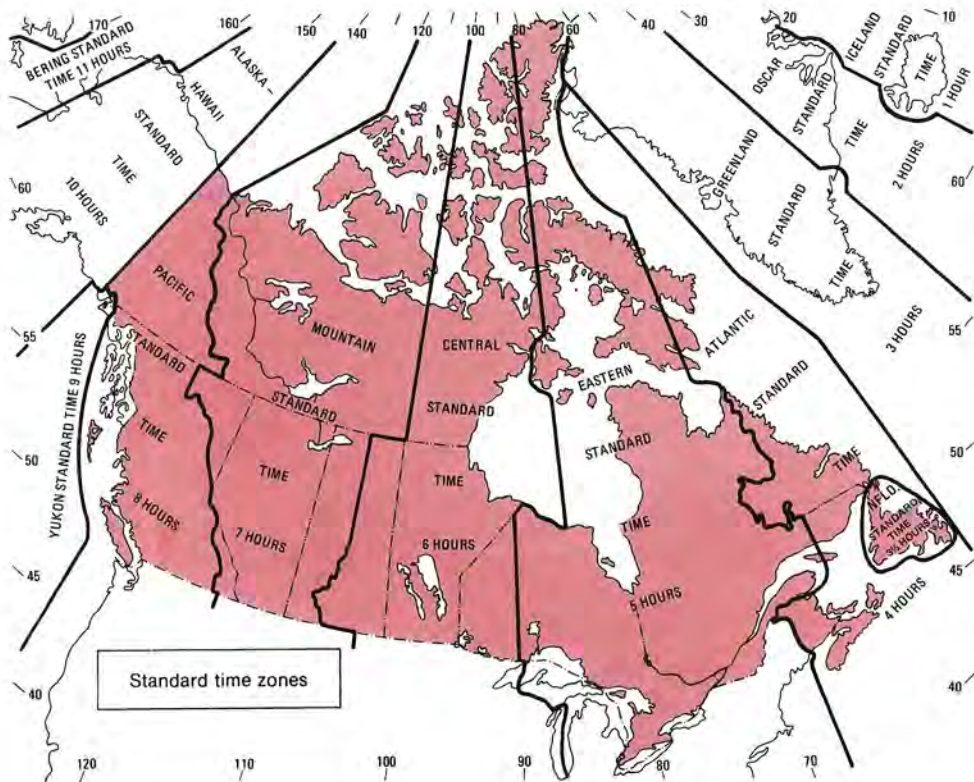




Time zones

1.4

Based on atomic clocks, Canada's time is established by the National Research Council with a precision of one ten-millionth of a second per day, and co-ordination with other countries is maintained to the same precision through the Bureau international de l'Heure in Paris. Irregularities in the rotation of the earth give rise to a difference between mean solar time and atomic time, and a leap second is introduced to ensure that this difference, called DUT1, does not exceed 0.8 seconds. At present DUT1 is decreasing by about one-twelfth of a second per month, and positive leap seconds were necessary on June 30, 1972 and on December 31 of each year from 1972 to 1978.

A continuous broadcast of Canadian time is made on station CHU, Ottawa (3 330 kHz, 7 335 kHz, 14 670 kHz), with a bilingual voice announcement each minute, and with a split pulse code to give the value of DUT1. Once a day the time signals are broadcast across Canada on the CBC networks.

Standard Time, adopted at a world conference at Washington, DC in 1884, sets the number of time zones in the world at 24, each zone ideally extending over one twenty-fourth of the surface of the earth and including all the territory between two meridians 15° of longitude apart. In practice, the zone boundaries are quite irregular for geographic and political reasons. Universal Time (UT) is the time of the zone centred on the zero meridian through Greenwich, England. Each of the other time zones is a definite number of hours ahead of or behind UT to a total of 12 hours, at which limit the international date-line runs roughly north-south through the mid-Pacific.

Canada has six time zones. The most easterly, Newfoundland standard time, is three hours and 30 minutes behind UT, and the most westerly, Pacific standard time, is eight hours behind UT. From east to west, the remaining zones are called Atlantic,