of penumbra	9 33.8	E 127 03.9	S 6 22.5
⊙ Eclipse ends; last contact with Earth	10 07.5	E 126 24.2	S 23 33.0