

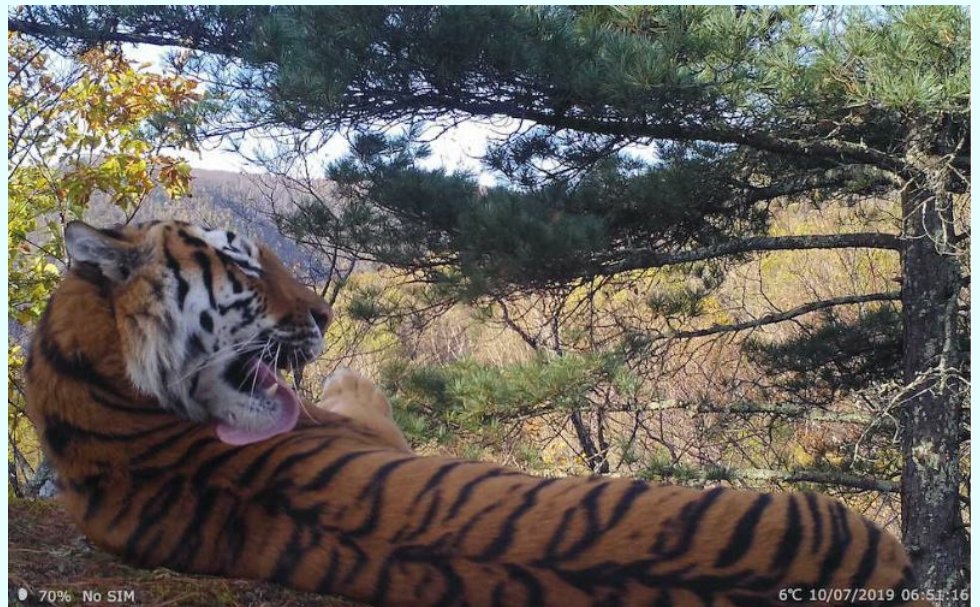


Dispatches From The Wild, Weird World Of Humanity And Its Biosphere

October 6 2021

## Amur Tigers

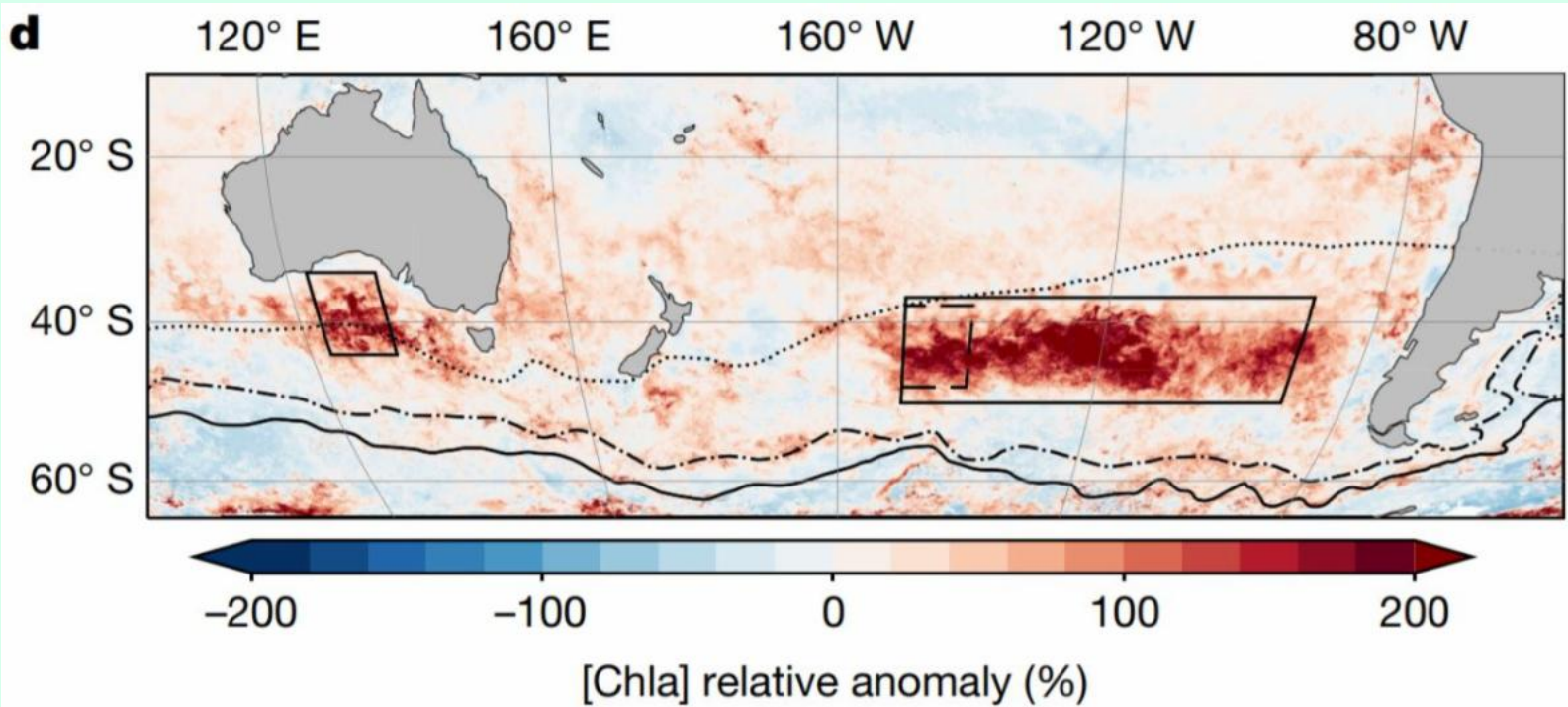
The [Siberian \(aka Amur\)](#) tiger is both the largest and one of the most endangered felines in the world, living their lives prowling through the snowy forests on the Russia-China border. In the 1930s, there were only 20 to 30 left, and as late as the 1990s, there were only about 8 left on the Chinese side of the



border, though by this time there were a few hundred more in Russia. Now, [a new study](#) analyzing the last few years of camera trap footage has now found that there are [55 Amur tigers](#) in northeastern China (one of them is pictured above). The growth is primarily due to forest conservation measures taken by the Chinese government, and the researchers estimate that if further conservation efforts are taken, the region could support about 310 tigers. Good news!



