



# the weekly anthropocene



*dispatches from the wild, weird world of humanity and its biosphere*

By Sam Matey

**Brazil: Elections.** The attention of world media is focused on America's upcoming 2018 midterm elections. While the results of the midterms are of course extremely important, another nation's elections could have a similar or greater impact on the future of the world. On October 7<sup>th</sup>, Brazil will hold the first round of its presidential election. The top two vote-winners will then compete in a runoff on October 28<sup>th</sup>. As Brazil is currently reeling from a massive corruption scandal (known as *Lava Jato* or "Car Wash") and is mired in a recession, the elections are wide open, with an array of political outsiders leading in the polls. The candidate currently leading (in polls in which ex-President Lula da Silva, who is currently incarcerated and is unlikely to be legally allowed to run, is removed) is congressman Jair Bolsonaro, known as "Brazil's Trump." Mr. Bolsonaro is best known for his inflammatory comments



(he has said that a congresswoman was "not worthy of being raped" and that "no father would ever take pride in having a gay son") and his extremist policies, including promising to make guns widely accessible. His election would also be a disaster for the environment. He has pledged to withdraw Brazil from the Paris Agreement and end the legal protection of indigenous peoples' territories (which are a vital tool in protecting the Amazon). Although Brazil's two-round election system makes it difficult for such a controversial candidate to win, his mere presence in the race is a terrifying threat.

While a President Bolsonaro would be disastrous, Brazil's 2018 elections also offer a candidate whose victory would be an unprecedented win for the environment. Marina Silva (pictured above) was born to a poor rubber tapper family in the state of Acre and only learned to read when she was a teenager. As Minister of Environment under President Lula da Silva in the mid-2000s, she oversaw a massive decrease in deforestation. If elected, she would be Brazil's first black president, its first president from the Amazon, and the world's first president from an environment-focused political party. (She is the candidate of REDE, or NETWORK, formerly known as the Sustainability Network). On her website, she pledges to expand investment in sustainable agriculture and work towards a goal of zero deforestation. Ms. Silva is currently coming second, after Bolsonaro, in polls in which Lula is removed. If she makes it to the second round, polls show that she would defeat Bolsonaro by uniting moderate and leftist votes. (There are eleven other candidates in Brazil's race, most polling below 10%, but considerations of space prevent a full discussion of all candidates). Needless to say, this newsletter endorses Ms. Silva, and would endorse anyone over Bolsonaro in the final round.

Brazil is a large developing nation (with the fifth largest population in the world) whose development path will greatly influence global emissions. It's also home to about 60% of the Amazon Rainforest, a hub of biodiversity and a vital carbon sequestration system for Earth. The choices made by Brazilian voters will influence the course of climate change around the world. In sum, Brazil's election has the potential to greatly harm the nation and the world, but also has the potential to be a great step forward. Either way, it is an extremely important event. For continuing updates on Brazil's elections, check out [goo.gl/wr9KDx](https://goo.gl/wr9KDx) and [goo.gl/JP9jmR](https://goo.gl/JP9jmR).



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## Brazil: Quilombos and Reforestation.

In other news from Brazil, *quilombo* communities in the Atlantic Forest (a coastal forest that has been logged even more intensively than the Amazon) are taking a leading role in reforestation. Quilombos are communities that began as havens for escaped slaves. Many of the surviving ones are over 300 years old. Now, three quilombo communities in the Vale do Ribeira region of Sao Paulo state (the towns of Nhunguara, Maria Rosa and André Lopes) are uniting, with help from the Socioenvironmental Institute (an NGO) to



collect native seeds and sell them to landowners seeking to restore forests on their land. The seed collectors sell the seeds in groups known as “*muvuca*” that are tailored to the specific soil and climate conditions of their clients’ land. Each *muvuca* contains the seeds of some generalist species, which germinate first, and some specialist species, which often need some established vegetation (pictured, collected seeds). This offers a source of income for the communities and creates a source of mixed native seeds that are optimized for growing in the area. The project is also helping the *quilombolas* (quilombo inhabitants) to learn more about their local plant communities. “For instance, *ingá* [*Inga sp.*] seeds have to be used right away, they can’t be stored for long periods,” said Adonir Motta, a quilombola project member. “Other seeds, like the ones from the *juçara* [*Euterpe edulis*], can be kept for a couple of months, but when their time comes, they germinate regardless of where they are.” In their first year, the Vale do Ribeira Seed Network collected 88 pounds of seeds from 11 different species that were used to restore 12 acres of land. Their goal for next year is to double these figures. This program may be small now, but it has great potential. Community-based ecosystem restoration projects like these are exactly the kind of initiative needed in the Anthropocene. For more on this story, check out [goo.gl/YxxMFn](http://goo.gl/YxxMFn).

