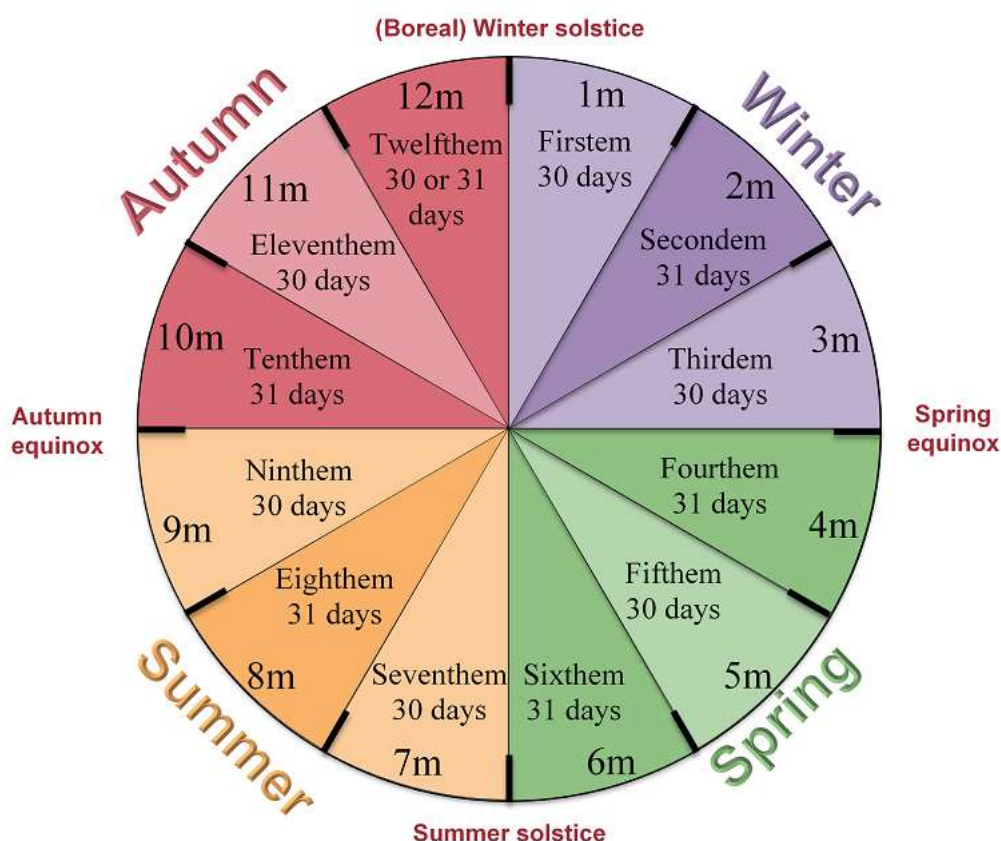


The Milesian calendar in short

Quick description

The Milesian calendar is a solar calendar, with weighted months, in phase with seasons. It enables you to understand and take control of the Earth's time.

The next picture represents the Milesian calendar with the *mean* solstices and equinoxes.



Leap days

The leap day is the last day of Twelfthem, it is 31 12m or 12m 31 (whether you use British or American English).

This day comes just *before* leap years.

Years

The Milesian years are numbered as the Gregorian ones. However, they begin 10 or 11 days earlier.

1 Firstem Y (1 1m Y) corresponds to 21 December Y-1 when Y is a common year, like 2015. But it falls on 22 December Y-1 when Y is a leap year like 2016. The mapping between Milesian and Gregorian dates is shifted by one for 71 days during “bissextile winters”, i.e.



from 31 Twelfthem to 9 Thirdem. 10 Thirdem always falls on 1 March, and each following Milesian date falls always at a same Gregorian date.

Date conversion with the Gregorian calendar

The first day of a Milesian month generally falls on 22 of the preceding Gregorian month, e.g.: 1 Fourthem (1 4m) falls on 22 March, 1 Fifthem (1 5m) on 22 April etc. However:

- 1 Tenthem (1 10m) falls on 21 September;
- 1 12m falls on 21 November;
- 1 1m of year Y falls on 21 December Y-1 if Y is a common year, but on 22 December if Y is a leap year;
- 1 2m and 1 3m falls on 21 January and 21 February in leap years, 20 January and 20 February in common years.

The first day of a Gregorian month generally falls on 11 of the Milesian month of same rank, e.g. 1 April falls on 11 4m, 1 June falls on 11 6m. However:

- 1 March, May and July fall on 10 3m, 5m, 7m respectively;
- in leap years 1 January (1/1 for British) falls also on 11 1m, but 1 February (1/2) falls on 12 2m;
- in common years you have to shift by one in January and February: 12 1m and 13 2m for 1 Jan and 1 Feb.

