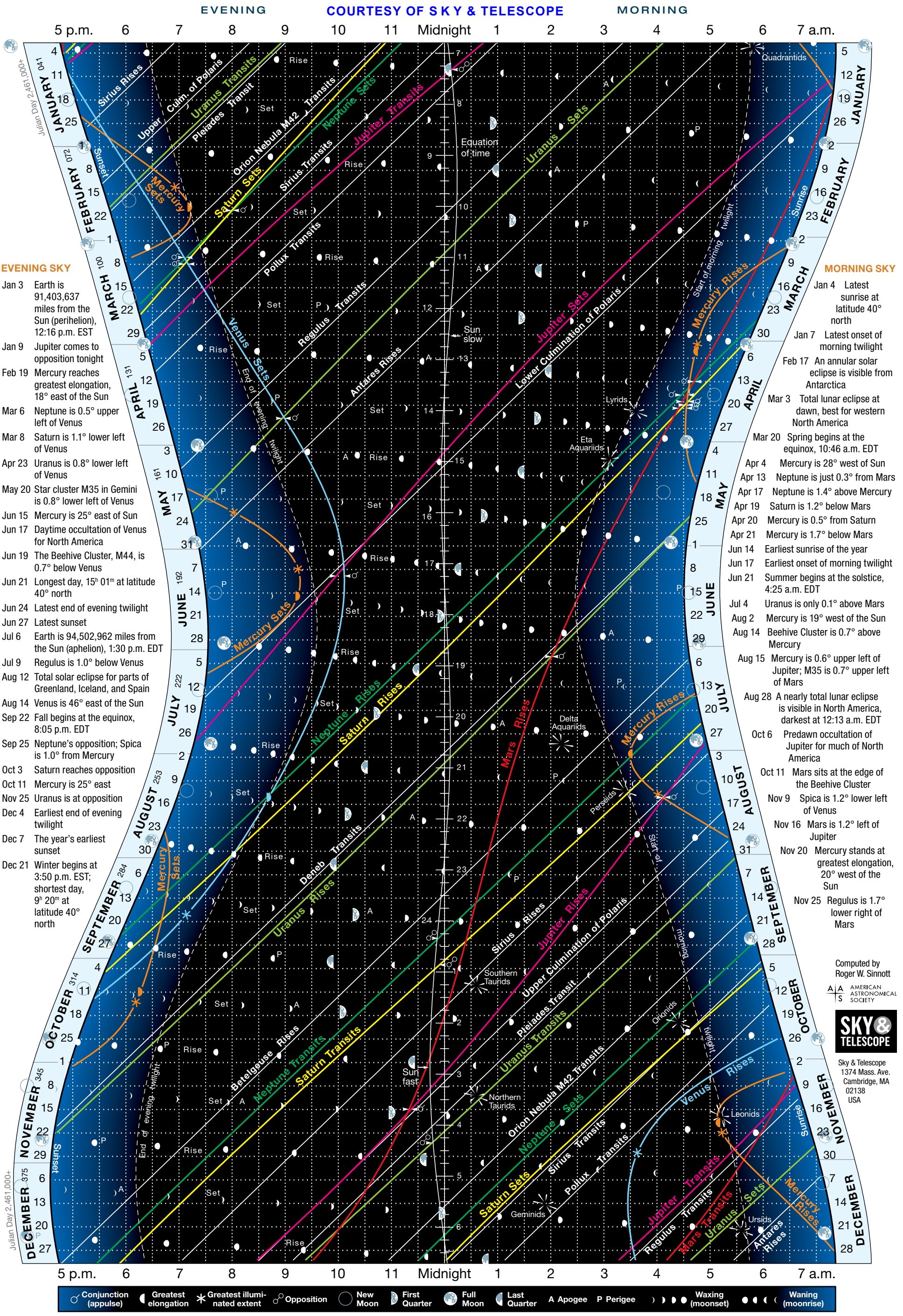
# Skygazer's Almanac 40°N 2026

FOR LATITUDES NEAR 40° NORTH




## EVENING SKY

- Jan 3 Earth is 91,403,637 miles from the Sun (perihelion), 12:16 p.m. EST
- Jan 9 Jupiter comes to opposition tonight
- Feb 19 Mercury reaches greatest elongation, 18° east of the Sun
- Mar 6 Neptune is 0.5° upper left of Venus
- Mar 8 Saturn is 1.1° lower left of Venus
- Apr 23 Uranus is 0.8° lower left of Venus
- May 20 Star cluster M35 in Gemini is 0.8° lower left of Venus
- Jun 15 Mercury is 25° east of Sun
- Jun 17 Daytime occultation of Venus for North America
- Jun 19 The Beehive Cluster, M44, is 0.7° below Venus
- Jun 21 Longest day, 15h 01m at latitude 40° north
- Jun 24 Latest end of evening twilight
- Jun 27 Latest sunset
- Jul 6 Earth is 94,502,962 miles from the Sun (aphelion), 1:30 p.m. EDT
- Jul 9 Regulus is 1.0° below Venus
- Aug 12 Total solar eclipse for parts of Greenland, Iceland, and Spain
- Aug 14 Venus is 46° east of the Sun
- Sep 22 Fall begins at the equinox, 8:05 p.m. EDT
- Sep 25 Neptune's opposition; Spica is 1.0° from Mercury
- Oct 3 Saturn reaches opposition
- Oct 11 Mercury is 25° east
- Nov 25 Uranus is at opposition
- Dec 4 Earliest end of evening twilight
- Dec 7 The year's earliest sunset
- Dec 21 Winter begins at 3:50 p.m. EST; shortest day, 9h 20m at latitude 40° north

## MORNING SKY

- Jan 4 Latest sunrise at latitude 40° north
- Jan 7 Latest onset of morning twilight
- Feb 17 An annular solar eclipse is visible from Antarctica
- Mar 3 Total lunar eclipse at dawn, best for western North America
- Mar 20 Spring begins at the equinox, 10:46 a.m. EDT
- Apr 4 Mercury is 28° west of Sun
- Apr 13 Neptune is just 0.3° from Mars
- Apr 17 Neptune is 1.4° above Mercury
- Apr 19 Saturn is 1.2° below Mars
- Apr 20 Mercury is 0.5° from Saturn
- Apr 21 Mercury is 1.7° below Mars
- Jun 14 Earliest sunrise of the year
- Jun 17 Earliest onset of morning twilight
- Jun 21 Summer begins at the solstice, 4:25 a.m. EDT
- Jul 4 Uranus is only 0.1° above Mars
- Aug 2 Mercury is 19° west of the Sun
- Aug 14 Beehive Cluster is 0.7° above Mercury
- Aug 15 Mercury is 0.6° upper left of Jupiter; M35 is 0.7° upper left of Mars
