

# 2019's Amazon Fires: Info you've not seen in the Mainstream Media

GOES Full Disc image 25 Jun 2010



Bob Endlich

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21 Sep 2019

Cruces Atmospheric Sciences Forum

## An Introduction:

This is the time that the ITCZ has moved as far north as it does over the year...

it is the Rainy Season up North..

and the Dry Season down South...



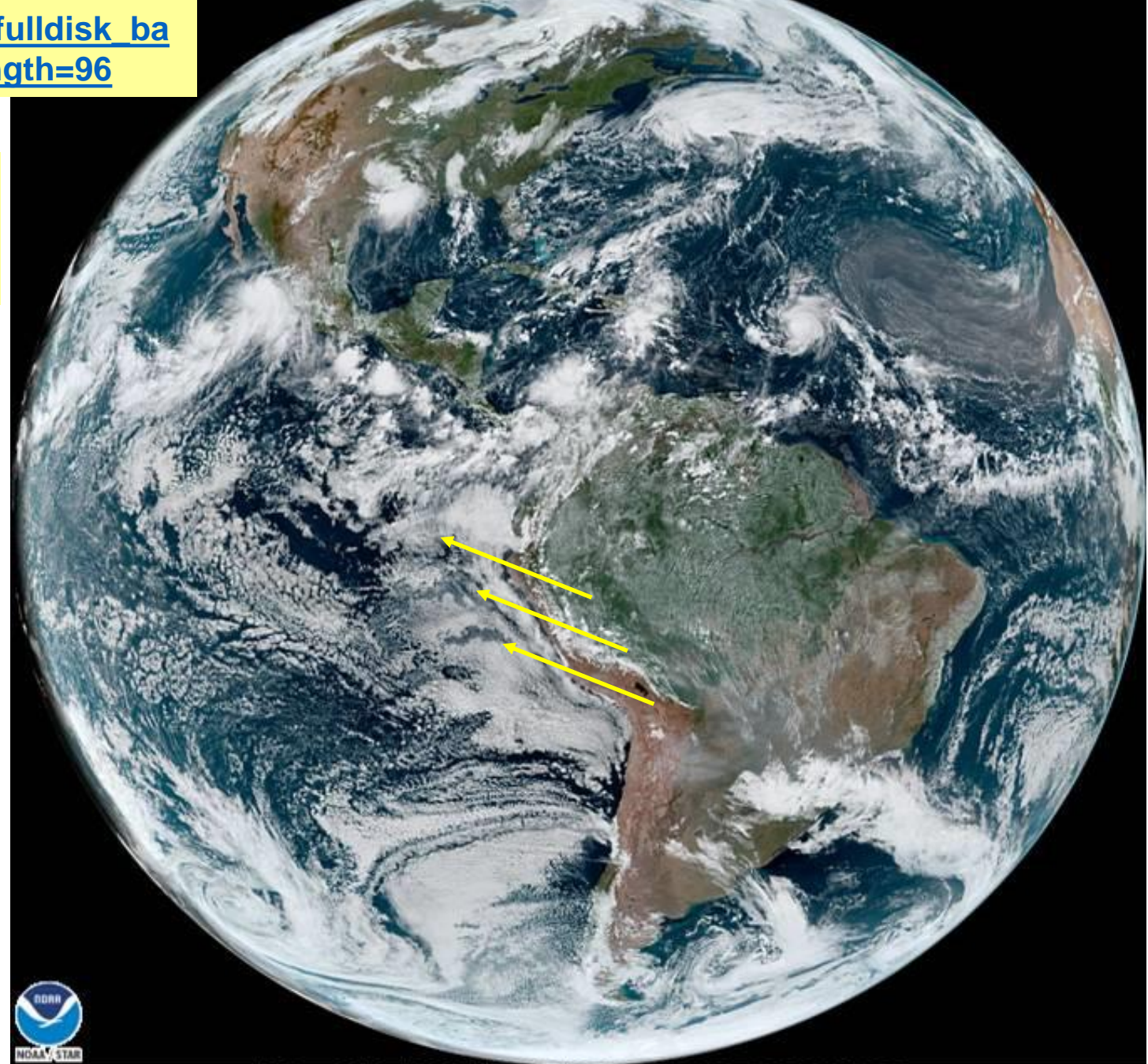


Six storms spun at the same time in the Atlantic and Pacific basins this week. (Photo: weather.com)

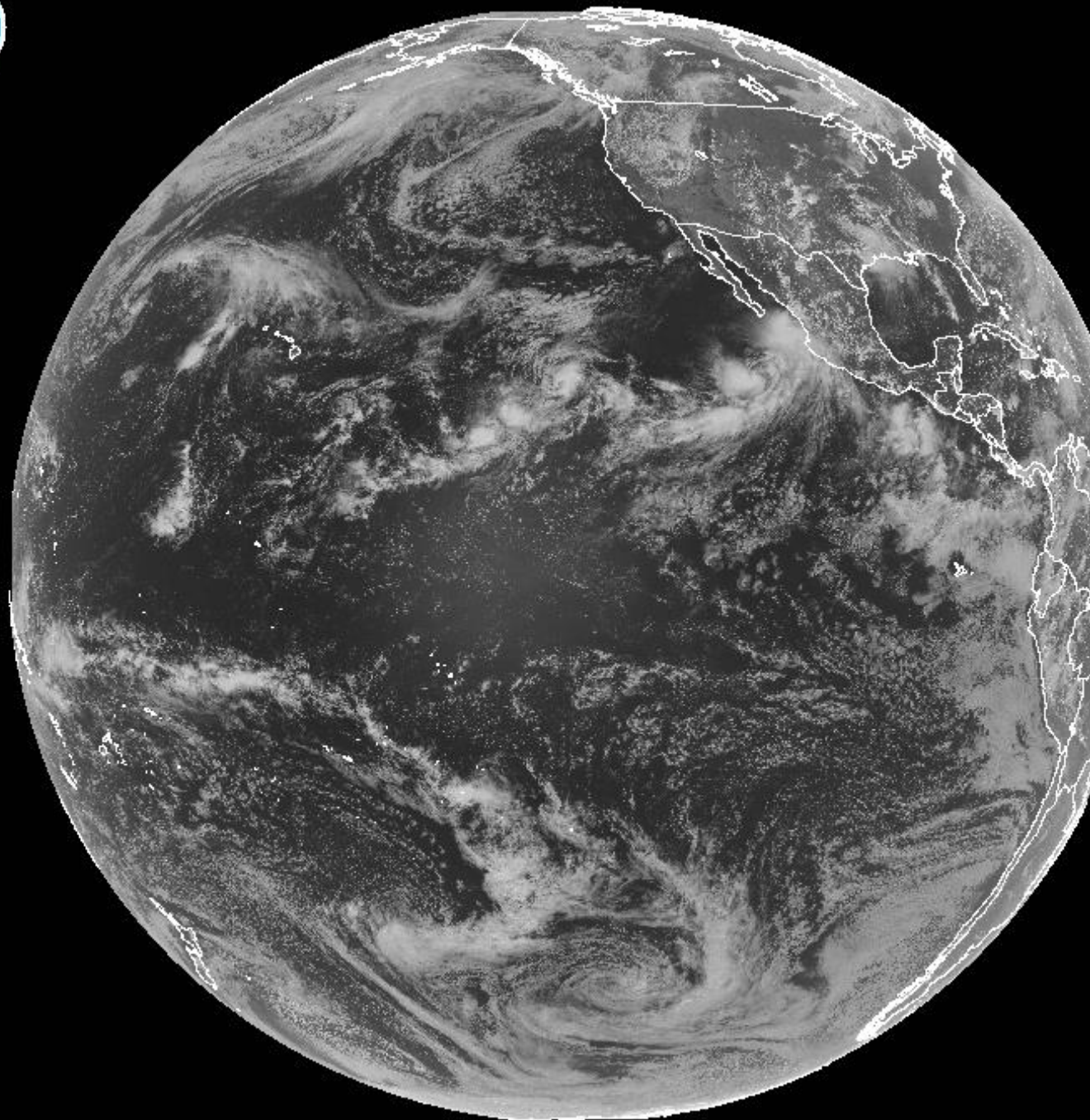


This is from GOES EAST  
the Geostationary Satellite right over  
the Equator...

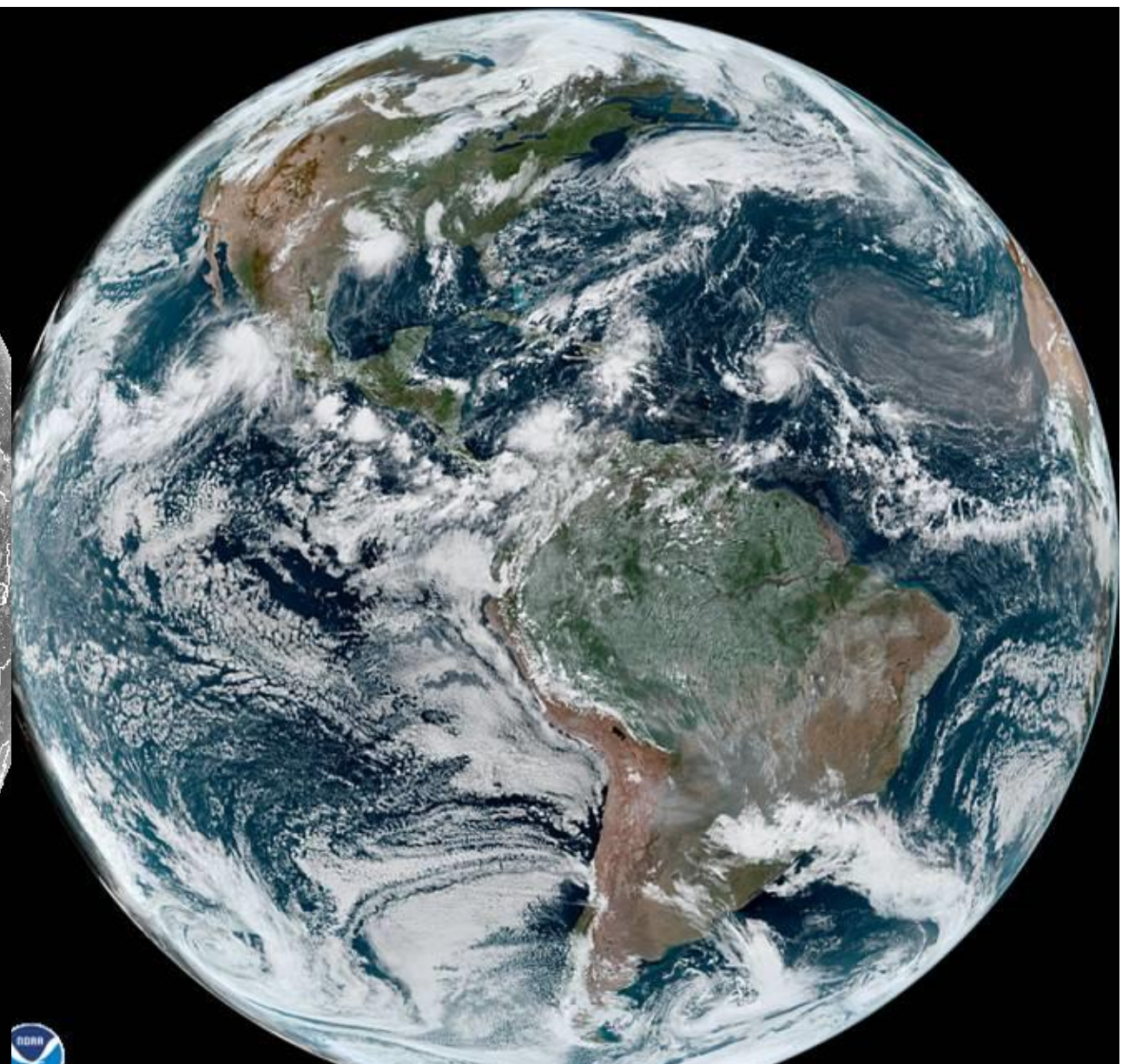
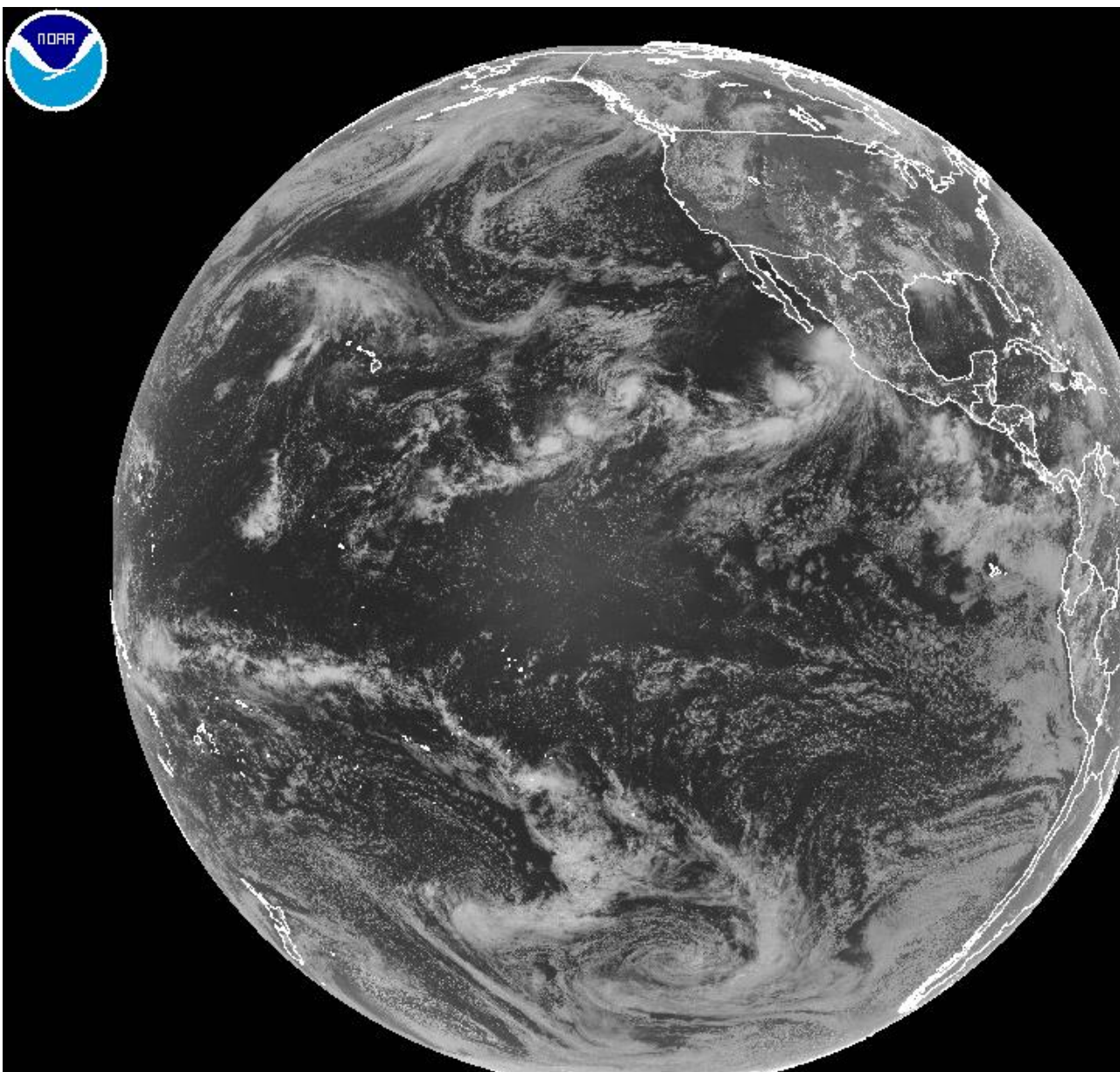
The Southern Hemisphere  
Subtropical Ridge is sending winds  
from the southeast over the  
West Coast of South America,  
moving water to the West.  
Upwelling is bringing very cold water  
to the surface on the West Coast  
of South America  
You can see the marine stratus and  
stratocumulus clouds resulting from  
cooling at the surface.











