The Astronomical Almanac, Glossary

UTC is a time standard, not a time zone. UTC is defined by the *CCIR Recommendation 460-4 (1986)*. That document says “GMT may be regarded as the general equivalent of UT.” [Annex I, section A.]

In casual conversation, however, it is used interchangeably with the time zone GMT.

The UTC time standard is based on the objective that one day equals one rotation of the earth, on average.

*The Astronomical Almanac*, Glossary (http://asa.usno.navy.mil/SecM/Section\_M.html)

Second, Système International (SI):

the duration of 9 192 631 770 cycles of radiation corresponding to the transition between two hyperfine levels of the ground state of cesium 133.

Universal Time (UT):

a generic reference to one of several time scales that approximate the mean diurnal motion of the Sun; loosely, mean solar time on the Greenwich meridian (previously referred to as Greenwich Mean Time). In current usage, UT refers either to a time scale called UT1 or to Coordinated Universal Time (UTC); in this volume, UT always refers to UT1. UT1 is formally defined by a mathematical expression that relates it to sidereal time. Thus, UT1 is observationally determined by the apparent diurnal motions of celestial bodies, and is affected by irregularities in the Earth's rate of rotation. UTC is an atomic time scale but is maintained within 0s.9 of UT1 by the introduction of 1-second steps when necessary. (See leap second.)

Coordinated Universal Time (UTC):

the time scale available from broadcast time signals. UTC differs from International Atomic Time (TAI) by an integral number of seconds; it is maintained within ±0s.9 seconds of UT1 by the introduction of leap seconds. (See International Atomic Time (TAI); leap second; Universal Time (UT).)

ΔUT1 (or ΔUT):

the value of the difference between Universal Time (UT) and Coordinated Universal Time (UTC): ΔUT1=UT1−UTC.

International Atomic Time (TAI):

the continuous time scale resulting from analysis by the Bureau International des Poids et Mesures of atomic time standards in many countries. The fundamental unit of TAI is the SI second on the geoid, and the epoch is 1958 January 1. (See second, Système International (SI).)

geoid:

an equipotential surface that coincides with mean sea level in the open ocean. On land it is the level surface that would be assumed by water in an imaginary network of frictionless channels connected to the ocean.