



the weekly anthropocene



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

By Sam Matey, February 12 2020

Albatross Cops.

Illegal fishing on the high seas is a major conservation threat, with many vessels conducting illegal, unregulated, and/or unreported (IUU) fishing at will with no effective way for governments to bring them to task for it. Now, a fascinating new project dubbed “Ocean Sentinel” has



enlisted albatrosses as guardians of the law in the world ocean. A joint French-New Zealand team of researchers attached ultra-light data loggers (with a GPS and a miniature radar detector) to the backs of 169 albatrosses (from the wandering albatross and Amsterdam albatross species), sent them back out over parts of the Indian and Southern Oceans (near French waters in the area) and monitored what signals they picked up over six months. (Pictured: one of the 169, a wandering albatross (*Diomedea exulans*) with the logger visible on its back, off the coast of the Kerguelen Islands). Helpfully, albatrosses can fly very long distances and are naturally curious about fishing vessels. In fact, they can spot a fishing vessel and zone in from up to 30 kilometers away! All of this (plus the fact that they don't need recharging!) makes them much more effective scouts than drones.

A recent study reporting on the project summed up the results. Over the six-month period, the 169 albatrosses monitored a full 47 million square kilometers of ocean, an area larger than the lands of the US and Canada combined. They detected radar signals from 353 different boats in the process, and found that about 100 had illegally turned off their automatic identification systems (AIS), a strong indication that they were conducting IUU fishing. While the results are disturbing, we would never have found out without the albatross scouts. This project (set to move forward!) is a truly beautiful thing, almost as if plucked from a children's fable, a real-world team-up between humans and animals to take down a mutual threat. Awesome news! For more, see tinyurl.com/AlbatrossCops tinyurl.com/OceanSentinel.



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Bumblebees. A new study has analyzed the distribution of 66 species of bumblebee across North America and Europe, and found that they are declining across the board, threatened by pesticide use, habitat loss, and too-warm temperatures due to climate change.

(Pictured: a common eastern bumblebee, *Bombus impatiens*, observed by this writer). The likelihood of finding bumblebees in a given location in North America has dropped by 46% since the 1970s. “The local extinction events we found—so, the disappearances of bees from regions—were happening about eight times more than these reestablishment events [bees colonizing new regions]” said Dr. Peter Soroye, lead author of the new study. “So bees are just not able to keep pace with the threat of climate change and everything else.” While this is a disturbing example of species suffering due to the Anthropocene, bumblebees can be helped by actions on a local level, from reducing pesticide use to planting bumblebee-feeding flowers and shady shelters from heat like trees and hedges. For more, see tinyurl.com/BumblebeeDecline.



UK. On February 4th, British Prime Minister Boris Johnson announced that his government would move forward their ban on selling all gas and diesel cars from 2040 to 2035, as part of a 2020 “year of climate action.” This is a great step forward in the necessary planetwide phase-out of the internal combustion engine! Britain is also hosting the COP 26 climate conference in Glasgow in November—a critical stage in the world effort to fight climate change as it’s when countries will decide their updated emissions reduction targets. Politico reports that the Johnson premiership is attempting to become a leader in climate change action and diplomacy as a way for Britain to find a new role in the world after Brexit. Boris Johnson has often been compared to Donald Trump for his populist, crude, and anti-institutionalist political style, but if he follows through on this climate leadership, he will have proved himself an immeasurably superior human being. For more, see tinyurl.com/UKGasCarBan and tinyurl.com/UKClimateDiplomacy.

Australia. At long last, the Australian state of New South Wales is getting some relief from its months-long catastrophic fire season. 20 of 60 fires in the state have been put out by a band of torrential rain, with February 7th being Sydney’s wettest day in over 15 months. The weather Down Under isn’t stabilized yet—with dark irony, the rains have caused some flash flooding, and fires further south near the capital of Canberra are still blazing—but this may be the beginning of the end of one of the nastiest climate change disasters yet. For more, see tinyurl.com/AustraliaRain.



