

CORONAVIRUS

For this article I contributed data analysis and visuals. The semi-small multiple line charts below were created with D3.js and CSS flex-box. The data were cleaned and grouped together using Python's Pandas library. Live link: <https://www.nbcnews.com/tech/internet/coronavirus-pandemic-drove-life-online-it-may-never-return-n1169956>

## The coronavirus pandemic drove life online. It may never return.

What passes for normal life now happens almost entirely online.

March 28, 2020, 5:18 AM CDT

By Jason Abbruzzese, David Ingram and Sawyer Click

For many Americans, a typical day right now might look something like this: Roll out of bed and check the smartphone. Open up a laptop and file for unemployment benefits through a website. Set up an online education portal for children out of school. Check in with a doctor through a telemedicine portal. Read news on Twitter. Buy groceries through Amazon. Watch stories on Instagram. Binge on Netflix. Connect with a group of friends on a [Zoom video chat](#).

What passes for normal life now happens almost entirely online.

The [coronavirus pandemic](#) is unlike any other global emergency in recent history. [Millions of people](#) in the U.S. and around the world are confined to their homes with no definite idea of when they will be able to resume life as they knew it. Staying home has taken on the kind of patriotic duty usually reserved for times of war.

The major question will be whether "normal life" ever returns.

"What I've found as a historian is that emergencies, for example like World War I, World War II, the Great Depression, they tended to accelerate rather than necessarily innovate new kinds of relationships, new kinds of ways of life," said Robert Kargon, a professor of the history of science at Johns Hopkins University.

### Amazon to hire 100K workers amid online order surge



"My argument has been that essentially these kinds of emergencies accelerate trends that already exist in society," he said. "We've already seen how the internet is impinging on all kinds of activities in terms of work, leisure and so forth, and I think this is going to intensify it and it's going to change certain things."

#### *Full coverage of the coronavirus outbreak*

The internet has in recent decades become embedded in almost everything (try to find a product for which there's not an internet-connected version). But it was primarily used to augment daily life for most people. Some younger people referred to themselves as "[extremely online](#)," but for most it wasn't the center of their lives.

During the great coronavirus lockdown of 2020, millions of Americans are extremely online. Data from internet services show massive increases in daily use. Assurances from internet services and infrastructure companies that they are able to handle so much of life's moving online have become closely followed.

When Netflix suffered problems Wednesday, some heralded it as another step closer to apocalypse.

Danny Makki  
@Dannymakkisyr

Breaking: Netflix is reportedly down and with that the apocalypse draws closer

12:43 PM · Mar 25, 2020

344 108 people are Tweeting about this

A screenshot of a Twitter post from user @Dannymakkisyr. The post reads: "Breaking: Netflix is reportedly down and with that the apocalypse draws closer". Below the tweet are engagement metrics: 344 likes and 108 people are Tweeting about this. A blue Twitter logo is in the top right corner of the card.

"In an emergency, technology can be fast-tracked," said Amber Case, a researcher at the Institute for the Future, a nonprofit in Palo Alto, California, that does long-term forecasting. She said she expects a boost of research into technologies around online education and distributed computing, and she predicts that the experience of learning more things online will have wide ripple effects offline.

"I'm hoping we'll see a next generation of teachers who are rock stars" specializing in teaching via video, she said. "A lot of people are going to learn how to cook really, really well."

These shifts couldn't have happened during previous national emergencies, like the Sept. 11 attacks nearly two decades ago. Smartphones didn't exist yet, and neither did social media, streaming services or easily accessible videoconference calling.

In the days of dial-up modems, often only one device within a home could be on the internet at a time, and it might tie up the phone line.

The past decade saw a huge explosion in “productivity” software that didn’t seem to actually increase productivity but is now totally vital in this crisis.

– Matthew Yglesias (@mattyglesias) March 27, 2020

Joe Bak-Coleman, a Ph.D. student at Princeton University who studies collective behavior and how technology influences society, said the ability to move so much of life online is a recent development – and one that has been particularly crucial because of the nature of the response to the coronavirus outbreak.

"Only in the last five years have we had [widespread adoption of] technology like Skype and Zoom that allow us to do many of our jobs online," Bak-Coleman said. "Relative to other pandemics, the ability to take our society online, at least portions of it, helps us so much."

