

Sierra lakes hold answers to climate change

By Carole Jablon-Bernardi

INCLINE VILLAGE – The Sierra Nevada snow drifts are at a drought busting 173 percent of average, with the most snow recorded since 1995, so said California water managers as of Feb. 2. That was before another 2 feet of snow fell overnight Thursday on the North Shore.

On a snowy Feb. 9 evening it was appropriate the topic at Tahoe Environmental Research Center on the campus of Sierra Nevada College was climate change.



Steve Sadro talks climate change on Feb. 9. Photo/Carole Jablon-Bernardi

Steve Sadro, who is with Department of Environmental Science and Policy at UC Davis, titled his lecture “Climate Change and Lake Temperature in the Sierra Nevada.”

Water temperature regulates a broad range of fundamental

ecosystem processes in lakes. While climate can be an important factor controlling lake temperatures, in many lakes, water temperatures are responding differently than air temperatures. Through multiple decades of climate and water temperature data from a high-elevation catchment in the Southern Sierra Nevada scientists now hope to be able to illustrate the magnitude of warming taking place and demonstrate the role of winter snowpack in regulating those lake temperatures.

Sadro's study is Emerald Lake, a glacial cirque lake located in the Tokopah Valley of Sequoia National Park. The Tokopah Valley forms the headwaters of the Marble Fork of the Kaweah River in the Southern Sierra Nevada. The lake, situated at 8,200 feet, runs 30 feet deep and 400 yards across. It is one of approximately 14,000 lakes in the Sierra.

This area has been the focus of sustained limnological and watershed research since 1983. Ultimately, the knowledge gained through Sadro's research could help with understanding how these thousands of lakes and watersheds are responding to global change.

Lakes have long been studied by environmental scientists and the insights from their investigations have led to advances in the natural sciences. Mountain lakes, in particular, are recognized as excellent indicators of regional environment conditions and are increasingly being used by regulatory agencies.

What Sadro pointed out is the importance of mountain snowpack to freshwater supplies mandates that attention be paid to the bio-geo-chemistry, hydrology and ecology of these systems.

"In the next 50 years, we have an opportunity to alter the course of climate change on a global scale. Despite the political turmoil and/or setbacks, I feel we can all take heart," Sadro said. "Irregular funding might create gaps, but

the impact to humanity remains.”

Mark Twain was once said, “Climate is what we expect, weather is what we get.” One could say that Sadro’s exact words in comparison reflect the same observation: “Climate reflects long-term trends and weather is the noise.”

Climate trends include factors such as air temperature, sea levels, snow cover, solar input, CO₂ and glacial mass. To be even more specific, Sadro broke it down to an acute focus on Sierra lakes:

- Greenhouse gas emissions
- Carbon and nutrient cycling
- Lake productivity
- Community ecology
- Bioenergetics
- Water equality
- Physical dynamics.

He went a step further to break it down to three primary areas of cause and effect:

- Warming air temperatures: high elevation in certain Sierra sites are warming at well above regional rates.
- Drought: the frequency and severity of droughts have increased in recent decades (and in lake research drought is about “supply and demand”; evaporative drought).
- Lake temperature governed by snow, water, equivalent: a large snowpack buffers lakes from warming.

Snow-water-equivalent is what’s commonly known as snowpack measurement. It is the amount of water contained within the

snowpack. It can be thought of as the depth of water that would result if the entire snowpack melted instantaneously. For example, a swimming pool that is filled with 36 inches of powdery snow at 10 percent water density. Melt all the snow and there would be 3.6 inches of water in the pool.

Although Sadro's research and analysis was strictly based on Emerald Lake, the majority of locals who attended the lecture were obviously also interested in the body of water just down the road – Lake Tahoe.

In the **2015 “State of the Lake”** document TERC Director Geoff Schladow warned about Tahoe's ever increasing average temperature. It is getting warmer at a faster rate than the historical average.

Even more disturbing to scientists is how all this warming has affected lakes' abilities to mix its own waters, a natural process that Sadro described as a predictor of “anoxia”, which is the absence of oxygen supplied to an organ or tissue. This can deprive fish and other life forms from thriving in their normal habitat.

Opinion: Taxes not the cure for bad roads

By George Runner

California's roads are crumbling.

Reports routinely show our state has some of the poorest pavement conditions in the country, with high-tax liberal strongholds of San Francisco and Oakland leading the way. The

culprit? Misplaced spending priorities.



George Runner

If you spilled your latte when hitting that huge pothole on the way to work, thank your elected leaders.

Gov. Jerry Brown says he has a fix for it – a 42 percent gas tax hike, plus a new \$65 vehicle registration fee that includes hybrids and electric vehicles. He claims the increases are needed because repairing California's highways can't be funded with existing revenues.

