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Washoe Zephyrs

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Public lands and wildlife turn to stopgap solutions

How Rapid Spread of Misinformation Pushed Oregon Lawmakers to Kill State Wildfire Risk Map CA farmers, anglers and researchers often clash over salmon. Science united them

Strategically bringing back beavers could support healthy and climate-resilient watersheds

Deep-sea desalination pulls drinking water from the depths

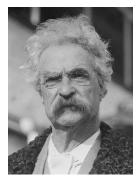
California's wildfire moonshot: How new technology will defeat advancing flames



The Washoe Zephyr - A signature wind that Mark Twain called a "soaring dust-drift about the size of the United States set up edgewise".

Michael P. Branch August 7, 2025

Those of us who live in the western Great Basin Desert, up in the foothills on the eastern slope of the Sierra Nevada, are all too familiar with a wind that is known locally as the Washoe Zephyr. During his time as a cub newspaper reporter in the mining camps of the western Nevada Territory (then nicknamed "Washoe," after the Native people who inhabit this region), Mark Twain was also familiar with this special wind, which was already the stuff of extravagant tall tales by the time he arrived on the Comstock in the early 1860s. Calling the Washoe Zephyr a "soaring dust-drift about the size of the United States set up edgewise" in *Roughing It* (1872), Twain described the layers of items he observed blowing by above him: "hats, chickens, and parasols sailing in the remote heavens; blankets, tin signs, sage-brush, and shingles a shade lower; door-mats and buffalo-robes lower still; shovels and coal-scuttles on the next grade; glass doors, cats, and little children on the next; disrupted lumber yards, light buggies, and wheelbarrows on the next; and down only thirty or forty feet above ground was a scurrying storm of emigrating roofs and vacant lots." "A Washoe wind," Twain concluded, "is by no means a trifling matter."



Mark Twain wrote that the Washoe Zephyr wind in the foothills of the eastern Sierra Nevada was "by no means a trifling matter." Photo courtesy of Michael P. Branch

Twain's comic exaggeration is funny only if you don't actually live here. In my decade on Ranting Hill quite a few of the items on Twain's list actually have blown away from here, along with plenty of things he didn't think to mention. The Washoe Zephyr hauls off papers and magazines, hats and sweaters, tarps and blankets, but would you believe that it also blows away plastic coolers, bird netting, chicken wire, and five-gallon buckets, that it routinely rolls everything from soccer balls to trash cans off Ranting Hill, and that the only way to keep a halffull bottle of beer from being knocked over is to down it straightaway? Our heavy outdoor furniture routinely slides around the patio as if it were an ice rink, and the Zephyr has even toppled neatly-stacked cords of juniper and pine. Around here the tumbleweed (Russian thistle) does not tumble at all; it is instead dislodged by fierce dust devils, sucked up into the gyre, and transported aloft toward Utah. On one memorable occasion, a sudden blast knifed under my young daughters' blue, plastic wading pool. I stood gripping my beer as I watched the blue disc simply sail off into the desert sky. It took me an hour of hiking around to even find the pool, which had eventually returned to earth and lodged in a juniper copse a half mile from the house.

Meteorologists call the Washoe Zephyr a seasonal diurnal wind: it occurs regularly during the summer and is driven by temperature and pressure gradients that are built up and broken down over the course of the day. Like everything and everybody around here, though, our wind is extremely strange. In the normal pattern, diurnal, mountain-slope winds move upslope during the day and downslope at night—just as you would expect, given that hot air rises and cool air sinks. But here in the western Great Basin the pattern is reversed: the wind howls *down* out of the canyons all afternoon at 20 to 30 miles per hour, finally shutting off or gently reversing itself an hour or so after dark. What causes this odd reversal of the normal wind pattern?

