

The total eclipse is first seen at sunrise, a little to the east of Adelaide in South Australia: from thence the line of total eclipse, crossing the equator in long. 150° W., and touching the extremity of the Californian peninsula, extends to the centre of the Gulf of Mexico, which is the point whence at sunset the total eclipse is last seen.

The eclipse is seen to end at sunset, from a series of points extending from the south of Peru, through Mexico, across the Rocky Mountains, to Hudson's Bay: the place at which the eclipse is last seen, being a point about 5° west from the Gulf of Mexico.

The geographical boundaries within which the eclipse is wholly or partially visible are as follows:—

On the *West*—A line from the north of New Guinea, extending south along the western limits of South Australia to a point in lat. 68° nearly due South from Melbourne.

From this point the *Southern* boundary stretches across the South Pacific to the coast of Peru near Lima.

The *Eastern* boundary extends from this point northward through Peru, Cuba, the United States and Canada West to Hudson's Bay.

Finally, the *Northern* boundary is a line passing from Hudson's Bay through Nootka Sound across the North Pacific to New Guinea.

At places on the Western boundary, the moon is seen only to touch the Eastern limb of the sun at sunrise.

On the South boundary, the moon is seen to touch the sun on the northern limb.

At places on the North boundary, the moon is seen to touch the sun on his southern limb.

And finally, at places on the Eastern boundary, the moon is seen to touch the western limb of the sun at sunset.

The following table exhibits the times at which the eclipse begins at certain places in Canada.

Ottawa.	Toronto.	Hamilton.	London.	A point near Detroit.
h m	h m s	h m	h m	h m
6 14 P. M.	6 5 30 P. M.	6 6 P. M.	6 0 P. M.	5 52 P. M.

The eclipse will be invisible at Kingston and in Lower Canada.

The exact time at which the eclipse begins at any point in Canada, may be calculated to the nearest minute from the following elements, with the aid of a table of logarithms.

$$\left(\begin{array}{c} \text{h.} \\ \text{R. A. at 11 Gr. M. time 0 20 30.96} \end{array} \right) \text{change in 1} = 132.17$$

$$\left(\begin{array}{c} \text{Declin.} \\ \text{..... 2 9 21.6} \end{array} \right) \text{..... 10} = 180.34$$

$$\left(\begin{array}{c} \text{h m s} \\ \text{R. A. at Gr. M. Noon ... 0 17 37.23} \end{array} \right) \text{..... 1} = 9.087$$

$$\left(\begin{array}{c} \text{Declin.} \\ \text{..... 1 54 32.0} \end{array} \right) \text{..... 1} = 58.57$$

$$\left(\begin{array}{c} \text{h m s} \\ \text{R. A. of Mean } \odot \text{ 0 11 33.04} \end{array} \right) \text{..... 1} = 9.8565$$

$$\text{Semi-d. of } \odot + \text{Semi-d. of section of luminous cone} = 1061.65$$

$$\left(\begin{array}{c} \text{red. Hor. Par.} \\ \text{—Sun's Hor. Par.} \end{array} \right) = 3640.3$$

$$\text{Reduction of lat. for figure of the earth} = 10.48$$

II.—An Annular Eclipse of the Sun on Sept. 17th, invisible in Canada. This eclipse begins at a point a little to the south of the Caspian sea, and ends in the interior of Australia.

The line of central eclipse extends from a point near Constantinople across the Caspian Sea, the north of India, and the Burmese Empire to a point on the N. E. of Australia.

The eclipse is visible in Sweden, Russia, South Eastern Europe, the Levant, Egypt, Australia, the Eastern Archipelago, and the whole of Asia, with the exception of a portion of its north eastern extremity.

Meteorological.

The following is a table giving the normal and mean values of certain meteorological elements for each month during the year. The numbers in the table are derived from the experience of past years at Toronto, and serve as standards with which to compare the observed values of the several elements.

MONTHS.	MEAN NORMAL TEMPERATURE.							MEAN HEIGHT OF BAROMETER IN INCHES.					RAIN.		SNOW.															
	6a.m.	8a.m.	2p.m.	4p.m.	10p.m.	Maxt.	Mean	6 a.m.	2 p.m.	10p.m.	Mean.	No.of Days.	Depth in Inches.	No.of Days.	Depth in Inches.															
January.....	22	80	22	99	28	19	27	24	80	29	627	29	602	29	631	29	628	4	6	1	701	10	4	13	4					
February.....	19	79	20	70	28	81	28	13	22	63	21	98	23	67	29	615	29	596	29	613	29	611	3	9	1	088	11	0	18	3
March.....	25	58	28	30	38	84	35	20	28	58	27	93	30	38	29	621	29	600	29	623	29	618	5	7	1	613	7	9	9	9
April.....	35	79	40	26	47	51	47	19	38	66	37	91	40	99	29	659	29	639	29	640	29	644	8	7	2	871	2	4	2	0
May.....	48	10	51	21	58	57	58	65	48	23	46	56	51	48	29	582	29	555	29	565	29	564	10	3	2	976	0	4	0	1
June.....	55	77	60	97	68	18	68	81	57	23	56	67	61	03	29	595	29	572	29	572	29	576	10	7	3	042				
July.....	60	11	66	30	74	74	74	99	61	99	59	83	66	25	29	604	29	583	29	586	29	589	8	9	3	720				
August.....	59	21	65	45	73	60	73	76	61	98	60	36	65	78	29	645	29	629	29	629	29	632	9	3	2	719				
September.....	51	34	56	60	64	41	64	17	54	52	53	47	57	49	29	664	29	636	29	643	29	646	10	6	4	458				
October.....	40	52	43	56	50	94	50	02	43	08	41	84	45	04	29	666	29	645	29	665	29	664	11	2	2	929	1	9	1	
November.....	33	53	34	63	40	06	39	07	35	29	34	33	36	18	29	627	29	608	29	621	29	626	9	2	3	026	4	6	2	5
December.....	24	72	25	03	30	41	23	43	26	62	26	07	27	09	29	650	29	621	29	640	29	643	6	1	1	822	11	2	14	2