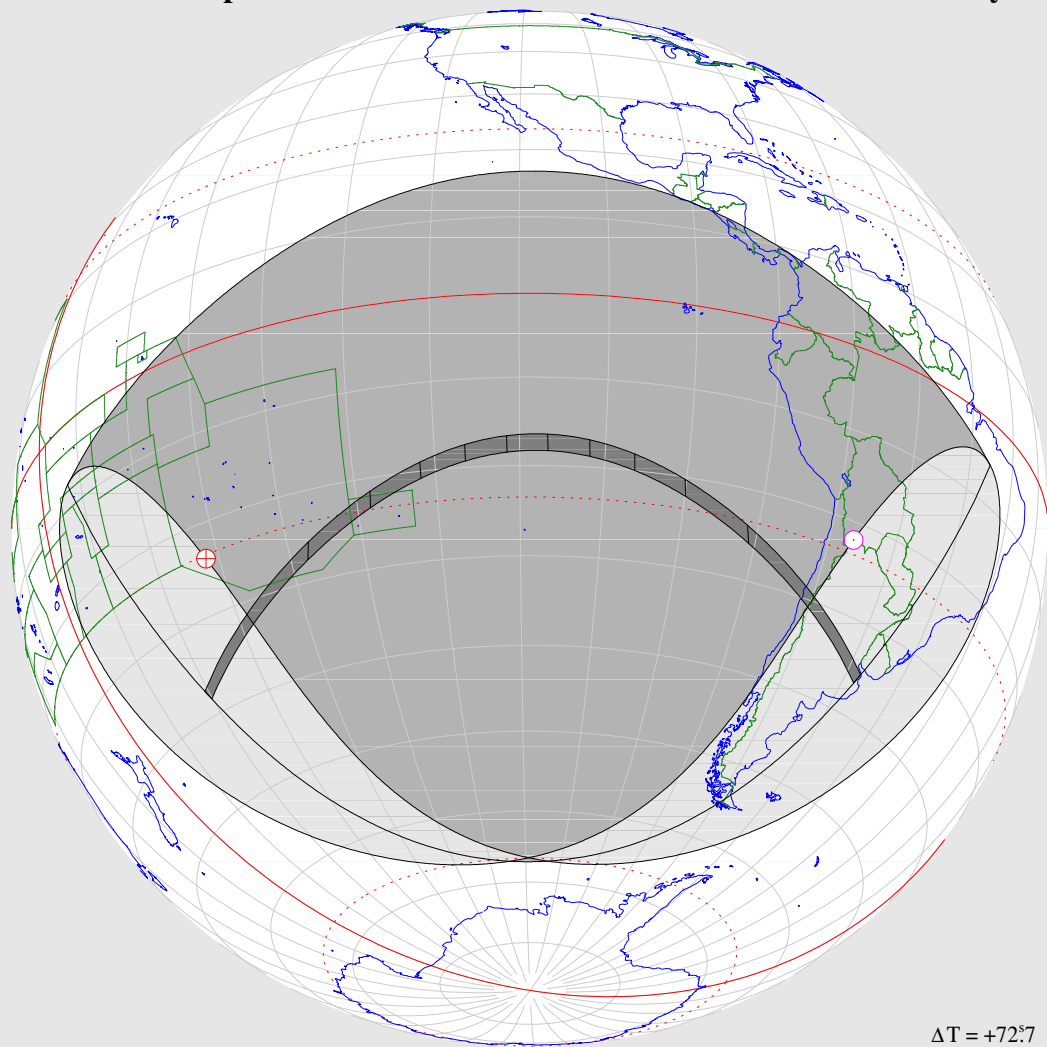


III. - Total Eclipse of the Sun

2019 July 02



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$\Delta T = +72:7$
Globe centred on W 108°8 and S 27°0

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	16	55.2	W151	55.4	S 23	53.3
Beginning of northern limit of penumbra	17	47.9	W172	51.3	S 7	15.1
Beginning of northern limit of umbra	18	01.7	W160	38.9	S 37	06.4
Beginning of centre line; central eclipse begins	18	02.3	W160	24.4	S 37	39.8
Beginning of southern limit of umbra	18	02.9	W160	09.7	S 38	13.5
Central eclipse at local apparent noon	19	21.6	W109	23.1	S 17	24.6
End of southern limit of umbra	20	42.9	W 57	55.7	S 36	22.9
End of centre line; central eclipse ends	20	43.5	W 57	41.6	S 35	47.9
End of northern limit of umbra	20	44.2	W 57	27.9	S 35	13.2
End of northern limit of penumbra	20	57.9	W 45	42.4	S 5	17.9
⊙ Eclipse ends; last contact with Earth	21	50.6	W 66	28.6	S 21	57.5