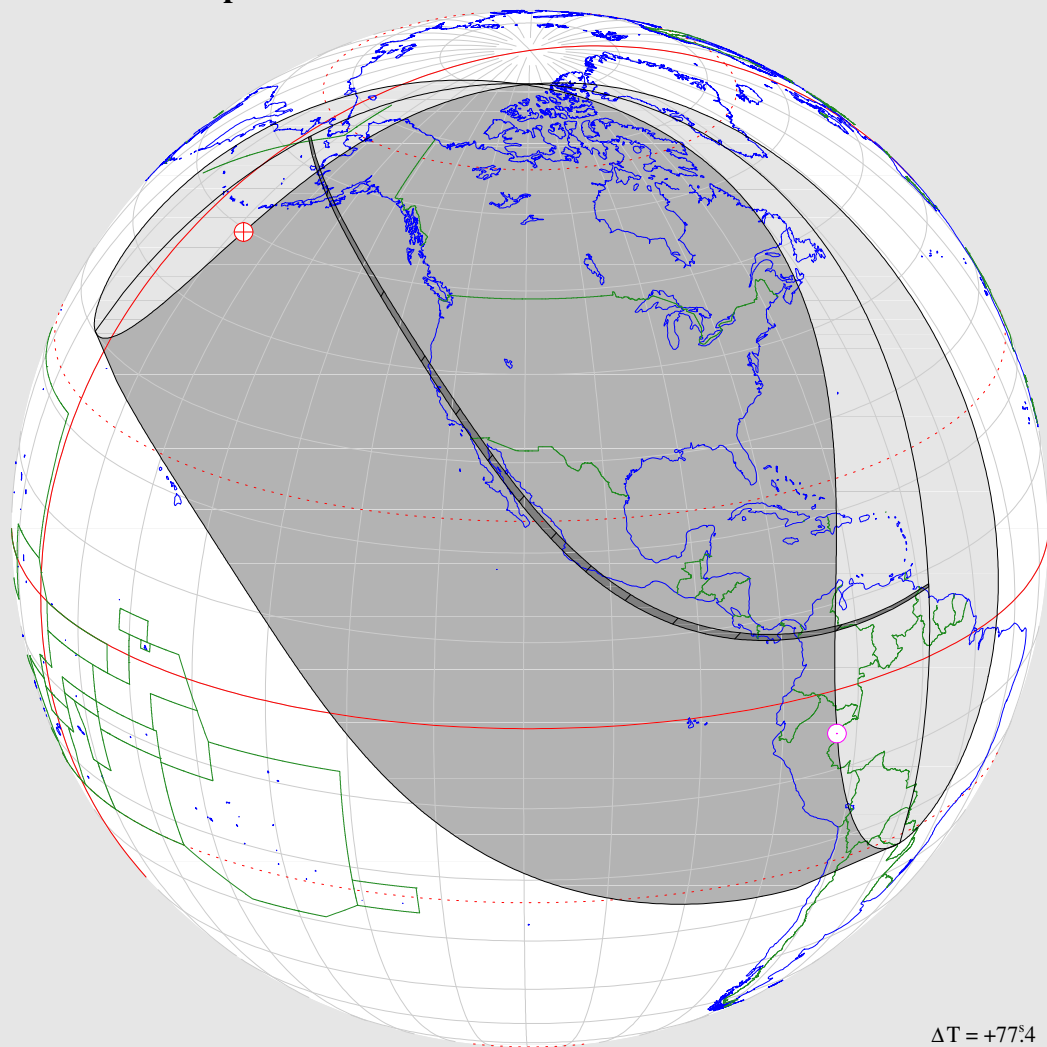


### III. - Total Eclipse of the Sun

1632 October 13



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$\Delta T = +77^s.4$   
Globe centred on W 109°3 and N 22°7

Circumstances	Time (UT)		Longitude		Latitude	
	h	m	°	'	°	'
⊕ Eclipse begins; first contact with Earth	17	36.3	W167	50.5	N49	37.8
Beginning of southern limit of penumbra	18	25.7	E174	53.5	N30	06.8
Beginning of southern limit of umbra	18	42.3	W177	54.2	N62	39.5
Beginning of centre line; central eclipse begins	18	42.4	W177	50.2	N62	48.5
Beginning of northern limit of umbra	18	42.6	W177	46.2	N62	57.4
Central eclipse at local apparent noon	19	35.4	W117	19.0	N33	36.8
End of northern limit of umbra	21	34.4	W 58	17.0	N 8	21.2
End of centre line; central eclipse ends	21	34.5	W 58	18.1	N 8	10.6
End of southern limit of umbra	21	34.7	W 58	19.2	N 8	00.1
End of southern limit of penumbra	21	50.9	W 57	20.2	S 25	03.9
⊙ Eclipse ends; last contact with Earth	22	40.4	W 72	48.4	S 5	22.2