

# Earth's past frozen in time

## THE JOURNAL RECORD

In July of this year, while we Oklahomans were doing everything we could to stay cool, a team of incredible scientists discovered in Antarctica a vast ice sheet. Some described the majesty and beauty of this ice sheet as the Grand Canyon of ice.

Formerly called the Ferrigno Rift, this sheet's walls submerge one mile beneath the surface of the earth. And, it is about 62 miles long. Some predict it might even be longer because parts of the sheet could actually be beneath the icy sea. The team of scientists discovered this sheet by almost a freak accident, on a 1,500-mile trek across the Antarctic.

Portions of this amazing West Antarctic Ice Sheet reside in the National Ice Core Laboratory in Denver. Talk about a massive freezer. The laboratory itself is kept at minus-10 degrees Fahrenheit, so a traditional lab coat isn't warm enough for these scientists. This laboratory also has samples of ice from other places in the Antarctic and the Arctic.

These ice core samples provide an incredible look into the past of the earth. Scientists are able to study and examine the bubbles that are literally trapped into ice. Each of these bubbles are pockets of air that upon testing for various chemicals can reveal what was going on in the earth's climate at the time of the freeze. This information, can help unravel the cold mystery of our past.

Some of the samples have revealed volcanic dust. Other samples have been able to reveal how much precipitation fell annually during that time in history. Each different layer of ice, scientists tell us, represents about a year of weather. Think

about it, last year I don't remember a flake of snow in Oklahoma. But a few years before that, we were suffering from extreme ice. Frozen in time, the ice can reveal if it snowed a lot that year, or if it didn't. This information can demonstrate a great deal about our weather and climate history.

Shedding some light on the past can help inform our present in profound ways. Knowing about the climate then can help us better prepare for the climate reality of our future. We could be on the verge of unlocking new data that can help us combat climate change and provide ideas that can lead us to a more ecologically sustainable future.

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