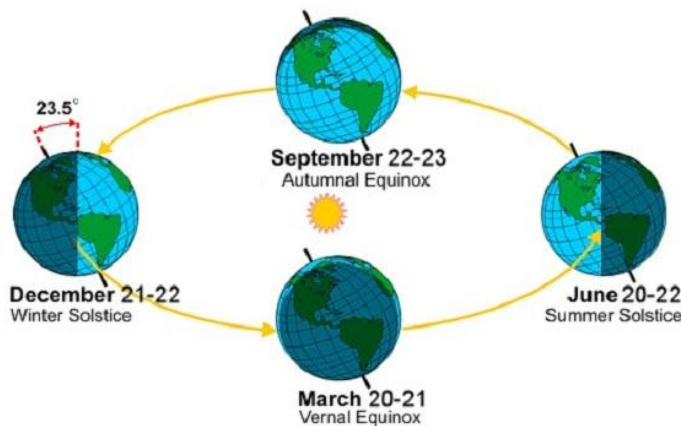


Hooray, hooray. We've reached that day.  
When our hot, dry summer is going away.

As a young child attending elementary school in Sutton, Nebraska, I remember learning that September 21<sup>st</sup> marked the beginning of autumn. Furthermore, December 21<sup>st</sup> denoted the first day of winter; March 21<sup>st</sup>, the first day of spring; and June 21<sup>st</sup>, the first day of summer. The 21<sup>st</sup> seemed to be the magical number for seasonal changes. Since those days, I've learned that the 21<sup>st</sup> is not necessarily the exact day for seasonal changes.

The fact is the four seasons are determined by changing sunlight — governed by how our Earth orbits the sun and the tilt of its axis. If you have been paying attention to the sky, perhaps you have noticed that the sun has been sinking lower on the southern horizon. At mid-day today, September 22<sup>nd</sup>, 2012, the Northern Hemisphere will observe the Autumnal Equinox, or what we commonly call the first day of autumn.

The word equinox comes from Latin meaning *equal night*, referring to twelve hours of daylight and twelve hours of darkness. Today marks the day when the sun crosses the Equator reaching its halfway point toward its southern migration. Although we claim the hours of daylight and darkness to be equal, the actual point of equal day and equal night, in the Northern Hemisphere, occurs a few days after the Autumnal Equinox. One thing is for sure, today the sun rose exactly due east and will set exactly due west. A similar situation occurs in the spring, a time when we reach the Vernal Equinox, the first day of spring. This seasonal change generally occurs on or near the 21<sup>st</sup> of March.



The equinoxes are actually associated with a geometrical alignment of the Earth to the sun. Our Earth spins on its axis, which is tilted at 23.5 degrees with respect to its orbital plane. Today, the Earth's axis is neither tilted away nor towards the sun but has both its Northern and Southern Hemispheres experiencing equal amounts of sunshine.

For us, living in the Northern Hemisphere, as autumn advances, the sun continues on its southern migration until another major turning point in the cycle of seasons is reached. That date will be approximately December 21<sup>st</sup>, the day we commonly call the first day of winter, or more accurately the Winter Solstice. On that particular day, the sun reaches its southern most position and from then on slowly begins its journey northward. On the day of the Winter Solstice, we,

who are living in the Northern Hemisphere, will experience the shortest daylight hours and longest hours of darkness.

Following the Winter Solstice, the sun begins its journey north. Approximately March 21st, the Vernal Equinox occurs. Again, like today, when the sun crosses the Equator, it reaches its halfway point, but unlike today, it continues on its northern migration. From that day forward, for those living in the Northern Hemisphere, the days become longer and the nights shorter. Approximately on June 21<sup>st</sup>, we arrive at the Summer Solstice, the longest period of daylight hours. From there the sun begins its journey south arriving where we are today — the Autumnal Equinox.

Generally, following the arrival of the Autumnal Equinox comes cooler temperatures and an increase in precipitation. Let's hope that's true for this year. After dealing with the brutally hot and dry summer of 2012, both of these will be greatly welcomed.

As I optimistically began this column, I will close.

Hooray, hooray. We've reached that day.  
When our hot, dry summer is going away.