

Brazil, Besieged by Covid, Now Faces a Severe Drought

Brazilians are paying more for electricity, dealing with the possibility of water rationing and expecting a destructive fire season in the Amazon in the worst dry spell in at least 90 years.

By **Manuela Andreoni and Ernesto Londoño**

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RIO DE JANEIRO — Crops have shriveled up under searing heat. Immense water reservoirs, which generate the bulk of Brazil’s electricity, are growing alarmingly shallow. And the world’s largest waterfall system, Iguazu Falls, has been reduced from a torrent to a trickle.

As Brazil approaches 500,000 deaths from Covid-19, a worsening drought is imperiling the country’s ability to jump-start its beleaguered economy, and may set the stage for another intensely destructive fire season in the Amazon rainforest.

Several states in the country are facing the worst drought in at least 90 years. The crisis has led to higher electricity prices, the threat of water rationing and a disruption of crop growing cycles. Agriculture, an economic engine of the nation — which relies heavily on hydropower — is now at risk.

Experts said the arid landscape, which coincided with a rise in illegal deforestation over the past months in the Amazon rainforest, could lead to a devastating fire season. Enforcement of environmental regulations is weak in the rainforest, and fire season traditionally begins in July.

“We’re left with a perfect storm,” said Liana Anderson, a biologist who studies fire management at Brazil’s National Center for Monitoring and Early Warning of Natural Disasters. “The scenario we’re in will make it very hard to keep fires under control.”

Brazil’s National Meteorological system sounded the alarm about the severity of the drought in a bulletin issued in May. It noted that five states — Minas Gerais, Goiás, Mato Grosso do Sul, Paraná and São Paulo — would face chronic water shortages from June to September.



By The New York Times

President Jair Bolsonaro played down the risk of the pandemic last year and has been widely criticized for his cavalier handling of the crisis. But he warned that the drought would disrupt lives and livelihoods in Brazil in the months ahead.



A fisherman near a drying river last summer in an Indigenous territory called Baía dos Guató. Maria Magdalena Arrellaga for The New York Times

“We’re facing a serious problem,” Mr. Bolsonaro said in May, when government officials and analysts began cautioning the country about the potential consequences of the drought. “We’re living through the worst hydrological crisis in history. This will generate headaches.”

Marcelo Seluchi, a meteorologist at the government’s national disaster monitoring center, said the current crisis was years in the making. Since 2014, large regions in central, southeast and western Brazil have experienced below-average rain levels.

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“For eight years, it hasn’t been raining as much as it tends to rain,” he said, calling the drought unusually widespread and lengthy. “It’s like a water tank that doesn’t get refilled, and each year we use up more and more hoping that the following year things will improve, but that better year has yet to come.”

Mr. Seluchi said rain patterns that have contributed to the drought were manifold and not fully understood. They include La Niña, a weather pattern in the Pacific Ocean, climate change, and deforestation in the Amazon and other biomes that play a key role in precipitation cycles.

“We can’t deny that climate change, namely global warming, plays a role,” he said. “It’s raining less and we’re using more water.”

After power outages in 2001, Brazil committed to building increasingly versatile power systems, diversifying its sources beyond hydroelectric plants. Since then, the country has reduced its electrical grid’s reliance on hydropower to 65 percent from 90 percent.

While government officials have played down the risk of power cuts, the national electricity agency recently warned that some customers could receive higher electric bills as the country is forced to rely more heavily on more expensive thermoelectric power. The agency urged Brazilians to save energy by taking short showers, using air-conditioners more sparingly and running washing machines less frequently.

If government officials manage to avoid water and power cuts this year, the most perceptible consequence of the drought is likely to come during the traditional fire season in the Amazon.

During the first five months of the year, roughly 983 square miles of tree cover was razed in the Amazon, according to preliminary estimates based on satellite images. Deforestation last month was 67 percent higher than in May of last year, according to Brazil’s National Institute for Space Research.

A farm inside the Amazon rainforest surrounded by smoke last year. This year's fire season is expected to be destructive. Victor Moriyama for The New York Times

The spike in deforestation comes weeks after the Bolsonaro administration pledged to take assertive measures to curb illegal deforestation. The government has come under pressure from the Biden White House, which is seeking to get all major carbon emitters to commit to ambitious climate change mitigation goals.

Environmentalists in Brazil say the government has weakened its environmental protection agencies in recent years by failing to hire enough personnel, by reducing the number of fines issued for environmental crimes and by supporting industries that are vying for greater access to protected biomes.

Instead of rebuilding the abilities of environmental protection agencies, the Bolsonaro administration outsourced that work to the military, deploying troops to the Amazon in 2019 and 2020. Last week, Vice President Hamilton Mourão announced that the government was starting a new military operation to prevent both illegal deforestation and fires. The initiative is expected to kick off this month and last two months.

The government has promoted the military operations, particularly to international stakeholders, as evidence of its commitment to fight illegal deforestation. But experts say those operations have failed to get to the roots of the problem and have done little to upend the impunity with which miners and loggers operate in protected areas.

Argemiro Leite-Filho, an environmental scientist at the Federal University of Minas Gerais, said the link between deforestation and precipitation had become increasingly clear in recent years, compounding the effects of large-scale climate phenomena, such as La Niña. A study he conducted analyzing data from 1999 to 2019 showed that for every 10 percent rise of deforestation in the Amazon, yearly rainfall in the biome drops by 49 millimeters.

Destroying more of the rainforest — mainly to grab land and graze cattle — amounts to a form of “agricultural suicide,” he said. He estimates that destruction at this rate will cost the sector about \$1 billion in losses per year.

Felled trees in a clearing in the rainforest in the state of Para in 2019. Deforestation in May 2021 was 67 percent higher than in May of the previous year, according to Brazil's National Institute for Space Research. Victor Moriyama for The New York Times

“What we’ve been trying to show is that with its environmental approach, Brazil is shooting itself in the foot,” he said. “Agriculture is one of the industries most susceptible to climate variability, especially when it comes to rain.”

Humid air that flows into the Amazon from the Atlantic Ocean has tended to flow south, generating rain, a cycle that scientists call “flying rivers.” Climate change has upended those patterns, said José A. Marengo, a climate change expert in São Paulo who helped coin the term “flying rivers.”

“Over the past 20 years in the Amazon, we had three droughts that were considered the drought of the century, and three floods that were also considered the floods of the century,” he said. “So many events in a century that is only 20 years old is strange, showing that the climate is becoming more extreme.”

Fernando Cadore, a farmer in Mato Grosso who leads an association of soy and corn producers in the state, has seen the effects of climate change firsthand. The drought has disrupted normal crop cycles, which is likely to reduce the yield of corn this year by at least 20 percent.

Yet Mr. Cadore, 41, said he did not see a clear link between deforestation and the challenges he and his peers are experiencing. That view is widely shared in rural communities in Brazil, where farmland is expanding aggressively year after year at the expense of biomes.

“We all know that periods of unstable climate have been happening forever,” he said. “You even have tales in the Bible about crops lost to climate adversity.”

An area of the Amazon rainforest in Para State on fire last summer. One biologist said this year's fire season coinciding with dry landscapes and a rise in deforestation could be "a perfect storm" situation. Victor Moriyama for The New York Times