Weather geeks have been arguing about the mechanism of the Washoe Zephyr for a long time. While several theories have been proposed, the most persuasive is that this unfailing west-southwest afternoon wind is a "thermally driven flow phenomenon." During the day, heated air rises from the desert floor, creating a conveyor or chimney effect that sucks the cooler air down from the Sierra Nevada. But the situation is more complicated than that, since the Zephyr is produced not only by this thermal differential but also by a giant, regional-scale pressure gradient: in summer, the low pressure system produced out in the high-elevation desert of central Nevada remains in an unstable relationship with the high pressure system produced on the west side of the Sierra. The great equalizer is the Zephyr, which relieves the pressure of this atmospheric asymmetry by pulling California air through the mountain passes and down into the Nevada desert.

Scientific theories notwithstanding, the Zephyr remains an odd and poorly understood feature of life in the western Great Basin. Even Twain recognized the mystery of the wind's origin. The Washoe Zephyr, he wrote, is "a peculiarly Scriptural wind, in that no man knoweth 'whence it cometh.' That is to say, where it originates. It comes right over the mountains from the West, but when one crosses the ridge he does not find any of it on the other side!" Like a local cloud that hovers atop a big volcano like Mt. Shasta even when skies surrounding the peak are clear, our home wind is produced by the mountains. While we tend to think of wind as something that blows in from somewhere else, the Washoe Zephyr is instead endemic, a signature phenomenon created by a vigorous daily conversation taking place between mountain and desert.

I'd have to be a soft-hearted tree hugger to have much good to say about the Washoe Zephyr, which is more akin to an existential trial than it is to a welcome breeze. A nature writer like Annie Dillard can emote lyrically about the "spiritual energy of wind" only because she is lolling in the gentle breeze that ripples the verdant banks of Virginia's Tinker Creek. As Twain knew so well, the case is entirely different in the western desert. Here the wind is so desiccating as to make gardening virtually impossible. It is so hot that facing into it is like standing in front of the open door of a kiln being vented into your face by the world's largest exhaust fan. When wildfires burn up in the Sierra, which they do much of each summer, the Zephyr funnels their choking smoke and ash directly into these desert basins and sometimes drives curtains of roaring flames toward our home.

Because the Washoe Zephyr shotguns so much desert sand, we must occasionally resort to wearing ski goggles while hiking. The amount of dirt that ends up in your eyes after a hike would be enough to pot a houseplant, if your eyeballs weren't so dried out and stinging as to cause the debris to stick to them almost indefinitely. Inside your boots you'll discover enough

gravel to sandbag a levee. And don't bother clenching your teeth in frustration while being blasted by the Zephyr, because you'll be doubly exasperated when you feel the grit between your molars. Is it any wonder that the Buddhist and Hindu concept of *nirvana*—which signifies a liberation after a lengthy period of suffering—is understood by some etymologists of Sanskrit to mean a state of *no wind*? Each evening when the blast of the Washoe Zephyr subsides, it is as if the world has suddenly stopped clenching its jaws and squinting its eyes. Calm comes over the land in a form that can never be produced by an absence of wind, but only by a cessation of it.



A dust devil kicks up on a sagebrush flat in the western Great Basin Desert. Image: Michael P. Branch.

What has somehow been lost in the story of the Washoe Zephyr is that the name of this big wind is in fact a joke—one that originated with Twain and the frontier storytellers he gulped red eye with up in Virginia City. Named for Zephyrus, the Greek god who was celebrated as the bringer of light summer breezes, the word *zephyr* specifically evokes the gentle stirring of a soft, western breeze. This is what Shakespeare intended, when in *Cymbeline* he wrote that two beautiful children "Are as gentle / as zephyrs blowing below the violet, / Not wagging his sweet head." Calling our fierce, ripping Washoe wind a *zephyr* is a triumph of the sort of ironic understatement that is essential to the American tall-tale tradition. The droll implication of the Washoe Zephyr's name is that out here in the desert West the landscape is so vast and unforgiving that our version of a gentle breeze is a blast that carries off lumberyards, wheelbarrows, and vacant lots.

We high desert rats don't enjoy the Zephyr, but we have learned to endure it, and in enduring it we are made more thoroughly a part of this place. And the fact that the name of this grueling, incessant wind is a wry joke is very much to the point. We often endure the desert through laughter, which seems a fitting gesture of reciprocation with a landscape that so often seems to be laughing at us—that chuckles knowingly even at our pretention to inhabit it. But if the Washoe Zephyr were suddenly to cease forever, a fleeting moment of nirvana might be followed by a sense that something extraordinary had vanished from this land. Because our embrace of nature in this place is an expression of grinding struggle as well as deep affection, the Washoe Zephyr is something we can no longer live without.