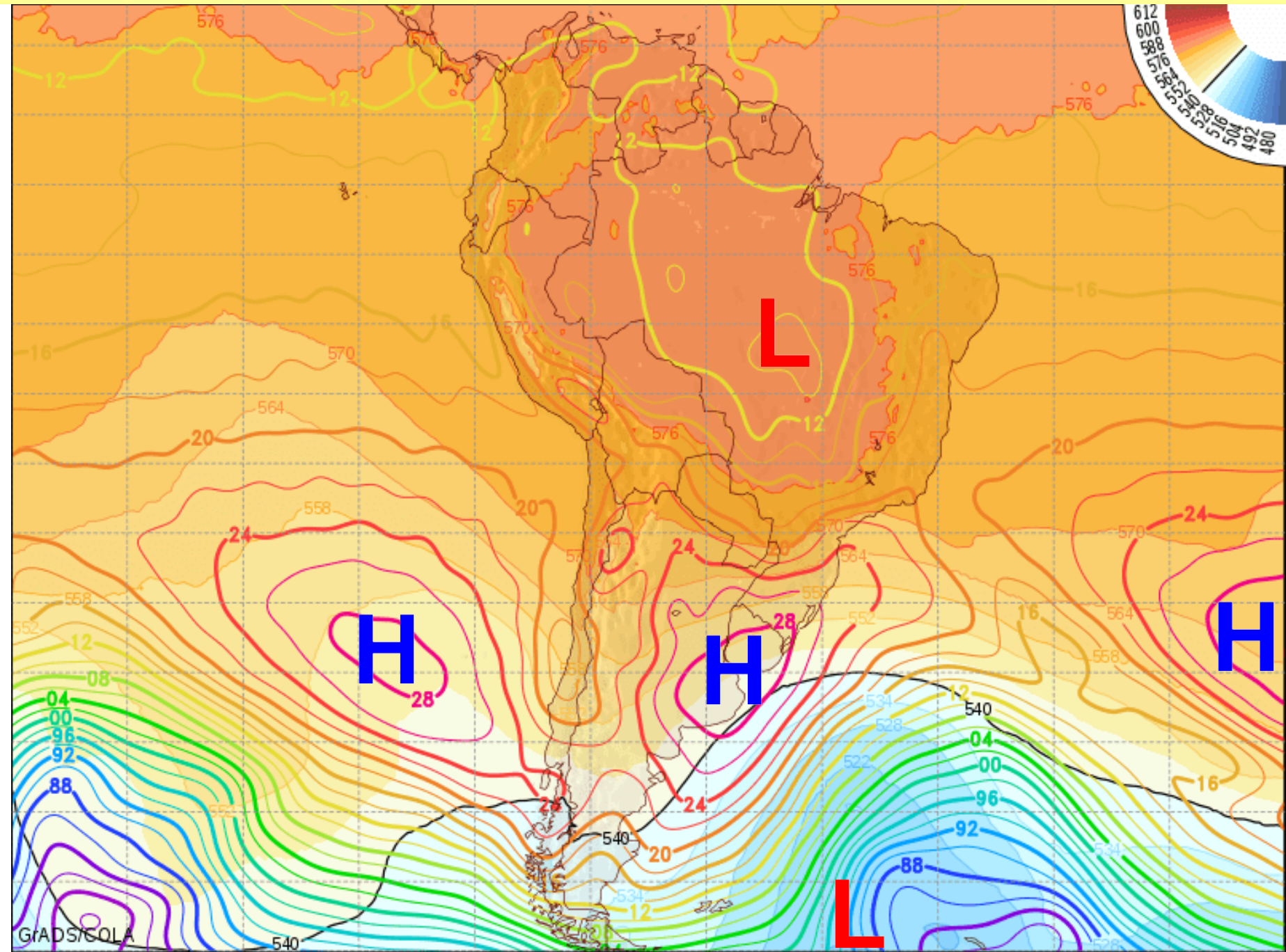


The GFS forecast for today.

Strong High pressure  
35 South Dominates Argentina  
and offshore both Atlantic  
and Pacific Oceans.

Dry, subsiding air brings  
strength to the dry season.

L





# Outline

Media Headlines and Stories

South American and Amazon Geography

Slash and Burn Agriculture...in the Amazon

Recent History of Deforestation

Recent History of Fires in the Amazon Region

2019 Fires in the Amazon

The Political Component

Conclusions: What have we learned?



Headlines brought to you by your  
favorite political leaders and  
the Main Stream Media



<https://www.express.co.uk/news/world/1169739/amazon-rainforest-fire-latest-emmanuel-macron-fake-picture-backlash>

Image was at least sixteen years old

This was sent out by Emmanuel Macron two days before the G7 Summit four weeks ago.



**Emmanuel Macron** ✓  
@EmmanuelMacron



Our house is burning. Literally. The Amazon rain forest - the lungs which produces 20% of our planet's oxygen - is on fire. It is an international crisis. Members of the G7 Summit, let's discuss this emergency first order in two days!

[#ActForTheAmazon](#)



MORNING BRIEFING

# Amazon wildfires could be 'game over' for climate change fight: The Morning Rundown

Wildfires ravaging the Amazon aren't just a tragedy for a natural wonder of the world, they also threaten the global effort to avert a climate crisis.





Look Carefully!

Arrows point to trees cut down well before the fire.

This points to slash and burn agriculture, burning trees and vegetation cut down and left to dry, not naturally-occurring fire in "The Amazon Forest."

Bob Comment:

Looks to be propaganda, not "News."



Again, look carefully.

This is not Amazon forest  
burning.

It is farm fields burning  
...previously cleared land.





sciencealert

“The “lungs of the planet” are burning.”



Amazon basin fire in Brazil, 2014. (Mario Tama/Getty)

ENVIRONMENT

## The Amazon Is Burning at a Record Rate, And The Devastation Can Be Seen From Space



AYLIN WOODWARD, BUSINESS INSIDER  
22 AUG 2019

In the fine print: this image is from 2014






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 NEWS

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# SOS From Brazil's Amazon Fire Protesters: 'We Need The World's Help Right Now'





# Fires are raging in the Amazon forest. Here's how you can help slow all rainforest loss



Bob Comment:  
CNN's headlines are about Rainforest, but  
CNN is showing us cleared farmland.

# NEWS

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World | Africa | Asia | Australia | Europe | Latin America | Middle East

## Amazon fires: Record number burning in Brazil rainforest - space agency



**Brazil's Amazon rainforest has seen a record number of fires this year, new space agency data suggests.**

"There is nothing abnormal about the climate this year or the rainfall in the Amazon region, which is just a little below average," INPE researcher Alberto Setzer told Reuters.



# The Amazon rainforest is on fire. Climate scientists fear a tipping point is near

<https://www.latimes.com/environment/story/2019-08-25/amazonrainfores-fires-climate>



Instead of axes and machetes, people now use bulldozers and giant tractors with chains to pull down the Amazon's towering trees.

A few months later, they torch the trunks. It's the only realistic way to remove such huge amounts of biomass, Morton said.

"It's slash and burn, 21st century."

# Los Angeles Times



Smoke billows from another forest fire in the Amazon, where more than 25,000 blazes have been counted in August alone. (Planet Labs Inc.)



Los Angeles Times is showing us  
cleared farmland burning

# Los Angeles Times



# South America, Amazon, Geography and Climate





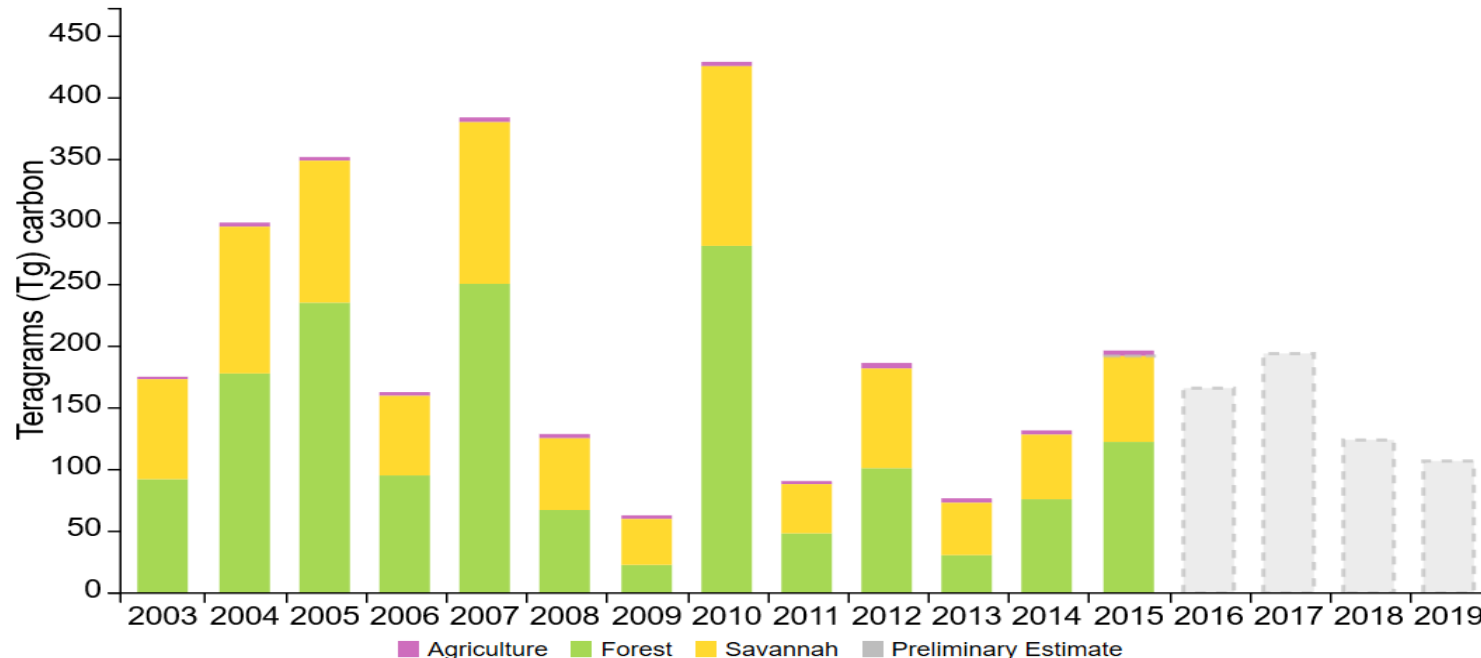
# Amazon Region

The fire season in the southern Amazon runs from June to November, with peak burning activity in September along the eastern and southern Amazon forest frontiers, a swath sometimes referred to as the "arc of deforestation". Year-to-year variability in fires is strongly linked to climate anomalies, and both the El Niño Southern Oscillation in the Pacific Ocean and Atlantic Multi-decadal Oscillation influence drought conditions and the risk of fires across the southern Amazon.

Y Axis: Teragrams Carbon =  $10^{12}$  Grams =  $10^9$  Kg = 22 Billion #

**59% of Brazil is part of Amazônia Legal but only 12.34% of the Brazilian population lives in Amazonia Legal**

2016+ emissions estimates are based on the linear relationship between fire counts and GFED emissions from 2003-2015 ( $r^2 = 0.83$ )





Definitions:

WWF, White

Drainage, Blue



The Amazon Basin is drained by the Amazon River and its tributaries.

The Amazon drainage basin covers an area of about 6,300,000 km<sup>2</sup> (2,400,000 sq mi), or about 35.5 percent that of the South American continent.

It's located in the countries of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela.

