

Dates and Times

Usage recommendations following

*The Chicago Manual of Style, The New Oxford Style Manual, and
The Chicago Guide to Grammar, Usage and Punctuation*

Date and time abbreviations

Date abbreviations used here (following ISO 8601) are:

YYYY = year; MM = month; DD = day.

Time abbreviations follow Le Système International d'Unités (2008) and are:

s = second; min = minute; h = hour;

Note that abbreviations need to be space separated from the number, are not pluralized nor followed by a period (i.e., 2 min not 2min nor 2 mins nor 2 min.). The symbols ' and '' (in italic) are reserved for angular minutes and seconds, respectively.

Abbreviated format

ISO 8601 recommends ordering date abbreviations from the largest to the smallest with hyphen separators, i.e.,

YYYY-MM-DD (e.g., 2018-01-25) or MM-DD (e.g., 01-25)

Likewise with time, but colon separators are used:

h:min:s (e.g., 12:21:30) or min:s 21:30

To avoid confusion in the latter case the format should be declared with the time, i.e.,

21:30 (min:s) or 12:21 (h:min)

Date and time abbreviations can be combined using the separator "T"

YYYY-MM-DDThh:min:ss (e.g., 2018-01-25T12:21:30)

The Oxford style manual points out that abbreviated (all-figure) data forms are not appropriate in running text.

Time zones

ISO 8601 states that, if no time zone information is given with a time representation, then the time is assumed to be in local time. However, it is usually preferable to indicate a time zone (by adding the appropriate zone designator or by stating local time) using the ISO 8601 standard notation. This avoids ambiguity when communicating across time zones. For example:

2017-10-11T16:15:00 (local time)

or

2017-10-11T16:15:00 (UTC+1)

Z (zulu time) can be used to denote UTC (placed after the string)

2017-10-11T15:15:00 **(UTC)** or 2017-10-11T15:15:00**Z**

In written text whether local time or UTC is being used must always be stated at the first usage of a time, and it is preferable to give the time difference from UTC [(i.e. all times are local (UTC+1)]. ISO8601 uses the 24 hour clock, where midnight can be 00 or 24.

US versus UK date format

While US data format is MM-DD-YYYY, UK date format is DD-MM-YYYY. Thus we have,

January 25, 2018; 01-25-2018; or 01-25 (in the US),

and

25 January 2018; 25-01-2018; or 25-01 (in the UK)

To avoid ambiguity in cases such as 01-06, date format should be declared. For example:

1 June in UK format is 01-06. This is 6 January in US format, so this needs to be written:

01-06 (DD-MM)

6 January in US format is 01-06. This is 1 June in UK format, so this needs to be written:

01-06 (MM-DD)

Both US and UK formats are acceptable, but they must not be mixed.

Writing out of dates in formal text

- (1) Cardinal and not ordinal numbers are used (i.e., 25 January not 25th January) and dates are not written as spoken, (i.e., 25 January not “the 25th of January”). That is, do not use the endings -st, -rd or -th, unless quoting from a source where the ordinal was used.
- (2) An incomplete reference may be given in ordinal form, e.g., the eruption began on 12 August 2003 and ended on the 18th.
- (3) If a month-year or month-day date is used as an adjective, no hyphen or comma is needed (e.g., January 25). If a full month-day-year date is used, then a comma is necessary both before and after the year (e.g., the January 25, 2018, eruption of ...). Garner (2016) notes that this construction is awkward because the adjective contains two commas; the construction is thus best avoided (e.g., change to: the eruption of January 25, 2018).
- (4) The UK system uses no commas.
- (5) The Chicago Manual of Style points out that the DD-MM-YYYY system is best in text that requires many full dates, because no commas are needed. That is, no commas are needed in the UK system so that January 25, 2018, becomes 25 January 2018.
- (6) The en-dash is used for ranges, e.g., 1993–2003.
- (7) A slash can be used for two-year spans instead of an en-dash (e.g., The winter of 1966/67 was especially severe). Slashes can also be used in all-numeral dates (e.g., 01/25/18), but this should be avoided in formal publications to prevent ambiguity (because the slash can also be used for “per”, a fraction or divided by).
- (8) Years are expressed in numerals unless they stand at the beginning of a sentence, in which case the year needs to be spelled out in full. In such a case, rewording may be a better option, e.g., “Two thousand and two was an extreme year for activity” may be better written “The year 2002 was”
- (9) Do not abbreviate the year, i.e., the year of 1976 not the year of ’76.
- (10) Centuries are spelled out and lowercased, e.g., during the nineteenth century. Abbreviations can only be used in notes, references, tables and figures, where c. or cent. can be used.
- (11) Decades are expressed as numerals with no apostrophe, i.e., during the 1990s not during the 1990’s

Ages and durations

There is disagreement within the earth sciences community regarding expression of dates and durations of events. For this journal, we follow Aubry et al. (2009) and distinguish dates in the past from lengths of time using 'a' and 'yr', respectively. This difference is defined as follows:

Years before present are expressed in 'annus', symbol 'a', with the multiples 'ka', 'Ma', and 'Ga' for thousands, millions and billions of years ago. Instead, duration is expressed in 'years' with 'yr' being the abbreviation. The multiples are thus 'kyr', 'Myr' and 'Gyr'.

Note, symbols are not pluralized or followed by a period, and the word "ago" does not appear after 'a'. AD and BC should only be used with dates, i.e, 7 BC not 7 ka BC.

Some examples:

"An eruption took place at 6 ka" (i.e., six thousand years ago).

"Eruptive activity continued for 3 ky" (i.e., for 3000 years).

"Dated deposits give ages of 3.1–2.9 Ma, indicating that the magmatic system was active for 200 ky".

Radiocarbon dates

There is even greater confusion and debate in expressing radiocarbon dates (cf. Plitch and Hogg 2006; Rose 2007; Wolf 2007). There is a preference with "Before Present" or "BP" (Plitch and Hogg 2006; Rose 2007)—not "cal BC", with a strong argument that the calibration used should also be stated in abbreviated form (Wolf 2007).

References

Aubry M-P, Van Couvering JA, Christie-Blick N, Landing E, Pratt BR, Owen DE, Ferrusquía-Villafranca I (2009) Terminology of geological time: Establishment of a community standard. *Stratigraphy* 6(2): 100–105.

Garner BA (2016) *The Chicago Guide to Grammar, Usage, and Punctuation*. The University of Chicago Press (Chicago IL): 583 p.

International Organization for Standardization (1988) *Data elements and interchange formats—Information interchange—Representation of dates and times: ISO8601*

The Oxford Style Manual (2016) *The New Oxford Style Manual*. Oxford University Press (Oxford, UK): 908 p.

Le Système International d'Unités (2008) *The international System of Units*. 8th edition, Bureau International des poids et mesures (Paris, France): 180 p.

Rose J (2007) The use of time units in Quaternary Science Reviews. *Quaternary Science Reviews* 26: 1193.

Plicht J. van der, Hogg A (2006) A note on reporting radiocarbon. *Quaternary Geochronology* 1: 237–240.

The Chicago Manual of Style (2010) *The Chicago Manual of Style* 16th Edition. The University of Chicago Press (Chicago IL): 1026 p.

Wolff EW (2007) When is the “present”? *Quaternary Science Reviews* 26: 3023–3024.