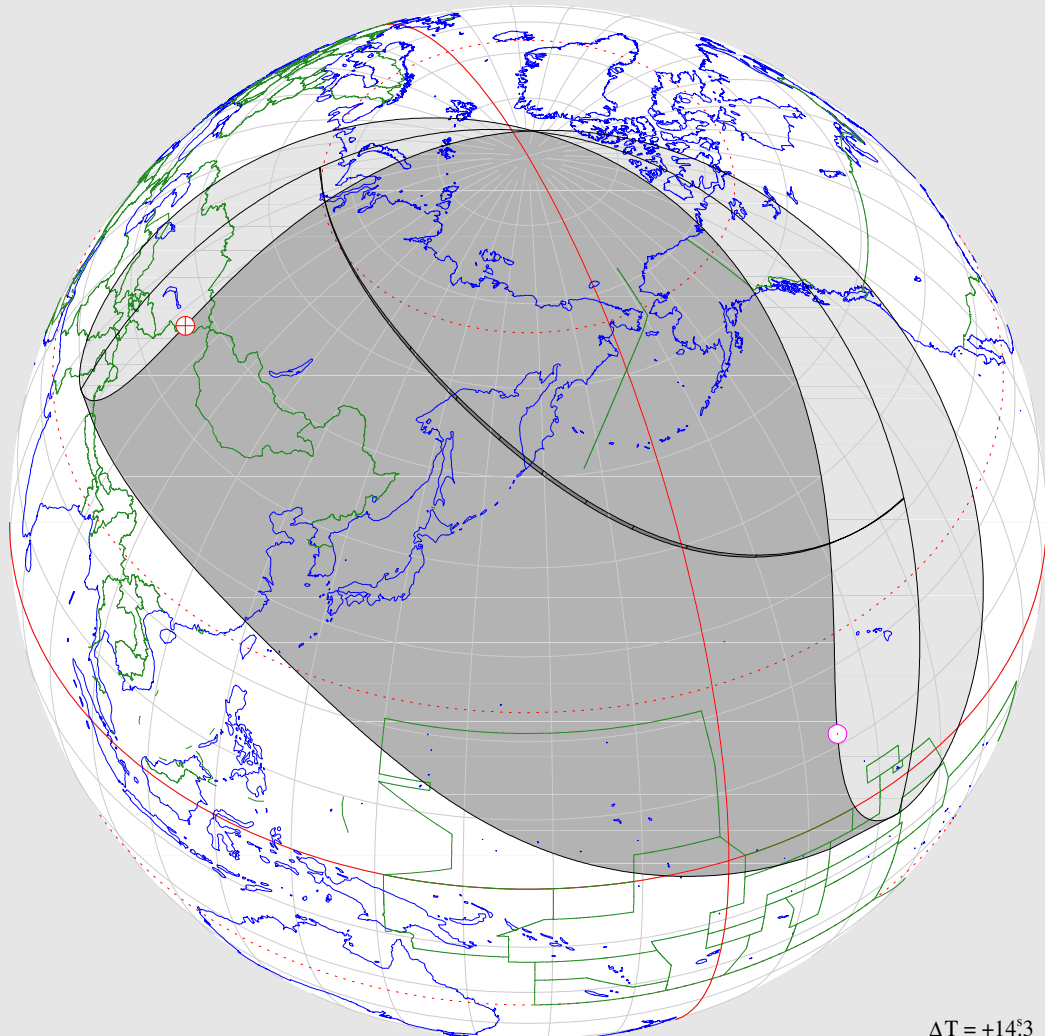


# IV. - Annular-Total Eclipse of the Sun

## 1681 September 12



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$\Delta T = +14^m 3^s$   
Globe centred on E 157°2 and N 45°0

Circumstances	Time (UT)	Longitude	Latitude
	<sup>h</sup> <sup>m</sup>	<sup>o</sup> /	<sup>o</sup> /
⊕ Eclipse begins; first contact with Earth	0 06.0	E 83 10.3	N46 34.2
Beginning of southern limit of penumbra	0 44.5	E 75 35.0	N29 20.2
Beginning of centre line; central eclipse begins	1 21.5	E 59 24.9	N66 05.8
Beginning of southern limit of umbra	1 21.4	E 59 26.6	N66 03.7
Beginning of northern limit of umbra	1 21.5	E 59 23.2	N66 07.9
Central eclipse at local apparent noon	2 07.2	E 147 10.6	N56 15.9
End of northern limit of umbra	3 44.6	W144 44.1	N31 19.5
End of centre line; central eclipse ends	3 44.7	W144 45.8	N31 15.9
End of southern limit of umbra	3 44.8	W144 47.4	N31 12.2
End of southern limit of penumbra	4 21.5	W156 49.2	S 5 46.9
⊙ Eclipse ends; last contact with Earth	5 00.2	W165 15.2	N11 33.3