



the weekly anthropocene

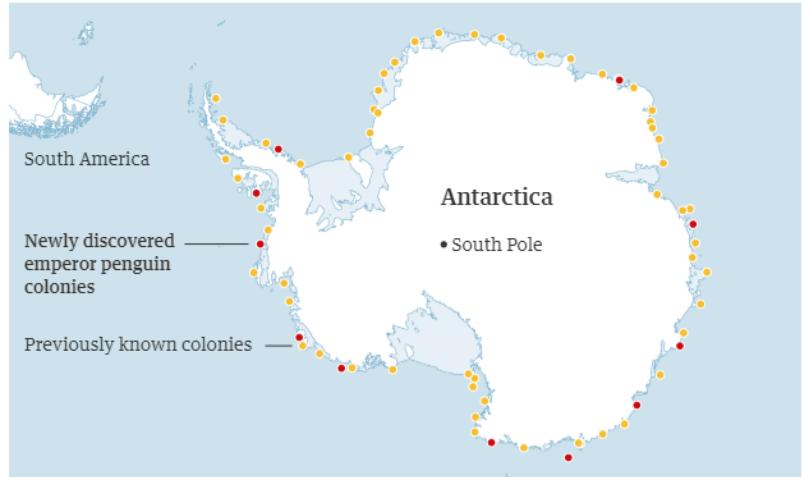
dispatches from the wild, weird world of humanity and its biosphere



By Sam Matey, August 12, 2020

Antarctica. Researchers have used images from the ESA's Sentinel-2 satellite to find 11 new colonies of emperor penguins (*Aptenodytes forsteri*) increasing the number of colonies of the species by 20% and the known population by an estimated 5-10%. Their distinctive guano stains were used to ID the new locations. Notably, some of the new colonies were unusually far from the coast, out on sea ice (pictured). For more, see tinyurl.com/NewPenguinColonies.

Antarctica's emperor penguin colonies



Seaweed. In spectacular news, researchers at the Rensselaer Polytechnic Institute have found that a compound extractable from common seaweed substantially outperforms the previous gold-standard drug at combatting COVID-19. RPI-27 is a sulfated polysaccharide extracted from *Saccharina japonica* type of kelp. It was found to bind to the "spikes" of the SARS-CoV-2 virus (which causes the disease known as COVID-19), thus trapping the virus until it can harmlessly degrade. Overall, it was nearly 10 times as effective as remdesivir, the previous most effective drug against COVID, at blocking infection, and is now moving to animal trials. As it's from a commonly eaten species of seaweed, it's likely to sail through FDA approval. This could be coming soon to a prophylactic nasal spray near you! This is both a great illustration of the natural world's boundless pharmacopeia of potential, and a reminder of why science is a better way of making sense of the universe than any other: It works! For more, see tinyurl.com/SeaweedRPI27.

Coal. Coal plant closures have come thick and fast in 2020 to date, and it's paying off! Research and advocacy group Global Energy Monitor found that in the first six months of 2020, coal plant power generation closures (mostly in Europe and the US) outpaces new coal power being commissioned (mostly in Asia), for the first time on record. Very notably, while China continues to build new coal, India closed more coal power than it opened, and canceled big swaths of proposed future coal development. This is historic, and excellent news! Coal is super-carbon intensive and heavily air polluting, responsible for tens of thousands of deaths per year even without counting its immense contribution to climate change. Its fall is a sign that humanity is maturing as a species! For more, see tinyurl.com/2020CoalStatus.



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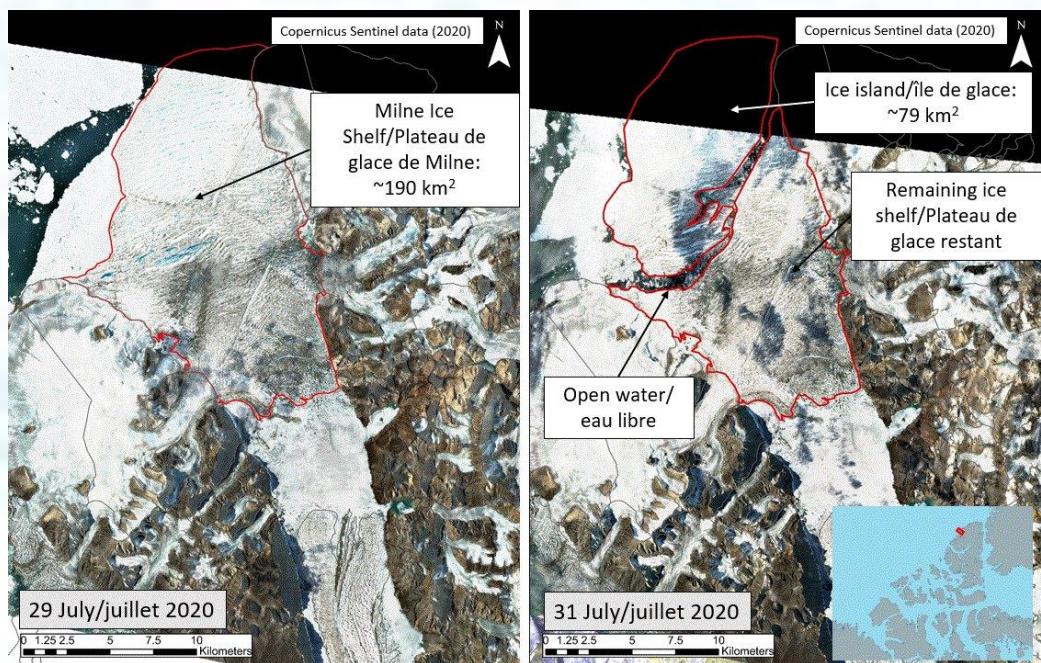


