
COMPUTATION OF THE BIBLICAL CALENDAR

ASTRONOMY AND MATHEMATICS

1844

A Unique and Simple Way to Compute
the Biblical Calendar on a Year by Year Basis

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February 2019

Phases of the Moon 1844 – Embolismic – Edited with Colors – 14400teachers.org - Chart 1

U.S. Naval Observatory
Astronomical Applications Department

Date and Time (Universal Time)			
New Moon	First Quarter	Full Moon	Last Quarter
--	--	--	1844 Jan 12 21:32
1844 Jan 19 18:18	1844 Jan 27 12:31	1844 Feb 04 08:43	1844 Feb 11 05:22
1844 Feb 18 08:46	1844 Feb 26 09:58	1844 Mar 04 21:02	1844 Mar 11 13:20
1844 Mar 19 00:17	1844 Mar 27 05:02	1844 Apr 03 06:58	1844 Apr 09 22:09
1844 Apr 17 16:32	1844 Apr 25 20:17	1844 May 02 15:17	1844 May 09 08:23
1844 May 17 08:53	1844 May 25 07:30	1844 May 31 22:48	1844 Jun 07 20:29
1844 Jun 16 00:26	1844 Jun 23 15:25	1844 Jun 30 06:17	1844 Jul 07 10:50
184 Jul 15 14:24	1844 Jul 22 21:13	1844 Jul 29 14:34	1844 Aug 06 03:26
1844 Aug 14 02:32	1844 Aug 21 02:16	1844 Aug 28 00:34	1844 Sep 04 21:43
1844 Sep 12 13:17	1844 Sep 19 07:52	1844 Sep 26 13:14	1844 Oct 04 16:29
1844 Oct 11 23:25	1844 Oct 18 15:16	1844 Oct 26 05:05	1844 Nov 03 10:19
1844 Nov 10 09:37	1844 Nov 17 01:31	1844 Nov 24 23:42	1844 Dec 03 02:08
1844 Dec 09 20:13	1844 Dec 16 15:22	1844 Dec 24 19:29	1845 Jan 01 15:21
1845 Jan 08 07:13	--	--	--

Fraction of the Moon Illuminated, 1843 - Common
 At Midnight
 Universal Time

Astron. Applications Dept.
 U. S. Naval Observatory
 Washington, DC 20392-5420

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
01	0.00	0.02	0.00	0.01	0.02	0.08	0.12	0.28	0.48	0.55	0.69	0.71
02	0.02	0.06	0.01	0.04	0.05	0.14	0.20	0.39	0.59	0.65	0.77	0.79
03	0.05	0.11	0.03	0.08	0.10	0.23	0.30	0.50	0.69	0.74	0.85	0.86
04	0.10	0.18	0.07	0.14	0.17	0.32	0.41	0.62	0.78	0.82	0.91	0.92
05	0.17	0.26	0.12	0.22	0.26	0.43	0.53	0.72	0.86	0.89	0.95	0.96
06	0.25	0.34	0.19	0.30	0.36	0.55	0.64	0.81	0.92	0.94	0.99	0.99
07	0.33	0.43	0.27	0.40	0.46	0.66	0.74	0.89	0.97	0.98	1.00	1.00
08	0.42	0.53	0.36	0.51	0.57	0.76	0.84	0.95	0.99	1.00	0.99	0.99
09	0.52	0.63	0.46	0.61	0.68	0.86	0.91	0.98	1.00	1.00	0.97	0.96
10	0.61	0.73	0.56	0.72	0.79	0.93	0.97	1.00	0.98	0.98	0.93	0.91
11	0.70	0.82	0.66	0.82	0.88	0.98	0.99	0.99	0.95	0.94	0.87	0.85
12	0.79	0.89	0.76	0.90	0.94	1.00	1.00	0.97	0.91	0.89	0.80	0.76
13	0.87	0.95	0.85	0.96	0.99	0.99	0.98	0.92	0.85	0.83	0.72	0.67
14	0.93	0.99	0.92	0.99	1.00	0.96	0.94	0.86	0.77	0.75	0.62	0.56
15	0.98	1.00	0.97	1.00	0.98	0.91	0.89	0.79	0.69	0.66	0.51	0.45
16	1.00	0.98	1.00	0.97	0.94	0.85	0.82	0.71	0.60	0.56	0.40	0.34
17	0.99	0.93	0.99	0.92	0.88	0.77	0.74	0.62	0.50	0.46	0.30	0.23
18	0.96	0.86	0.95	0.84	0.80	0.68	0.65	0.53	0.40	0.35	0.20	0.14
19	0.90	0.76	0.89	0.75	0.71	0.58	0.56	0.43	0.30	0.25	0.11	0.07
20	0.82	0.66	0.80	0.66	0.62	0.49	0.46	0.34	0.20	0.16	0.05	0.02
21	0.73	0.55	0.71	0.55	0.52	0.39	0.37	0.24	0.12	0.08	0.01	0.00
22	0.62	0.44	0.60	0.45	0.42	0.30	0.28	0.16	0.06	0.03	0.00	0.01
23	0.51	0.34	0.50	0.36	0.33	0.22	0.19	0.09	0.02	0.00	0.02	0.04
24	0.40	0.24	0.39	0.27	0.24	0.14	0.12	0.04	0.00	0.01	0.07	0.10
25	0.29	0.16	0.30	0.19	0.17	0.08	0.06	0.01	0.02	0.04	0.14	0.17
26	0.20	0.10	0.21	0.12	0.10	0.04	0.02	0.00	0.06	0.11	0.23	0.25
27	0.12	0.05	0.14	0.07	0.05	0.01	0.00	0.03	0.14	0.19	0.32	0.35
28	0.06	0.02	0.08	0.03	0.02	0.00	0.01	0.08	0.23	0.28	0.42	0.44
29	0.02		0.04	0.01	0.00	0.02	0.04	0.16	0.33	0.39	0.52	0.54
30	0.00		0.01	0.00	0.01	0.06	0.10	0.26	0.44	0.49	0.62	0.63
31	0.00		0.00		0.03		0.18	0.36		0.59		0.72

