

The January 30 Sierra Snowpack survey shows a little better total than it did on January 1, but is still way below average for this day of the year (Photo credit: California Department of Water Resources)

California Water and Infrastructure Report For February 1, 2024 (With expanded coverage of all the Western States) by Patrick Ruckert

Published weekly since July, 2014

An archive of all these weekly reports can be found at both links below:

<http://www.californiadroughtupdate.org>

<https://www.facebook.com/CaliforniaDroughtUpdate>

For a free subscription to the weekly report: Send me an email-- patruckert@gmail.com

A Note to Readers

Note the *U.S. Drought Monitor* map for California this week. Despite atmospheric rivers and accompanying flooding, not only is the precipitation totals below average for this date in the year, but the snowdrought threatens water shortages later in the summer, and, as the drought monitor indicates, the state is a little drier than it was the week before.

Two atmospheric rivers are hitting the state this week, with the first one nearly over as this report is being written. But, the expectation by weather forecasters is that the storms will not add much to the Sierra snowpack.

In addition, the first of the month measurement of the snowpack shows that both the snowpack is much lower than the average on this date, and the water content of the snow is also below average.

The **Feature** this week is two interventions that challenge the Globalist's control in regard to energy and agricultural policy. First is a video presentation by my colleague Ben Deniston: "*Biden's Green Energy Inflation Eating Your Paycheck!*" The second one is, "*State agriculture officials press banks on involvement with climate bloc: 'We hold serious concerns'*"

Following the section that begins with the report from *U.S. Drought Monitor*, and several reports on the atmospheric rivers, the snowpack and more, we move to water policy.

That features "*Comparing the Delta Tunnel versus Desalination,*" by Edward Ring, a reporter I have great respect for. The second article is an interview titled, "*Eastern Municipal Water District (EMWD) talks about EMWD's emphasis on groundwater desalination.*"

A third article discusses how California's *Water Resources Control Board* \$7 billion plan to force local water agencies to further cut household water use, with penalties if they fail to meet quotas. The saving of water for those billions will be a messily 400,000 acre feet. For just a little more than that seven billion, the *Sites Reservoir*-- set to begin construction this year-- will store more than one million acre feet, and not drive local water districts nuts figuring out how to get you and your neighbor to save five gallons of water a day.

On the Colorado River we have two articles this week. The first is, "*Will a shrinking Colorado River shrivel the produce aisle?*" This is an important article, which presents how the river's lower flow threatens most of the nation's winter vegetable crops as land is taken out of production in Arizona and the Imperial Valley of California.

And the second is, article is, "*Lake Mead Water Levels Update as Reservoir 'On the Mend,' Says Scientist.*"

And we have an article on how Biden is bailing out a nuclear power plant.

The report concludes with this week's **Feature**, described above.

U.S. Drought Monitor

January 1, 2024

National Summary

February 1, 2024 - The synoptic pattern over the last week favored continued precipitation over the coastal areas of the Pacific Northwest and very widespread and heavy precipitation in the South and Southeast and into the Midwest. Some areas of east Texas, Louisiana and Mississippi recorded over 8 inches of rain for the week.

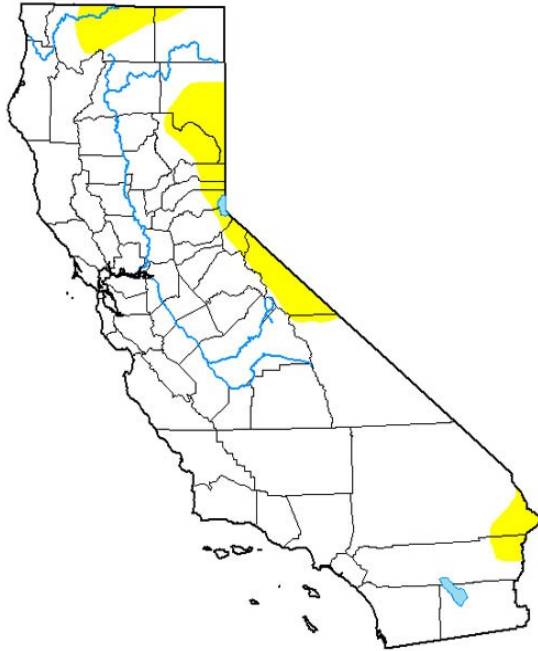
Dryness dominated the central to high Plains and most of the rest of the West as well as the Atlantic Coast into south Florida.

