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The Latest IPCC Climate Report Sounds a Warning

George Harvey

On March 20, 2023 the United Nations Intergovernmental Panel on Climate Change (IPCC) issued its *Sixth Synthesis Report on Climate Change*, referred to as AR6. This report synthesizes three earlier reports, which had been produced in 2021 and 2022. One thing that we want to emphasize about the three earlier reports is that none of them is trivial in scope or size. Each, by itself, is a monumental work of science.

The Physical Science Basis, the first of the three reports, was produced by 234 scientists from 64 countries, who used 14,000 scientific papers as source material. The report itself is 2,409 pages long. To be published, 195 countries had to sign on, and getting them to do so also was not a trivial job as they needed to agree on a line-by-line basis. It was published on April 9, 2021.



The elephant in the living room is a metaphor. The cow on the porch is not. (Jo-Anne McArthur, Unsplash, <https://bit.ly/GET-cow-porch>)

In its thirteen chapters, *The Physical Science Basis* says that we could still stop climate warming at 1.5°C, provided that we undertook urgent action. In layman's terms, it says this is an emergency, and we should respond to it as we respond to emergencies.

On the other hand, a lack of emergency measures causes us to warm by 2.5°C to 4.0°C, with sea level rises that could range from 0.5 meters to as much as 5 meters. The former would be a severe nuisance in many coastal communities. The latter could mean some cities would be abandoned.

An editorial in *The Guardian*, "The Physical Science Basis" was called the "starkest warning yet" of "major inevitable and irreversible climate changes." UN Secretary-General Antonio Guterres said it was "code red for humanity." That was two years ago.

The Physical Science Basis can be found at www.ipcc.ch/report/ar6/wg1.

Impacts, Adaptation and Vulnerability, the second report, is 3,068 pages long. It was accompanied by a 37-page summary for policy makers. It was published on February 28, 2022. It examines impacts of climate change in terms of loss of biodiversity, migration, risks

Cont'd on p.3

CONSEQUENCES OF OUR MILD WINTER

Jessie Haas

What a winter! We had abnormal cold in November, then warmer than normal months with one short, vicious cold snap. Just when it looked like spring would start in February, colder than normal weather reappeared, and the bare ground was covered with snow, and then in some places with an ungodly amount more snow. What many of us want to know is, what will be the after-effects?

The truth is, we do not know. Scientific study requires replication, and it takes years or decades to replicate seasonal changes. We can talk about what we fear and what we see, and speculate as to what might happen next, but that is all.

New York Times columnist Margaret Renkle wrote recently about the warm winter in Tennessee, where some migratory birds were appearing early and many plants were blooming two weeks ahead of schedule. The fear is that pollinators and others that feed on those blossoms may miss the window when that nectar is available, and fail to thrive and reproduce. One hopeful sign drawn from Renkle's article is that while the birds are pffaffing about looking confused, they are not nesting early. This matters because egg hatching needs to coincide with maximum caterpillar production in the immediate neighborhood. The earliest blooming plants are not



What will the consequences of our warm winter be for the upcoming seasons in 2023? (Flickr/Tom Gill)

always the natives; native plants are what feed caterpillars and moths. Renkle notes that the severe cold snap this winter killed nonnative trees and shrubs while largely sparing natives; this could turn out to be a net benefit, especially if aware homeowners replant with native species.

Sugaring season? Many places got an extremely early start, in the first part of January, a re-start in February, and are now enjoying an extended March stretch of good sap flow at the appropriate time.

Ticks? It takes a lot of cold, combined

with dry weather, to kill them. Scientist speculate that the larvae, which are hardest to see (the size of a sesame seed), will be active early due to the winter warmth. Ticks are active at 29 degrees and above. However, in many places, while March temperatures were certainly favorable, the ticks were buried in leaf litter under deep snow, which at least keeps them away from many of their hosts.

The brief cold snap could have killed some of the invasive woolly adelgid threatening northeast

Cont'd on p.23

TRANSFORMATIONAL OPPORTUNITY: Making Energy Users Energy Owners

Roy Morrison

The renewable energy transformation is an essential opportunity to build a global standard in ecological and social justice by making billions of energy users become energy owners with an equity interest in the power that drives our civilization. Trillions of dollars are being invested in the renewable energy transformation. But the ownership of the renewable energy infrastructure need not remain in the hands of billionaires. Using available financial tools, energy users can become energy owners along with host community landowners and residents in year six after solar systems are installed by taking advantage of tax equity and depreciation rules applied for common community benefit.