Why not?

Budgets are about priorities and the governor and legislative leaders have a say on how tax dollars are spent. State revenues have grown by roughly 50 percent in just under 10 years. And, apparently, Brown thinks the state can afford a \$68 billion – and growing – high-speed rail project that still hasn't found a way to deal with the Tehachapi Mountains.

In addition to about \$7 billion in annual fuel tax revenues, the state also collects a carbon tax from oil companies that brings in about \$2 billion. Oil suppliers pass the tax on to us at the pump. The Legislative Analyst's Office estimates this adds, at minimum, 11 cents per gallon to the cost of gasoline.

Where is all the money going?

Huge amounts go to projects that don't improve roads. Much of the carbon tax revenue will end up funding high-speed rail.

The Democratic-controlled Legislature rejects every bill to direct these dollars toward reducing emission-generating traffic gridlock.

If Brown's plan to raise the gas tax passes – which seems likely given the new Democratic supermajority – Californians could end up paying as much as 80 cents in combined federal and state taxes for each gallon of gasoline – a rate far higher than any other state. Not to mention we already have some of the highest gas prices in the nation.

It isn't the elite who are squeezed by these costs. It is the less fortunate who struggle to find affordable housing and often must travel further to their workplaces.

Sadly, this is all by design.

Many Democrats envision a society where everyone is reliant on public transit. This “green” vision is attractive to Millennial voters, who tend to be issue-driven idealists. They believe we should all pay a little more to save the planet.

That's troubling, given the findings in a new report that shows Millennials are poorer and less employed than their Baby Boomer parents.

There are alternatives to raising taxes. The public should call upon the governor and Legislature to first consider the following ideas:

- Audit the California Department of Transportation for savings. Experts agree Caltrans has wasted billions of taxpayer dollars in recent years, not counting the new Bay Bridge.
- Use cap-and-trade and existing revenue streams to target traffic gridlock and tackle deferred road maintenance.
- Enact legislation to ensure transportation dollars are spent on actual transportation projects, and require the California

Transportation Commission to prioritize projects that provide the greatest economic benefits.

High taxes do not guarantee good roads. If our leaders have failed to properly prioritize and manage our existing tax dollars, is it really wise to give them more?

George Runner is a member of the state Board of Equalization.

A machine considered punishment now a \$1.4B industry

By Mike Plunkett, New York Times

As the weather turns colder, Jen Forman will do what she's always done to get her runs in: She'll go to her treadmill in her home, press start and run until she's done.

And she will hate every moment of it.

"I will continue to press the speed button to get a treadmill workout done as quickly as possible," said Forman, 38, of Gaithersburg. "But I can't live without it, because if it's snowing outside or I have my kids at home, I can't leave and go for a run."

In its 2016 survey, the Sports & Fitness Industry Association (SFIA) found that more than 50 million Americans said they used a treadmill at least once in the previous year. Yet if the monotonous motion feels like torture, well, that shouldn't come as a surprise. The tread wheel, a variation of what we know as the modern treadmill, was used in the 1800s to keep

British prisoners from idleness but more so for hard labor.

[Read the whole story](#)

Nev. fast tracks regulating recreational marijuana

By Ben Botkin, Las Vegas Review-Journal

CARSON CITY — State officials plan to move quickly with a task force for regulating recreational marijuana, the Nevada Senate Judiciary Committee heard Wednesday.

The first steps will be putting temporary regulations in place by July to allow medical marijuana establishments to sell recreational marijuana. By the end of the year, permanent regulations are to be in place.

In the world of state government, that is a fast-tracked process for completing regulations. It can take a year or so for that to happen.

[Read the whole story](#)

DCSO rescues 10 from flood waters in valley

By Associated Press

Emergency crews in Douglas County have rescued 10 people stranded by high waters near the Carson River south of Carson City.

Douglas County sheriff's Sgt. Bernadette Smith says they used an armored vehicle assigned to the SWAT team shortly before noon Friday to pick up the group that included several children.

She says a family called the dispatch center because they didn't want to cross a large stretch of moving water near Highway 395 north of Minden.

The highway has been closed in both directions due to flooding.

An emergency shelter was set up at a community center in Gardnerville after voluntary evacuations at two local mobile home parks at about 3am Friday.

Smith says a half-dozen people showed up, but only two spent the night. They left Friday morning but the center remains open in case there's more flooding.

Man drowns along American River off Hwy. 50

A man apparently drowned in the American River at the Randall Tract Bridge near Whitehall.

