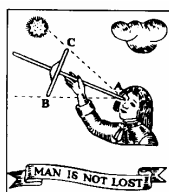


ASTRONOMICAL INFORMATION SHEET No. 95



Prepared by

HM Nautical Almanac Office

THE UNITED KINGDOM HYDROGRAPHIC OFFICE

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Earliest Sighting of the New Crescent Moon between 2006 — 2010

This note gives the local date, local mean time and place of the earliest sighting of the new crescent moon between 2006 January and 2010 December, using a telescope.

The earliest time of sighting new crescent moon occurs when the Moon is vertically above the Sun at sunset, so that their azimuths are equal. The calculations have been made at this optimum situation at sunset when q is equal to -0.232 . The quantity q is defined in **NAO Technical Note No. 69**, *A Method for Predicting First Visibility of the New Crescent Moon* by B.D. Yallop, 1998, April. From the list of 295 observations of first sighting discussed in the Technical Note, this value of q corresponds to the lowest limit for which the new crescent moon has been observed even with a telescope. The curve where $q = -0.232$ on the surface of the Earth has a parabolic shape. The place of earliest sighting does not coincide with the most easterly place on this curve. The reason for this is that the sunset lines are tangent to the curve, at the place of earliest sighting, which leaves the most easterly point still in daylight except in the rare situation where the declination of the Sun is zero. The best time for the actual sighting will be during twilight, probably when the depression of the Sun is around 4 to 5 degrees, and q will be around -0.216 .

The table gives the local date, the week day and the local mean time (LMT) of sunset for the earliest sighting, the interval of time from sunset to moonset in minutes (lag time), the longitude and latitude of the best place and the age of the Moon since new. The next column headed "Time Unseen", gives the minimum time that the Moon remains invisible to the unaided eye, i.e. the time in days between the last sighting of the old moon and the first sighting of the new moon from the most favourable places on the Earth. The last column gives a rough indication of the geographical location of the place. The months of Ramadhan are indicated in **bold**.

Earliest Date, Time and Place of First Sighting

Local Date	Week Day	LMT of Sunset h m	Time to Moonset m	Longitude ° ′	Latitude ° ′	Moon Age h m	Time Unseen d	Place
2006								
Jan. 29	Sunday	18 31	33	W 125 59	S 10 36	12 38	1.03	Central Pacific Ocean
Feb. 28	Tuesday	18 09	32	E 55 29	N 12 01	13 57	1.13	East of Somalia
Mar. 29	Wednesday	18 17	37	W 94 52	N 31 23	14 20	1.20	S.E. Texas, USA
Apr. 28	Friday	18 54	46	E 140 04	N 41 22	13 47	1.18	North of Honshu, Japan
May 27	Saturday	19 20	49	E 10 23	N 40 19	13 11	1.12	East coast of Sardinia
June 25	Sunday	19 05	42	W 163 28	N 29 59	13 53	1.14	N.W. of Hawaiian Islands
July 25	Tuesday	18 27	34	W 34 19	N 11 32	16 13	1.30	S.W of Cape Verde Islands
Aug. 24	Thursday	17 57	32	E 65 07	S 11 06	18 27	1.50	N.E. of Mauritius
Sept. 23	Saturday	17 56	37	E 172 30	S 31 39	18 42	1.57	N.W. of N.I., New Zealand
Oct. 22	Sunday	18 33	47	W 52 34	S 43 40	16 50	1.45	East of Argentina
Nov. 21	Tuesday	19 11	52	E 96 32	S 43 17	14 28	1.24	Southern Indian Ocean
Dec. 20	Wednesday	19 04	43	W 127 53	S 31 27	13 34	1.13	South Pacific Ocean
2007								
Jan. 19	Friday	18 30	34	E 3 26	S 10 11	14 15	1.16	West of Angola
Feb. 18	Sunday	18 05	33	E 167 60	N 14 56	14 38	1.21	North of Marshall Islands
Mar. 19	Monday	18 10	39	E 23 54	N 36 27	13 52	1.17	South of Greece
Apr. 17	Tuesday	18 52	50	W 78 15	N 47 43	12 27	1.07	S.E. Quebec, Canada
May 16	Wednesday	19 26	54	W 175 29	N 45 42	11 38	0.99	South of Aleutian Islands
June 15	Friday	19 09	43	E 50 39	N 32 37	12 31	1.02	Western Iran
July 14	Saturday	18 28	34	W 127 34	N 11 22	14 53	1.19	Eastern Pacific Ocean
Aug. 13	Monday	17 54	33	E 26 37	S 13 16	17 06	1.39	North Zambia
Sept. 12	Wednesday	17 48	39	E 170 40	S 35 34	17 43	1.48	N.W. of N.I. New Zealand
Oct. 11	Thursday	18 25	51	W 48 07	S 49 07	16 39	1.43	East of Falkland Islands
Nov. 10	Saturday	19 11	57	E 72 19	S 48 19	15 19	1.30	N.E. of Kerguelen Island
Dec. 10	Monday	19 03	44	E 148 01	S 33 55	15 31	1.27	NSW, Australia