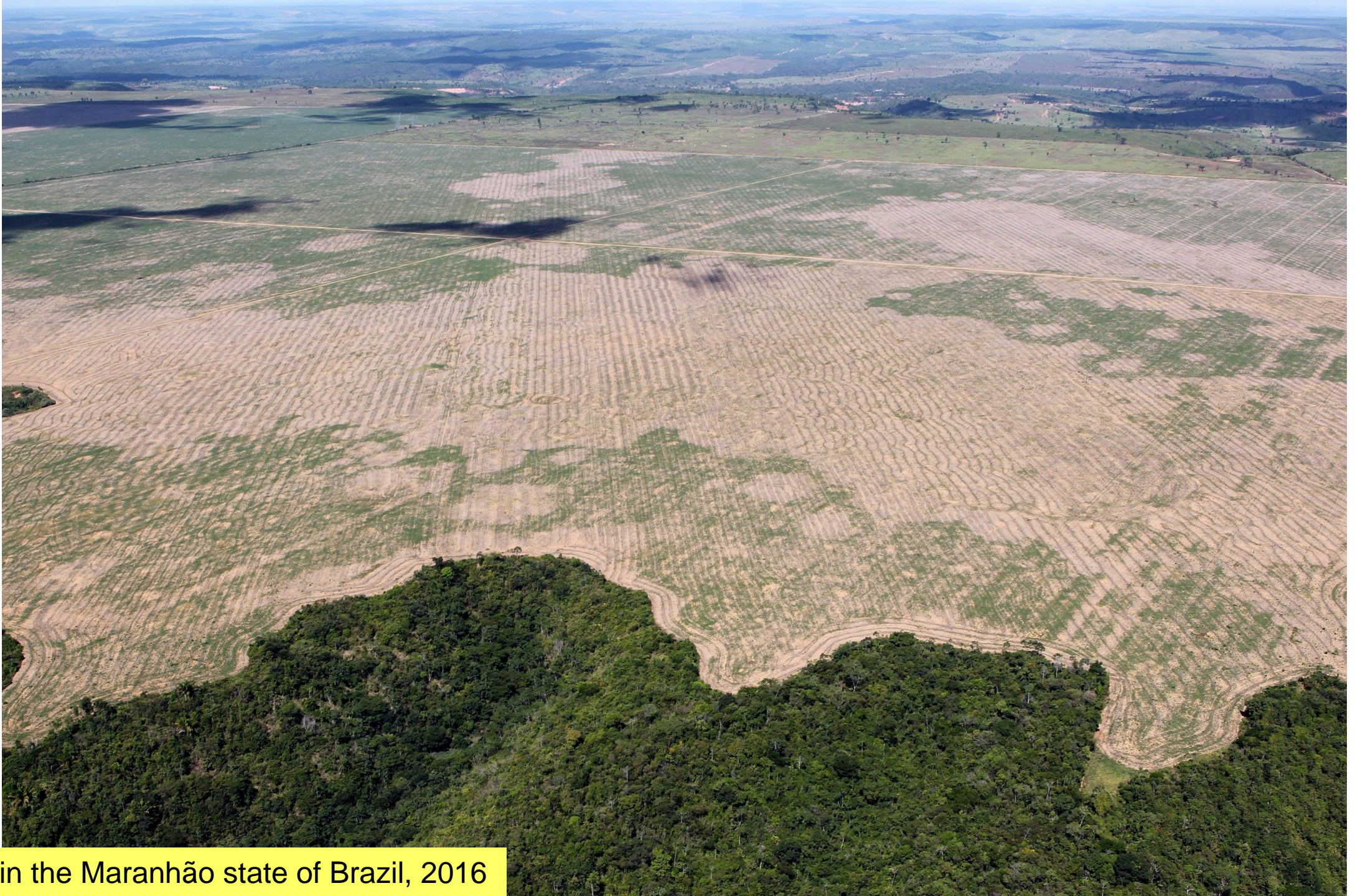






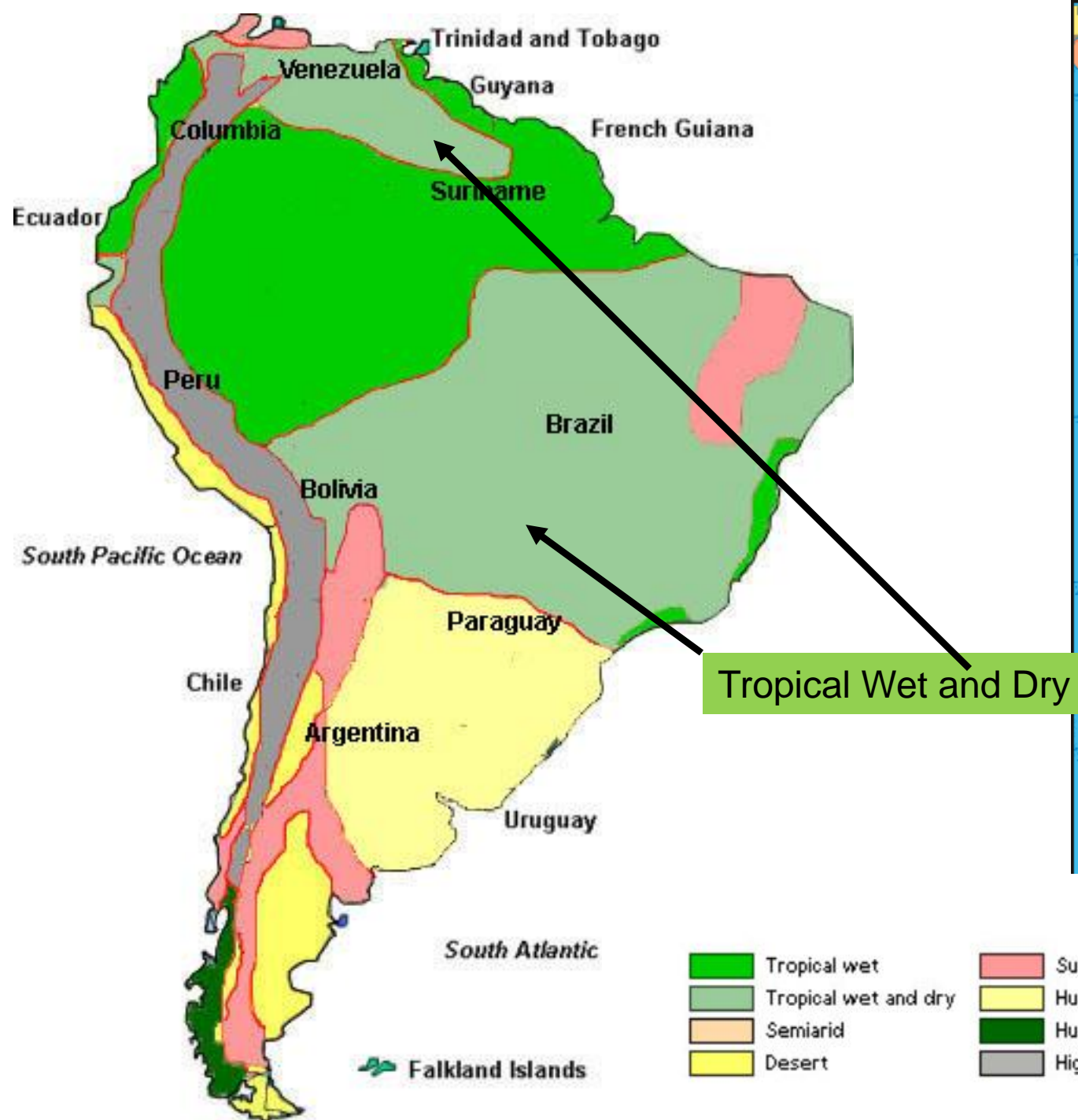
Amazon Rainforest

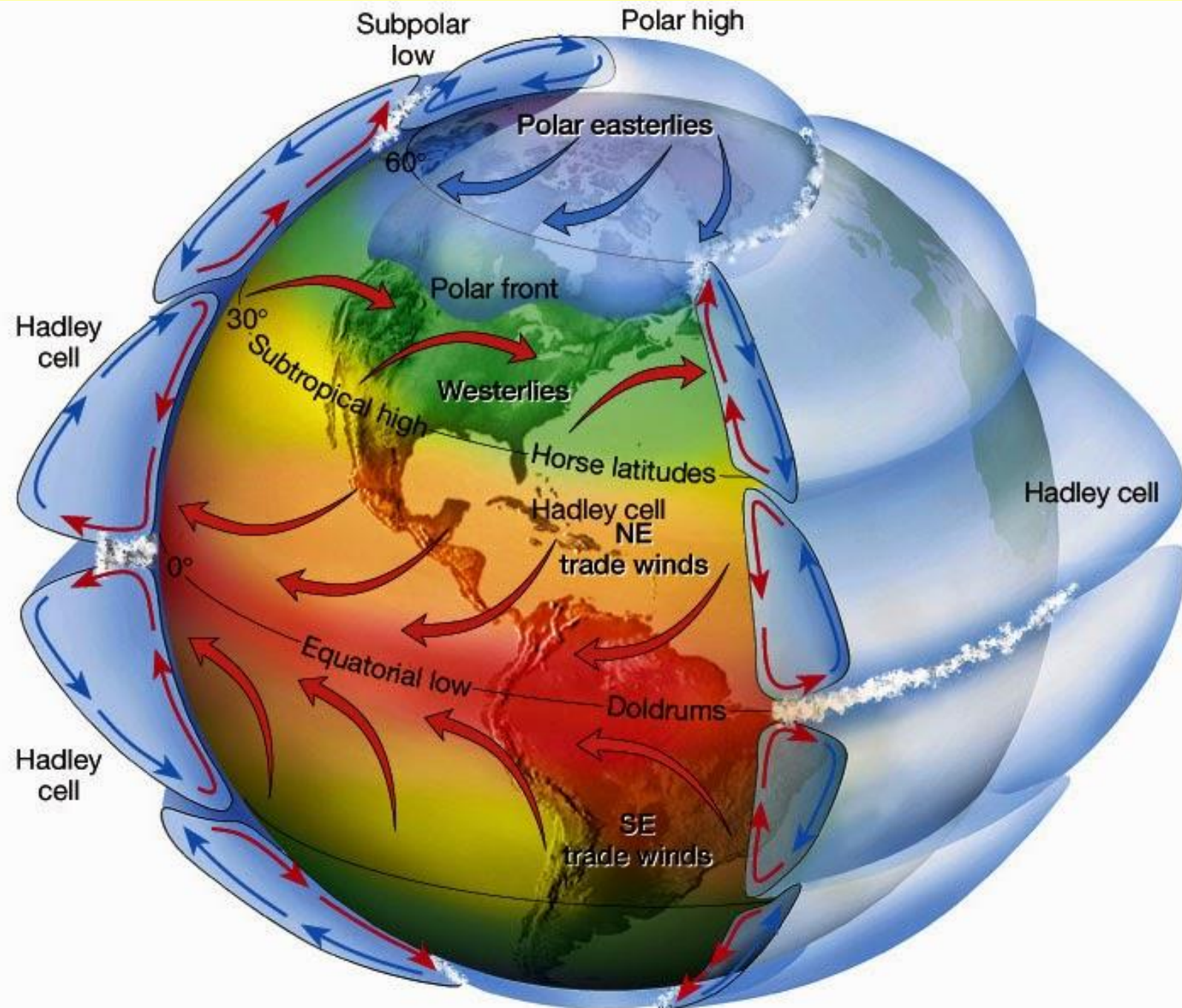




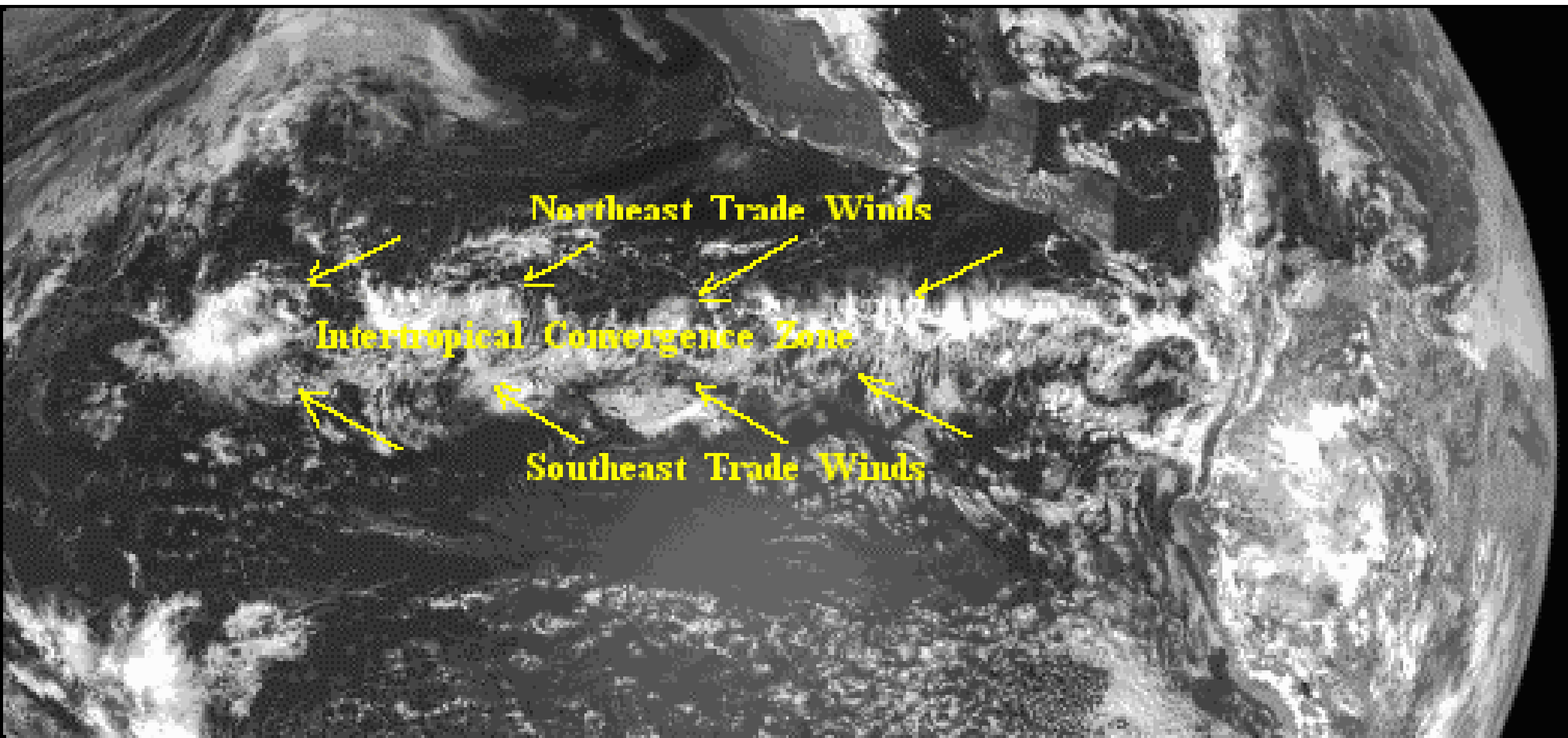
Deforestation in the Maranhão state of Brazil, 2016