Fraction of the Moon Illuminated, 1844 - Embolismic - Chart 3
 At Midnight
 Universal Time

Astron. Applications Dept.
 U. S. Naval Observatory
 Washington, DC 20392-5420

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
01	0.80	0.88	0.83	0.93	0.96	1.00	0.99	0.93	0.84	0.82	0.73	0.71
02	0.87	0.94	0.90	0.97	0.99	0.98	0.96	0.87	0.76	0.75	0.64	0.61
03	0.93	0.98	0.95	1.00	1.00	0.94	0.90	0.79	0.68	0.66	0.54	0.51
04	0.97	1.00	0.99	0.99	0.97P	0.87	0.83	0.70	0.59	0.57	0.44T	0.41
05	0.99	0.99	1.00	0.96	0.92UB	0.79	0.74	0.61	0.49	0.47	0.34	0.30
06	1.00	0.97	0.98	0.89	0.84FF	0.69	0.64	0.51	0.40	0.37	0.25	0.20
07	0.98	0.91	0.94	0.81	0.75	0.59	0.55	0.42	0.31	0.28	0.16	0.12
08	0.94	0.84	0.87	0.71	0.64	0.49	0.45	0.33	0.22	0.19	0.08	0.05
09	0.88	0.74	0.78	0.60	0.54	0.39	0.35	0.24	0.14	0.12	0.03	0.01
10	0.80	0.64	0.67	0.49	0.43	0.30	0.27	0.17	0.08	0.05	0.00	0.00
11	0.71	0.53	0.56	0.39	0.33UB	0.21	0.19	0.10	0.03	0.01	0.01	0.02
12	0.60	0.41	0.45	0.29	0.24	0.14P	0.12	0.05	0.01	0.00	0.04	0.07
13	0.49	0.31	0.34	0.20	0.17	0.08	0.06	0.01	0.00	0.02	0.10	0.14
14	0.38	0.21	0.25	0.13	0.10	0.04	0.03	0.00	0.03	0.06T	0.18	0.23
15	0.27	0.13	0.16	0.07	0.05	0.01	0.00	0.01	0.08	0.13	0.28	0.33
16	0.17	0.06	0.09	0.03	0.02	0.00	0.00	0.04	0.15	0.22	0.39	0.43
17	0.10	0.02	0.04	0.01	0.00	0.01	0.02	0.10	0.25	0.32	0.49	0.54
18	0.04	0.00	0.01	0.00	0.00	0.04	0.06	0.18	0.35	0.43	0.60	0.64
19	0.01	0.01	0.00	0.02	0.02	0.09	0.12	0.27	0.46	0.54	0.70	0.73
20	0.00	0.03	0.01	0.05	0.06	0.15	0.20	0.38	0.58	0.65	0.79	0.81
21	0.02	0.07	0.04	0.10	0.12	0.23	0.30	0.49	0.69	0.75	0.86	0.88
22	0.06	0.13	0.08	0.16	0.19	0.33	0.40	0.60	0.78	0.83	0.92	0.93
23	0.12	0.20	0.14	0.23	0.27	0.43	0.51	0.71	0.86	0.90DA	0.96	0.97
24	0.19	0.28	0.21	0.32	0.36	0.54	0.63	0.81	0.93	0.95	0.99	0.99
25	0.27	0.37	0.30	0.42	0.47	0.65	0.74	0.89	0.97	0.98	1.00	1.00
26	0.36	0.46	0.39	0.52	0.58	0.76	0.83	0.95	1.00	1.00	0.99	0.99
27	0.45	0.56	0.48	0.62	0.68	0.85	0.91	0.99	1.00	0.99	0.96	0.96
28	0.55	0.65	0.58	0.72	0.78	0.93	0.97	1.00	0.98	0.97T	0.92	0.91
29	0.64	0.74	0.68	0.82	0.87	0.98	0.99	0.99	0.94	0.93	0.86	0.84
30	0.73		0.77	0.90	0.94	1.00	1.00	0.96	0.89	0.88	0.79	0.76
31	0.81		0.86		0.99		0.97	0.91		0.81		0.67
	(30)	(30)	(29)	(30)	(30)	(29)	(30)	(29)	(30)	(29)	(30)	(29)