This is more than just a case of fairness and justice. This helps establish the basis for common people having a seat at the decision-making table in controlling the



This Chelsea ground-mount solar array is making energy users energy owners. (Unsplash)

future shape of local and global renewables to optimize our collective interest. \$27 billion in Inflation Reduction Act (IRA) funds are directed to benefit of low-income census tracts. The use of the IRA grants can leverage IRA benefits by helping support organizing municipal, co-op, and association actions to take advantage of available financial tools. All energy users can

Cont'd on p.3

IN THIS ISSUE

- Why & How: Vehicle-to-Grid p.7
- Affordable Lithium Battery p.11
- Climate Solution Testing p.14
- Are Carbon Offsets Good? p.18
- Waste Solutions pp.20-21
- Heat Pump Know-how pp.24-25
- Rebates Lower Utility Costs p.32
- Fertilizers GHG Emitters p.34
- E-lawn Care Solutions p.39

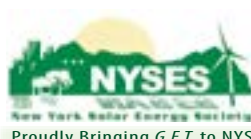
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Winter Climate Extremes in the USA



Dr. Alan K. Betts

The winter climate extremes across the U.S. have been striking. We know that we are responsible for them, but we listen to the webs of lies and pretend we do not know. Back in 1978, James Black, the chief scientist of the current Exxon-Mobil did the global modeling and correctly concluded that doubling atmospheric CO2 would be a disaster for the global climate and for life on Earth. He told management they had five years to change their business plan. Their response was simple: "Be quiet. We have trillions of dollars to bribe politicians and fund webs of lies and advertising to confuse the public for decades." This is exactly what they have done for 45 years. Hundreds of politicians have accepted large bribes to deny climate change. This criminal behavior of the fossil fuel empire, who are consciously and deliberately killing life on earth to maximize their profits, is staggering. The recent COP 27 meeting in Egypt in November 2022 is typical. There were a record number of 636 paid fossil fuel lobbyists to make sure their companies' profits remain protected. Yet we refuse to hold them responsible and bill them for the damages caused, so we are collaborators.

California has had some remarkable weather extremes this winter as the Pacific El Nina circulation has enhanced the west coast storms. Southern California had blizzard warnings for the first time with five feet of snow to the east of Los Angeles. Some towns in Los Angeles County had temperatures as low as 18oF, which were record lows. Atmospheric rivers of moisture coming in across the Pacific brought heavy rain and flooding on other occasions. San Francisco saw more rain over a two-week period than at any other time in 150 years. Some communities were washed out, powerlines were destroyed and dozens were killed. The heavy rains and heavy mountain snows may partly balance the earlier drought conditions, and may also help with moisture and reservoir supplies in spring. Time will tell.

With 10 feet of snow in the mountains, emergency workers scrambled to help scores of residents and tourists who were unaccustomed to the sheer amount of precipitation. Snow berms trapped people in cabins and cars in driveways, preventing them from leaving Lake Arrowhead and Big Bear Mountain. Day-tripping skiers and snowboarders from Southern California were simply unprepared, and many had insufficient supplies of food and prescription medicines. Natural gas lines were fractured, sparking five fires in two days. When firefighters arrived to extinguish the flames, they found hydrants encased in ice and feet of snow. The first week of March, Gov. Gavin Newsom declared a state of emergency in 13 counties affected by winter storms, as another 3ft of snow fell the first weekend in March and residents were trapped



Snowcapped San Gabriel Mountains from MacArthur Park, Los Angeles, CA after the historic snow storm of February 2023. (Adobe Stock/577249596)

behind walls of snow and concerned about their dwindling supplies. Yosemite National Park, which broke a 54-year-old daily snowfall record, was closed indefinitely. As I write another atmospheric river threatens heavy rain on deep snow and more flooding.

A winter ice storm hit Texas, Oklahoma and Arkansas, from January 31 to February 2, as an Arctic cold front made its way south to meet with warm, moist air from the Gulf of Mexico. Interstates were closed as accumulating ice led to more than 100 car accidents. Many in Texas lost power as ice brought down trees and power lines.

Other thunderstorms across the southern U.S. brought tornados. In January and

February there were more than 173 tornadoes affecting a remarkable list of states: Alabama, Arkansas, California, Florida, Georgia, Illinois, Iowa, Kentucky, Louisiana, North and South Carolina, Tennessee and Texas. The Houston Weather Service office declared a tornado emergency for the first time.

At the beginning of March winter weather advisories and warnings were issued for much of the Upper Midwest and Northeast. The first significant snowfall of what had been a mild winter fell overnight. Up to eight inches of snow blanketed some communities with much more in the mountains. Heavy snow fell across east central New York, western and central Massachusetts, southern New Hampshire and Vermont to western Maine. Road travel was difficult and there were many flight cancellations or delays.

