Celebrating the winter solstice
By Larry Hyslop


Celebrating the winter solstice at Stonehenge, photo by the BBC

Since you are reading this, it is fair to say the Mayan apocalypse did not occur. A second reason to celebrate today is the winter solstice. Cindy and I recently attended a party to commemorate this event. The winter solstice, along with the summer solstice, are worldwide celebrations. Civilizations for thousands of years have celebrated the rebirth of the sun at this time, marking the creation of a new year. It is no accident that Christmas and New Year are celebrated near this date, to mark the beginning of the celestial new year.

For Elko, December 21 is the shortest day of the year, while it is the longest day in the Southern Hemisphere. The sun appears farther south for Elko than on any other day of the year. A person would need to travel south of the Equator to the Tropic of Capricorn to have the sun directly overhead at noon. On this day, the sun is not seen anywhere north of the Arctic Circle and does not set anywhere south of the Antarctic Circle.

We define a year as the time required for the earth to circle the sun. During this one revolution, the earth's poles are not perpendicular to the sun-earth direction. The earth is angled slightly, 23.5 degrees to be exact and this fact gives us our seasons. On December 21, we are in that part of the sun's orbit where our north pole is angled the full 23.5 degrees away from the sun. The sun's rays strike the northern hemisphere at slightly more of an angle, leaving behind less heat, so we are in the midst of winter. The southern hemisphere is tilted toward the sun, which appears higher in the sky, giving more heat to the earth and they are enjoying summer. Six months from now, on the opposite side of the sun, this will be reversed.

The route we take around the sun is not a true circle, more of an ellipse, but the varying distances between the earth and sun during one year are not enough to create seasons. Actually, we are slightly closest to the sun during January. The earth's tilt has much more effect on our seasons.

Civilizations around the earth have long built structures to help them determine the day of winter solstice. This allows them to determine the beginning of the new year, to properly time future festivals and set the correct dates for spring's plantings. Stonehenge, along with the Mayan, Greek, Roman and Egyptian temples all can be used to determine this date. The Anasazi Sun Dagger did the same. The Sun Tunnels on the Utah Salt Flats are set so that only on today will the rising sun shine through two concrete tubes.

I have my own version of such a structure. Early this fall, when the sun rose over a nearby hill, it seemed to rise directly from a house on that hill. Later in fall, the sun had moved south enough that it appeared between that house and its neighbor. Within the last week, the sun appeared over the next house to the south. After today, I look forward to each sunrise appearing slightly farther north and the

amount of each day's sunlight being slightly longer. This simple fact has told people for thousands of years, that summer will return. It is a time to celebrate.

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