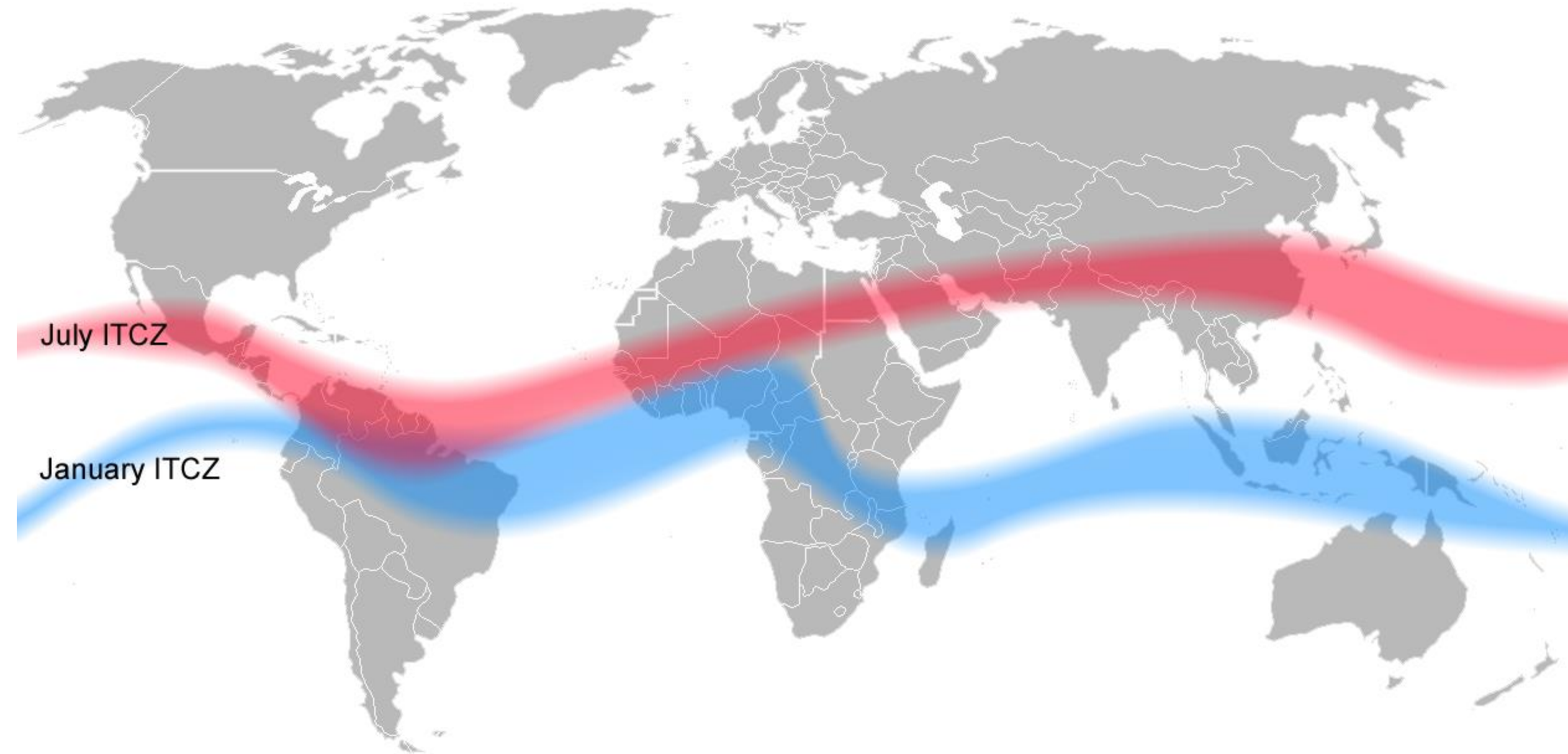




Northeast Trade Winds

Intertropical Convergence Zone

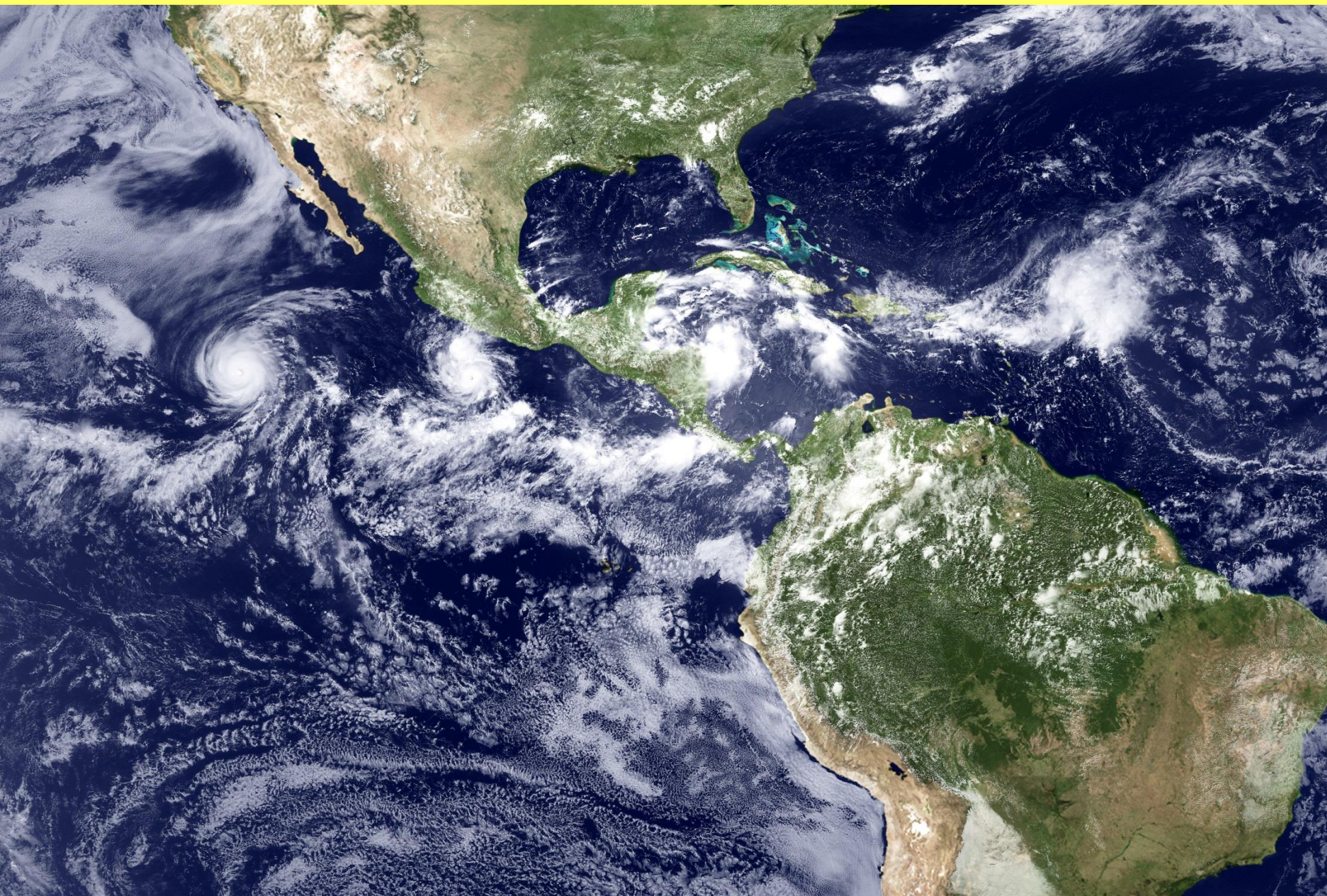
Southeast Trade Winds











The ITCZ, 25 Jun 2010,  
very close to the  
Southern Hemisphere  
Winter Solstice.

Notice the Northern  
displacement, far from the  
middle of Brazil



# Slash and Burn Agriculture



Alleviate poverty,  
Save rainforest  
Donate securely  
using any major credit ca

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## WHAT IS SLASH AND BURN FARMING?

Slash and burn farming is a form of shifting agriculture where the natural vegetation is cut down and burned as a method of clearing the land for cultivation, and then, when the plot becomes infertile, the farmer moves to a new fresh plat and does the same again. This process is repeated over and over.

The soil loses its fertility because the richness of the rainforest is in the trees. As leaves fall or trees die everything is broken down by the soil's organisms, nutrients are returned to the soil and the tree roots take them up again. Thus continuous recycling keeps everything fertile and growing. When this no longer happens in a cleared plot it soon becomes infertile. Torrential tropical rains quickly wash nutrients out of the soil when it is left bare after harvest





Slashed and burned slope. Photo by Richard Seal 2011.

## Slash and Burn Agriculture

Slash and burn agriculture: a method of cultivation... crops are grown , and the “crop remains” or overgrowth are burned off after harvest ... ashes provide fertilizer for new crops.

"Slash" refers to the practice of cutting down small trees, vines and shrubs during the clearing process.

"Burn" refers to burning them.

Slash and burn agriculture... also called impermanent field agriculture.

Worldwide slash and burn farming destroys 50 acres of rainforest an hour. The end of the dry season, right before the first rains and the beginning of the planting season, is generally when the slashing and burning is done. At that time of the year the air a smoky and hazy in the day and lines of fire snake across the hills at night. From the air fires are visible across the landscape...smoke is as thick as clouds.

<http://factsanddetails.com/world/cat52/sub329/item1303.html>



Bob comment: “Like flying in chocolate milk.”



## This might explain why they slash and burn

Tropical soils are formed in areas with high annual temperature and rainfall. Even though the savanna and the tropical rainforests are VASTLY different in organisms and extent, they both have a climate that results in deep, highly weathered soils. **The intense weathering causes these soils to be nutrient poor and low in organic matter.**

## Climate

The savannas are grasslands that have several months of dryness, followed by a rainy season... **These soils are very old and low in fertility**, but since there is a dry season, more of the nutrients can stay in place.

Home

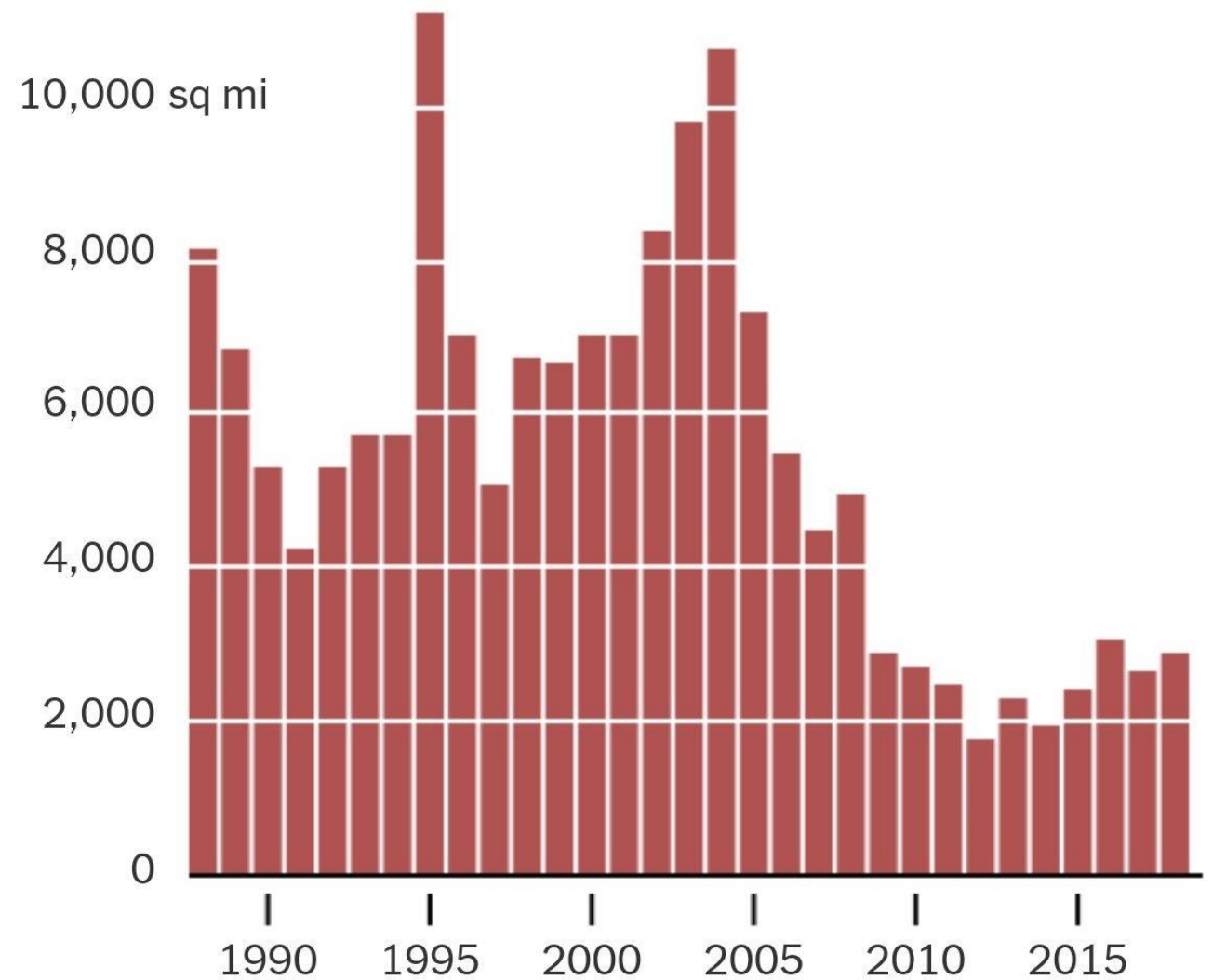
# TROPICAL FORESTS AND GRASSLANDS (SAVANNA)



# Recent History of Deforestation in the Amazon



# Annual deforestation in the Brazilian Amazon



By The New York Times

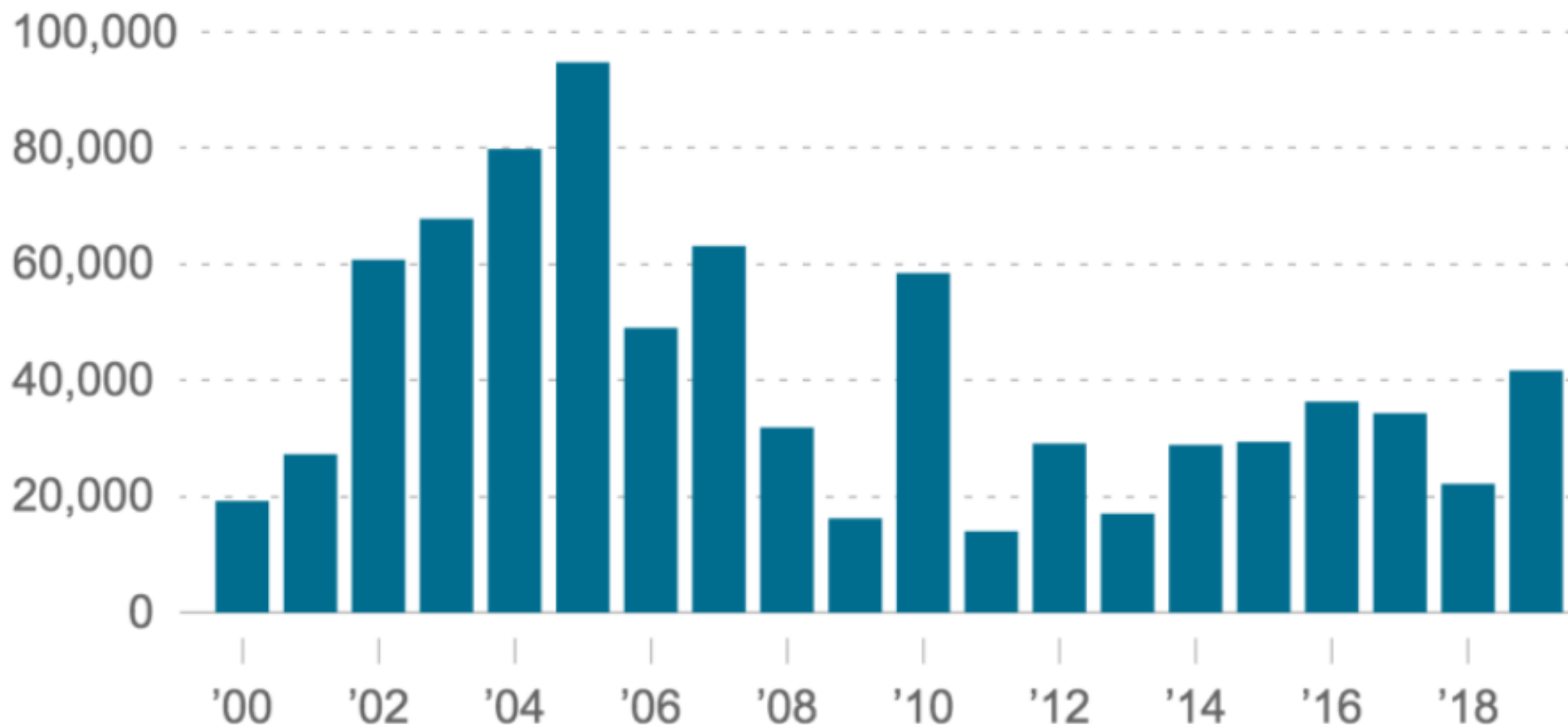
Source: Brazil's National Institute for Space Research

[https://twitter.com/RyanMaue/status/1165339055334330368/photo/1?ref\\_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1165339055334330368&ref\\_url=https%3A%2F%2Fwattsupwiththat.com%2F2019%2F08%2F24%2Famazon-fires-are-in-the-amazon%2F](https://twitter.com/RyanMaue/status/1165339055334330368/photo/1?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1165339055334330368&ref_url=https%3A%2F%2Fwattsupwiththat.com%2F2019%2F08%2F24%2Famazon-fires-are-in-the-amazon%2F)

