## *Handout PS111 – "Time Zones"*

## *Standard Time*

– established for US in November 1883 and soon adopted by other countries.

- based on the position of the noon day sun, but only ay selected meridians of longitude rather than at each specific site.

- the earth rotates $15^o$ in 1 hr., the standard time zones differ by exactly one hour intervals (24 time zones)

- The meridians used as the centers of their respective time zones are multiples of $15^o$.

- The Greenwich meridian is reference for the other time zones. Times based on this system is called GMT (Greenwich Mean Time)

- Considerable liberty has been taken in placement of the time zone boundaries, generally are drawn along state lines.

- going East every $15^o$ is one hour later

- going west every $15^o$ is one hour earlier

### *International date line*

– unique line in the world standard time system. ($180^o$ meridian)

– Crossing the ***International date line*** the time changes by 24 hours.

- The time change is opposite to all those established by the 24-hr time zone boundaries

  Going E → W - 1 day later

  Going W → E - 1 day earlier

- The International Date Line counterbalances the changes in time produced by the time zone boundaries.

  ***If no date line with standard time***
  If you traveled the world in a westward direction in a 24-hr period, you would cross 24 time zones and the time would be set back by 24-hrs. Thus when you arrived back at you starting point it would be the same time as when you left.

Problem: 1: If it was 10 p.m., Sunday at 135° W, what are the time and day at that same instant at 15° W?

Analysis:

Going 135° W to 15° W, we are traveling ________________

Time is _________________

Time: ______________ day: ________________

Problem 2: If it 9 a.m., Tuesday, at 105° E what are the time and day at that same instant at 150° W?

Analysis:

Going 105° E to 150° W, we are traveling ________________

Time is _________________

Since the two given longitudes are in ***different longitudinal hemispheres***, their total longitudinal separation is calculated by adding the two numbers.

Time: _______________________ day: _________________

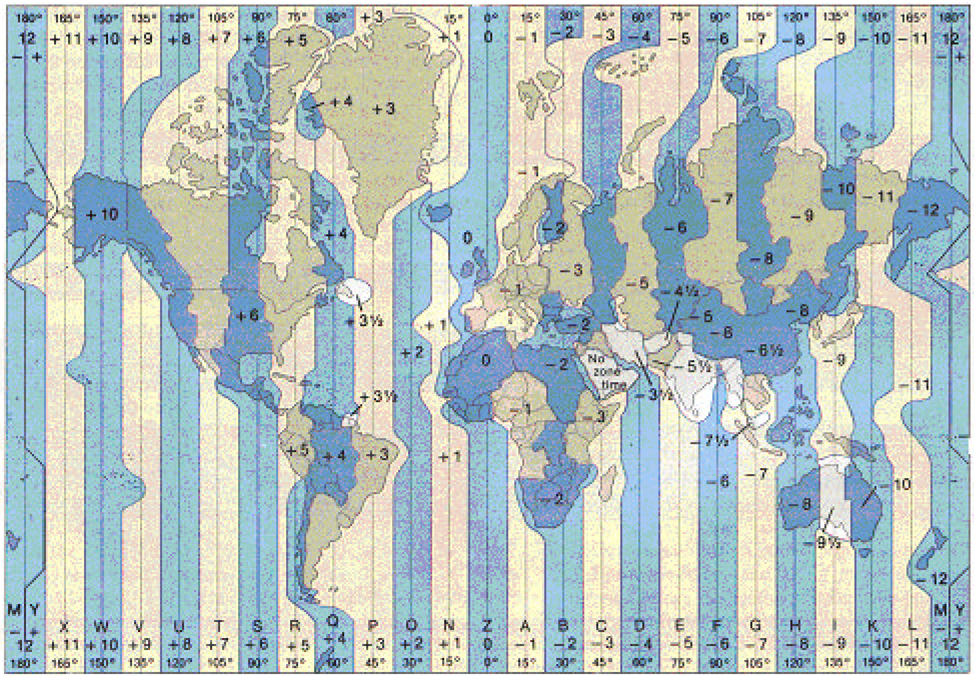
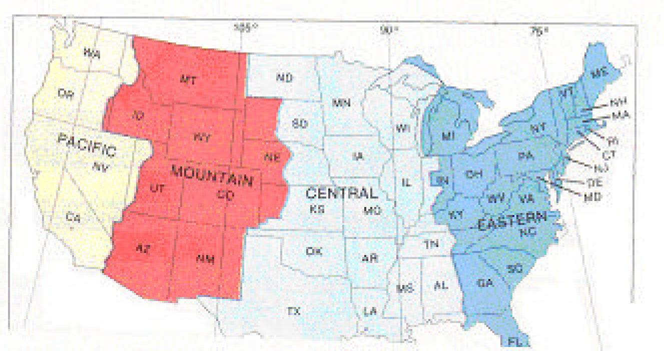



Figure 2.10 The global system of time zones.

*R.C. Scott, *"Physical Geography"*, West Publishing Co., 1989, pg. 21.

Figure 2.11 The standard time zones of the coterminous United States.




R.C. Scott, *"Physical Geography"*, West Publishing Co., 1989, pg. 22.