The kind of shift the country has gone through in the past few weeks doesn't happen without some pain points. People are finding they need to set limits, that their connection to technology can't be constant all day, every day, or else their brains won't get a chance to rest.

"We're stuck kind of in a period of teenage where we've all been told to go to our room," Case said. "We

have to rewrite our relationship to technology, and we're breaking it."



Damon Beres @dlberes

does anyone else feel like they literally live inside of Computer now

4:08 PM · Mar 24, 2020

72 17 people are Tweeting about this

The online shift may also exacerbate inequality. Millions of Americans don't have access to fast broadband internet. Some 44 percent of adults with household incomes below \$30,000 a year don't have home broadband services, the Pew Research Center [said last year](#). And in some places, high-speed broadband isn't available at any price, because providers haven't built the service.

"Where those networks do not exist – where Americans do not have choices for high-capacity services – social distancing is much harder on people, if not outright impossible," the Electronic Frontier Foundation said in a [statement](#) emphasizing the importance of the internet to the pandemic response.

The internet is so much of life in 2020 that the American Library Association is asking federal regulators for permission to [deploy Wi-Fi hot spots using bookmobiles](#) so they can support neighborhoods that have relied on libraries that are now closed.

Data from internet and entertainment services paint a stark picture of a country pushed online.

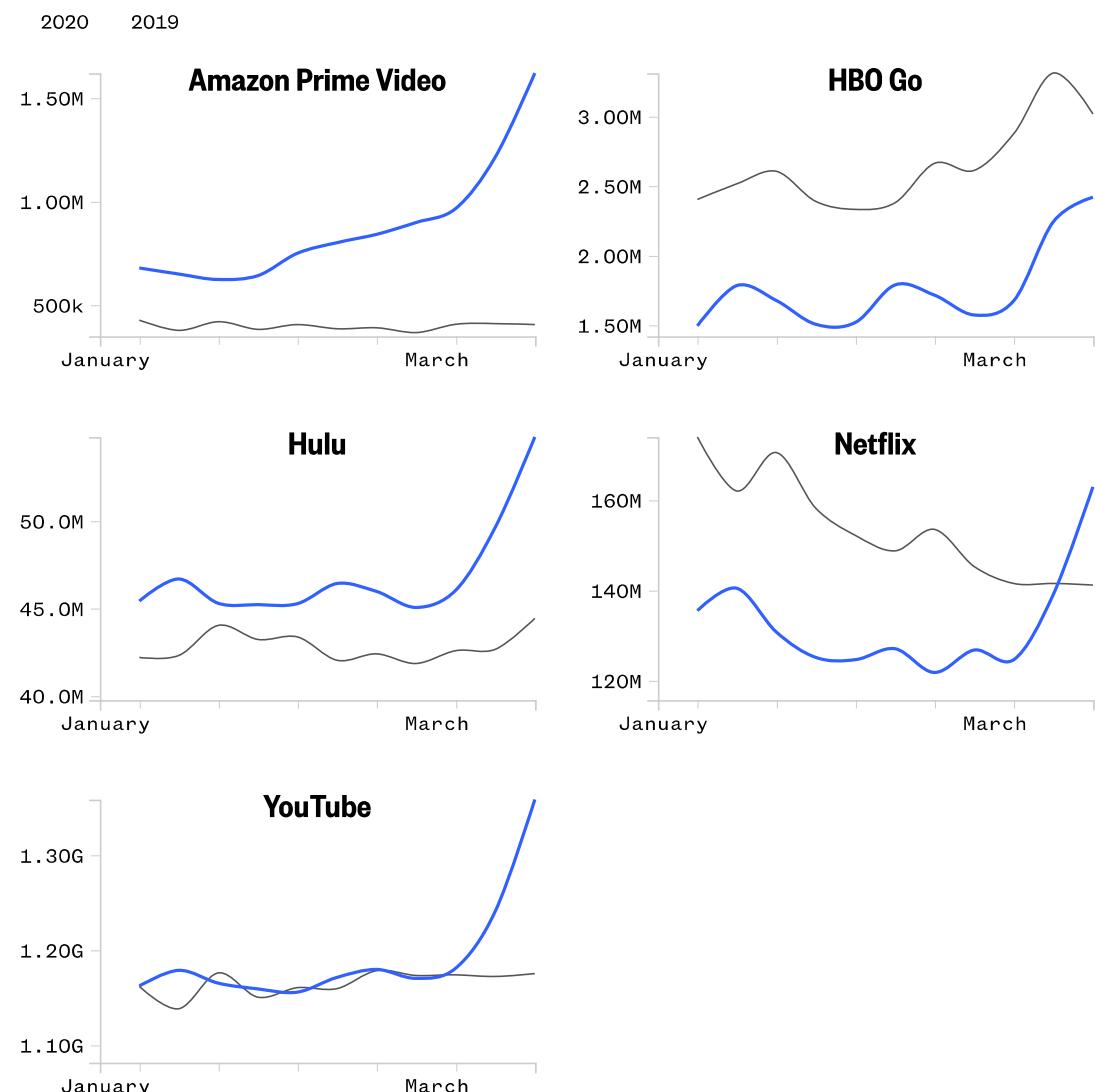
HBO said Tuesday that time spent on its streaming service HBO Now was [up more than 40 percent](#) from its four-week average, and competitors like Amazon Prime Video and Netflix also are seeing big increases in traffic, according to data from the research firm SimilarWeb.