# Recent History of Fires in the Amazon

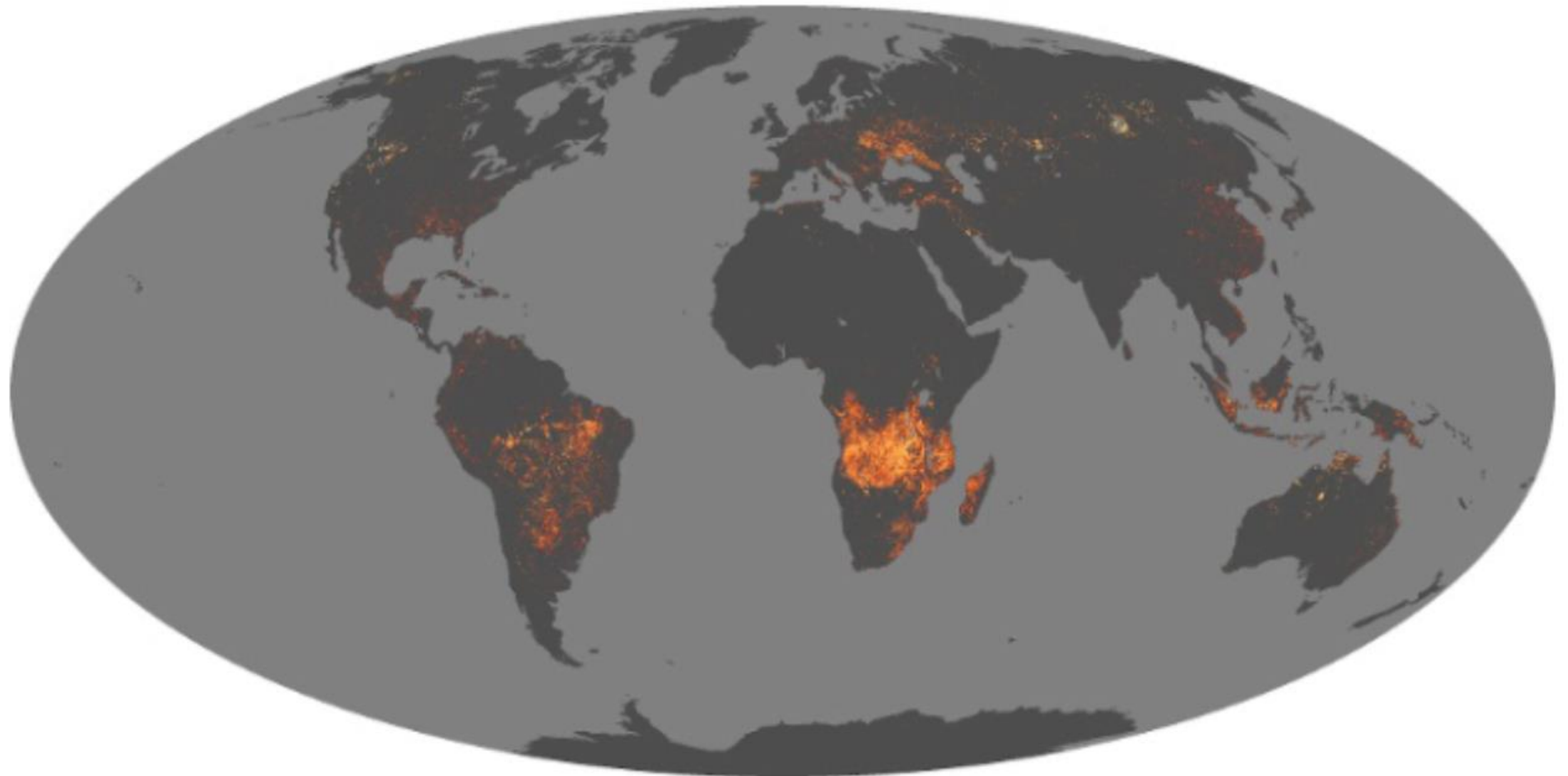


## Number of Amazon fires (January through August)



Source: INPE

@latimesgraphics

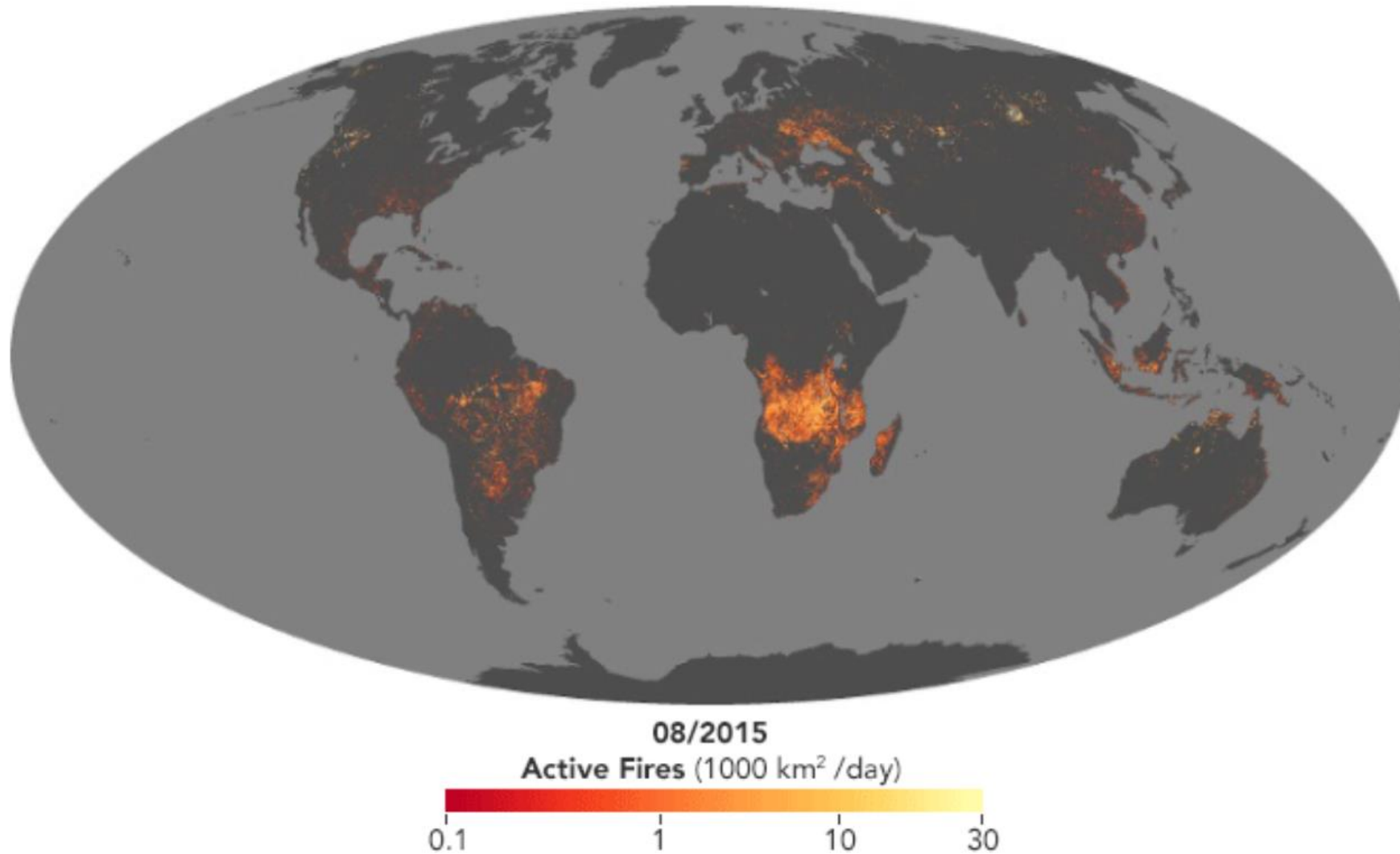


08/2015

Active Fires (1000 km<sup>2</sup> /day)

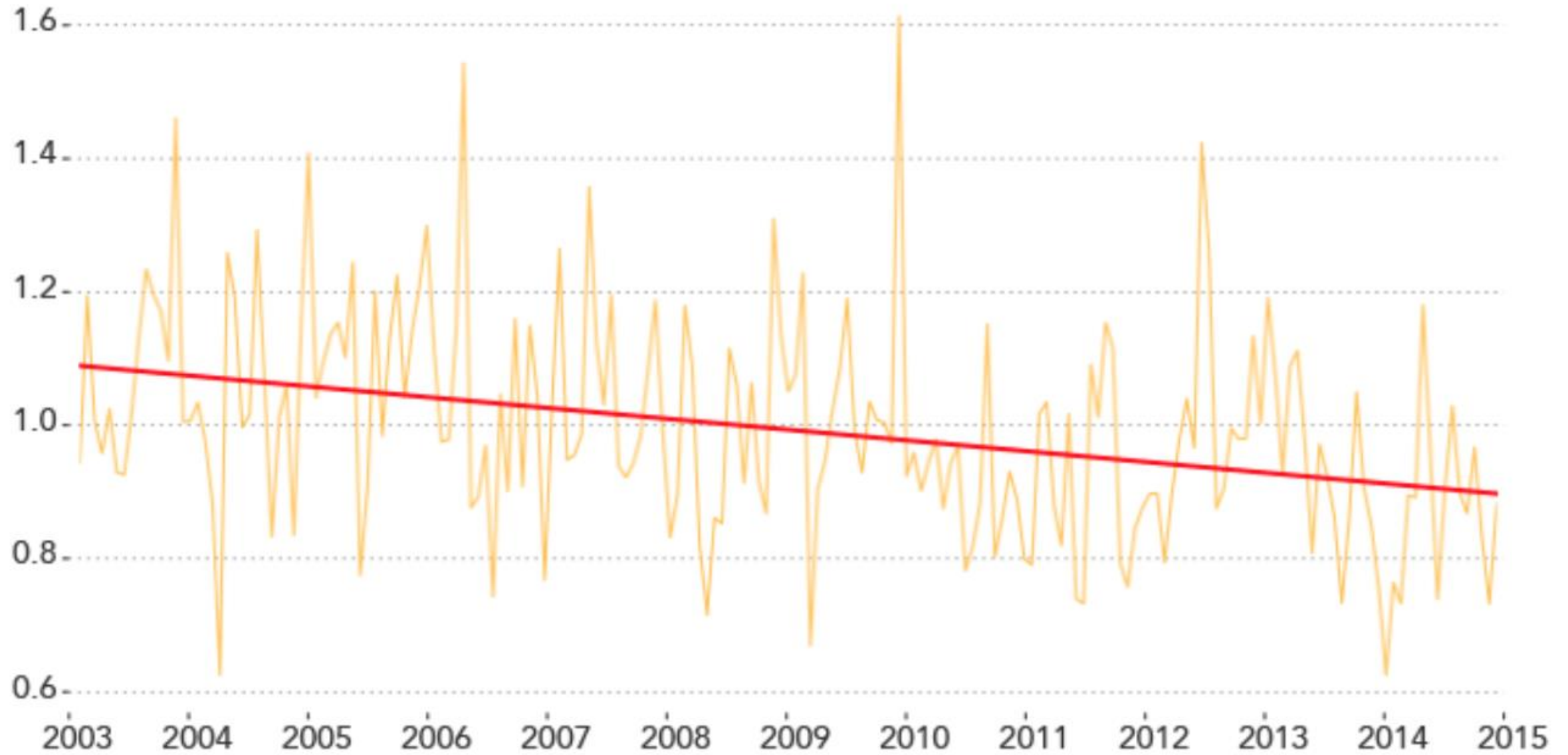






In the tropical forests of South America ... fires flare up in August, September, and October as people...use...the dry season to clear rainforest and savanna, as well as stop trees and shrubs from encroaching on already cleared land.

## Global Burned Area (normalized)





The most variable fire seasons happen...<in>... the tropical forests of South America ... the severity of fire season is often linked to cycles of El Niño and La Niña. The buildup of warm water in the eastern Pacific during an El Niño changes atmospheric patterns and reduces rainfall over many rainforests, allowing them to burn more easily and widely.

Despite the vast quantities of carbon released by fires in savannas, grasslands, and boreal forests, research shows that fires in these biomes do not generally add carbon to the atmosphere in the long term.

The regrowth of vegetation or the creation of charcoal typically recaptures all of the carbon within months or years.

## Totals

### Amazon Region

Acre  
Amazonas  
El Beni  
Maranhão  
Mato Grosso  
Pando  
Pará  
Peru  
Rondônia  
Santa Cruz  
Totals