An earlier version of this essay appeared as a chapter in Mike's book <u>Rants from the Hill: On Packrats</u>, <u>Bobcats</u>, <u>Wildfires</u>, <u>Curmudgeons</u>, <u>a Drunken Mary Kay Lady</u>, <u>and Other Encounters</u> with the Wild in the High Desert (Roost Books, 2017).

10 Compelling Books by Indigenous Authors to Read on International Day of Indigenous Peoples and Beyond

Every year on August 9 we celebrate International Day of the World's Indigenous Peoples. On this day in 1982, the UN Working Group on Indigenous Populations held its first meeting in Geneva where they drafted the UN Declaration on the rights of Indigenous peoples, asserting their rights to self determination.

Across the globe, many Indigenous peoples continue to fight, often at great risk, to defend their lands, cultures, and ways of life. Today, as <u>environmental rollbacks</u> and policy changes threaten hard-won rights, the need to stand in solidarity with Indigenous peoples has never been greater. Their struggle to protect their territories and cultures also reflects a way of life that sustains all life on Earth. In the international context, Indigenous peoples' demands for land rights, direct climate finance, and recognition as rights-holders are essential and long overdue.

In honor of the International Day of the World's Indigenous Peoples, we have put together a list of powerful books by Indigenous authors from across the globe. These works celebrate the resilience, wisdom, and rich cultural heritage of Indigenous peoples, while confronting the urgent and ongoing struggles they face. From memoirs to novels, from investigative journalism to cultural reflections, each of these books invites us to listen deeply, learn, and stand in greater solidarity with Indigenous peoples everywhere.

1. The Night Watchman - Louise Erdrich

Based on the extraordinary life of her grandfather, Louise Erdrich, a member of the Turtle Mountain Band of Chippewa, tells the story of Thomas Wazhashk, a tribal council member who led the fight against a 1953 US government bill aimed at terminating Native sovereignty. This so-called "termination" bill threatened Native Americans' rights to their lands and their very identities. From rural North Dakota to the halls of Washington, D.C., Wazhashk led the struggle against dispossession. Erdrich's novel powerfully captures a pivotal moment in Native American

NIGHT
WATCHMAN

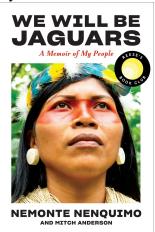
A MOVEL

LOUISE ERORICH

history and the relentless fight for land, rights, and identity. Learn more here.

2. We Will Be Jaguars - Nemonte Nenquimo

We Will Be Jaguars traces the life of Nemonte Nenquimo—Waorani leader, activist, and cofounder of the Indigenous-led Ceibo Alliance and its partner organization, Amazon Frontlines. Raised in the Ecuadorian Amazon, Nemonte recounts her lifelong fight to defend her peoples' ancestral lands from oil companies, missionaries, and extractive industries determined to erase Waorani culture and devastate the forest. Co-written with her partner, Mitch Anderson, this is a eeply personal story of resistance, cultural survival, and a relentless battle to protect the Amazon.



Learn more here.

3. The Falling Sky – Davi Kopenawa and Bruce Albert

The Falling Sky is the powerful life story and philosophical testimony of Davi Kopenawa, a Yanomami shaman and tireless defender of the Amazon. Told in his own voice and co-authored with anthropologist Bruce Albert, the book weaves autobiography, cultural memory, and cosmological insight. Kopenawa recounts his shamanic journey, from childhood initiation to confronting the brutal encroachment of outsiders, including missionaries, miners, and officials. His personal and political narrative reveals the devastation brought by colonization, disease, and environmental destruction. At its core, this is a Yanomami vision of the world, a cosmology deeply attuned to the forest and its spirits. It is a call to protect the forest and its peoples. Learn more here.