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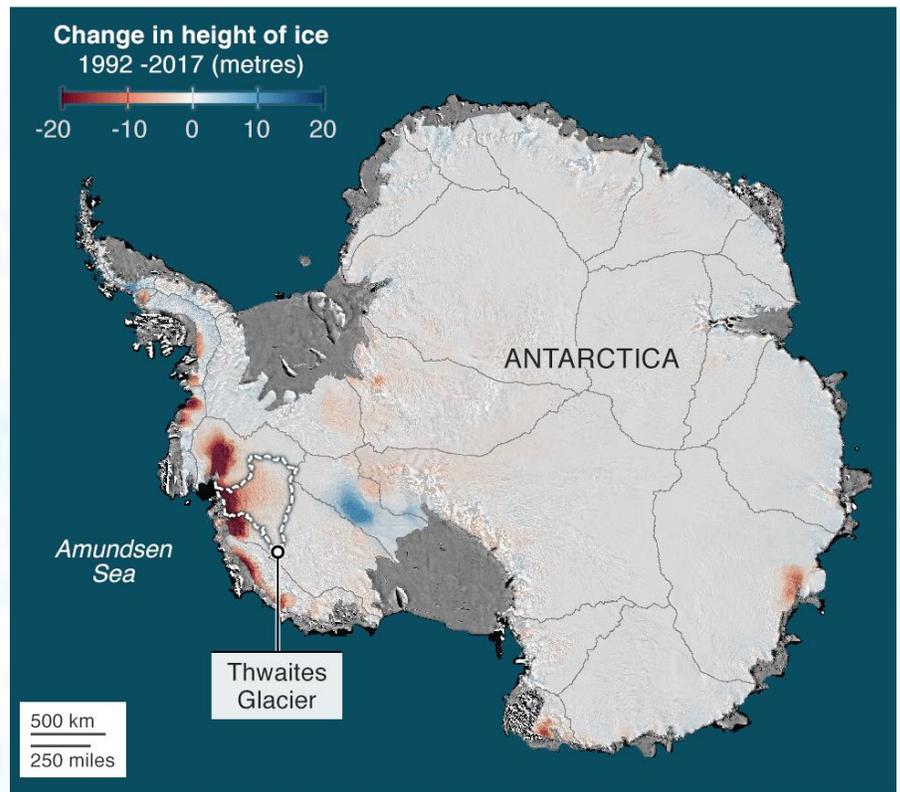
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Antarctica. Earth's southernmost continent is being profoundly altered by climate change, as has been made abundantly clear by two recent events. First, on February 6th, the Argentinian base of Esperanza on the Antarctic Peninsula recorded the warmest temperature in known Antarctic history-18.3 degrees Celsius, or a little over 64 degrees Fahrenheit. That's incredibly warm for Antarctica-and extraordinarily weird. For more, see tinyurl.com/WarmAntarctica.

In another region of Antarctica, a trailblazing scientific expedition has shed new light on Thwaites Glacier (pictured, in map)-one of the most important places in the world, even though very few people know about it. It's a massive glacier about the size of Britain abutting West Antarctica's Amundsen Sea, and its melt currently contributes about 4% to global sea level rise each year. Thwaites contains enough water to raise world sea levels by a foot and a half, and it also acts as the "cork" stabilizing the entire West Antarctic Ice Sheet, which contains enough water to raise world sea levels by 10 feet. In January, an intrepid research team sent a drone dubbed "Icefin" (pictured, lower right) to swim under Thwaites to the "grounding zone," the point where the titanic ice behemoth sits on the seafloor and bleeds water into the ocean. What they found wasn't good. "We can definitely see it melting," said glaciologist Britney Schmidt. "There are a few places where you can see streams of particles coming off the glaciers, textures and particles that tell us it's melting pretty quickly and irregularly." Sobering news-and yet more impetus to get over fossil fuels as fast as we can. For more, see tinyurl.com/ThwaitesMeltingVideo and tinyurl.com/ThwaitesMelting.

Ice sheets in West Antarctica have thinned the most



Source: Tom Slater, CPOM



Icefin, a submersible robot, travels under Thwaites Glacier. (ROB ROBBINS / UNITED STATES ANTARCTIC PROGRAM)