- Aug 28 A nearly total lunar eclipse is visible in North America, darkest at 12:13 a.m. EDT
- Oct 6 Predawn occultation of Jupiter for much of North America
- Oct 11 Mars sits at the edge of the Beehive Cluster
- Nov 9 Spica is 1.2° lower left of Venus
- Nov 16 Mars is 1.2° left of Jupiter
- Nov 20 Mercury stands at greatest elongation, 20° west of the Sun
- Nov 25 Regulus is 1.7° lower right of Mars


Computed by Roger W. Sinnott

AMERICAN ASTRONOMICAL SOCIETY

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# Skygazer's Almanac 40°N 2026

FOR LATITUDES NEAR 40° NORTH

## *What's in the sky tonight?*

When does the Sun set, and when does twilight end? Which planets are visible? What time does the Moon rise?

Welcome to the *Skygazer's Almanac 2026*, a handy chart that answers these and many other questions for every night of the year. It is plotted for skywatchers near latitude 40° north — in the United States, the Mediterranean countries, Japan, and much of China.

For any date, the chart tells the times when astronomical events occur during the night. Dates on the chart run vertically from top to bottom. The time of night runs horizontally, from sunset at left to sunrise at right. Find the date you want on the left side of the chart, and read across toward the right to find the times of events. Times are labeled along the chart's top and bottom.

In exploring the chart you'll find that its night-to-night patterns offer many insights into the rhythms of the heavens.

### The Events of a Single Night

To learn how to use the chart, consider some of the events of one night. We'll pick January 11, 2026.

First find "January" and "11" at the left edge. This is one of the dates for which a string of fine dots crosses the chart horizontally. Each horizontal dotted line represents the night from a Sunday evening to Monday morning. The individual dots are five minutes apart.

Every half hour (six dots), there is a vertical dotted line to aid in reading the hours of night at the chart's top or bottom. On the vertical lines, one dot is equal to one day.

A sweep of the eye shows that the line for the night of January 11–12 crosses many slanting *event lines*. Each event line tells when something happens.

