

IV. - Total Eclipse of the Sun

2009 July 21-22



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$\Delta T = +66^s.4$
Globe centred on E 142°2 and N 20°7

Circumstances	Time (UT)	Longitude	Latitude
	h m	° /	° /
⊕ Eclipse begins; first contact with Earth	23 58.3	E 84 43.2	N 19 02.9
Beginning of southern limit of umbra	0 52.5	E 70 58.1	N 19 30.8
Beginning of centre line; central eclipse begins	0 52.8	E 70 31.5	N 20 21.5
Beginning of northern limit of umbra	0 53.2	E 70 04.2	N 21 12.1
Beginning of southern limit of penumbra	0 55.6	E 81 00.4	S 8 51.4
Beginning of northern limit of penumbra	1 19.2	E 45 51.7	N 49 49.4
Central eclipse at local apparent noon	2 33.0	E 143 21.7	N 24 36.7
End of northern limit of penumbra	3 51.6	W 139 27.8	N 17 50.6
End of southern limit of penumbra	4 14.7	W 171 08.7	S 41 31.8
End of northern limit of umbra	4 17.4	W 157 15.7	S 12 04.1
End of centre line; central eclipse ends	4 17.8	W 157 41.1	S 12 54.9
End of southern limit of umbra	4 18.1	W 158 06.1	S 13 45.7
⊙ Eclipse ends; last contact with Earth	5 12.4	W 171 50.8	S 14 13.9