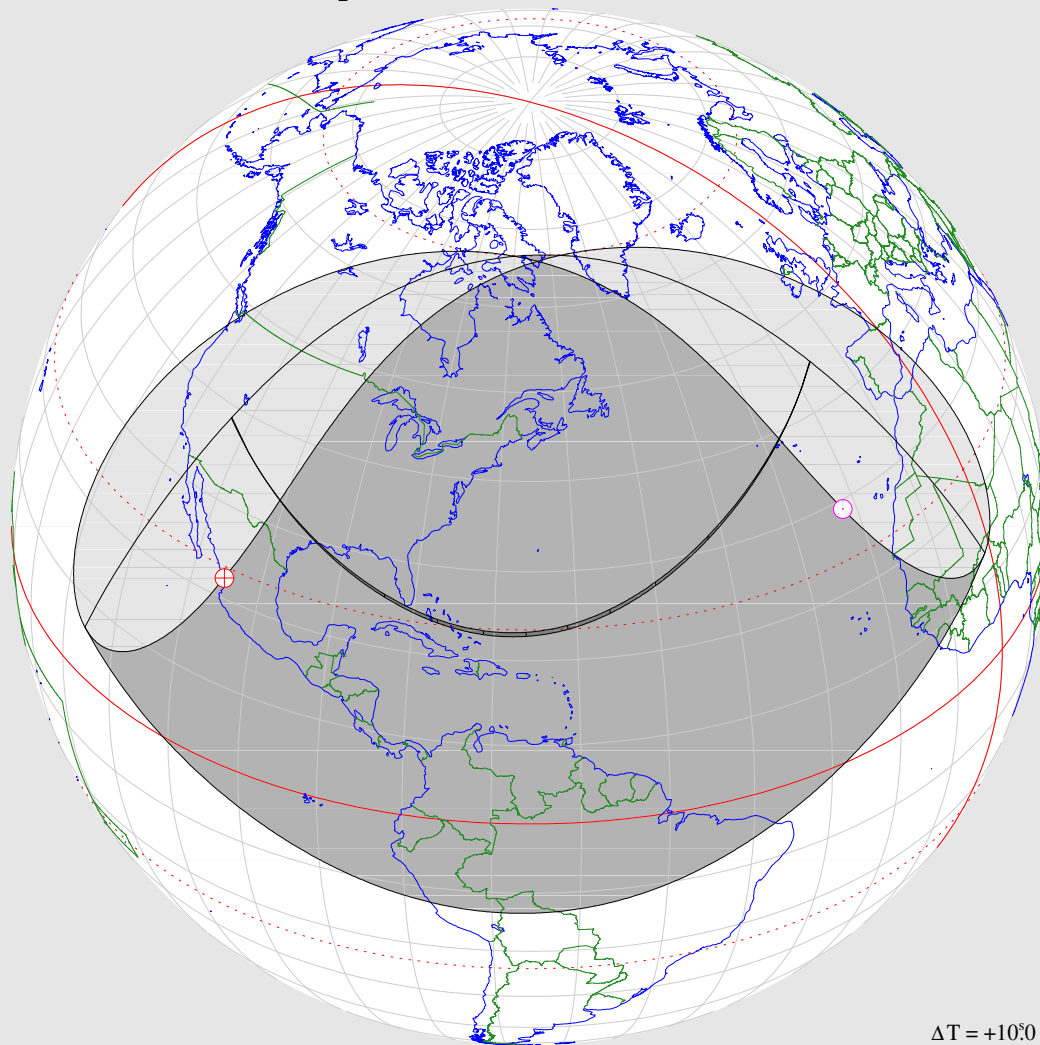


V. - Annular-Total Eclipse of the Sun

1713 December 17



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$\Delta T = +10^{\circ}0$
Globe centred on W 65°7 and N 35°0

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	13	38.6	W105	15.4	N22	14.6
Beginning of southern limit of penumbra	14	30.2	W125	30.5	N 6	30.8
Beginning of centre line; central eclipse begins	14	51.0	W113	13.9	N38	43.2
Beginning of southern limit of umbra	14	50.9	W113	15.0	N38	40.7
Beginning of northern limit of umbra	14	51.0	W113	12.8	N38	45.8
Central eclipse at local apparent noon	16	09.2	W 63	05.6	N23	20.7
End of centre line; central eclipse ends	17	17.3	W 15	49.0	N45	03.4
End of northern limit of umbra	17	17.2	W 15	49.9	N45	04.9
End of southern limit of umbra	17	17.3	W 15	48.1	N45	02.0
End of southern limit of penumbra	17	38.1	W 1	14.1	N13	24.8
⊙ Eclipse ends; last contact with Earth	18	29.6	W 22	03.7	N28	59.5