The dotted line for January 11–12 begins at the heavy black curve at left, which represents the time of sunset. Reading up to the top of the chart, we find that sunset on January 11th occurs at 4:55 p.m. *Local Mean Time*. (All times on the chart are Local Mean Time, which can differ from your clock time. More on this later.)

Following the dotted line for the 11th rightward, we see that at 6:16 p.m. Sirius, the brightest nighttime star, rises. Then the dashed line at 6:31 p.m. tells when evening twilight technically ends. This is when the Sun is 18° below the horizon and the sky becomes fully dark.

At 7:40 Polaris, the North Star, reaches upper culmination. It then stands directly above the north celestial pole (by 38′ or r37′ this year), a good time to check the polar alignment of an equatorial telescope mount.

At 8:15 the dim planet Uranus transits the meridian, meaning it is due south and highest in the sky — well placed for spotting with binoculars. The famous Pleiades star cluster transits at 8:22, followed by the Orion Nebula (Messier 42) at 10:10, so we know they'll be fine targets to enjoy in a telescope all evening. But that's not true of the ringed planet Saturn, which sets at 10:17.

Having risen earlier this evening, Sirius reaches the meridian at 11:19 p.m. The brilliant planet Jupiter does so, too, at one minute before midnight.

Running vertically down the midnight line is a scale of hours. This shows the sidereal time (the right ascension of objects on the meridian) at midnight. On January 11–12 this is $7^h\ 27^m$. To find the sidereal time at any other time and date on the chart, locate that point and draw a line through it parallel to the white event lines of stars. See where your line intersects the sidereal-time scale at midnight. (A star's event line enters the top of the chart at the same time of night it leaves the bottom. Sometimes one of these segments is left out to avoid crowding.)

Near the midnight line is a white curve labeled *Equation of time* weaving narrowly right and left down the chart. If you regard the midnight line as noon for a moment, this curve shows when the Sun crosses the meridian and is due south. On January 11th the Sun runs slow, transiting at 12:08 p.m. This deviation, important for reading a sundial, is caused by the tilt of the Earth's axis and the ellipticity of its orbit.

Notice the tiny Moon symbol on the dotted line at 2:08 a.m. We can see from the legend at the bottom of the chart that the Moon is at waning crescent phase, rising. The wee hours continue, and at 4:38 Antares, a star we normally associate with a later season, also rises.

The first hint of dawn — start of morning twilight — comes at 5:45. The Sun finally peeks above the horizon at 7:21 a.m. on January 12th.

### Other Charted Information

Many of the year's chief astronomical events are listed in the chart's evening and morning margins. Some are marked on the chart itself.

*Conjunctions* (close pairings) of two planets are indicated by a ☌ symbol on the planets' event lines. Here, conjunctions are considered to occur when the planets actually appear closest in the sky, not merely when they share the same ecliptic longitude or right ascension.

*Opposition* of a planet, the date when it is opposite the Sun in the sky and thus visible all night, occurs roughly when its transit line crosses the Equation-of-time line (*not* necessarily the line for midnight). Opposition is marked there by a ☍ symbol, as for Jupiter on the night of

January 9–10 and Neptune on the night of September 25–26.

*Moonrise* and *moonset* can be told apart by whether the round limb — the outside edge — of the Moon symbol faces right (waxing Moon sets) or left (waning Moon rises). Or follow the nearly horizontal row of daily Moon symbols across the chart to find the word *Rise* or *Set*. Quarter Moons are indicated by a larger symbol. Full Moon is always a large bright disk with surface features whether rising or setting; the circle for new Moon is open. *P* and *A* mark dates when the Moon is at perigee and apogee (nearest and farthest from Earth, respectively).

*Mercury* and *Venus* never stray far from the twilight bands. Their dates of greatest elongation from the Sun are shown by ◗ symbols on their rising or setting curves. Asterisks mark their dates of greatest illuminated extent in square arcseconds. For example, this occurs for Mercury on the evening of February 13th and for Venus on the evening of September 18th this year.

*Meteor showers* are marked by a starburst symbol on the date of peak activity and at the time when the shower's radiant is highest in the night sky. This is often just as morning twilight begins.

*Julian dates* can be found from the numbers just after the month names on the chart's left. The Julian Day, a seven-digit number, is a running count of days beginning with January 1, 4713 BC. Its first four digits this year are 2461, as indicated just off the chart's upper left margin. To find the last three digits for evenings in January, add 041 to the date. For instance, on the evening of January 11th we have 11 + 041 = 052, so the Julian Day is 2,461,052. For North American observers this number applies all night, because the next Julian Day always begins at 12:00 Universal Time (6:00 a.m. Central Standard Time).