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Madagascar. Genetic analysis has discovered a new species of mouse lemur, the smallest group of primates in the world. It is named *Microcebus jonahi* (pictured) after heroic Malagasy primatologist Jonah Ratsimbazafy. “This is good news during a bad time,” said Dr. Ratsimbazafy. “The pandemic is making things tough.” Like its fellow 100+ lemur species, Jonah’s mouse lemur (pictured) is at risk from ongoing deforestation. For more, see tinyurl.com/NewMouseLemur.



Ellesmere Island. In extremely disturbing news, Milne Ice Shelf, the Canada’s last fully intact ice shelf, suddenly collapsed on July 30th and 31st, 2020. This summer in the Canadian Arctic had been 5 degrees Celsius above the 30-year average, a massive heatwave. 43% of the ice shelf’s mass was lost in two days, with a chunk of ice larger than Manhattan breaking off and floating out to sea (pictured). A research camp was utterly destroyed in the process, though it was fortunately empty of people. The Milne Ice Shelf was on the northwest coast of Ellesmere Island, and was itself one of six fragments of the former Ellesmere Ice Shelf, which has been disintegrating for decades. “We saw them going, like someone with terminal



cancer. It was only a matter of time,” said director Mark Serreze of the US National Snow and Ice Data Center (NSIDC) to the Guardian. This ice shelf, along with its fellows of the past, has fallen victim to the fossil fuel burning, atmosphere-cooking madness that is climate change. Another casualty of the Anthropocene. For more, see tinyurl.com/MilneIceShelf1 and tinyurl.com/MilneIceShelf2.

Canada



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The Rights of Rivers. One fascinating trend in conservation law over the past few years has been the attempts, with varying success, to grant natural features (mostly rivers) a degree of legal rights to be maintained as intact ecosystems. In perhaps the most successful and well-known example, the Whanganui River (pictured), on New Zealand (Aotearoa)'s North Island, was granted legal personhood by the New Zealand Parliament in 2017. Two representatives, one representing the Crown (a symbol of governmental authority in New Zealand, a commonwealth country) and one representing the Whanganui *iwi* (an *iwi* is a Maori social unit, akin to a tribe) now serve as the river's legal guardians, empowered to act on its behalf. Just days later, the Uttarakhand High Court granted similar status to India's mighty Ganges and Yamuna rivers, but was rapidly overruled by India's Supreme Court. The voters of Toledo, Ohio, passed a "Lake Erie Bill of Rights" in 2019, but a US District Judge invalidated it. (It is, after all, a novel legal strategy). The Bioregional Learning Centre of South Devon, UK is currently developing River Charters for communities along the length of the River Dart, codifying the communities' attachment to the river and appointing two River Keepers as advocates for each stretch. If this spreads around the world, this could turn into something fascinating, perhaps someday effectively replacing much of the role of traditional environmental protection organizations. Imagine if rivers, mountains, marshes, forests, or even Earth's atmosphere had legal guardians empowered to bring lawsuits when their ecosystems were being violated! If corporations can have legal personhood due to a US Supreme Court decision, environmental features should certainly be afforded similar protections. For more, see tinyurl.com/Whanganui1, tinyurl.com/Whanganui2, tinyurl.com/RiverPersonhood, and bioregion.org.uk/project/river-dart-charter/.



Galápagos Islands. A massive fishing fleet of 248 vessels (243 of them flagged to China) is lurking just outside Ecuadorean waters around the Galápagos Islands, hoovering up sea life in immense, unsustainable quantities and often violating maritime law. (Pictured: inside a Chinese fishing ship caught in Galápagos waters in 2017) For more on these floating pirate slaughterhouses, see tinyurl.com/SlaughterFleet.