### 2015 Fire Season

Indonesia

## Cumulative Monthly Fire Counts

Last Updated: August 22nd, 2019

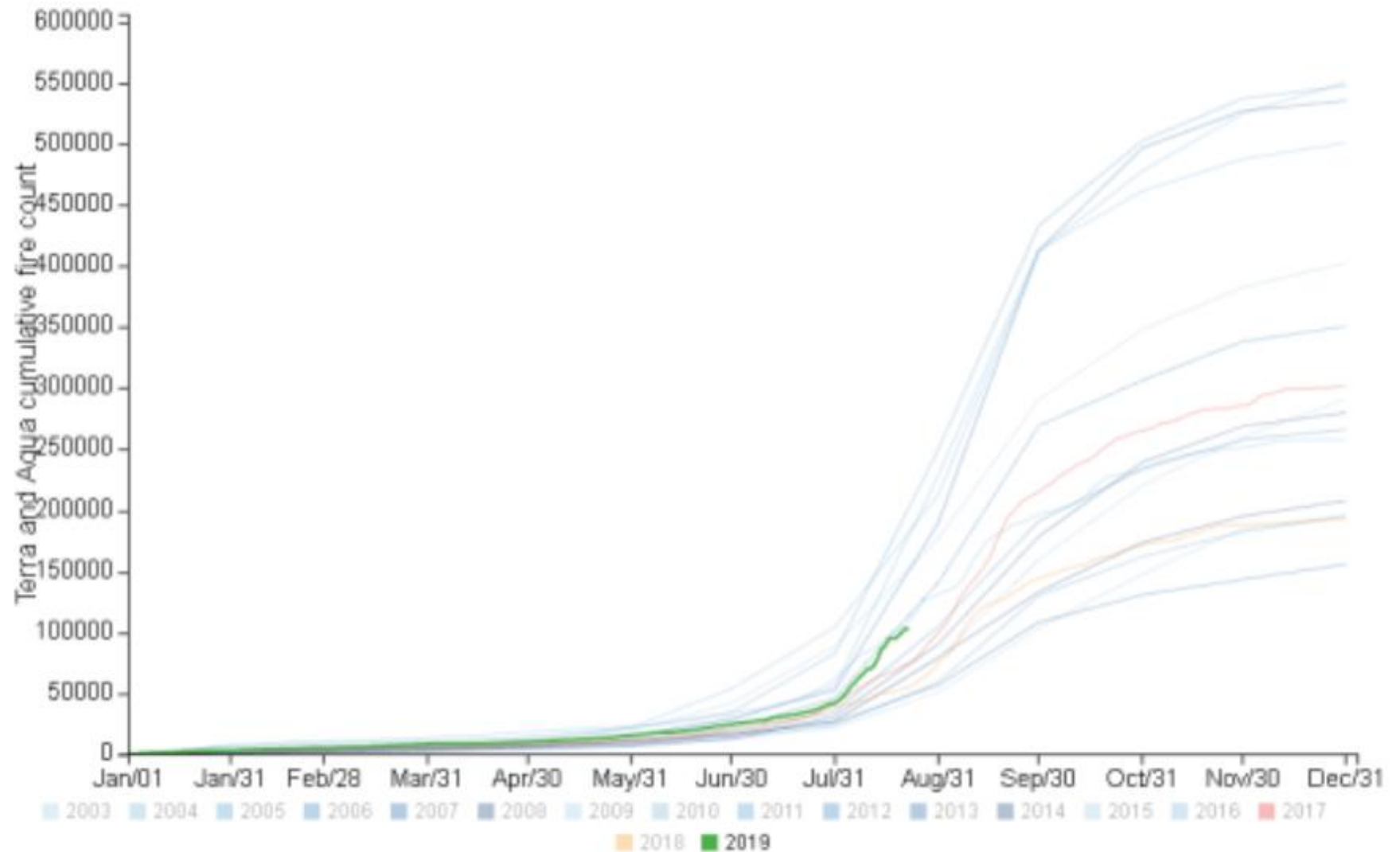
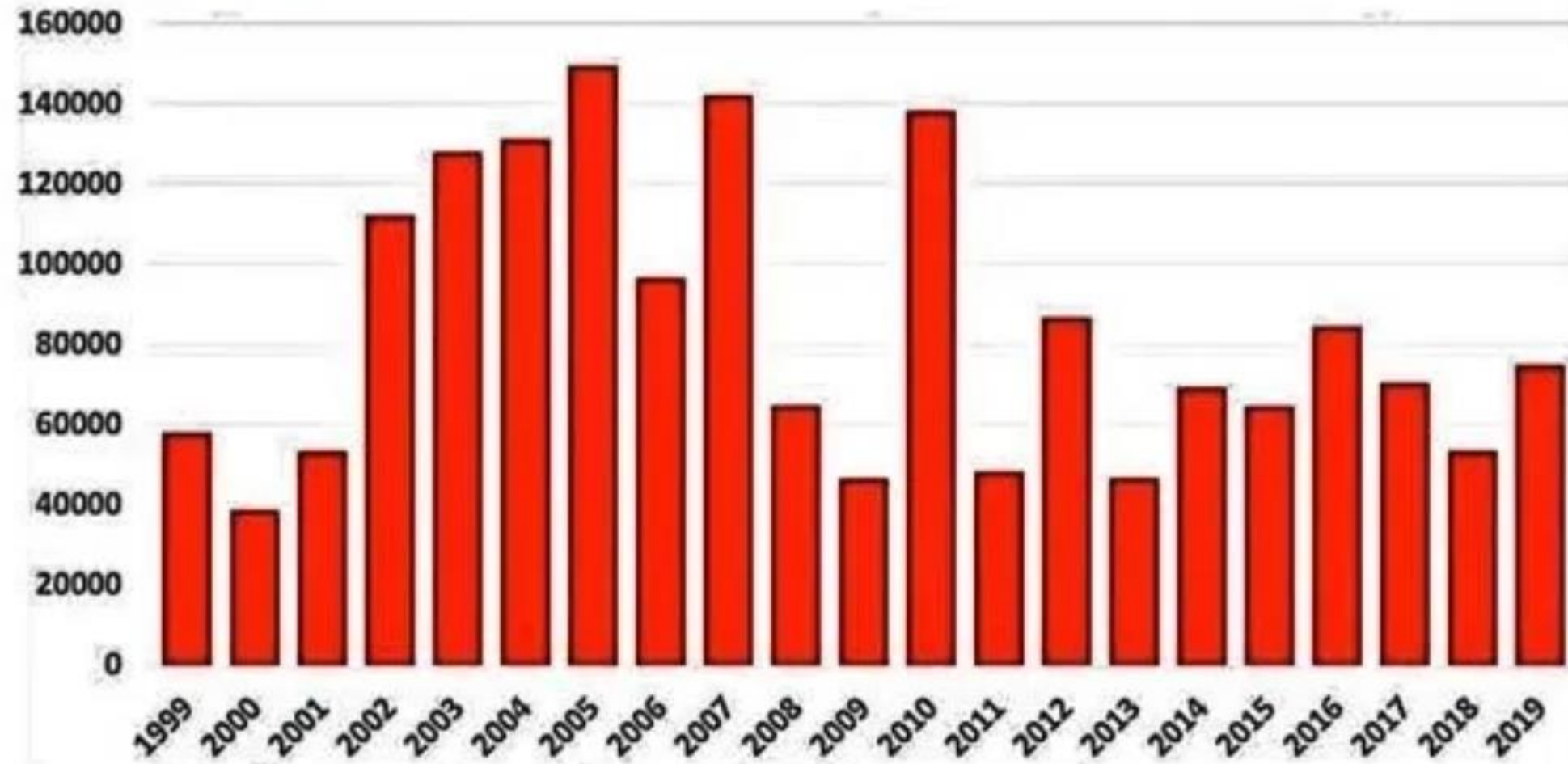


Fig 2: Amazon Fire Totals via MODIS (2019 is highlighted)



## Forest fires in Brazil from January to August by year (1999-2019)

Total forest fire spots detected by satellite



Source: National Institute for Space Research ([http://queimadas.dgi.inpe.br/queimadas/porta/estatistica\\_paises](http://queimadas.dgi.inpe.br/queimadas/porta/estatistica_paises))

While the number of fires in 2019 is indeed 80% higher than in 2018, it's just 7% higher than the average over the last 10 years ago. INPE

# 2019 Fires in the Amazon



- Acre Brazil, 2427
- Amazonas Brazil, 10494
- El Beni Bolivia, 7410
- Maranhão Brazil, 7301
- Mato Grosso Brazil, 27016
- Pando Bolivia, 2019
- Pará Brazil, 13895
- Peru Peru (duh), 6044
- Rondônia Brazil, 10425
- Santa Cruz Bolivia, 20135
- Totals

Peru  
Bolivia  
Paraguay



Region	Country	Fires to August 23	Sq Km Area	Percent of total fires	Fires per 1000 km2	Emissions (Tg)	Emissions %
Acre	Brazil	2427	152,581.00	2.3%	15.91	0.9077	1.3%
Amazonas	Brazil	10494	1,559,159.00	9.8%	6.73	7.2723	10.3%
El Beni	Bolivia	7410	213,564.00	6.9%	34.70	5.4019	7.7%
Maranhão	Brazil	7301	331,937.00	6.8%	22.00	2.5334	3.6%
Mato Grosso	Brazil	27016	903,366.00	25.2%	29.91	22.2882	31.7%
Pando	Bolivia	2019	63,827.00	1.9%	31.63	0.3606	0.5%
Pará	Brazil	13895	1,248,000.00	13.0%	11.13	7.545	10.7%
Peru	Peru	6044	1,285,000.00	5.6%	4.70	1.3478	1.9%
Rondônia	Brazil	10425	237,576.00	9.7%	43.88	6.9118	9.8%
Santa Cruz	Bolivia	20135	370,621.00	18.8%	54.33	15.7657	22.4%
Totals		107166	6,365,631.00	100.0%	16.84	70.3344	100.0%
Totals for Bolivia		29564	648,012.00	27.6%	45.62	21.5282	30.6%
Totals For Peru		6044	1,285,000.00	5.6%	4.70	1.3478	1.9%

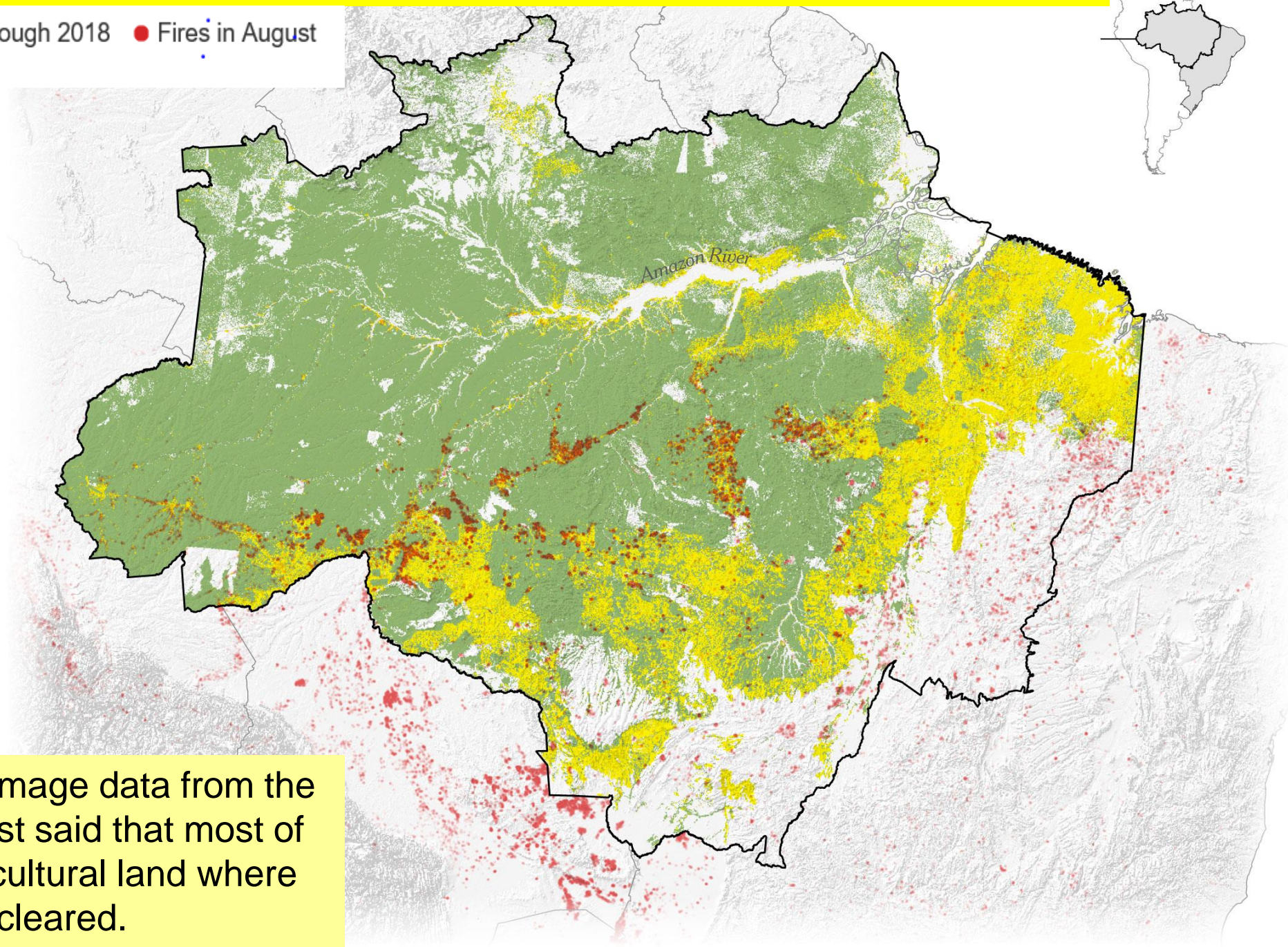
Table 1, Regions, Fires and Emissions





Existing forest   Deforestation through 2018   Fires in August

Brazilian  
Amazon



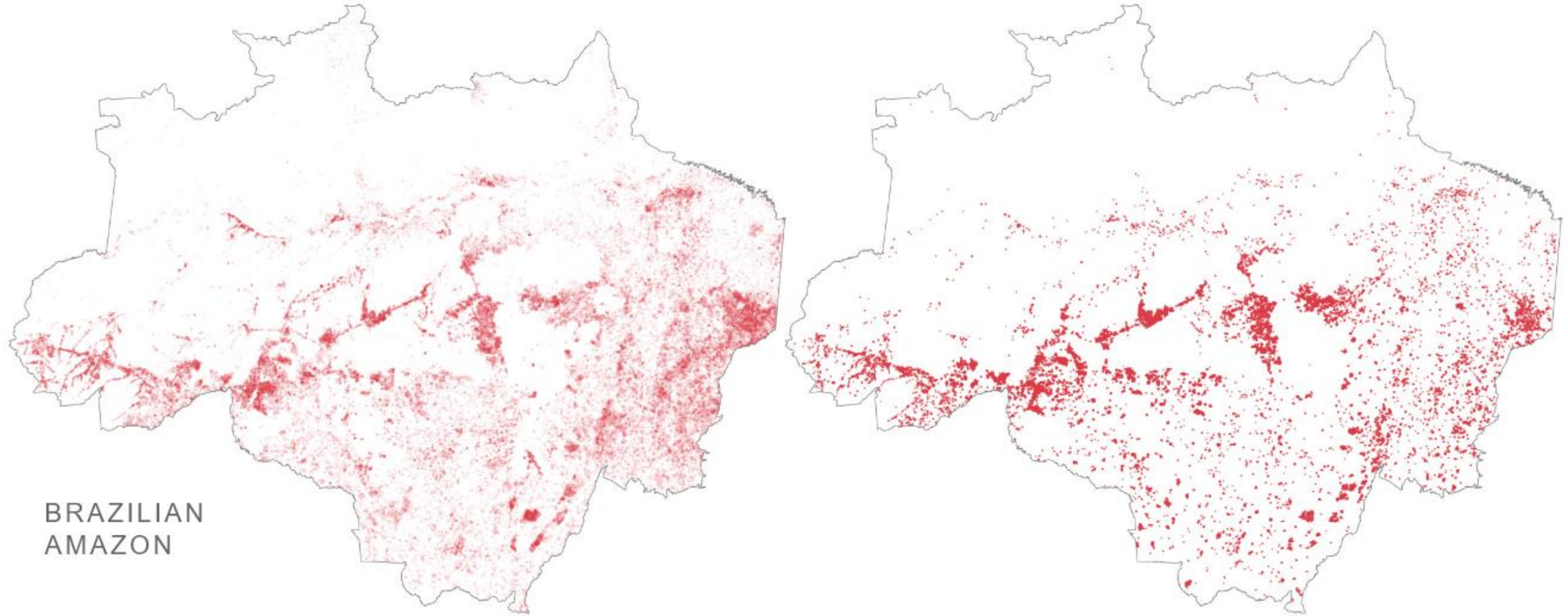
Scientists studying satellite image data from the fires in the Amazon rain forest said that most of the fires are burning on agricultural land where the forest had already been cleared.



## The New York Times

August average, 2011–2018

August 2019



BRAZILIAN  
AMAZON



# The Political Component

science alert

Trending



(Ipa Ibañez, author provided)

ENVIRONMENT

## It's Not Just Brazil's Amazon - Bolivia's Vital Forests Are Burning Out of Control, Too

CLAIRE F.R. WORDLEY, THE CONVERSATION 23 AUG 2019



Brazil's Bolsonaro gets blamed for same Amazon fires also plaguing socialist Bolivia – But Media Ignores! **"The left is doing its level best to blame Brazil's bush fires on Brazil's conservative, Trump-like president, Jair Bolsonaro, and get him thrown out of office...Socialist President Evo Morales <Bolivia> has openly encouraged what's known, at least in Venezuela, as "conuco" agriculture, telling subsistence farmers it's fine to set of fires to gather charcoal to sell for fuel or clear the land of brush for planting, and now he's refusing international firefighting help."**



WORLD • CLIMATE CHANGE

# The Real Reason the Amazon Is On Fire

...farmers and ranchers in the region organized what they called “a day of fire” for Aug. 10, where they would set forests aflame to clear land for pasture and planting.

Their goal, according to the outlet, was to show Bolsonaro they wanted to work, and burning down trees was the way to do that. In the following 48 hours, forest fires spread rapidly in the region.

The New York Times reports that farmers set the bulk of these fires, but that they targeted land already cleared for agriculture, not old-growth forest.