continued

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continued

Local Date	Week Day	LMT of Sunset h m	Time to Moonset m	Longitude ° ′	Latitude ° ′	Moon Age h m	Time Unseen d	Place
2008								
Jan. 8	Tuesday	18 27	34	W 146 37	S 9 59	16 36	1.35	French Polynesia
Feb. 7	Thursday	17 59	34	W 33 38	N 17 03	16 28	1.37	West of Cape Verde Islands
Mar. 8	Saturday	17 59	41	E 150 34	N 40 18	14 42	1.26	East of Japan
Apr. 6	Sunday	18 44	55	E 34 47	N 52 52	12 30	1.08	N.E. Ukraine
May 5	Monday	19 25	58	W 63 22	N 49 58	11 19	0.96	S.E. Quebec, Canada
June 4	Wednesday	19 09	44	E 175 30	N 34 22	12 02	0.98	Central N. Pacific Ocean
July 3	Thursday	18 27	34	E 34 25	N 10 55	13 49	1.11	Sudan/Ethiopia border
Aug. 1	Friday	17 50	34	W 113 48	S 15 07	15 11	1.25	Central S. Pacific Ocean
Aug. 31	Sunday	17 37	40	E 93 23	S 38 39	15 26	1.30	Central S. Indian Ocean
Sept. 29	Monday	18 11	55	W 72 01	S 53 34	14 47	1.26	Tierra del Fuego, Chile
Oct. 29	Wednesday	19 04	61	E 78 16	S 52 40	14 38	1.23	S.E. Kerguelen Island
Nov. 28	Friday	19 00	45	E 147 46	S 36 19	16 15	1.32	NSW, Australia
Dec. 28	Sunday	18 23	35	E 176 04	S 10 25	18 17	1.48	S.W. of Tuvalu, Pacific O.
2009								
Jan. 26	Monday	17 51	35	W 126 11	N 18 02	18 22	1.53	Eastern Pacific Ocean
Feb. 25	Wednesday	17 45	43	W 1 07	N 42 40	16 15	1.40	Pyrenees, N.E. Spain
Mar. 26	Thursday	18 28	59	W 168 44	N 56 30	13 36	1.18	Bearing Sea
Apr. 25	Saturday	19 18	60	E 53 33	N 53 01	12 20	1.04	N. of Caspian Sea, Russia
May 24	Sunday	19 04	44	W 89 47	N 35 19	12 52	1.05	Tennessee, USA
June 23	Tuesday	18 24	34	E 134 11	N 10 17	13 51	1.13	East of the Philippines
July 22	Wednesday	17 45	34	E 15 31	S 16 33	14 08	1.18	Southern Angola
Aug. 20	Thursday	17 25	42	W 91 51	S 40 44	13 30	1.15	West of Chile
Sept. 19	Saturday	17 51	58	E 156 32	S 56 37	12 40	1.08	SW of New Zealand
Oct. 18	Sunday	18 51	63	E 4 20	S 55 53	13 01	1.08	South Atlantic Ocean
Nov. 17	Tuesday	18 53	46	E 125 12	S 38 13	15 18	1.23	South of Western Australia
Dec. 16	Wednesday	18 20	35	W 175 17	S 11 16	17 59	1.45	N.W. of Samoa, Pacific O.
2010								
Jan. 15	Friday	17 45	35	W 122 01	N 17 53	18 42	1.56	Eastern Pacific Ocean
Feb. 14	Sunday	17 29	45	W 37 11	N 43 19	17 08	1.47	N.W. of the Azores
Mar. 16	Tuesday	18 04	61	E 91 19	N 58 13	14 59	1.29	Central Siberia, Russia
Apr. 14	Wednesday	19 02	60	W 115 27	N 54 34	14 15	1.18	Alberta, Canada
May 14	Friday	18 57	43	E 44 44	N 35 27	14 53	1.21	Northern Iraq
June 12	Saturday	18 20	34	W 121 42	N 9 31	15 12	1.25	Pacific Ocean
July 12	Monday	17 40	35	E 114 20	S 17 32	14 23	1.21	N.W. of Western Australia
Aug. 10	Tuesday	17 13	44	E 19 18	S 41 39	12 48	1.10	South of South Africa
Sept. 8	Wednesday	17 29	59	W 68 10	S 57 45	11 30	0.99	South of South America
Oct. 8	Friday	18 31	62	E 179 05	S 57 15	11 48	0.97	S.E. of New Zealand
Nov. 6	Saturday	18 42	44	W 1 07	S 39 01	13 54	1.12	South Atlantic Ocean
Dec. 6	Monday	18 14	35	E 126 32	S 11 46	16 12	1.32	Timor Sea

The table can be used as a rough guide to tell when the new crescent Moon will first be seen at other places. For places with similar latitudes and west of the location in the table, first sighting should be on the same day. For places in the opposite hemisphere and west of the location in the table, first sighting will probably not occur until the following day. For places east of the location in the table, first sighting will probably not occur until the following day.

This office also supplies times of first visibility for specific places and Muslim prayer times. Please visit our website <http://websurf.nao.rl.ac.uk> or participate in our MoonWatch project at www.crescentmoonwatch.org.

SAB/CYH

2006 January