4. Stolen – Ann-Helén Laestadius

In this award-winning novel, Sámi journalist and author Ann-Helén Laestadius delivers a gripping coming-of-age story about a young Sámi woman's fight to protect her family's reindeer herd and culture amid racism, climate change, and legal neglect in Sweden. Inspired by real events, *Stolen* is a heartfelt tribute to Sámi heritage and a powerful indictment of prejudice and environmental injustice. Learn more here.

5. Wars of the Interior - Joseph Zárate

Peruvian journalist Joseph Zárate crafts three gripping investigative narratives on the extraction of gold, wood, and oil in Peru's Amazon and Andes. His vivid reportage lays bare the violence, corruption, and environmental destruction wrought by these industries, while shining a light on

the courage of Indigenous leaders, environmental defenders, and communities fighting to protect a rapidly vanishing Amazon rainforest. <u>Learn more here</u>.

6. The Yield - Tara June Winch

Wiradjuri author Tara June Winch weaves a powerful story of language, land, and family. When August Gondiwindi returns to Australia for her grandfather's funeral, she discovers plans for a mining company to take their land. Through her grandfather's dictionary of Wiradjuri words and the stories he left behind, *The Yield* is both a reclamation of culture and language and an urgent act of resistance against Indigenous dispossession. <u>Learn more here</u>.

7. There There – Tommy Orange

This novel follows twelve interconnected characters from Native communities as their lives converge at the Big Oakland Powwow. Cheyenne and Arapaho author Tommy Orange delivers a vivid portrait of contemporary urban Native life, shaped by historical trauma, resilience, and the search for identity, culminating in a powerful and devastating convergence. <u>Learn more here</u>.

8. Braiding Sweetgrass - Robin Wall Kimmerer

Potawatomi Nation member and botanist Robin Wall Kimmerer weaves together Western science and Indigenous knowledge to reveal how plants and animals are our oldest teachers. Through a rich blend of storytelling, science, Indigenous cosmology, and reflection, she calls on us to embrace reciprocity with the living world—recognizing that only by honoring this relationship can we begin to heal the Earth. <u>Learn more here</u>.

9. Ideas to Postpone the End of the World – Ailton Krenak

Ailton Krenak, an Indigenous philosopher from Brazil's Doce River Valley, a place devastated by mining, invites us to radically rethink our place in the world. He challenges the illusion that humanity is separate from nature, urging us to recognize rivers, forests, and all living beings as our kin. Against the backdrop of the Anthropocene, Krenak sees Indigenous wisdom not as a relic of the past, but as a guide for a livable future. He calls on us to honor differences, restore joy, and reclaim the meaning of life through song, dance, and storytelling. Krenak reminds us that to postpone the end of the world, we must keep imagining new beginnings. Learn more here.

10. Believing in Indians, A Mixed-Blood Odyssey - Tony Tekaroniake Evans

Coming of age during an era of assimilation and cultural erasure, Tony Tekaroniake Evans was told by his third-grade teacher that Indians no longer exist. How could this be, when his grandmother spoke Mohawk in the house? Thus begins a witty, poignant, and deeply personal journey to reclaim his Indigenous identity. Along the way, he realizes there are no easy answers —only the growing understanding that being Indian is both a political act and a matter of faith. His memoir is a candid exploration of life between cultures and a powerful affirmation that holding onto family and heritage is, in itself, an act of resistance. Learn more here.

Reading books by Indigenous authors is an invitation to unsettle what we think we know. These stories challenge us to face our shared history, and to imagine what might be possible outside the container of colonial logic.

Since 1988, Rainforest Foundation US has partnered with Indigenous peoples to protect their rights and their rainforests in the Amazon and Central America. *Learn more about Indigenous-led rainforest protection and keep up with the latest developments in our work by signing up for our email list today.*

As a critical minerals mine nears approval in Arizona, residents fear it's already affecting area water

"When Becky and John Ball retired from careers in firefighting, they found their dream home in the foothills of Arizona's famed Patagonia mountains. But less than a year after moving in, they worry they made a mistake. In June, a letter arrived in the mail informing them their home was within the "cone of depression" that a proposed mine in the nearby mountains would create, which could cause their well to go dry. In the mountains above the mine, John Nordstrom got the same letter after his well's water levels dropped 87 percent, according to data taken by the mine and shared with him. A local pond that was wet year-round on his property went dry after the mine began to dewater the aquifer to make way for underground mining. ... "Read more from Inside Climate News.