Wildfire in the Amazon rainforest, near Abuna, in the Brazilian state of Rondonia on Aug. 24, 2019.  
Carl de Souza—AFP/Getty Images



Open the video at this link. Play TIME video story

<https://time.com/5661162/why-the-amazon-is-on-fire/>

WORLD • CLIMATE CHANGE

## The Real Reason the Amazon Is On Fire

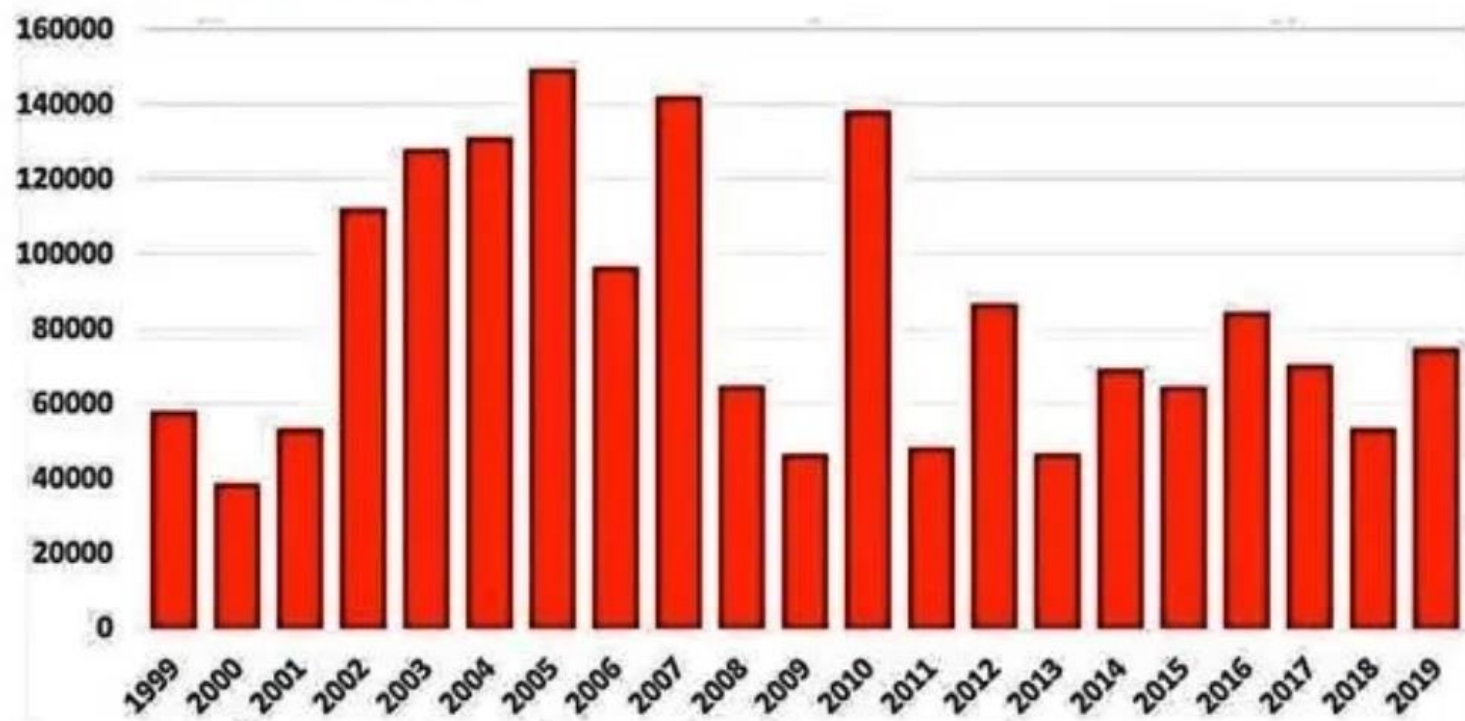


The Amazon rainforest has seen a record number of forest fires in 2019

# The Amazon rainforest has seen a record number of forest fires in 2019

Forest fires in Brazil from January to August by year (1999-2019)

Total forest fire spots detected by satellite



Source: National Institute for Space Research ([http://queimadas.dgi.inpe.br/queimadas/porta/estatistica\\_paises](http://queimadas.dgi.inpe.br/queimadas/porta/estatistica_paises))

While the number of fires in 2019 is indeed 80% higher than in 2018, it's just 7% higher than the average over the last 10 years ago. INPE





# **AMAZON FOREST, BRAZIL**

Aug. 25, 2019

Look Carefully! Its not the rain forest but cleared land, dried vegetation, farms, set alight.

Planet Labs, Inc.

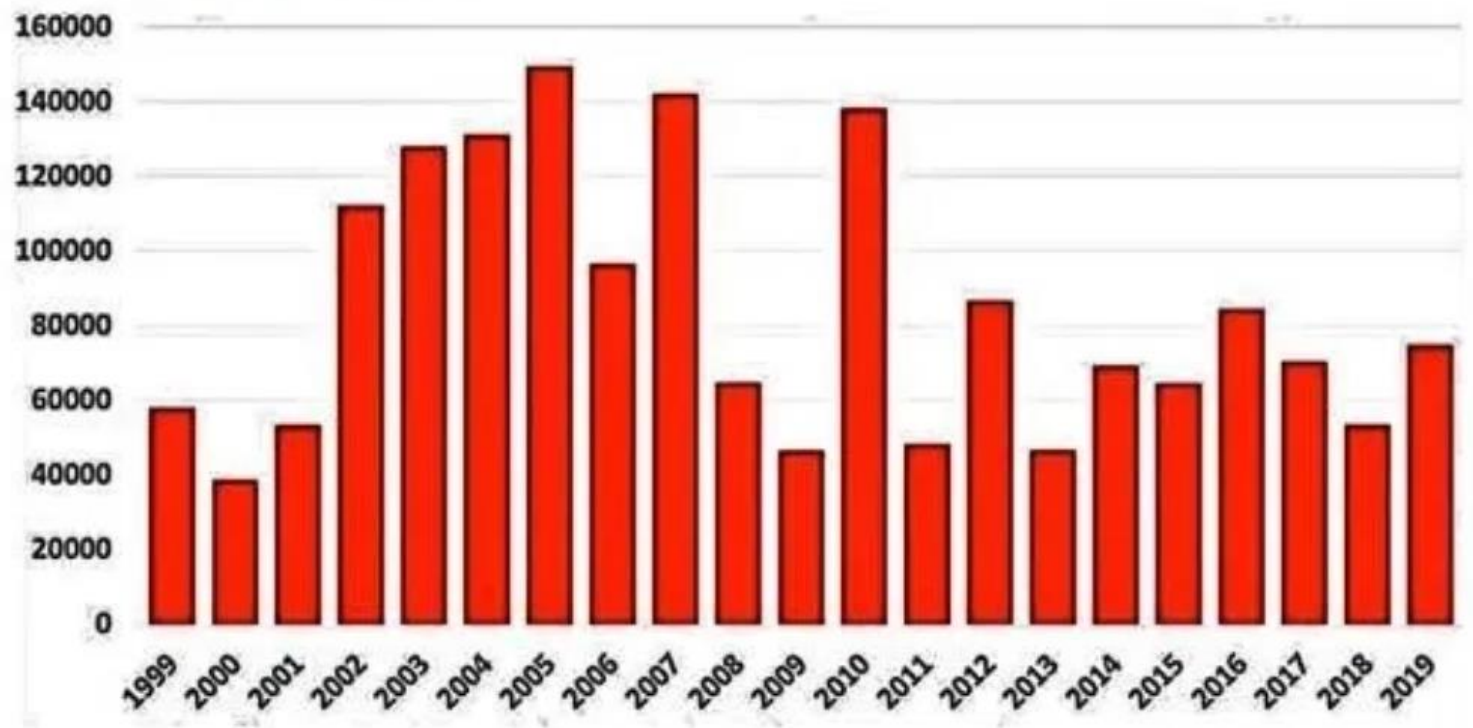
TIME

The INPE said on Aug. 20 that it has so far detected an 83% increase from the same time period in 2018



# Forest fires in Brazil from January to August by year (1999-2019)

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Source: National Institute for Space Research ([http://queimadas.dgi.inpe.br/queimadas/portal/estatistica\\_paises](http://queimadas.dgi.inpe.br/queimadas/portal/estatistica_paises))

While the number of fires in 2019 is indeed 80% higher than in 2018, it's just 7% higher than the average over the last 10 years ago. INPE

≡ TIME

The Real Reason the Amazon Is On Fire



SBT

TIME

**It's the highest number of fires  
recorded since 2013, when  
record-keeping began**

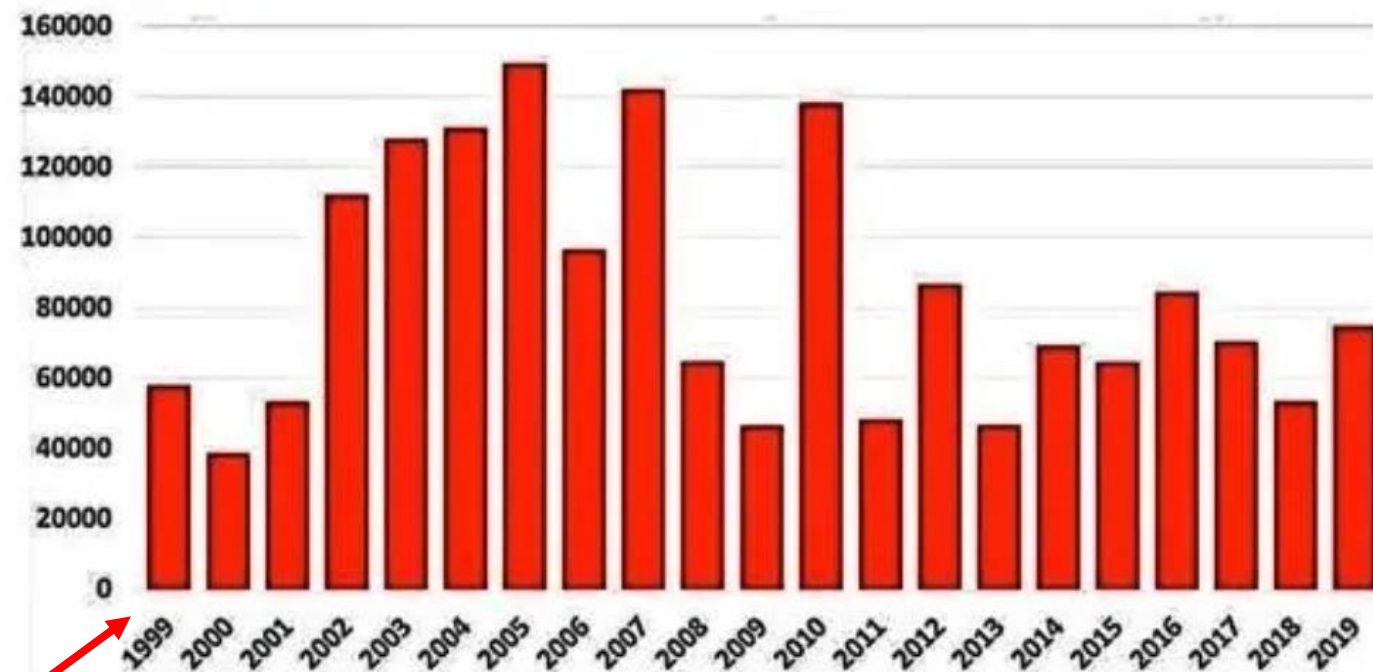




Bob Comment:

It looks to me that INPE has data at least as far back as 1999

Forest fires in Brazil from January to August by year (1999-2019)  
Total forest fire spots detected by satellite



Source: National Institute for Space Research ([http://queimadas.dgi.inpe.br/queimadas/porta/estatistica\\_paises](http://queimadas.dgi.inpe.br/queimadas/porta/estatistica_paises))

While the number of fires in 2019 is indeed 80% higher than in 2018, it's just 7% higher than the average over the last 10 years ago. INPE

Is this Fake News?



The surge in fires comes amid growing concerns...

Did you ever notice that the MSM never finds “far-left” rulers, and never finds “right of center” presidents they are always “far-right.”

Are they reporting news or slanting it to fit a narrative?



over Brazil's far-right president Jair Bolsonaro's rollback of environmental protections



Conclusions,

What have we learned?

# The Amazon rainforest is on fire. Climate scientists fear a tipping point is near

<https://www.latimes.com/environment/story/2019-08-25/amazonrainfores-fires-climate>



Instead of axes and machetes, people now use bulldozers and giant tractors with chains to pull down the Amazon's towering trees.

A few months later, they torch the trunks. It's the only realistic way to remove such huge amounts of biomass, Morton said.

"It's slash and burn, 21st century."



## FALSE ALARM: AMAZON BURNING IS MOSTLY FARMS, NOT FORESTS

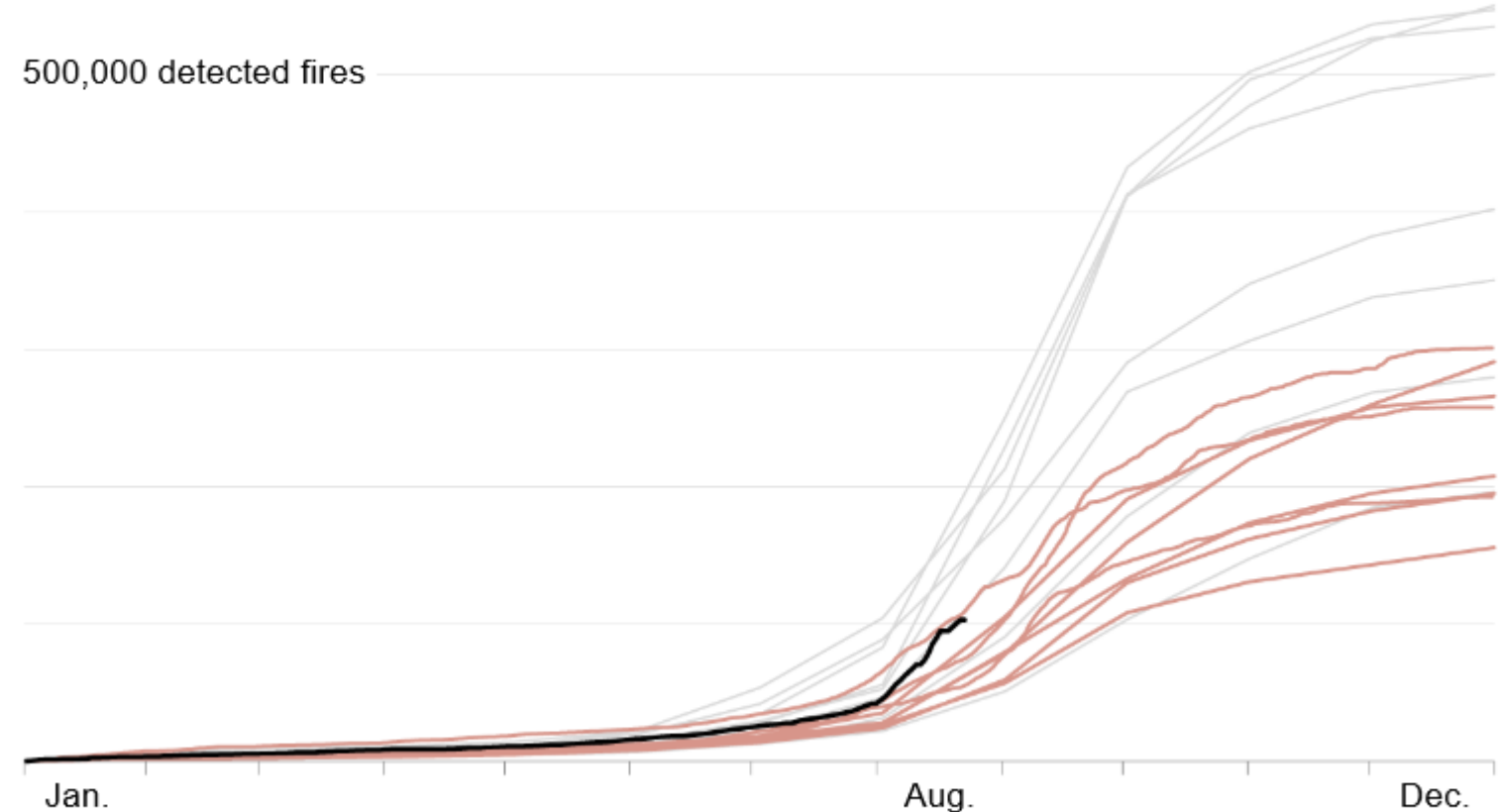
Date: 25/08/19 | Ronald Bailey, Reason

**Problematic deforestation continues, but the “lungs of the earth” are still breathing.**



## Cumulative number of fires each year for the entire Amazon region

— 2003–10 — 2011–18 — 2019, through Aug. 22



By The New York Times

Source: Global Fire Emissions Database based on NASA Terra and Aqua satellite data. | Note: Counts from 2003 through 2015 are monthly. Counts since 2016 are daily.