"Escapism and forgetting what's going on for a second is also what's keeping some people sane," said Carolina Milanesi, a tech industry analyst at the research firm Creative Strategies.

Just about every consumer technology company has reported similar upticks. Facebook said that in places hit hardest by the virus, voice and video calling has more than doubled on two apps it owns, Messenger and WhatsApp. "We are experiencing new records in usage almost every day," executives [wrote in a blog post](#).

## U.S. streaming sites seeing coronavirus bumps in traffic

Per-week traffic to streaming sites, January to March, compared to the same time period in 2019.



### Notes

Weeks start on Monday.

Source: NBC News analysis of traffic data provided by SimilarWeb.

Graphic: Sawyer Click / NBC News

Companies that specialize in work-focused software have also reported a dramatic shift. Zoom has been beefing up its 17 data centers. Slack and Microsoft are reporting surges in demand for software often used by people working from home. Twitter said millions more people are using its service even as the economic downturn has cast a cloud over its ad business.

Even the pandemic response is increasingly happening online.

Mike Ryan, executive director of the World Health Organization's Health Emergencies Program, said Wednesday that health officials were using connected software like never before to share information around the world about clinical trials, case studies and predictive modeling.

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"This is probably the first pandemic of the 21st century in which the full power of information technology, social media [and] artificial intelligence is being applied to almost every aspect of this response," Ryan said at the WHO's daily briefing on the pandemic.

Now industry and regulators just need to be sure that internet service remains running at a level near what people expect.

Internet service providers have [expressed confidence](#) that they can handle the extra load, although the picture in Europe may not be encouraging. Amazon, Netflix and YouTube have agreed [to cut the quality](#) of their streaming videos in Europe to avoid putting too much strain on networks there. Facebook and Instagram [did the same](#) in certain regions, and Sony [slowed](#) gaming downloads.

Ookla, a company that measures internet performance, said this week that it had begun to detect [slower download speeds](#) in the U.S. on both fixed and mobile broadband.

But others haven't detected a slowdown. Cloudflare, a company that provides internet security and infrastructure services, said the only disruptions it has noticed have been isolated to specific internet service providers or in Europe.

"The internet was built for this," Cloudflare CEO Matthew Prince said, adding that the electric grid or transportation networks couldn't withstand similar surges. "I can't think of any other public utility that, if you had somewhere between a 20 and 100 percent increase in use, which is what we're seeing right now, that it would continue to function."

The biggest change may not end up being how much time we spend online but rather how people spend it.

Patrick Stewart

@SirPatStew

Sonnet 4. #ASonnetADay

The post contains a large, empty rectangular area for the sonnet text.

Sherry Turkle, a professor of the social studies of science and technology at the Massachusetts Institute of Technology, said she's been struck by the creativity and thoughtfulness with which some people have put themselves online during the outbreak.

She pointed to the cello player Yo Yo Ma and the actor Patrick Stewart, who have broadcast themselves practicing their crafts.

"Every group I'm in is trying to reinvent itself in an online form," she said. "You see people trying to find something of themselves that they can use as the medium to express themselves."

Turkle, who wrote "Alone Together," which details how technology can connect but also isolate people, said the move online could end up changing what it means to be online.

"Will people say, 'You know, I don't want to use this screen for nonsense anymore?'" she said. "Will we reach for the best of us? Maybe that will be the legacy."



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