Imagine a racetrack one mile around. Two contestants enter the final stretch neck-to-neck. The rookie bears the number 2010. The previous winner wears 1998.

These two years are now competing, September-to-September for the highest average temperatures on planet Earth. Thus far, according to the U.S. National Climate Data Center, this year's average is 58.5 degrees Fahrenheit, 1.21 degrees higher than the 20th century average.

This year's elevated temperature is already 2.068 percent above normal. In human terms, this is like running a fever of 101.2 degrees. Though we're not in the danger zone yet, we must not forget that the fever is still rising, albeit erratically.

The folks I met last summer in Houghton, Mich., were feverish with delight about the planetary fever. This small scenic city is located on the south shore of Lake Superior, the coldest and cleanest of the North American Great Lakes. There, the extra heat was good news because residents depend on lake-related tourism to buttress revenues from military, education, government and natural resource mining.

This year's warmth drove the surface water temperature of Lake Superior to record highs. On Aug. 12, the warmest day, it was 68.7 degrees, more than 18 degrees above normal and a full degree higher than the previous record of 1998. Warm water brought local beaches into the envelope of human comfort for swimming and sunbathing. The tourists flocked in. Thermally, it was as if the English beaches facing the North Sea became the French Riviera facing the Mediterranean.

I discovered this by accident when I pulled into Houghton for the night on my way to Minnesota to visit my mom and dad. There was no room in the inn where we had stayed for years, forcing a search for the last smoking room in a nearby strip motel. Family restaurants also had waits. Gas stations had waits. The cash registers of small businesses were overflowing with happiness from the ripple effect of unusually high temperatures.

Earlier that day, my wife and I drove along the lower side of the Upper Peninsula on the north shore of Lake Michigan. As usual, we stopped to perform our toe-in-water test. The warmth was inviting. Within minutes we were bobbing in the waves, where we lingered for more than an hour in water that in other years would cause hypothermia. We hadn't swum there for about a decade, probably not since the summer of 1998 when the northern Great Lakes broke records for warmth.

Here's what's going on. Excess carbon dioxide accumulating in the atmosphere re-sets the planetary thermostat slightly higher each year. When this effect combines with the right ambient solar conditions, the warm phase of decadal oceanic oscillations and an El Nino year, the winter ice is much thinner and of shorter duration. Because liquid water is darker and choppier than flat snow-covered ice, more sunlight is absorbed into the lake as heat, rather than reflected. This raises surface temperature, which lowers the water density, allowing a layer of sun-warmed water to float above the colder, denser water at depth. There it remains, heating up, until strong winds mix it downward.

Locally and in the short-term, the city of Marquette, Mich., is a winner in this temperature race to the top, recreationally and economically. My candidate for this year's local loser is the city of Boulder, Colo., where that same late-summer heat helped cause wildfires and economic disaster.
Globally, and in the long run, we'll all be losing out. Not because the world is warmer or because humans may be to blame, but because the natural systems we've adapted ourselves to are destabilizing faster than we can re-adapt.

This year's race for the highest global temperatures is far more interesting than any horse race. The system is much more volatile and the stakes are so much higher.