

Too Dry of a Heat

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By Melanie Lenart

A mere eight hours after a midday rain in Tucson, my seat was practically dry. Yet I was sitting on a cushion that had covered an outdoor plastic chair during the half-hour rain.

In truth, I was surprised the cushion wasn't soggy. It was a mostly cloudy day in late September. It felt relatively humid – though nothing along what you can find in the humid tropics. During a trip to the Mosquito Coast of Costa Rica, my hand-washed blue jeans hung on a “temporary” indoor clothesline for several days and never really did dry.

Here in the subtropical desert, though, even humid days generally fall on the low end of the air moisture continuum. Hence the rapid-fire evaporation rates in summer. This allows us to keep cushioned chairs outside and hang our laundry to dry with confidence that it will. But, convenience aside, it does bring up a major worry for our future climate.

If water evaporates so quickly even on a rainy day in our current climate, how will we make it through future summers here in the Southwest?

In subtropical deserts – the Sonoran, the Kalahari, the Atacama, the Sahara – we live under high-pressure systems most of the time. This pressure over the subtropics, roughly centered around 30 degrees from the equator, makes it challenging for clouds to rise up and rain down.

Meanwhile, global climate models project less rain will fall over subtropical deserts in decades to come. Sure, precipitation is challenging to predict. But we can count on having seasons, years, or even decades of drought in subtropical deserts – under increasingly hotter conditions.

A lot of the talk of future water challenges in the Southwest boils down to this: Even if it were to rain more rather than less overall, we still face higher evaporation rates as temperatures rise.

This summer gave us a taste of years to come. September temperatures dragged summer beyond tolerable in central Tucson. The National Weather Service reported that this September was the second-hottest one on record in Tucson. Half the days in September hit a stifling 100 degrees or more.

I felt the heat up close and personal. The air-conditioning in my Toyota Tercel conked out before summer even began. It got to the point where, after an early September trip

across town, I was actually relieved to be sitting in the dentist's office waiting to have my molar ground into a crown-fitting pulp. At least the office was cool.

Outside, it was a dry heat. Hot winds blowing into my car did little to cool me off. Hot air blowing across the landscape dried clothes in 10 minutes. Just imagine how the plants felt.

Like many of the ongoing impacts from climate change, the threat of even higher evaporation rates doesn't lend itself to easy depiction. The Invisible Process? Doesn't quite work as a Halloween costume.

But, as Halloween reminds us, it's not just the things we can see that scare us. The things we can feel – such as a lack of moisture mere hours after a decent rain – should also send shivers down our spine about what lurks around the corner.

So here's a more visual costume idea: a rainwater harvesting cistern. The kind that collects water from rooftop rainfall for later use. Sure, it might be tough to sit down while wearing a corrugated metal cylinder. But, to protect us from the even hotter dry heat of decades to come, it's just the type of armor this region needs.

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