After a very strong cold snap in previous weeks, temperatures this week were warmer than normal over

much of the U.S., with the upper Midwest having the greatest departures of 15-20 degrees above normal in Minnesota and northern Wisconsin. Across the plains of Wyoming and Montana and into the northern Rocky Mountains, there is building concern over the lack of snow this current water year and snow drought concerns are also prevalent in portions of the High Plains and upper Midwest.

California

U.S. Drought Monitor California



January 30, 2024

(Released Thursday, Feb. 1, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	90.53	9.47	0.00	0.00	0.00	0.00
Last Week 01-23-2024	96.55	3.45	0.00	0.00	0.00	0.00
3 Months Ago 10-31-2023	94.34	5.66	0.00	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	96.65	3.35	0.00	0.00	0.00	0.00
Start of Water Year 09-26-2023	94.01	5.99	0.07	0.00	0.00	0.00
One Year Ago 01-31-2023	0.64	99.36	89.56	32.57	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

The West

Areas along the coast and inland and into the Southwest recorded above-normal precipitation this week while much of the central to northern Rocky Mountains were dry.

The entire West was near to above normal for temperatures with the greatest departures over Montana, Wyoming, Utah and Idaho, where some areas were 10-15 degrees above normal for the week. This same area has been impacted by snow drought this current water year and there are developing concerns about water availability heading into the spring and summer as we approach February.

Severe drought was introduced into more of southern and central Montana and into northwest Wyoming. Abnormally dry conditions were expanded in southern Utah and introduced into eastern California and western Nevada.

Moderate drought expanded in northeast Oregon into Idaho and in southern Oregon in the Klamath Valley. Elsewhere in Oregon and Washington, improvements were made to moderate and severe drought in western Oregon and Washington while some areas of abnormally dry conditions were contracted.

Areas of southern Arizona and southern New Mexico had improvements where extreme drought was removed from much of southern Arizona and reduced in southern New Mexico with additional

improvements to moderate and severe drought.

Atmospheric Rivers, the Snowpack and More

Atmospheric rivers to fuel the 2 biggest storms of the winter in California

California is bracing for one-two punch from storms packing atmospheric rivers, and the second storm could prove to be the stronger of the two, endangering lives and property into the start of next week.

By Alex Sosnowski, AccuWeather senior meteorologist

Published Jan 31, 2024 9:34 AM PST | Updated Feb 1, 2024 4:37 AM PST

<https://www.accuweather.com/en/winter-weather/atmospheric-rivers-to-fuel-the-2-biggest-storms-of-the-winter-in-california/1617881>

Atmospheric rivers are responsible for as much as 20 to 50 percent of California's rainfall in any given year. What are they?

A meteorological double-whammy will pound the West Coast with heavy rain and mountain snow, starting with one storm that will last into Thursday night and be quickly followed by another storm Sunday to Monday. Both will tap into moisture from [atmospheric rivers](#), heightening the flood risk for millions, [AccuWeather](#) meteorologists warn.

The proximity of the second storm to the first, hitting roughly the same areas, could escalate flooding, mudslides and power issues. Rounds of large waves from both storms will pummel the California coast into next week. There will be the potential for overwash, coastal erosion and property damage.

California is in a 'snow drought.' Why this week's atmospheric rivers won't be enough to end it

By [Ian James](#) Staff Writer

Jan. 31, 2024

<https://www.latimes.com/environment/story/2024-01-31/amid-storms-california-snowpack-remains-far-below-average>

Despite forecasts of heavy rain and possible flooding in the coming days, state water managers are warning that the "snow drought" in California's Sierra Nevada could remain for the rest of the winter and into the spring.

Storms that are moving in from the Pacific are forecast to bring more snow to the mountains starting this week, along with torrential rains in other parts of the state.

"Even though the storms during January slightly helped out our snowpack, we're only about halfway of where we should be for this time of year," said Sean de Guzman, flood operations manager for the Department of Water Resources.

After conducting the state's second seasonal snow survey Tuesday, De Guzman noted that most of the storms this year have been warmer, bringing more rain and less snow.