A driver on Highway 50 saw what was believed to be a body off to the side of the road, called authorities about 2:20pm Feb. 10, and when paramedics arrived they found the deceased man. Other than being an adult, no age was given. No name has been

released pending notification of next of kin.

“He was hung up in some brush on the bank, but still in the water,” El Dorado County sheriff’s Lt. Matt Underhill told *Lake Tahoe News*.

There is no evidence that he was trying to kayak the river or use some other vessel to navigate the rushing American River.

The victim was wearing jeans, leather lace up boots and no shirt.

“People should not approach waterways right now because of the freezing cold temperature, rapidly rising waters are dangerous and the banks unstable,” Underhill said.

– *Lake Tahoe News staff report*

Placer County makes it easier to report fraud

Placer County now has a way for employees to anonymously report suspected fraud, waste and abuse.

Supervisors approved a \$6,500 contract with Convercent, a compliance services provider, so workers can make a report by phone or online 24/7.

The contract, as well as the county’s whistleblower program, will be managed by the auditor-controller’s office.

The whistleblower hotline service will only be available to Placer County employees initially, but is planned to expand to the public. The hotline is expected to be available in early

March.

Caltrans wants input into bike-pedestrian plan

Caltrans is seeking comments on the draft State Bicycle and Pedestrian Plan.

The document lays out the policies and actions Caltrans and its partner agencies should take to achieve the department's statewide goals to double walking and triple bicycling trips by 2020

The draft plan describes four objectives—safety, mobility, preservation and social equity—with corresponding strategies to bring the plan to reality. The intent is to complement local and regional efforts already under way to create and implement their own active transportation networks.

The comment period will close on March 10. The final plan is anticipated to be completed in April.

For more details about the meetings, webinars and commenting, go **online**.

EDC cyclist climbs 1 million feet in 1 year

By Blair Anthony Robertson, Sacramento Bee

Torey Philipp has been riding and racing his road bike since he was 14. Now, he trains on the roads throughout Northern California, often leaving from his El Dorado Hills home and heading out into the foothills of the Sierra to go up and down all kinds of hills and mountains on quiet rural roads.

In cycling, it's called climbing, and it's not only the hardest part of the sport but the key to getting faster and stronger. This past year, Philipp did something extraordinary as part of his often grueling training schedule. With an extra push at the end of 2016, he racked up 1 million feet of elevation gain while riding his bike 14,248 miles.

Those numbers, along with maps of all of his routes, are all saved on Strava, the app and website used by many endurance athletes to keep track of their workouts and see how they stack up to others.

[Read the whole story](#)

K's Kitchen: Mushroom Bolognese to die for

By Kathryn Reed

Without a doubt, this was one of the best dishes I have made in a long time.

It is such a perfect winter meal because it is so hearty. I'm such a fan of mushrooms I know I'll be making this year-round.

The rich, earthy flavors of the mushrooms demand a bold red wine be served with it.

It's not complicated, so it could be a weeknight meal. But even better is that it's so delicious it would be great to serve to guests. And by using spaghetti squash instead of pasta it makes it that much healthier.

I had extra of the Bolognese that was good just by itself for lunch



Mushroom Bolognese

$\frac{1}{2}$ C hot water

$\frac{1}{2}$ ounce dried porcini or oyster mushrooms

1 3 pound spaghetti squash, halved lengthwise and seeded

2 T olive oil

1 medium onion, chopped

1 C celery, diced

1 C carrot, diced

1 tsp dried oregano
¼ tsp crushed red pepper
8 garlic cloves, minced
8 ounces cremini mushrooms, finely chopped

8 ounces white button mushrooms, finely chopped

2 T unsalted tomato paste
1 T reduced-sodium soy sauce
½ tsp freshly ground black pepper

¼ tsp kosher salt
8 ounces extra-firm tofu, drained and cubed

15 ounce can unsalted diced tomatoes, undrained

Place dried mushroom in half cup hot water and let stand 20 minutes. Reserve liquid. Finely chop mushrooms.

Place one squash half, cut side down, in an 8-inch square glass baking dish. Add water to a depth of 1 inch. Microwave for 8 minutes or until tender when pierced with a fork. Remove squash half; cool. Repeat with remaining squash half.

Heat oil in a large pan over medium-high. Add onion and next 7 ingredients (through button mushrooms); cook 12 minutes, stirring occasionally. Stir in tomato paste; cook 2 minutes. Stir in reserved dried mushrooms, reserved soaking liquid, soy sauce, and next 4 ingredients (through tomatoes); reduce heat and simmer 10 minutes.

Scrape inside of squash halves with a fork to remove spaghetti-like strands. Divide squash among 4 plates; top evenly with mushroom mixture.