## Time Corrections

All events on this *Skygazer's Almanac* are plotted for an observer at longitude 90° west and latitude 40° north, near the population center of North America. However, you need not live near Peoria, Illinois, to use the chart. Simple corrections will allow you to get times accurate to a couple of minutes anywhere in the world's north temperate latitudes.

**Rising or Setting Corrections**

| North Latitude | Declination (North or South) 0° | 5° | 10° | 15° | 20° | 25° |
|---|---|---|---|---|---|---|
| 50° | 0 | 7 | 14 | 23 | 32 | 43 |
| 45° | 0 | 3 | 7 | 10 | 14 | 19 |
| 40° | 0 | 0 | 0 | 0 | 0 | 0 |
| 35° | 0 | 3 | 6 | 9 | 12 | 16 |
| 30° | 0 | 5 | 11 | 16 | 23 | 30 |
| 25° | 0 | 8 | 16 | 24 | 32 | 42 |

To convert the charted time of an event to your civil (clock) time, the following corrections must be made. They are mentioned in order of decreasing importance:

• **Daylight-saving time.** When this is in effect, add one hour to any time obtained from the chart.

• **Your longitude.** The chart gives the *Local Mean Time* (LMT) of events, which differs from ordinary clock time by a number of minutes at most locations. Our civil time zones are standardized on particular longitudes. Examples in North America are Eastern Time, 75°W; Central, 90°; Mountain, 105°; and Pacific, 120°. If your longitude is very close to one of these (as is true for New Orleans and Denver), luck is with you and this correction is zero. Otherwise, to get standard time *add 4 minutes* to times obtained from the chart for each degree of longitude that you are *west* of your time-zone meridian. Or *subtract 4 minutes* for each degree you are *east* of it.

For instance, Washington, DC (longitude 77°), is 2° west of the Eastern Time meridian. So at Washington, add 8 minutes to any time obtained from the chart. The result is Eastern Standard Time.

Find your time adjustment and memorize it. The table below left shows the corrections from local to standard time, in minutes, for some major cities.

• **Rising and setting.** These times need correction if your latitude differs from 40° north. This effect depends strongly on a star or planet's declination. (The declinations of the Sun and planets are listed monthly on the Planetary Almanac page of *Sky & Telescope*.)

If your site is *north* of latitude 40°, then an object with a north declination stays above the horizon *longer* than the chart shows (it rises earlier and sets later), whereas one with a south declination spends less time above the horizon. At a site *south* of 40°, the effect is just the reverse. Keeping these rules in mind, you can gauge the approximate number of minutes by which to correct a rising or setting time from the table above.

Finally, the Moon's rapid orbital motion affects lunar rising and setting times if your longitude differs from 90° west. The Moon rises and sets about two minutes earlier than the chart shows for each time zone east of Central Time, and two minutes later for each time zone west of it. European observers can simply shift each rising or setting Moon symbol leftward a quarter of the way toward the one for the previous night.

**Local Mean Time Corrections**

| | | | |
|---|---|---|---|
| Atlanta | +38 | Los Angeles | −7 |
| Boise | +45 | Memphis | 0 |
| Boston | −16 | Miami | +21 |
| Buffalo | +15 | Minneapolis | +13 |
| Chicago | −10 | New Orleans | 0 |
| Cleveland | +27 | New York | −4 |
| Dallas | +27 | Philadelphia | +1 |
| Denver | 0 | Phoenix | +28 |
| Detroit | +32 | Pittsburgh | +20 |
| El Paso | +6 | St. Louis | +1 |
| Helena | +28 | Salt Lake City | +28 |
| Honolulu | +31 | San Francisco | +10 |
| Houston | +21 | Santa Fe | +4 |
| Indianapolis | +44 | Seattle | +9 |
| Jacksonville | +27 | Tulsa | +24 |
| Kansas City | +18 | Washington | +8 |
| Athens | +25 | Lisbon | +36 |
| Baghdad | +3 | Madrid | +75 |
| Beijing | +14 | New Delhi | +21 |
| Belgrade | −22 | Rome | +10 |
| Cairo | −8 | Seoul | +32 |
| Istanbul | +4 | Tehran | +4 |
| Jerusalem | −21 | Tokyo | −19 |

For reprints (item SGA26W) or to order a similar chart for latitude 50° north or 30° south, go to: shopatsky.com/collections/maps-globes/almanacs

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