## Brazil: Terra do Meio Cantinas.

In the Terra do Meio region, located between the Xingu and Tapajos rivers (both southeastern tributaries of the Amazon River) local people are taking ownership of their local natural resources in order to preserve their way of life. With help from the Socioenvironmental Institute, the same NGO that worked with the Vale do Ribeira Seed Network, 22 new community-owned cantinas have been founded that trade in sustainable forest products such as Brazil nuts, copaiba oil, cacao pods, and more. This cuts out the exploitative middlemen who were previously local peoples’ only buyers, and makes it economically feasible to earn a living wage from intact forest rather than deforested agricultural land. “Something that everyone



here will tell you is the change in the way youngsters view the forest. Even though people tell them they can earn good money from ranching, no one wants to fell the forest,” said Dona Maria Laur, a local cantina owner (pictured, in her cantina, with a map behind her that shows other cantinas in the network). Great news! For more on this awesome story, check out [goo.gl/C4CYXj](http://goo.gl/C4CYXj).



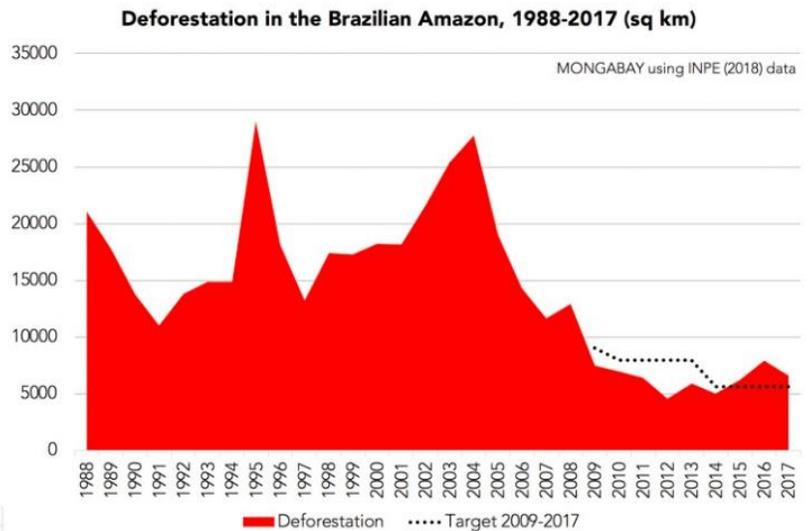
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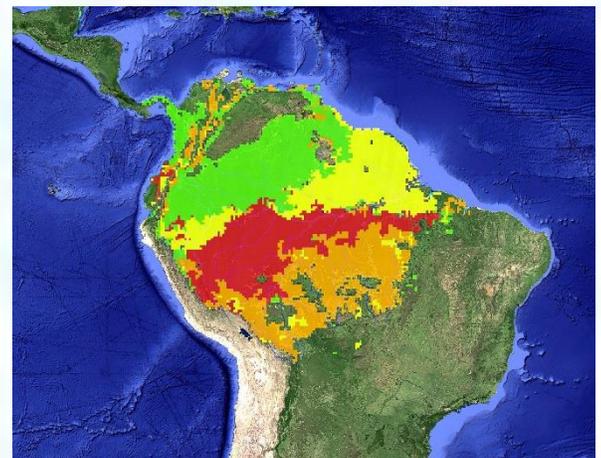
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**Brazil: Amazon Deforestation.** In early August, the Brazilian government announced that it had met its 2020 emissions reductions targets under the Paris Agreement three years early, mostly due to a decrease in Amazon deforestation between 2016 and 2017, which prevented the emission of 610 million metric tons of carbon dioxide. (Pictured, square kilometers of Brazilian Amazon deforested per year from 1988 to 2017. As a matter of interest, Marina Silva was Environment Minister from 2003 to 2008). This is excellent news, but scientists warn that



we should not declare victory prematurely. The government’s figures do not count forest damage and emissions from fires, which are becoming increasingly widespread in the Amazon, and do not include data from 2018, where early investigations indicate that deforestation is rising again. This rise, and the overall rise since 2012, are widely attributed to Brazil’s faltering economy, which has led to budget cuts for the government agencies responsible for conservation and indigenous rights protection. If any candidate but Bolsonaro wins the Brazilian election, their efforts to restore the economy, if successful, could have a knock-on impact that would benefit the Amazon. For more, check out [goo.gl/PMMpbj](http://goo.gl/PMMpbj) and [goo.gl/CkQoCK](http://goo.gl/CkQoCK).

**Brazil: Amazon Climate.** A new study in *Nature*, by scientists from NASA’s Jet Propulsion Laboratory, used satellite lidar (essentially radar but with light) data to evaluate how a major 2005 drought impacted the Amazon. They quantified gaps in tree cover caused by leaf loss and tree death due to the drought, and from this estimated how much carbon dioxide was released in the decomposition of these trees. (Pictured is the Amazon. Regions in bright green were not affected by the drought, regions in yellow, orange, and red respectively experienced light, moderate, and severe drought). They found that between 2005 and 2008 (the last year with available data), the drought caused the Amazon to lose 270 million metric tons of carbon dioxide per year.



Now for the truly disturbing part. At the time, the 2005 drought was considered to be a once-in-a-century anomaly. Now, due to climate change, the Amazon has already experienced two more droughts of similar size, one in 2010 and one in 2015. If this continues, the Amazon could become a net emitter of carbon dioxide rather than one of the most important carbon sequestration systems, with profound effects on the global climate. Sobering news. For more on this story, see [goo.gl/6JGVVb](http://goo.gl/6JGVVb).