Passover Celebration: Sunset of May 3 to sunset of May 4

Day of Atonement Celebration: Sunset of October 22 to sunset of October 23

The purpose of this research is to enunciate the Universal Law of the celestial worship time of the Passover feast and Day of Atonement for the year 1844 by illustrating the moon phases and fraction of the moon illuminated for that year. The astronomical calculation and observation of the 'consecrated moon' for every month is thus established, reinstating the ancient method of observation in the Hebrew temple.

Breaking the Code: Computation of October 22 1844

Moon Phases and Fraction of Moon Illuminated Purposes Revealed

1. The Flood Chronicle

"Of essential importance are the nature and character of the Genesis calendar [Chapters 7 and 8]. That this instrument was calculated, and not based upon new moon observation seems incontrovertible and furthermore, there is no direct evidence that any written sources were at the annalist's command. Moreover, if the months had been originally determined by **consecrated and observed moons** – fourteen in number – then they would most likely not have presented a regular series of alternate 30 – and 29—day periods (*for the Genesis reckoning*).

And hereby, is lifted the uncertainty which has hitherto challenged the whole problem of the ancient lunar month, namely, what happened to the calendar when the moon is not seen? Every scripture date is an answer to this question, for all dates in the Bible responds to calculated new moons, as the synchronism's reveal, and is now further supported by the reckoning in Genesis 7 and 8."

The Grace Amadon Collection, The Flood Chronicle, pages 1 - 19, excerpts, (emphasis supplied), 1939

2. The New Moon Must be Observed in Honor of the Creator

"The Creator did not plan that astronomical calculations should take the place of the living, expectant observation of His people. The Hebrew sages record that eye-witnesses were to fix the time of every new moon.

Following the return from captivity, the Sanhedrim were accustomed to meet at the Temple in the "Hall of Polished Stones" on the eve of the 29th of each month, to await the observers (Rosh 2:5-7). Charts and pictures of the appearance of the crescent hanging in the evening sky had been developed through the years. These were used to check the evidence (Rosh 2:8). Once two sighters had agreed, and the interlocutors were satisfied, the festival was announced. But should no credible evidence be forthcoming, the day was reckoned to the previous month, which was then described as "full," i.e. of thirty days (Rosh 3:1). On the following evening the silver sickle was easily seen, and the chief of the court

announced the **new month with the formula, "It is sanctified!"** to which the people present responded, "It is sanctified! It is sanctified!" Then the ram's horn or shophar proclaimed that the month had commenced (Rosh 2:7)." [Rosh Hashanah designated Rosh] With Jesus in His Sanctuary, 217, Leslie Hardinge, 1991 (emphasis supplied)

3. USNO – United States Naval Observatory – A Touch of History

"The U.S. Naval Observatory is one of the oldest scientific agencies in the country. It was established in 1830 as the Depot of Charts and Instruments. Its primary mission was to care for the U.S. Navy's chronometers, charts and other navigational equipment.