Community outrage shut down Project Blue data center project in Tucson — but it's not dead yet

"Tucson residents have been up in arms about a proposed data center dubbed Project Blue. The project, which is tied to tech giant Amazon, would have been built on 290 acres of unincorporated land the developer wanted annexed into Tucson so it could access water supplies. But, as residents relentlessly pointed out, that's water that Tucson desperately needs. On Wednesday, the Tucson City Council heard those constituents loud and clear. Council members voted unanimously against bringing the massive project to Tucson. The move was cheered by a big crowd gathered at council chambers. Arizona Luminaria reporter Yana Kuchinoff was there, and she joined The Show to talk about what she saw and what happens next. ... "Read more from KJZZ.

Civil cases against major polluters plummet under Trump

"The Trump administration has filed far fewer civil cases accusing companies of violating environmental rules than its predecessors, an analysis of federal data shows. In the first full six months of Mr. Trump's second term, the Justice Department filed 11 civil lawsuits against major polluters for breaking bedrock environmental laws, compared with 30 of these cases in President Joseph R. Biden Jr.'s first full six months in office, according to the analysis by the Environmental Integrity Project, an advocacy group. In addition, the Trump administration reached 18 settlements in civil cases against major polluters, compared with 53 settlements in the same period under Mr. Biden, the analysis found. Such settlements often require companies to pay millions of dollars in penalties. The slowdown in enforcement has let some polluters off the hook and left communities more exposed to hazardous pollution, former officials, environmental lawyers and activists say. ... "Read more from the New York Times.

US national parks staff in 'survival mode' to keep parks open amid Trump cuts

"Across the US's fabled but overstretched national parks, unusual scenes are playing out this summer following budget cuts by Donald Trump's administration. Archeologists are staffing ticket booths, ecologists are covering visitor centers and the superintendents of parks are even

cleaning the toilets. The National Park Service (NPS), responsible for maintaining cherished wildernesses and sites of cultural importance from Yellowstone to the Statue of Liberty, has lost a quarter of its permanent staff since Trump took office in January, with the administration seeking to gut the service's budget by a third. But the administration has also ordered parks to remain open and accessible to the public, meaning the NPS has had to scramble remaining staff into public-facing roles to maintain appearances to the crowds of visitors. ... "Read more from The Guardian.

Al Meetup

This isn't another networking meetup. It's where smart, curious people come to nerd out on AI together. If you've been playing with AI in your work or life and want to swap notes with other folks actually using this stuff, come hang out.

No pitches or panels just a group of **real people talking about what's working,** what's not, and what we're figuring out along the way.

For: newbies, builders, testers, problem-solvers and systems thinkers who care more about doing the work than hyping it up.

No egos or fluff. Just real talk about AI in the real world.

First meetup:

Thursday, Aug. 28, 8-9 a.m. at the Innevation Center

Agenda:

Welcome + pulse check (10 min.)

Quick intros + what's top of mind in your AI world

Spotlight session (20 min.)

One attendee shares a real project, tool, or challenge - no slides, just chat

Breakout coaching circles (30 min.)

Small group convos to trade tools, solve stuck points, and share what's working

Wrap up + what's next (5-10 min.)

Key takeaways, spotlight invites, and group photo (proof of humanity)!

FREE to attend, come nerd out with us!

Please RSVP to Amanda Long at amanda@smartmarketingsquad.com

Public lands and wildlife turn to stopgap solutions

In the face of federal cuts, volunteers, businesses and others help keep programs afloat. https://www.hcn.org/articles/public-lands-and-wildlife-turn-to-stopgap-solutions/

How the Rapid Spread of Misinformation Pushed Oregon Lawmakers to Kill the State's Wildfire Risk Map

w.propublica.org/article/oregon-wildfire-risk-map-rural-homeowners

CA farmers, anglers and researchers often clash over salmon. Science united them.