Second Snow Survey of the Year Shows Modest Improvement for Snowpack, Conditions Remain Below Average

[DWR News](#)

[Agency News](#)

January 30, 2024 0 47

https://mavensnotebook.com/2024/01/30/this-just-in-second-snow-survey-of-the-year-shows-modest-improvement-for-snowpack-conditions-remain-below-average/?doing_wp_cron=1706649255.8974850177764892578125

From the Department of Water Resources:

The Department of Water Resources (DWR) today conducted the second snow survey of the season at Phillips Station. The manual survey recorded 29 inches of snow depth and a snow water equivalent of 10 inches, which is 58 percent of average for this location. The snow water equivalent measures the amount of water contained in the snowpack and is a key component of DWR's water supply forecast.



Today's results reflect a modest increase in the snowpack since January 1, but overall conditions are still far below normal. DWR's electronic readings from 130 stations placed throughout the state indicate that the statewide snowpack's snow water equivalent is 8.4 inches, or 52 percent of average for this date, an improvement from just 28 percent of average on January 1. One year ago, the snowpack statewide was 214 percent of average on February 1.

Water content of California's snowpack is well below normal, but a new round of storms approaches

January 30, 2024

<https://www.nbcbayarea.com/news/california/water-content-california-snowpack/3438179/>

The water content of California's mountain snowpack was just over half of the normal average on Tuesday, a modest increase from Jan. 1 but still far below the usual, state officials said.

Electronic measurements statewide showed a snow water equivalent of 8.4 inches (21.3 centimeters), or 52% of average to date, the California Department of Water Resources said in a statement.

“This year's El Niño has delivered below average precipitation and an even smaller snowpack,” department Director Karla Nemeth said. “Californians must prepare for all possible conditions during the remaining months of the rainy season.”

The results are markedly different from last winter, when a blitz of atmospheric rivers buried mountains in snow, swelled rivers and filled reservoirs that had dwindled during years of drought.



The new storms come halfway through a winter very different than a year ago.

Despite storms like a Jan. 22 deluge that [spawned damaging flash floods](#) in San Diego, the overall trend has been drier. The Sierra Nevada snowpack that normally supplies about 30% of California's water is only about half of its average to date, state officials said Tuesday.

Water Policy

Ringside: Comparing the Delta Tunnel versus Desalination

Desalination offers a source of water that is local and impervious to disruptions in supply from other sources

By [Edward Ring](#), February 1, 2024 6:57 am

<https://californiaglobe.com/fr/ringside-comparing-the-delta-tunnel-versus-desalination/>

Debates over the efficacy of water projects often focus on the monthly cost to end users. For example, in May 2022, a few days before the California Coastal Commission [voted unanimously](#) to deny the final permit to build a desalination plant in Huntington Beach, the influential Los Angeles Times [columnist Michael Hiltzik](#) fretted that it “might drive up the average household water bill in Orange County by \$3 to \$6 per month.”

Is that all? People of all incomes spend that much money every week buying cases of bottled water, or, for that matter, \$3 will get you one-half of a [Big Mac burger](#). Up to \$6 a month is a manageable cost, and in any case water districts have programs to alleviate these costs for qualifying low income households.

One of the biggest concerns about desalination projects is the financial cost to build them. Another frequently heard criticism is that they use too much energy. But as with all things, the relevant question is compared to what?

From this perspective, a relevant comparison is the estimated cost for the Huntington Beach Desalination plant versus the estimated cost for the proposed Delta Tunnel. We must bear in mind that the Delta Tunnel, if it is ever built, probably won't add one drop to California's water supply. Every acre foot that makes it through that tunnel will probably be one less acre foot that gets moved into the aqueducts from existing intakes on the southern edge of the Delta. But let's pretend this water is truly additive. How does the cost of this tunnel compare to a desalination plant?

Rather than evaluate these costs based on the eventual monthly price hike to the consumer, which is a complex exercise fraught with subjectivity, it is revealing to examine a simpler metric. How much does it cost to build the project, divided by the amount of acre feet it is projected to supply per year? After all, most of what goes into monthly water bills is recovery of the massive costs incurred to build the storage, delivery and treatment infrastructure.

EMWD interview talks groundwater desalination

[Jeremy Wolfe](#)

Jan. 29, 2024

<https://www.waterworld.com/drinking-water/treatment/article/14304132/emwd-interview-talks-groundwater-desalination>

In [the latest episode of Dropping By from Stormwater Solutions](#), Joe Mouawad, general manager of the Eastern Municipal Water District (EMWD) talks about EMWD's emphasis on groundwater desalination.

