

ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 NOVEMBER 7-13

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on November 7

Sun rises, 7h. 6m.; souths, 11h. 43m. 49^s.; sets, 16h. 22m.; decl. on meridian, 16° 21' S.; Sidereal Time at Sunset, 19h. 29m.
Moon (Full on November 11) rises, 15h. 4m.; souths, 20h. 58m.; sets, 3h. 2m.*; decl. on meridian, 1° 49' S.

Planet	Rises h. m.	Souths h. m.	Sets h. m.	Decl. on meridian
Mercury ...	9 22 ...	13 11 ...	17 0 ...	23 59 S.
Venus ...	6 26 ...	11 20 ...	16 14 ...	13 25 S.
Mars ...	10 42 ...	14 27 ...	18 12 ...	24 27 S.
Jupiter... ..	4 55 ...	10 19 ...	15 43 ...	7 43 S.
Saturn... ..	20 30* ...	4 32 ...	12 34 ...	21 18 N.

* Indicates that the rising is that of the preceding evening and the setting that of the following morning.

Occultations of Stars by the Moon (visible at Greenwich)

Nov.	Star	Mag.	Disap.	Reap.	Corresponding angles from vertex to right for inverted image
			h. m.	h. m.	
7 ...	4 Ceti ...	6 ...	17 45 ...	18 32 ...	32 32 ⁰
7 ...	5 Ceti ...	6 ...	18 0 ...	19 1 ...	48 31 ¹
7 ...	B.A.C. 5 ...	6 ...	18 23 ...	19 42 ...	89 28 ¹
9 ...	♄ Piscium ...	4½ ...	18 4 ...	19 9 ...	60 27 ⁷
12 ...	48 Tauri ...	6 ...	19 18 ...	20 18 ...	61 25 ¹
12 ...	γ Tauri ...	4 ...	21 17 ...	22 25 ...	55 27 ¹
13 ...	75 Tauri ...	6 ...	2 38 ...	3 37 ...	162 27 ⁵
13 ...	θ ¹ Tauri ...	4½ ...	2 46 ...	3 57 ...	62 17
13 ...	θ ² Tauri ...	4½ ...	3 6 ...	near approach	39 —
13 ...	B.A.C. 139 ¹ ...	5 ...	3 39 ...	4 46 ...	115 33 ²
13 ...	Aldebaran ...	1 ...	6 27 ...	7 16 ...	165 28 ⁴

Saturn, Nov. 7.—Outer major axis of outer ring = 43".5; outer minor axis of outer ring = 16".8; southern surface visible.

Nov. 13 ... 17 ... Mercury at greatest elongation from the Sun, 22° east.

Variable Stars

Star	R.A.	Decl.	h. m.
	h. m.	°	
S Cassiopeæ ...	0 17.1 ...	55 10 N. ...	Nov. 9, M
U Cephei ...	0 52.2 ...	81 16 N. ...	" 8, 3 49 m
Algol ...	3 0.8 ...	40 31 N. ...	" 12, 3 29 m
R Aurigæ ...	5 8.1 ...	53 27 N. ...	" 11, 3 56 m
S Cancrī ...	8 37.4 ...	19 27 N. ...	" 9, 3 53 m
U Ophiuchi ...	17 10.8 ...	1 20 N. ...	" 8, 3 37 m
and at intervals of 20 8			
β Lyræ... ..	18 45.9 ...	33 14 N. ...	Nov. 12, 19 0 m
R Lyræ ...	18 51.9 ...	43 48 N. ...	" 13, m
η Aquilæ ...	19 46.7 ...	0 43 N. ...	" 7, 5 0 m
R Vulpeculæ ...	20 59.3 ...	23 22 N. ...	" 9, m
δ Cephei ...	22 24.9 ...	57 50 N. ...	" 10, 5 0 M

M signifies maximum; m minimum.

Meteor Showers

A radiant near δ Hydræ, R.A. 124°, Decl. 4° N., and one in Camelopardus, R.A. 102°, Decl. 73° N., are active in the early part of this week. Moonlight interferes with meteor observation during the greater part of the week.