In 1844, as its mission evolved and expanded, the Depot was reestablished as the U.S. Naval Observatory and was located on a hill north of where the Lincoln Memorial now stands in Washington's Foggy Bottom district. For nearly 50 years the Observatory remained at the Foggy Bottom location. During these years significant scientific studies were carried out such as speed of light measurements, the phenomena of solar eclipses and transit of Venus expeditions. The astronomical and nautical almanacs were started in 1855. In 1877, while working for the Naval Observatory, astronomer Asaph Hall discovered the two satellites of Mars.

Today, the U.S. Naval Observatory is the preeminent authority in the areas of time keeping and celestial observing; determining and distributing the timing and astronomical data required for accurate navigation and fundamental astronomy.

A more extensive history of the Observatory may be found [here](#).

The definitive history of the U.S. Naval Observatory is the book *Sky and Ocean Joined: The U.S. Naval Observatory 1830 - 2000* by Steven J. Dick (Cambridge, UK, Cambridge University Press, 2002, ISBN 0 521 81599)" <https://www.usno.navy.mil/USNO/about-us/a-brief-history>

4. The Millerites and the Karaites Method

While William Miller and his associates may have had access to the USNO data and according to their writings, to the Old Farmer Almanac founded in 1792, and the Karaites' method to ascertain the date of October 22, in 1844 as the Great Day of Atonement using the barley harvest instead of the vernal equinox, it is highly unlikely that they would have had the data of the Fraction of the Moon Illuminated available to them.

Thus, the Moon Phases and the Fraction of the Moon Illuminated offered by USNO help establish the calculated and observed new moon for each month of the year as it was done in Ancient Times by the Patriarchs and Prophets to Israel of Old and until the time of Christ inclusively.

History reveals that the Rabbinical Jews prior to the destruction of Jerusalem in 70 AD, changed the use of the Barley to reckon the seasons by the

Vernal or Spring Equinox and have continued to do so ever since thus altering the Biblical method of computation of the Biblical Calendar for close to 2000 years now.

“The Mosaic ceremony connected with the barley harvest, so vital in its control of the Jewish year, did not long survive the first century of the Christian era, because of the dispersion of the Jews [70 AD]. The period of persecution which followed the fall of the second temple ultimately brought about a fixed calendar for the Jews --- one that was based upon an entirely different rule of intercalation than the ancient barley harvest regulation. [The vernal equinox]

About the 8th century AD, the Karaites arose to oppose the influence of the Rabbanites fixed calendar and to restore the barley harvest schedule as the important index to regulate the leap-year. This controversy over the Hebrew calendar raged for several centuries. It really represented a rivalry between Palestine and Babylon for the prerogative of keeping time for the Jewish nation. Though the Karaites were Biblically correct, in the end the Babylonian Jews gain control of the calendar, and Karaism dwindled.

Since 1780, the Karaites [of which the Millerites followed the original barley harvest based computation] have been slowly compromising with the Rabbanites on this question and today follow a fixed calendar.” Grace Amadon Collection, Crucifixion Date, Part V, page 30

5. October 22nd versus October 23rd

Another apparent discrepancy which may seem to contradict the Millerites reckoning of October 22nd 1844, Gregorian reckoning as the Great Day of Atonement of the 10th day of the 7th month of Leviticus 23:27, is the 23rd of October 1844 as shown on the data of the Fraction of the Moon Illuminated in Chart 3.

However, since the horned crescent is October 13th as indicated in red, on chart 3, the new moon celebration day would be from October 13th at sunset to October 14th Gregorian reckoning at sunset thus making October 22nd at sunset the starting of the Day of Atonement till the sunset of October 23rd for the complete day. This is how the Millerites did reckon the horned crescent on October 13th and the Day of Atonement on October 22nd. And this reckoning also applies for the feast of Passover in the spring, being always celebrated in ancient times till Christ era, the day after the full moon and not on it. Thus in 1844, the 14th of the 1st month was reckoned from the sunset of May 3rd to the sunset of May 4th.

6. The Rabbinical Jews and September 23rd 1844 as the Day of Atonement

We cannot close this research without adding this important and often unknown fact of history: the Rabbinical Jews in 1844, celebrated the Day of Atonement or Yom Kippur on September 23rd and not on October 22nd. In fact, they corrected the Millerites on this point, as can be read in the Grace Amadon Collection manuscript.