EMWD is the sixth largest water retailer in the state of California and serves the fastest growing region in the entire state. The district is making significant investments in drought-resilient water supplies. One of those investments is in groundwater desalination.

The district's groundwater desalination effort is part of its Groundwater Reliability Plus initiative. As part of EMWD's efforts to improve its drought resilience, the district conveys brackish groundwater to a reverse osmosis facility.

Last year, EMWD commissioned its third reverse osmosis facility, which produces 5.4 million gallons daily (MGD) for drinking water. Combined with its other two facilities, EMWD has the capacity to produce roughly 14 MGD of drinking water through desalination.

Walters: California regulators want to spend billions to save a few drops of water

Costly crackdown on households' long showers and watered lawns will only conserve a tiny fraction of the state's water

California's Water Resources Control Board plans to force local water agencies to further cut household water use, with penalties if they fail to meet quotas.

By [Dan Walters](#)

January 30, 2024

<https://www.mercurynews.com/2024/01/30/walters-california-regulators-want-to-spend-billions-to-reduce-a-fraction-of-water-usage/>

Hydrologists measure large amounts of water in acre-feet — an acre of water one-foot deep, or 326,000 gallons.

In an average year, [200 million acre-feet of water fall on California](#) as rain or snow. The vast majority of it sinks into the ground or evaporates, but about a third of it finds its way into rivers. Half of that will eventually flow into the Pacific Ocean.

That leaves approximately 35-40 million acre-feet for human use, with three-quarters being applied to fields and orchards to support the state's agricultural output, and the remaining quarter — 9-10 million acre-feet — being used for household, commercial and industrial purposes.

In other words, nearly 39 million Californians wind up using about 5% of the original precipitation to water their lawns, bathe themselves, operate toilets and cook their food.

That number is important because it is such a tiny amount, even though the state's perennial household water conservation programs imply that taking fewer showers or reducing lawn watering will somehow solve the state's water problems.

The ludicrous nature of those propagandistic appeals is quite evident in the state [Water Resources Control Board's new plan](#) to force local water agencies into cutting household water use even more, no matter the multibillion-dollar cost, and with penalties if they fail to meet quotas.

The water board says the plan, which was authorized by the Legislature in 2018, would reduce household use by 440,000 acre-feet a year when fully implemented. That would be about 5% of current use, which is only about 5% of average precipitation — scarcely a drop in the bucket.

In essence, the LAO said, local water agencies would have to jump through the state's hoops by spending billions of dollars for a tiny reduction in overall water use that could have an adverse impact on low-income families.

On the Colorado River

The first article below, provides an excellent overview of how the crisis on the Colorado River threatens the largest source of fresh produce produced in the United States, as hundreds of thousands of acres of agricultural land is taken out of production.

Will a shrinking Colorado River shrivel the produce aisle?

By **Jennifer Yachnin** | 01/30/2024 01:28 PM EST

<https://www.eenews.net/articles/will-a-shrinking-colorado-river-shrivel-the-produce-aisle/>



Sprinklers water a lettuce field in Holtville, California, on Feb. 9, 2023. Sandy Huffaker/AFP via Getty Images

Ninety percent of this country's winter vegetables are grown on farms in the sunny, arid corners of California and Arizona dependent on the river. Given that agriculture [consumes as much as 79 percent of annual flows](#), the sector will undoubtedly need to absorb a large share of cuts as states and the Biden administration work out a plan over how to conserve water over the next 20 years.

That could mean a near-future in which fields across the West go dry to ensure water continues to flow to kitchen sinks and manufacturers in major metropolitan areas. It could mean grocery produce sections increasingly stocked with fruits and vegetables from outside the United States. It could also mean higher prices for consumers accustomed to a wide variety of offerings every winter.

Farmers in the Colorado River Basin predict a more dire future: one in which food prices rise and consumers cannot easily access the lettuce, cauliflower, celery, onions, beets and melons they've come to expect year-round.

For example, in Arizona — where water comes from the Colorado River, as well as the smaller Salt and Verde river systems and groundwater supplies — growers produced nearly \$1.19 billion worth of lettuce, spinach and cabbage in 2022, according to [Department of Agriculture statistics](#).

Similarly, in Southern California's Imperial Valley, farmers produced nearly \$273 million worth of leaf, head and romaine lettuce in 2019, according to a [combined report](#) from three water districts.