THE HIGH TEMPERATURE IN OCTOBER

THE warm weather which occurred at the commencement of the month was so exceptional for the season, and extended over so large a part of Europe, that a few facts as to its general character may be of interest, and will afford opportunity of comparison with earlier records, as well as with records of any similar weather in time to come.

The highest temperatures were experienced during the first five days of the month, and were chiefly confined to Western, Central, and Southern Europe. During this time atmospheric

pressure was generally high over Central Europe, and decreased towards the western or Atlantic coasts, so that the conditions of pressure were favourable to anticyclonic circulation over France and the south-east of England, and cyclonic circulation in Ireland and the northern parts of the British Islands. The barometric gradients were very slight over the Continent, but were rather steeper over Great Britain and Ireland, owing to the proximity of a barometric depression to the westward. This distribution of pressure was accompanied by southerly and south-easterly winds over Western Europe, and especially over France and our own islands, but it was only in Ireland and the more western parts of Great Britain that the wind was at all fresh.

At this season of the year our warmest weather in England is commonly experienced with south-easterly winds, as is well shown in the valuable discussion of the Greenwich observations for the years 1849 to 1868, in which the temperatures have been averaged for the several wind directions. The following are the temperatures for October:—

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Monthly means	47	50	52	55	53	53	51	51
Highest hourly means	52	55	59	61	59	58	57	55

The same discussion also shows the striking difference which exists, in October, between the temperature with a cloudless and a cloudy sky:—

	Mean	Mean max.	Mean min.
Cloudless sky ...	50.8	61.1	43.5
Cloudy sky ...	51.8	54.8	49.8

The high temperatures experienced over England in October this year occurred with an exceptionally clear sky, as well as with a remarkably steady south-easterly wind, and the air before reaching England had been subjected to very similar conditions on the continent of Europe.

The following table gives the maximum day temperatures at twenty stations selected from the Daily Weather Report of the Meteorological Office and from the Paris Bulletin International for the first five days of October:—

Station	Day 1	2	3	4	5	Mean	
British Islands	York ...	64	63	66	69	63	65
	Greenwich ...	78	68	69	79	77	74
	Parsonstown (Ireland) ...	58	61	61	64	66	62
France	Dunkirk ...	79	72	72	81	79	77
	Cherbourg ...	72	73	64	72	68	70
	Paris ...	77	65	78	78	77	75
	Nantes ...	79	70	81	82	64	75
Germany	Biarritz ...	82	73	81	81	68	77
	Hamburg ...	72	73	75	77	75	74
	Berlin ...	61	68	61	64	68	64
Belgium—	Brussels ...	63	73	63	61	66	65
	Vienna ...	75	70	75	72	70	72
Spain	Barcelona ...	76	64	71	75	77	73
	Madrid ...	73	75	73	72	70	73
Portugal	Lisbon ...	88	100	95	91	85	92
	Turin ...	62	72	75	70	68?	69
Italy	Lisbon ...	70	68	68	70	68	69
	Turin ...	72	73	73	73	73	73
	Rome ...	77	79	81	81	81	80
Palermo (Sicily) ...	82	84	84	82	84	83	
Mean ...	73	72	73	75	72		

The stations have been selected as representative of Western, Central, and Southern Europe, and the table shows well the area over which the warm weather extended.

The more northern parts of Europe did not experience any exceptional heat, the highest temperature at Copenhagen being 63°, and at Stockholm 61°. The more western parts were also but little affected: in Ireland the highest maximum was 66° at Parsonstown on the 5th, and at no other station was the temperature above 65°. In Scotland the temperature did not reach 70°.

The Greenwich observations from 1841 show that a higher temperature has only once been registered in October, viz. 81° on the 4th in 1859; but the daily mean, which was 67°.1 on the 4th this year, is higher than any previously recorded.

The observations which were made in the apartments of the Royal Society from the year 1794, excepting the years 1811 to 1819, do not show so high a reading between 1794 and 1840. At Kew Observatory the highest temperature recorded was 77°