Julian Day

The Julian Day (JD) is a count of the number of days elapsed since January 1, 4713 BC, 12:00 UT (Julian calendar).

This date was chosen since it marks the beginning of three cycles:

- 28-year solar cycle (cycle over which the Julian calendar repeats)
- 19-year cycle of Golden Numbers (cycle over which the phases of the Moon repeat on the same calendar dates, approximately)
- 15-year indiction cycle (Roman tax cycle)

Also, this date is far enough in the past that most Julian Days of interest are positive.

Note that the Julian Day starts at 12:00 UT.

Julian Day

The Julian Day is useful as an independent variable in plots, finding the number of days between two dates, etc. (No rollover.)

Also useful is the Modified Julian Day (MJD):

$$MJD = JD - 2400000.5$$

MJD = 0 corresponds to November 17, 1858 (00:00 UT).

Programs and tables (1960 - 2059) for JD are available on the Web site.

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JD Date/Time Converter

Calendar Date/Time   Julian Day Number

Use this tool to convert a specified calendar date/time to an equivalent Julian Day (JD) number.
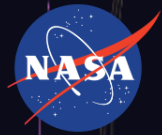
Enter a date as `year`-`month`-`day` (e.g., `2000-01-01`) with an optional time separated from the date with either a space or underbar `_` (e.g., `2000-01-01 12:00`). The time can also be entered as decimal days (e.g., `2000-01-01.5`).

Show More Examples

https://ssd.jpl.nasa.gov/tools/jdc/#/cd

Calendar Date/Time [   ] Convert

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Site Manager: Ryan Park
Site Design: Alan B. Chamberlin
URS Clearance: CL#21-4165

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JD Date/Time Converter

| Calendar Date/Time | Julian Day Number |

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Show More Examples

Calendar Date/Time `2024-Oct-21 09:30:00`   Convert

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Site Manager: Ryan Park
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UTC: Coordinated Universal Time

Translate UTC into your local time:

United States
Atlantic Daylight Time| subtract 3 hours from UTC
Atlantic Standard Time| subtract 4 hours from UTC
Eastern Daylight Time| subtract 4 hours from UTC
Eastern Standard Time| subtract 5 hours from UTC
Central Daylight Time| subtract 5 hours from UTC
Central Standard Time| subtract 6 hours from UTC
Mountain Daylight Time| subtract 6 hours from UTC
Mountain Standard Time| subtract 7 hours from UTC
Pacific Daylight Time| subtract 7 hours from UTC
Pacific Standard Time| subtract 8 hours from UTC
Alaska Daylight Time| subtract 8 hours from UTC
Alaska Standard Time| subtract 9 hours from UTC
Hawaii-Aleutian Standard Time| subtract 10 hours from UTC
Samoa Standard Time| subtract 11 hours from UTC

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JD Date/Time Converter

Calendar Date/Time | Julian Day Number

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Show More Examples

Calendar Date/Time `2024-Oct-21 13:30:00`   Convert   reset

Results

Calendar Date/Time:	2024-Oct-21 13:30:00 *submitted*
Calendar Date/Time:	2024-10-21 13:30:00
Calendar Date/Time:	2024--295 13:30:00
Day of the Week:	Monday
Julian Day Number:	**2460605.0625000**

⟵

Input:

10/21/24 9:30 am
Add 4 hours: local time EDT   UT

Input: 2024-Oct-21 13:30:00

Class Time: 10/21/24 9:30 am ET
Julian Date → JD 2460605.0625000

MJD = JD - 2400000.5

Modified Julian Date → MJD = 60604.56500

A modified version of the Julian date denoted MJD obtained by subtracting 2,400,000.5 days from the Julian date JD, The MJD therefore gives the number of days since midnight on November 17, 1858. This date corresponds to 2400000.5 days after day 0 of the Julian calendar.

https://ssd.jpl.nasa.gov/tools/jdc/#/cd

Because a Julian day starts at noon while a civil day starts at midnight:

All days are numbered consecutively from Julian Day 0, which began at noon on January 1, 4713 B. C. Then, January 1st, 1993, was JD 2448989; January 1st, 2000 is JD 2451545. The Julian Day begins at noon, Greenwich Mean Time.