An agricultural oasis carved out of Southwestern desert is both miraculous and fraught.

Not only does the Colorado River support the nation's food system, but it also sustains a host of growing cities across the region. More than 40 million people rely on the waterway from Colorado to California.

Farmers and water managers predict a host of potential changes like the retirement of hundreds of thousands of acres of farmland and an increasing reliance on imported food, while rejecting the idea that farmers will abandon crops like alfalfa and other feeds.

Lake Mead Water Levels Update as Reservoir 'On the Mend,' Says Scientist

Published Jan 31, 2024 at 6:08 AM EST **Updated** Jan 31, 2024 at 6:08 AM EST

The U.S. Lakes That Could Disappear

By [Robyn White](#)

<https://www.newsweek.com/lake-mead-water-levels-update-improvement-mend-scientist-1865556>

Lake Mead appears to be "on the mend" as its water levels have steadily continued to rise at the start of this year.

The Nevada-Arizona reservoir's water levels stand at 1,072.46 feet as of January 30. This marks a rise of over 4 feet since the beginning of the month, when levels were at 1068.18.

While it may not seem like a huge rise, any fluctuation in the lake's water levels is important as in recent years they have dropped very low. The reservoir, which lies on the Colorado River, is the largest man-made lake in the U.S. and provides water for 25 million people living in the surrounding basin.

The region has recently seen a lot of rainfall, but conservation efforts have also helped drive the water levels up.

"We are having some crazy precipitation here in Arizona, as other parts of the West, especially California, are also enjoying," Andrea K. Gerlak, a professor at the University of Arizona and director at the Udall Center for Studies in Public Policy, told *Newsweek*.



A map shows the location of Lake Mead. An expert told Newsweek that it appears to be "on the mend" after conservation efforts.

Map: Ian Randall • Created with Datawrapper

"As I understand it, Lake Mead is on the mend due largely to the system conservation efforts from this past year. This means it really works when the diverse users in the basin – from cities to tribes – get together and agree to reductions from the river for the greater good of the basin. Of course, federal funding to seed and nurture this certainly helps."

How Does Lake Mead Fill Up?

[Lake Mead](#) is filled through the flows of the Colorado River, which gets its water from the surrounding snow pack in the Rocky Mountains. During years of high precipitation and snowpack levels, there is more water to replenish the West's reservoirs. However in times of prolonged drought, there is hardly enough to go around.

"What really drives lake levels at Mead is the snowpack that melts in the spring. That is the real contributor to our lake levels," Gerlak said. "Everyone I talk with suggests that it is the US Bureau of Reclamation modelers that can speak to this better. But it is a widespread understanding that it is winter rains that create snowpack that then melts that ultimately feeds our reservoirs."

Nuclear Power

Michigan Democrats have mandated that all electricity generation in the state be carbon free by 2040. Some, who have the tiniest grasp of reality, know that there will never be enough solar and wind to replace fossil fuels, and are acknowledging the need for nuclear power. Hence, the Biden Administration is offering a \$1.5 billion loan to reopen the Palisades Nuclear plant in Western Michigan.

Biden to offer \$1.5B loan to restart nuclear power plant on Lake Michigan

Ari Netter

Associated Press

<https://www.detroitnews.com/story/news/nation/2024/01/30/biden-to-offer-1-5-billion-loan-to-restart-michigan-nuclear-power-plant/72415846007/>

The Biden administration is poised to lend \$1.5 billion for what would be the first restart of a shuttered US nuclear reactor, the latest sign of strengthening federal government support for the atomic industry.

The funding, which is set to get conditional backing from the US Energy Department, will be offered as soon as next month to closely held Holtec International Corp. to restart its Palisades nuclear plant in Michigan, according to people familiar with the matter.

Holtec has said a restart of the reactor is contingent on a federal loan. Without such support, the company has said it would decommission the site.

The financing comes as the Biden administration prioritizes maintaining the nation's fleet of nuclear plants to help meet its ambitious climate goals — including a plan to decarbonize the electricity grid by 2035. More than a dozen reactors have closed since 2013 amid competition from cheaper power from natural gas and renewables, and the Energy Department has warned that as many as half of the nation's nuclear reactors are at risk of closing due to economic factors.