However, the Millerites knew that the Rabbinical Jews had compromised with the method of calculation of the Biblical Calendar according to the Karaites and history, by changing the Barley Harvest for the Spring Equinox of March 21st and from using the first full moon after the vernal or spring equinox as the Passover and dating it Abib 15th instead of 14th according to Exodus 12:6 and Leviticus 23:5 even as they do to this day.

And the Millerites were correct: October 22nd stands without impeachment.

September 23rd according to Chart 3 cannot be the Day of Atonement in 1844 for these following reasons:

- a. The New Moon Horned Crescent was and is the phase of the moon used to ascertain the new month instead of the Conjunction which the Rabbinical Jews have changed and used to this day.
- b. When using the horned crescent, September 23rd fails to meet the test of time while October 22nd passes the test.
- c. The spring feast of Passover cannot be in April in 1844 and neither can the Day of Atonement be in September because that year was an embolismic year instead of a common year which the Millerites acknowledged but the Rabbinical Jews ceased to recognize ever since they replaced the Barley Harvest as prescribed by the Creator through Moses for the vernal equinox. The Barley ascertains even to this day the agricultural season to reckon the spring or beginning of the Biblical Year. The embolismic year which occurs every 2 to 3 years makes up the difference of 11 days between the cycle of the moon (lunar cycle of 354 days) and the cycle of the sun (solar cycle of 365 days). By intercalating an extra month the seasons do not wander like the Islamic calendar for example and the Feasts of the LORD are observed at the right time and season.
- d. Another important reason and not the least, why the Passover cannot be in April in 1844 and the Day of Atonement in September, is because of the change of the rule of evidence established specifically by the Roman Catholic Church according to history and imposed on the Jews, in regard to the new moon conjunction (0.00) on or after the vernal equinox. If you take a look at Chart 3 you will be able to see that the Rabbinical Jews did not obey nor follow that rule in 1844 and as they do often, especially when the year is an embolismic one. In 1844, notice that the conjunction is March 19. Therefore, the Rabbinical Jews ignored the rule of evidence of on or after March 21st and used the full moon of April 3rd for the Passover that year making September the 7th month instead of October thus ignoring the embolismic year. As written in their papers, the Millerites knew the rule of the Barley preserved by the Karaites till the 1700 era and did not ascertain the Day of Atonement till the month of October Gregorian reckoning being the true 7th month since Passover was reckoned by them as May 3rd at sunset – (the celebration being the day following the sighting of the full moon at sunset and not on the day of the full moon).

See - Breaking the Code: Computation of the Biblical Calendar - for further explanation

<https://www.youtube.com/watch?v=vnVbjDlc-Mk&t=3s>

Conclusion

When the Phases of the Moon are compared to the Fraction of the Moon Illuminated, there seems to be an apparent discrepancy. However, the explanation offered by Grace Amadon on the '**calculated and consecrated new moon**' and by Leslie Hardinge on the '**sanctified new moon**', eliminates this apparent discrepancy.

While the computation of the **Phases of the Moon** points to the '**calculated new moon**', the **Fraction of the Moon Illuminated** confirms the '**consecrated or sanctified new moon**' and thus complement each other for their accuracy and trustworthiness. It also reinstates the ancient method of observation of the consecrated or sanctified new moon horned crescent in the Hebrew temple in use until the destruction of the temple in 70 AD confirming that the Biblical Calendar based on the barley harvest instead of the equinox was still in use at the time of Christ's death.

"And they that shall be of thee shall build the old waste places: thou shalt raise up the foundations of many generations; and thou shalt be called, the repairer of the breach, the restorer of paths to dwell in." Isaiah 58:12

"And it shall come to pass, that from one new moon to another, and from one sabbath to another, shall all flesh come to worship before me, saith the LORD." Isaiah 66:23

"In seeking to cast contempt upon the divine statutes, Satan has perverted the doctrines of the Bible, and errors have thus become incorporated into the faith of thousands who profess to believe the Scriptures. The last great conflict between truth and error is but the final struggle of the long standing controversy concerning the law of God. Upon this battle we are now entering - a battle between the laws of men and the precepts of Jehovah, between the religion of the Bible and the religion of fable and tradition." The Great Controversy, E.G. White, p. 582

The Grace Amadon Collection was obtained at the Centre for Adventist Research at Andrews University in 2007. It was written from 1939 to 1945.

https://en.wikipedia.org/wiki/Old_Farmer%27s_Almanac

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