A Chinook salmon jumps out of the water on the fish ladder at the Nimbus Fish Hatchery in 2024 in Sacramento. Threats to Chinook salmon are leading to collaboration between fishermen, farmers and researchers. Hector Amezcua Sacramento Bee file

Read more at: https://www.sacbee.com/news/california/water-and-drought/article311554817.html#storylink=cpy

Strategically bringing back beavers could support healthy and climate-resilient watersheds
Often portrayed as lumber-hungry nuisances, North American beavers build dams that help freshwater
ecosystems thrive. A new Stanford-led study uses high-resolution aerial imagery to map beaver dams and
ponds, ultimately aiding managers in prioritizing areas for restoring wetlands and reintroducing beavers.

Deep-sea desalination pulls drinking water from the depths

"From Cape Town to Tehran to Lima to Phoenix, dozens of cities across the globe have experienced water shortages recently. And in the next five years the world's demand for fresh water could significantly outpace supply, according to a United Nations forecast. Now several companies are turning to an unexpected source for a solution: the bottom of the ocean. Called subsea desalination, the idea is to remove the salt from water in the deep sea.

If it worked at scale, the technology could greatly alleviate the world's water access problems. Costs and energy requirements have kept <u>desalination</u> from going mainstream in most of the world. ... Reverse osmosis is more efficient than distillation, but it takes a lot of energy to pressurize millions of gallons of seawater and move it through filters. What if we could let that movement happen naturally by harnessing the pressure hundreds of meters underwater? ... "Read the full story at Scientific American.

California's wildfire moonshot: How new technology will defeat advancing flames

"A bolt of lightning strikes deep inside a California forest in the middle of the night. The spark becomes a flame, and within seconds, a satellite dish swirling overhead picks up on the anomaly and triggers an alarm. An autonomous helicopter takes flight and zooms toward the fire, using sensors to locate the blaze and artificial intelligence to generate a plan of attack. It measures the wind speed and fire movement, communicating constantly with the unmanned helicopter behind it, and the one behind that. Once over the site, it drops a load of water and soon the flames are

smoldering. Without deploying a single human, the fire never grows larger than 10 square feet. This is the future of firefighting. ... " Read more from the LA Times.

Scholarships with September 30 Deadline

\$2,000 No Essay CollegeVine Scholarship	\$2,000	September 30, 2025
AASA Education Administration Scholarship	\$2,500	September 30, 2025
AAUW American Dissertation Fellowship	\$25,000	September 30, 2025
AAUW Educational Foundation International Fellowships	\$25,000	September 30, 2025
AAUW International Project Grants	\$15,000	September 30, 2025
Alliance Medical Education Scholarship	\$2,500	September 30, 2025
American Australian Association Arts Scholarships and Grants	\$30,000	September 30, 2025
American Australian Association Graduate Education Scholarship	\$40,000	September 30, 2025
American Australian Association Veterans Scholarships	\$40,000	September 30, 2025
Coca-Cola Scholars Program Scholarship	\$20,000	September 30, 2025
Colonel Nate Smith Scholarship	\$2,000	September 30, 2025
CREW Inland Empire Foundation	\$5,000	September 30, 2025
D.O.O.R.S Diversification Of Our Research Scientists	\$5,000	September 30, 2025
Doodle for Google Scholarship	\$55,000	September 30, 2025
Dr Pepper Tuition Giveaway	\$100,000	September 30, 2025
Empower College Scholarships Program	\$20,000	September 30, 2025
Georgia Engineering Foundation Scholarships	\$5,000	September 30, 2025
Heartfelt Dreams Foundation Nursing Scholarship	\$5,000	September 30, 2025
Justice Solutions Group Future Mentors Scholarship	\$2,500	September 30, 2025
L. Ron Hubbard Illustrators of The Future Contest	\$5,000	September 30, 2025
L. Ron Hubbard Writers of The Future Contest	\$5,000	September 30, 2025
LeCoMASE Fund Scholarship	\$3,400	September 30, 2025
Live Poets Society of New Jersey - National High School Poetry Contest	\$500	September 30, 2025