Feature: Two items:

A video presentation by my colleague Ben Deniston: “*Biden's Green Energy Inflation Eating Your Paycheck!*” The second one is, “*State agriculture officials press banks on involvement with climate bloc: 'We hold serious concerns'*”

Biden's Green Energy Inflation Eating Your Paycheck!



By [Benjamin Deniston](#)

January 28, 2024

https://www.larouchepac.com/biden_s_green_energy_inflation_eating_your_paycheck

The news media keeps telling us that the economy is rolling and inflation has gone away. Meanwhile, the actual experience of most folks is that *they become more broke each day—with no end in sight.*

Tonight's class by Ben Deniston will prove to you why that is. The Green energy policy is the driver of massive inflation and no amount of monetary manipulation by the Federal Reserve will bring it under control.

Donald Trump gets it. In New Hampshire this week, he declared that his policies would cut the cost of energy in half! Meanwhile, some Democrats are now proposing an "industrial policy." But no such thing exists in a world of Green energy.

State agriculture officials press banks on involvement with climate bloc: 'We hold serious concerns'

Of particular concern to the agricultural officers are what they deemed the "severe consequences for American farmers—including cutting America's beef and livestock consumption in half."

By [Ben Whedon](#)

January 29, 2024

<https://justthenews.com/politics-policy/environment/state-agriculture-officials-press-banks-involvement-climate-bloc-we>

A coalition of state agricultural officials on Monday pressed the leaders of six major financial institutions on their participation in a climate bloc and its implications for the agricultural sector in the U.S.

In the Monday letter, the group of 11 state agricultural commissioners and one secretary of agriculture warned that "we hold serious concerns over commitments made by your bank as part of the Net-Zero Banking Alliance ('NZBA'), and the potential impacts on the agriculture sector; specifically, food availability and price increases on consumers, credit access for our farmers and agriculture product producers, and overall negative economic consequences."

The coalition wrote to the heads of Bank of America, Citigroup, Goldman Sachs, JP Morgan Chase, Morgan Stanley, and Wells Fargo.

"Due to the potential impacts to agriculture, we are seeking more information regarding what appear to be troubling environmental commitments by your banks that target our farmers, ranchers, and agriculture producers, with grave consequences for consumers and that undermine the security of our food supply," the group continued.

The NZBA is a United Nations-organized voluntary bloc of financial institutions that have committed to using their influence to push for net zero emissions. The bloc has previously [attracted scrutiny](#) from watchdog groups over concerns that environmental, social, and corporate governance (ESG) practices its members use to achieve that end may breach their fiduciary duties to their investors.

Of particular concern to the agricultural officers are what they deemed the "severe consequences for American farmers—including cutting America's beef and livestock consumption in half, switching to inefficient electric farm equipment, and moving away from the nitrogen fertilizer necessary for American agriculture to thrive."

The group specifically asked that the bank leaders provides explanations of their plans to achieve net zero emissions through agriculture lending and other business activities and to account for their involvement with the NZBA and to provide them with documents related to their climate efforts.

"American farmers and ranchers are the backbone of our economy and work tirelessly to feed the people of this great country and the entire world. They grow and raise our food sustainably, backed by the latest science and technology. It is imperative to recognize these facts and build up the agriculture sector, not work against it," Louisiana Agricultural Commissioner Mike Strain said in a statement.

"American agriculture is sending a clear signal: we will not bend the knee to the failed, left-wing climate agenda of the United Nations that seeks to cripple one of our country's most critical industries," said Georgia Agricultural Commissioner Tyler Harper. "Now more than ever, banks that do business with America should be unquestionably supporting American industries—and that starts with the one that puts food on our tables, clothes on our backs, and shelter over our heads. The UN's Net-Zero Banking Alliance would be the equivalent of a run on the bank for our nation's agriculture

industry and pose a serious threat to our national security—and it must be stopped."

Will Hild, executive director of Consumers' Research further warned of the adverse effects on agricultural from the bloc, stating that "[f]armers and ranchers are the foundation of our economy and international climate cartels like the NZBA pose nothing less than an existential threat to their future."

"By forcing ESG, Brian Moynihan and his cohort have driven the cost of doing business for small family farmers and independent ranchers to astronomical heights," he went on. "The Ag officials and Commissioners hit the nail on the head in their letter: should their misguided climate extremism continue unabated, these megabanks will put our entire food supply in serious jeopardy. I applaud the states for their action, and I look forward to working with them to defend American consumers from this corporate malfeasance."