Advantages

Suitability to climate studies

In average, solstices and equinoxes fall when a Milesian month begins or finishes. Thus the Milesian calendar represents the seasons' cycle in an ideal way.

www.calendriermilesien.org shows example where seasons dependent phenomenons are better displayed on a Milesian layout than on a Gregorian, in particular for the cycle of the Arctic Sea Ice (<http://www.calendriermilesien.org/analyser-la-calotte-glaciaire.html>), and for the cycle of the Sea Surface Temperature (SST) (<http://www.calendriermilesien.org/pulsation-annuelle-des-oceans.html>).

Suitability to daylight period length estimation

Using the Milesian months, you can estimate the daylight period length month by month, using the “Rule of Twelfths”, well-known from sea-men in order to approximate tides.

Facilitate computations thanks to regular month intervals

Each bimester within a year is exactly 61 days. This facilitate many mental computations.

- You can compute week of days within a year almost as easily as within a month, because 7 weeks is 63 days, 2 bimester + 2 days.
- You can anticipate the moon phases, because two mean moon months is 59 days, 2 bimester - 2 days.
- As you can anticipate the moon phases, you can also anticipate the sea tides.

The English-born mathematician John H. Conway designed a “doomsday method” for computing days of week of any date. This method is applicable to the Milesian calendar.



Unambiguous notation

The international notation of Milesian month is "1m", "2m", etc., "12m".

In United Kingdom, you write 2 3m 2019 whereas in US you write 3m 2, 2019. No confusion.

Built for globality

The Milesian month names are easy to build in any language: the ordinal followed by the sound "m". So "Unème, secondème, tertème..." in French, "Firstem, Secondem, Thirdem..." in English, and so on. No special name to learn by heart.

Unambiguous historical dates

Our calendar as a complex history. Julius Caesar introduced it in 709 Ab Urbe Condita (i.e. in year 709 after Rome was founded). The 1 January 45 B.C. (year -44 for astronomers) was the first date of this calendar. From that date on, months had the length they have today, in particular February, month of infernal powers, with only 28 days. Caesar did not dare to change the strange length of this month.

The leap day was obtained by doubling the sixth day before 1 March: bis sextus dies, hence the word *bissextile*.

In the Julian calendar, leap years occur every four years, with no exception. But the tropical year is a little shorter than one year and six hours. As a consequence, in the 16th century, the Spring equinox would occur on 11 March rather than on 21 March, and the computation of Easter, the most important feast for Christians, was becoming a problem. That is why Pope Gregorius 13 introducing in 1582 an enhancement of the Julian calendar, which became our Gregorian calendar, whereby:

- 10 days were suppressed: 4 October 1582 was followed by 15 October in Rome, and most catholic countries did the same at different subsequent dates; for instance, 9 December 1582 was followed by 20 December in France;
- intercalation rule were changed: century years like 1700, 1800, 1900 would no more be leap years, but year divisible by 400 like 1600 and 2000 would remain leap years;
- the computus, i.e. the rule for computing the date of Easter, was enhanced.

Unfortunately, the non-catholic countries applied the reform not before 1700. Thus, a same date may refer to different days. For instance, Both Shakespeare and Cervantes died on 23 April 1616, but the former died in England 10 days after the latter in the Kingdom of Spain. (<http://www.calendriermilesien.org/shakespeare-et-cervantes.html>).

The Milesian calendar avoids such ambiguous dates.

Understanding long term season changes

Astronomers and historians use the "proleptic Julian calendar" for dates before Julius Caesar introduced it. This leads to misunderstandings. Fir instance, the heliacal rising of Sirius, which announced the flood of the Nile, would occur on 16 July in 3300 B.C., and would occur on 19 July at the time of Caesar and Cleopatra. Shifted by only 3 days? In reality, it was 27 days later in the tropical year (<http://www.calendriermilesien.org/la-derive-de-sirius.html>).



Why *Milesian*?

This name was chosen as a tribute to Thales of Miletus. Herodote writes that Thales was the first scientist who said that a tropical year held $365 \frac{1}{4}$ days, instead of exactly 365.

Introducing the Milesian calendar to today's world

Our belief is that the Milesian calendar should be introduced as a possible addition to the Gregorian calendar. The former should not supersede the latter before it is proven its utility for studying matters in relation with the tropical years: climate, agriculture, seasonal economics, history etc.

A minimum set of easy to use computing tools is necessary. May they be found in this repository. And may anyone interested in the Milesian calendar project make comments and contribute.