

Publication

Islamic Calendar

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The Islamic calendar is a lunar calendar consisting of 12 months. Hence, a year is either 354 or 355 days long. There are no intercalations to keep the lunar year synchronised with the solar year. The epoch used in the Islamic calendar is the Hijra, dates in this era are therefore denoted as Anno Hegirae AH ("in the year of the Hijra"). The beginning of this era was introduced retrospectively. In 622 CE Muhammad and his followers went from Mekka to Medina, where they installed a Muslim community - an event that is commemorated as the Hijra. From year AH 10 onward the lunar calendar consisting of 12 months was used: earlier on, probably a lunisolar calendar was employed according to Qur'an Sura 9: 36-37. Up to recent times in many countries a new lunar month started when the lunar crescent could be observed for the first time after new moon. For the new lunar crescent to be observable, three conditions must be fulfilled: the lunar crescent must have a minimal width to be bright enough, the lunar crescent must have a minimal altitude above the horizon, otherwise extinction of Earth's atmosphere renders it invisible, the Sun must be far enough below the horizon. In a lunar calendar based on observation a lunar months can either have 29 or 30 days. There is no regular pattern traceable: a lunar month of 29 days can repeat up to four times in a row, a lunar month of 30 days even up to five times. Some groups - astronomers and the Ismaelites - used a calendar scheme from the 8th century onward. However, this scheme was only of little importance for the civil life. The year numbering and the month names in the scheme are the same as in the civil calendar based on observation, but the month lengths are determined by arithmetical rules, not by observation. It has a 30-year cycle with 19 years of 354 days and 11 "leap years" of 355 days. The months Muharram (1), Rabi'al-Awwal (3), Jumada I-Ula (5), Rajab (7), Ramadan (9) and Dhu I-Qa'da (11) always have 30 days and the months Safar (2), Rabi'ath-Thani (4), Jumada t-Tania (6), Sha'ban (8) and Shawwal (10) always 29 days. The month Dhu I-Hijja (12) has 29 days in normal years and 30 days in "leap years". This calendar scheme is usually used to convert Islamic dates of historical astronomical observations into Julian or Gregorian calendar dates. It can deviate by one or two days from actual circumstances in the sky. The beginning of the Hijra era is computed retrospectively and fixed on July 16th, 622 CE. However, the lunar crescent was easily visible in Medina already on July 15th, 622 CE. This implies that the calendar scheme starts one day too late compared with actual observation.

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