“Fires are not a natural phenomenon in these forests,” said Mark Cochrane, an expert on wildfire and ecology at the University of Maryland. **“All of the fires in this region are caused by people.”**

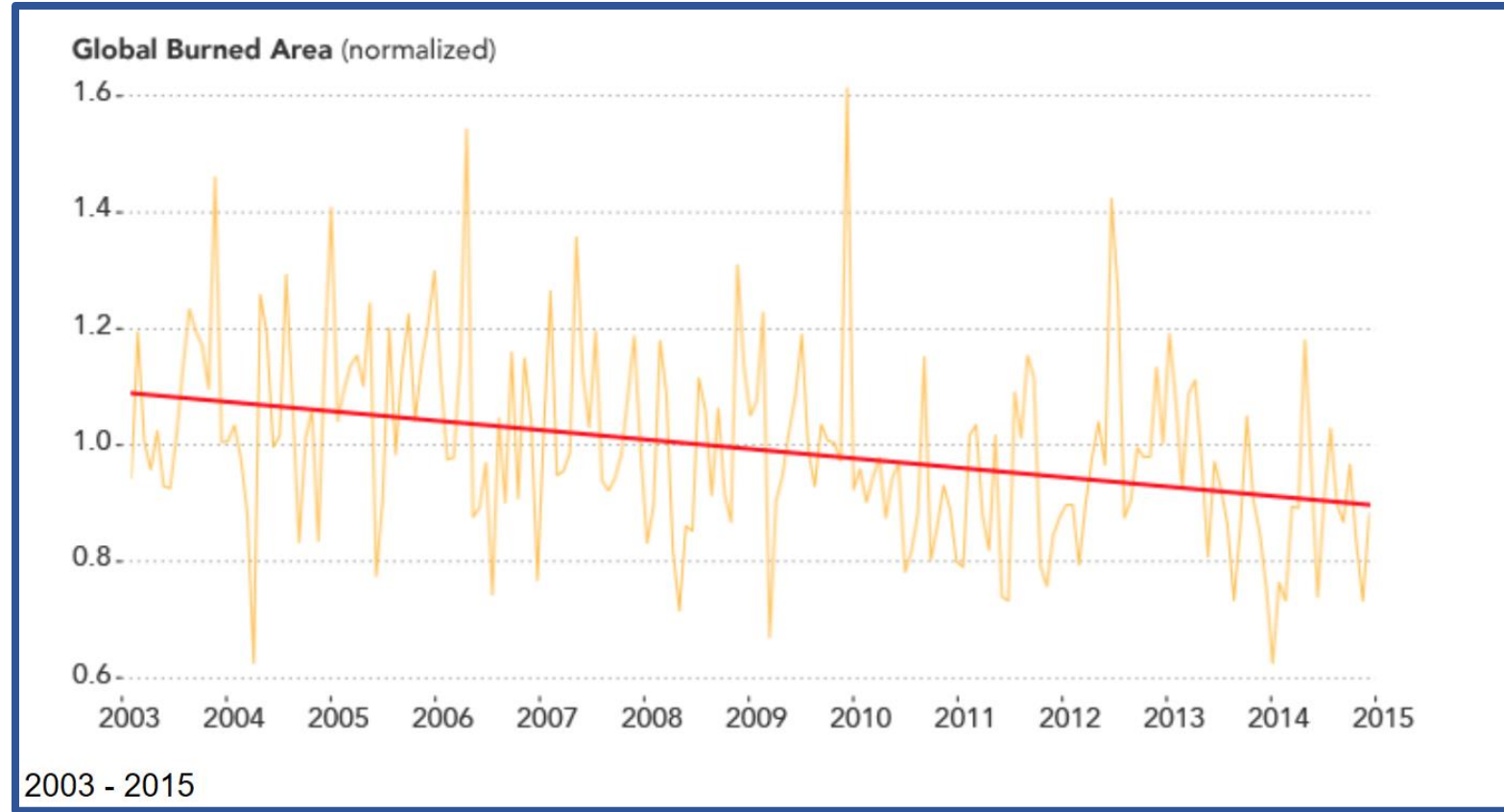
Mr. Cochrane noted that while a large majority of the fires were on land that had already been cleared, many others were detected burning with particular intensity. He said these were likely deforestation fires, not just fires for clearing previously deforested land.

**“When you slash an area, pile it up, let it dry and then burn it, it burns very intensely, and that’s also what puts off a lot of that smoke,”** said Mr. Cochrane.

**Bolding added**



One of the most interesting things researchers have discovered since MODIS began collecting measurements, noted Randerson, is a decrease in the total number of square kilometers burned each year. Between 2003 and 2019, that number has dropped by roughly 25 percent.



As populations have increased in fire-prone regions of Africa, South America, and Central Asia, grasslands and savannas have become more developed and converted into farmland. As a result, long-standing habits of burning grasslands (to clear shrubs and land for cattle or other reasons) have decreased, explained NASA Goddard Space Flight scientist Niels Andela. And instead of using fire, people increasingly use machines to clear crops.

“One of Brazil’s leading environmental journalists agrees that media coverage of the fires has been misleading. “It was under [Workers Party President] Lula and [Environment Secretary] Marina Silva (2003-2008) that Brazil had the highest incidence of burning,” [Leonardo Coutinho](#) told me over email. “But neither Lula nor Marina was accused of putting the Amazon at risk.”

... many of the correspondents reporting on the fires have been doing so from the cosmopolitan cities of São Paulo and Rio de Janeiro, which are 2,500 miles and four hours by jet plane away.

“What is happening in the Amazon is not exceptional,” said Coutinho...

Global public opinion was not as interested in the ‘Amazon tragedy’ when the situation was undeniably worse. The present moment does not justify global hysteria.”

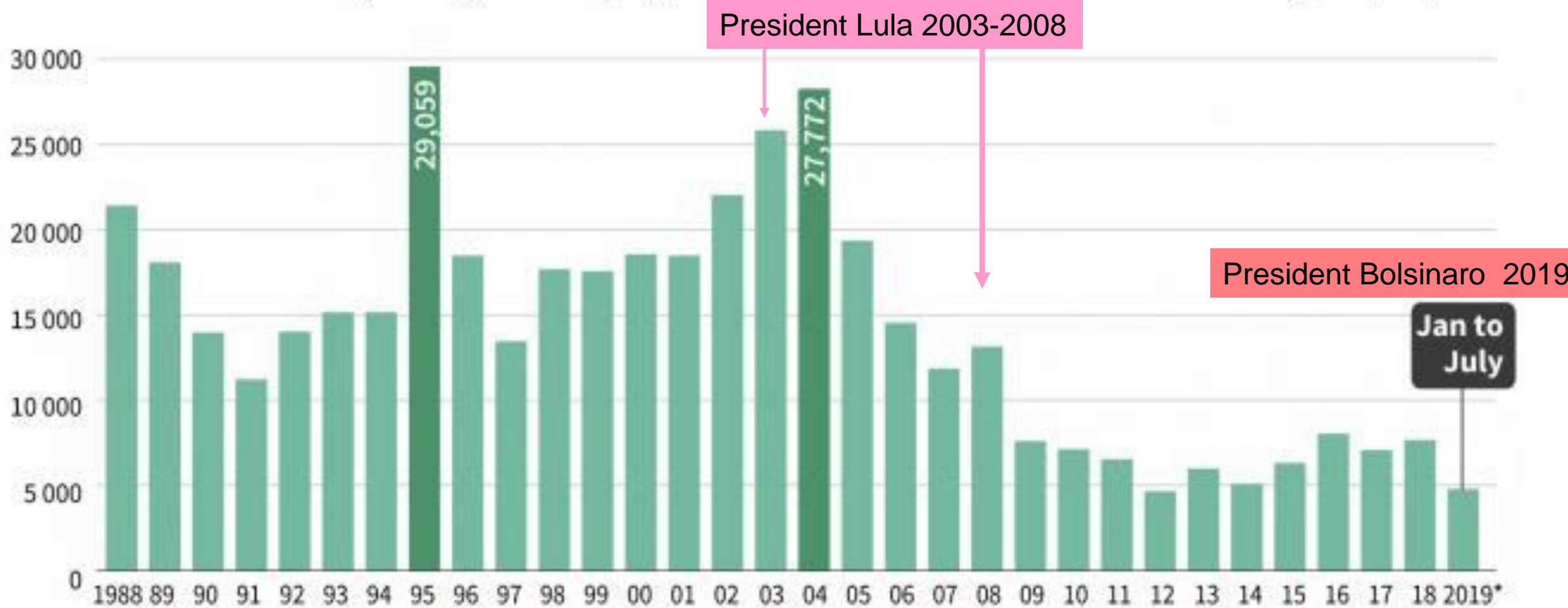
**And while *fires* in Brazil...increased, there is no evidence that Amazon *forest fires* have.”**



# Deforestation of the Brazilian Amazon

## Deforestation in km<sup>2</sup>

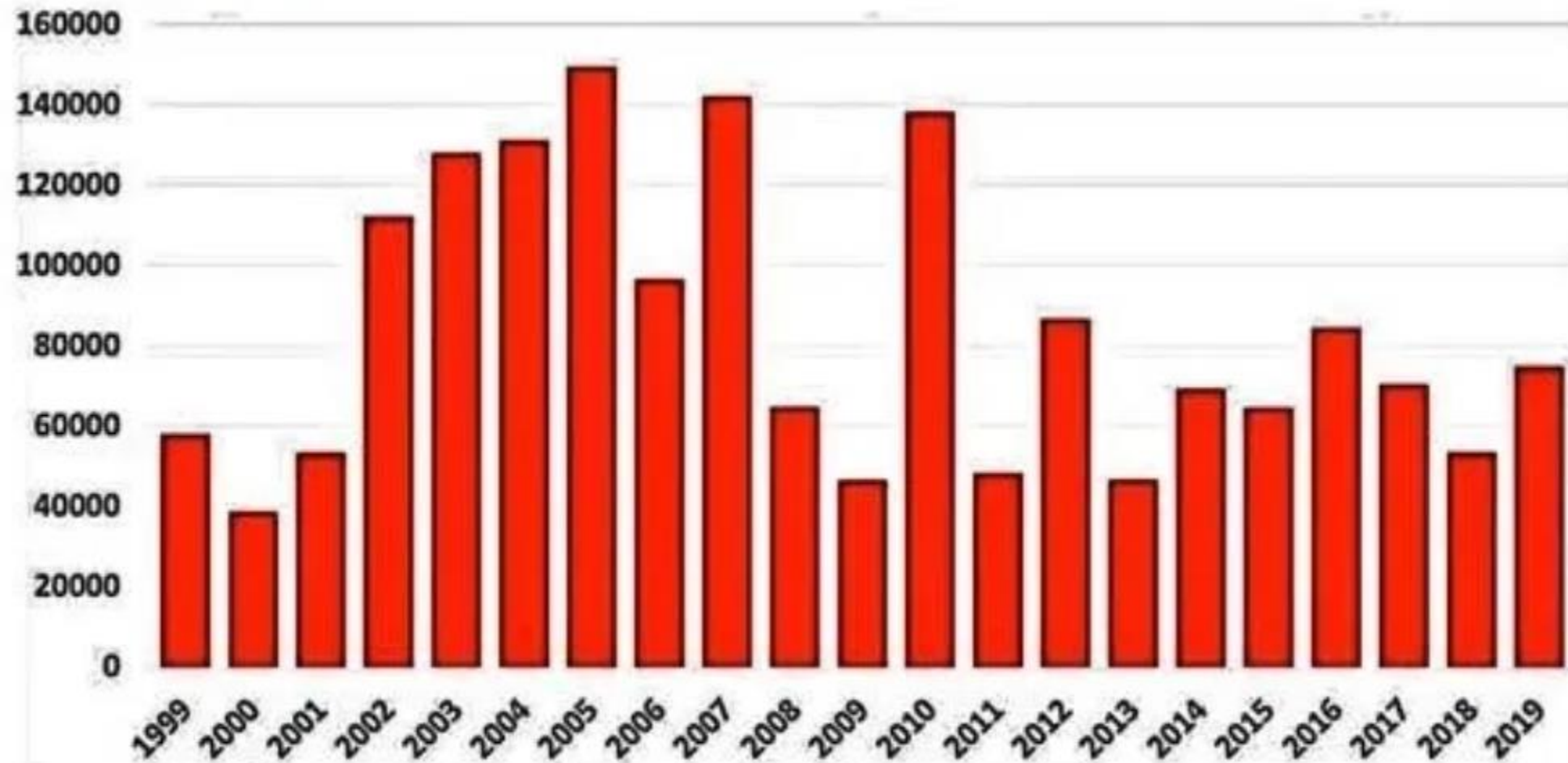
Estimates based on the PRODES system using satellite images (up to 2018) and real time detection by the DETER satellite-based system (2019)



\*Data from the DETER system is an indicator of the pace of deforestation. Final estimate based on the PRODES system

## Forest fires in Brazil from January to August by year (1999-2019)

Total forest fire spots detected by satellite



Source: National Institute for Space Research ([http://queimadas.dgi.inpe.br/queimadas/porta/estatistica\\_paises](http://queimadas.dgi.inpe.br/queimadas/porta/estatistica_paises))

While the number of fires in 2019 is indeed 80% higher than in 2018, it's just 7% higher than the average over the last 10 years ago. INPE



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## Amazon fires: Record number burning in Brazil rainforest - space agency



**Brazil's Amazon rainforest has seen a record number of fires this year, new space agency data suggests.**

"There is nothing abnormal about the climate this year or the rainfall in the Amazon region, which is just a little below average," INPE researcher Alberto Setzer told Reuters.

## ***The Amazon is burning***

A few days ago, *The Guardian* announced [Large swathes of the Amazon rainforest are burning](#). I don't know how this has suddenly entered the public's consciousness, but for those of us who keep track of such things, farmland and some rainforest in Amazonia and adjacent lands has been burned by farmers for many decades during this time of year so they can plant crops. This year is not exceptional in this regard, yet someone decided to make an issue of it this year. In fact, it looks like 2019 might be one of the [lowest years for biomass burning](#). Deforestation there has [gone down dramatically in the last 20 years](#).



**THE AMAZON RAINFOREST BURNS  
EVERY YEAR, AND PEOPLE IGNORE IT...**



**...UNTIL BRAZIL GETS A RIGHT-WING  
PRESIDENT AND EVERYONE LOSES THEIR MINDS**