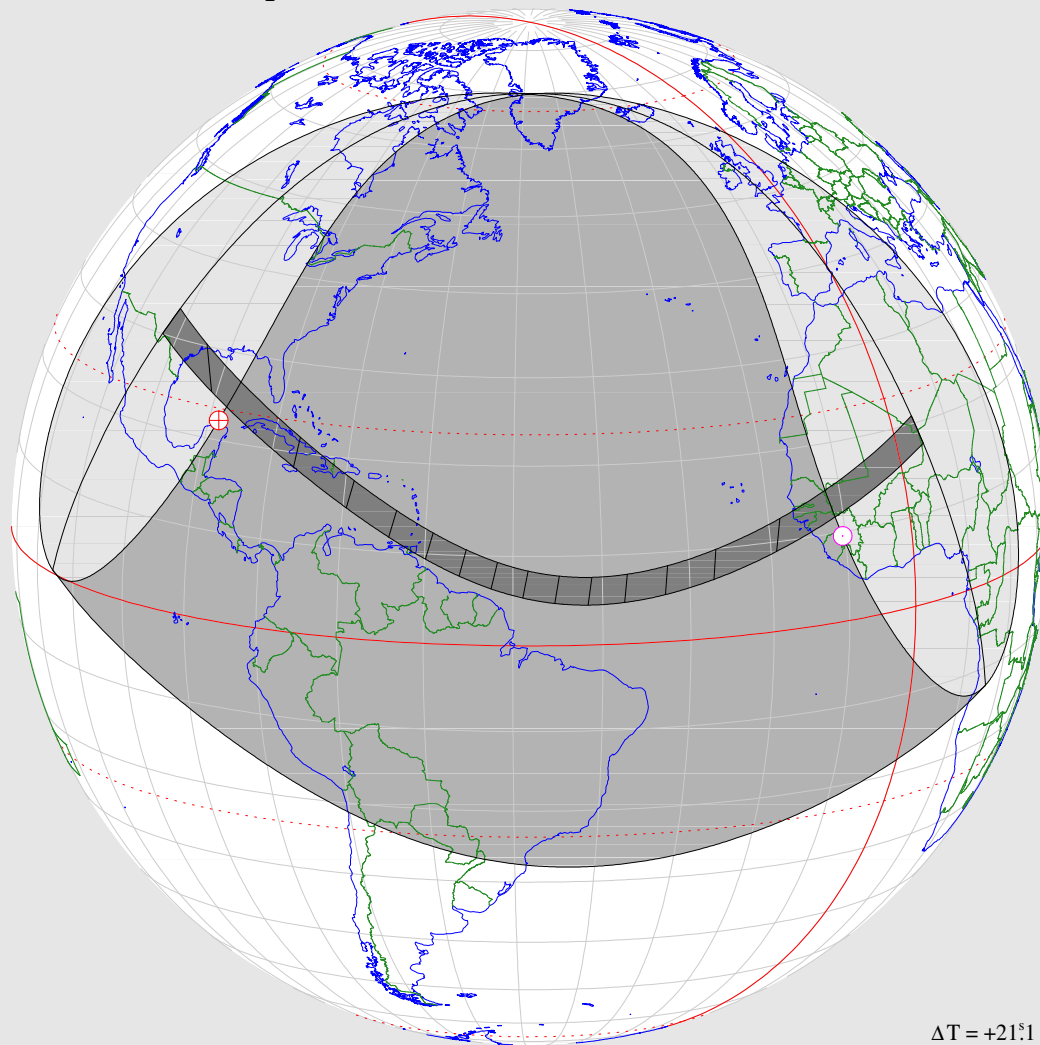


# IV. - Annular Eclipse of the Sun

1919 November 22



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$\Delta T = +21^s.1$   
Globe centred on W 48°1' and N 13°3'

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	12 14.2	W 88 31.5	N 22 10.5
Beginning of southern limit of umbra	13 26.7	W 103 00.9	N 30 04.4
Beginning of southern limit of penumbra	13 26.9	W 115 06.0	N 0 20.2
Beginning of centre line; central eclipse begins	13 27.8	W 102 27.9	N 31 40.9
Beginning of northern limit of umbra	13 29.0	W 101 54.2	N 33 18.6
Central eclipse at local apparent noon	15 07.4	W 50 21.0	N 7 18.2
End of northern limit of umbra	16 58.8	E 3 50.3	N 20 51.3
End of centre line; central eclipse ends	17 00.0	E 4 14.3	N 19 11.5
End of southern limit of penumbra	17 00.7	E 15 54.8	S 12 20.9
End of southern limit of umbra	17 01.0	E 4 38.6	N 17 33.1
⊙ Eclipse ends; last contact with Earth	18 13.5	W 10 22.8	N 9 33.1