water around as they try to make the temperature the same everywhere. As the oceans warm, glaciers, such as the one that covers Greenland, have begun to melt, which in turn causes sea levels to rise.

Earth’s climate has been through some interesting gyrations over the past several hundred million years. Inferences are that 300 million years ago, oxygen was 35 percent of the atmosphere instead of 20 percent as it is now. It may have been that at one time, with all the continents huddling near the equator, deposition of atmospheric carbon dioxide into rocks and oceans was very effective to the point that a vast ice age ensued. The cycle changed with volcanic eruptions of infrared active gases. The development of agriculture in the last 8,000 years may have produced enough methane and carbon dioxide to prevent us from sliding back into an ice age. But changes in the level of carbon dioxide and methane over the last 700,000 years are linked in lockstep with atmospheric temperature changes. May hindsight help us with foresight.

### Ten Things You Didn’t Know About...

#### Nevada weather

By Jeff Underwood

1. There are locations in Nevada where two points separated by very little distance receive vastly different amounts of precipitation. For example Mt. Rose and Reno in northern Nevada are separated by less than 20 miles. Mt. Rose however receives more than 25 inches of precipitation (rainfall equivalent) per year compared to Reno at less than seven inches.

2. Nevada is a great place to observe dust devils — tightly swirling winds created by extreme surface heating. During the summer months across Nevada, soil temperatures can rise well above 120 degrees Fahrenheit while the air above the soil is cooler (90-100°F). This difference in temperature can spawn a dust devil that can produce wind speeds of more than 60 mph.

3. Many places in Nevada experience daily temperature ranges that are nearly unbelievable to observers in other regions of the country. For example, a normal July day in Washington, D.C., features a high temperature at 89°F with a low of 71°F, a daily range of 18°F. Compare this to Elko, where a normal July day will see a high temperature of 91°F and a low of 48°F, a range of 43°F.

4. Northern Nevada is the best location in North America to observe stationary lenticularis clouds (inset). These lens-shaped clouds form on the downwind side of the Sierra Nevada. Often lenticular clouds form in rows with a single, large lens-shaped cloud followed by many smaller stationary clouds. Since this formation of gleaming, saucer-like clouds lingers in the same location for long periods, many UFO and flying saucer reports have in fact turned out to be stationary lenticularis clouds.

5. Nevada is the driest state in the nation. When averaging precipitation totals from all of the reporting stations across the state, Nevada’s statewide average is around seven inches per year.

6. According to the U.S. Historical Climatology Network, Nevada has the fewest weather observation stations of any state. Nevada does, however, have three National Weather Service forecast offices (Reno, Elko and Las Vegas) and is one of 36 states to have an Association of American State Climatologist-recognized state climate office.

7. Although it is the driest state in the country, many parts of Nevada are prone to flooding. The Truckee, Carson and Humboldt rivers flood during heavy winter season rainfall or rain-on-snow episodes. Washes, roadways and streets in the southern portion of the state are at risk for flash flooding during summer thunderstorms.

8. During the heatwave of 2005, on July 19, the city of Las Vegas set two temperature records. The first was a new record high temperature of 117°F. The second was a record for the highest nighttime low temperature, 96°F. It was so hot that afternoon many aircraft at McCarran International Airport could not depart because the extremely hot air was not dense enough to allow for liftoff.

9. During a period from March 1928 through January 1929, the town of Mina went 312 consecutive days without recording a drop of rainfall.

10. Drought and wildfire are the most costly weather-related hazards facing the state. In 1994 wildfire and drought cost the state in excess of $1 billion.

Jeff Underwood is the Nevada state climatologist and an assistant professor of geography.

### Reading List

1. Clouds in a glass of beer: Simple experiments in atmospheric physics by Craig Bohren.
2. What light through yonder window breaks? By Craig Bohren.

### Movies

1. An Inconvenient Truth by Al Gore.

### Web Sites

- A look at the amount of sunlight and infrared light around the world at the website http://cmdl1.cmdl.noaa.gov:8000/www/all/nad/
- Ten Things You Didn’t Know About…

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