# Australia, Algae, and Amazing Discoveries



The [2019-2020 Australian "Black Summer" megafires](#) were a climate disaster, estimated to have killed or displaced over 3 billion animals, burned millions of hectares of land, and released 715 million metric tonnes of CO<sub>2</sub>-more than Australia's directly human-caused emissions of 537.4 million tonnes in 2018.

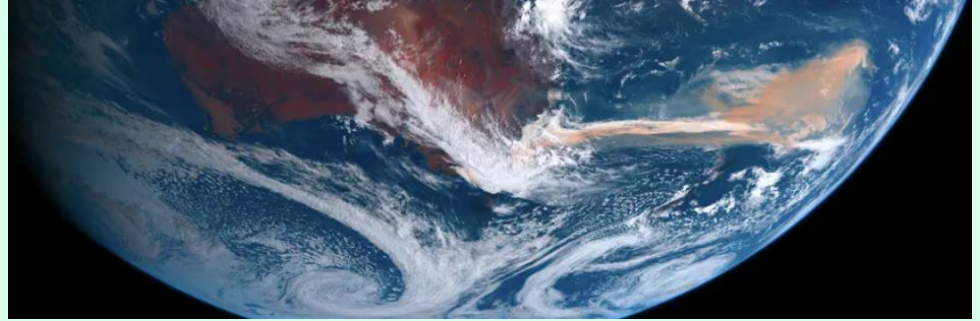
Now, [a new study in Nature](#) has found a fascinating sequel to that tragic story. After reviewing data from Earth observation satellites and the [Argo network](#) of autonomous data-recording ocean buoys, they noticed that there had been two strangely massive phytoplankton blooms, one just south of Australia and one thousands of miles away in the South Pacific, that lasted from December 2019 to March 2020, during the height of the fires.

Pictured in the map at the top of this article is relative anomaly in presence of chlorophyll-a, the molecule plants use for photosynthesis (as detected by infrared-sensing instruments on Earth observation satellites). The two blooms are clearly visible. (Notably, these are not the same as the super-dense local algae blooms that sometimes foul beaches: they're harmless increases in productivity spread out across an immense area of ocean). Making the situation even odder, this was a time of the year when there was normally a small seasonal decline in phytoplankton.

The researchers cross-referenced with satellite records of the movement of black carbon (soot) aerosols from the fire, and



found something extraordinary. The ash from the gigantic wildfires had blown out to sea (pictured, in false-color satellite image) and acted as nutrient-rich fertilizer



the local phytoplankton, resulting in two carbon-sucking mega-blooms that offset quite a lot of the atmospheric damage. The researchers then calculated that for the immense phytoplankton blooms to grow that much, they must have [absorbed 680 million tonnes of carbon dioxide](#)! It's unclear how permanent that carbon drawdown will be (it depends on whether the phytoplankton end up sinking to the seabed or decomposing near the surface) but that's still a fascinating biogeochemical linkage that we didn't previously know about.

Often, climate change creates impacts that make climate change even worse. Sea ice melting makes the Earth warmer because ocean water reflects less light and heat back into space than ice caps. Warmer temperatures cause more wildfires, which burn up forests and release even more CO<sub>2</sub>. However, occasionally we get some unexpected help from Earth's biogeochemical cycles. Great news!

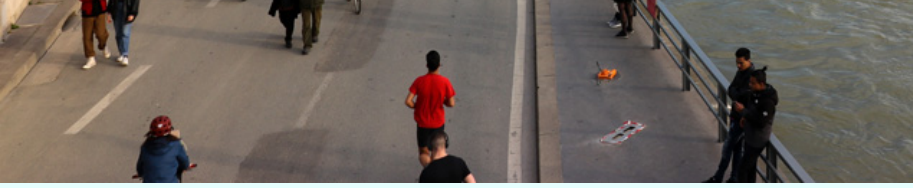


## The European Union



Under visionary mayor Anne Hidalgo, Paris, France is becoming a model for ecological urbanism.

[Pedestrianization](#) (pictured, the Seine waterfront), new bike paths, a strong public transit system, lower speed limits, and car-free zones have [freed the urban center](#) from cars' danger and air pollution, while [thousands of units of public housing](#) have been weatherized and upgraded with new boilers,



insulation, and more, making them better places to live and more energy efficient.

Electric cars are gaining ground [rapidly around the world](#)-and in the EU in particular. In August 2019, electric cars (including both fully battery-powered vehicles and plug-in hybrids) accounted for 3% of new vehicle registrations in [26 European nations](#) (including most of the EU), while in August 2021, the same category of electric cars accounted for [21% of new vehicle registrations in the same 26 European nations](#)-incredibly rapid growth!

[Romania committed to phasing out coal power by 2032](#), and to cut coal capacity by three quarters by 2025. This makes it the 19th European country to commit to phase out coal-and most of them have moved faster than expected after making the commitment!

Enel, the largest utility in **Italy**, announced that it would [accelerate its coal phase-out to 2027](#) while building more renewable energy, battery storage, and electric vehicle charging points!



**The Weekly Anthropocene**

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