A second much larger snowstorm driven by a powerful Nor'easter followed on March 13-15. New York as far south as Albany and all the New England states were blanketed in heavy, wet snow ranging from one to over four feet in higher terrain.

The weather service does a great job warning the public to prepare for unusual extremes, but it may not explain the ongoing climate situation. However as the public experiences so many unprecedented events, understanding the new climate extremes is spreading. Some of the mass media commented correctly that scientists say climate change, supercharged by humanity's burning of fossil fuels, is making storms more ferocious.

This winter an exceptional number of eleven atmospheric rivers brought heavy rain and snow to California and the west coast, and storms have covered the entire country. The central issue, discussed in the first paragraph, is that our society refuses to face the truth and bill the fossil fuel empire for the widespread damage that these climate extremes have caused this winter. The fossil fuel empire has been consciously destroying life on Earth, including our children and grand-children for decades to maximize their profits. This is clearly a crime against all life on Earth, which we should not accept. It is time to simply bill the fossil empire for all the ongoing damage and death they have caused.

Dr. Alan Betts of Atmospheric Research in Pittsford, VT is a climate scientist. See alanbetts.com. ♻️

OUR MILD WINTER

- Cont'd from p.1



What will the consequences of our warm winters mean for sugaring seasons? (Flickr/Watershed Post)

hemlocks, or it might not have been long enough. Again, time will tell. That is one undoubted downside to warmer winters; the adelgid has been able to move north through Massachusetts, and into Vermont and New Hampshire, due to the absence of prolonged below-zero weather.

Warm winters can have an impact on farms and gardens by allowing insect pests to winter over in higher numbers. With a higher accumulation of warmer-than-normal days, notes Penn State Extension fruit and vegetable educator Timothy Elkner, growers can expect to see pests like allium leafminers, aphids, and thrips, emerge earlier, and reach damaging levels more quickly. This probably means more damage, as the insects will be munching on plants that are younger and more vulnerable. If this is happening in the garden and farm field, for sure it is happening in the wild. (We can hope, though, that more bugs will mean more food for birds to feed their young.)

There is some speculation that the warm winter may increase harmful algae blooms this summer, but it's important to note that spring did not actually start early. The warm winter weather was bookended by cold and snow. Therefore there will likely not be an increase in organic matter and nutrient flow. We'll have to wait and see.

Big picture; in a warm winter people use less heating fuel, which is good for the planet, and in an open winter they do less snowmobiling, also a net good until electric snowmobiles become widely used. The effect on wildlife is probably mixed. Deer had no need to yard up for most of the winter and probably fared well—but we have too many deer for ecological balance. Rodents like mice and voles lacked snowcover to hide under—bad for them, good for owls, who suffer when there is a heavy, crusted snow layer. As it was also a poor acorn year, the rodent population may take a hit, but that is all part of natural cycling.

There is a lot that we cannot know about the effects of the winter, because they are getting more wild and unpredictable than what used to be normal. We can expect them to be generally warmer, but we should not count on that. As the elder flowers and dandelions are coming out on schedule by the calendar, other new spring activity in nature has been pushed ahead, as we have seen. The times are very confusing.

And yet, there are things that we do know, and for those of us who have been working on reducing our carbon emissions, the path should be obvious. They mean a stronger effort to see that the use of fossil fuels is eliminated. We have the tools, and we know the strategies. We just have to do the work – and hope we can succeed.

Jessie Haas lives in an off-grid cabin in southern Vermont with husband Michael J. Daley. She is the author of over 40 books, most recently *The Hungry Place*. ♻️

Jimmy Carter - Cont'd from p.22

oil, but the cost in dollars and human lives has been exorbitant. However, if you're invested in fossil fuels or munitions, the past forty years have been a boom time.

Despite 40 years of continued conflict, the war in the Ukraine and the recent rise in gas prices and the resulting inflation remind us we are just as vulnerable now to international effects on our energy supply as ever. And now we know about climate change.

As I think about President Carter, I can't help but wonder what our country would be like if we had made a different choice in November 1980. It's time we gave a serious look to our energy options and commit our nation to energy independence through sustainability. It is not too late for us to make the right choice.

Wes Golomb is a clean energy advocate and author of the recently published book and video series *Warm and Cool Homes, Building a Comfy, Healthy, Net-Zero Home You'll Want to Live in Forever*. ♻️



President Carter dedicates solar installation at the White House in Washington, D.C. June 20, 1979. (Energy.gov)