



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

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Humans & Wildlife



As hunting decreases and urban green spaces are increasingly protected and wildlife-rich, the world has seen rising populations of [leopards in Mumbai](#), [coyotes in Chicago](#), [wolves in Rome](#), [black bears in Asheville, North Carolina](#), and [cougars in Los Angeles](#). Add another example of predator-human coexistence to the list: [caracals in Cape Town](#). In the last decade, the African wildcat (pictured above, a well-known individual named Hermes, [who has twice survived being hit by a car](#), in the mountains on the edge of Cape Town) has grown increasingly comfortable living in the parks and green spaces of the South African coastal city, hunting

guinea fowl and [wei rats](#). The [Urban Caracal Project](#), a local research program, has radio-collared 26 caracals and estimates that there are a total of 60 on the Cape Peninsula at any given time. In an interesting example of proactive landscape management, the city has now erected a predator-proof fence to protect its colony of endangered [African penguins](#) at the famed [Boulders Beach](#) from the caracals; while such predation would be perfectly natural, the penguins are more at risk at the moment and such deserve more human protection. Fascinating news!

In **Paris, France**, a research team is looking closer into the lives of a commonly derided yet surprisingly fascinating bird: the crow. The [Corneilles Paris](#) project has banded and tagged 773 crows in Paris, fitting some of them with GPS trackers, and citizen scientists have reported 17,922 observations of banded individuals. The researchers are hoping to draw attention to the [surprisingly intelligent](#) birds' complex lives, share information on how to coexist peacefully (for example, by putting covers on trash cans and protective nets over gardens) and hopefully stave off calls for extermination.



A startup active in **Portugal** and **Malaysia** [is planning to deploy](#) octagonal reef colonization surfaces and data-livestreaming "Bluboxx" sensor hubs to create and monitor the growth of new artificial coral reefs. [Blue Oasis Technology](#) has big plans: to create a scalable growth platform to support new reefs starting in Portugal and Malaysia in 2022 and hopefully continuing worldwide. If their plan works out and their scaffolding method proves to be a good place for coral larvae to grow, this could be a great new standardized method of ecosystem restoration!



The Glasgow Climate Conference: Finale

COP 26 has concluded! [The final Glasgow Climate Pact](#) refers to the need to transition away from coal for the first time in the history of UN climate talks. Although a last-minute push from India and China [watered down the language](#) so that the final statement reads that we need to "phase down" coal rather than "phase out," it's still a [big deal](#) that the countries of the world have finally acknowledged that coal is the problem. The Paris Agreement process is also continuing, with countries set to present updated climate plans next year and 2022's COP 27 planned for [Sharm-el-Sheikh in Egypt](#).

Furthermore, since last week's announcements on everything from India's emissions reduction targets to steel tariffs to South African decarbonization, discussed at length in last week's newsletter, some new actions have been taken in the last days of COP 26.

A new group, the [Beyond Oil and Gas Alliance](#), set the strongest climate action targets yet, [pledging to end production of oil and gas on their soil](#) (a political red line that very few countries are willing to cross). Members include Denmark, Costa Rica, France, Ireland, Sweden, and the subnational governments of Greenland, Quebec and Wales. New Zealand, California, Portugal, and Italy also indicated support for the group without fully committing to their membership criteria.

The subnational **Scotland** government made a symbolic pledge of 1 million pounds to help [pay for climate "loss and damage"](#) in poorer countries, hopefully setting a precedent.



The US and China [managed an unexpected and encouragingly worded joint statement](#) reiterating their commitment to cooperate on fighting climate change in the 2020s, a good sign that multilateral climate action can continue despite high geopolitical tensions. Critically, this also includes [cooperation on reducing methane emissions](#), which have a big short-term climactic effect. It's [excellent](#) to see that the

world's two largest economies-and emitters, and geopolitical rivals-are still on the same page on climate. ([Pictured](#): US climate envoy [John Kerry](#) with Chinese climate envoy [Xie Zhenhua](#)).

Given the titanic size of the climate issue, any level of progress beyond impossibly rapid global transformation feels-and is-inadequate to some extent. However, a lot of really good things have come out of the Glasgow meeting, and the wheels are still turning to move the world towards decarbonization. As John Kerry [put it](#), "There is some discomfort. Well, if it's a good negotiation, all the parties are uncomfortable. This has been a good negotiation."

For an in-depth analysis of what preexisting policies and new promises from Glasgow mean for emissions and warming, [check out this article from Carbon Brief](#).



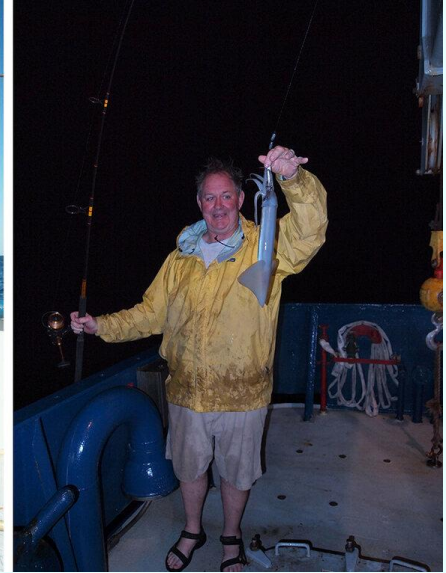
Animals of the Anthropocene: Evolution & Adaptation

In a rapidly changing world, animals are spreading into new habitat opened up by

warming temperatures-and sometimes even altering their physical form, [evolving rapidly](#) to better compete and thrive in new conditions. Rapid evolution in response to human-caused environmental change isn't unheard of (for example, the [peppered moth](#) famously changed color from white to black and back again as air pollution rose and fell in its habitat) but it is a fascinating window into the adaptability and resilience of the biosphere, coupled with a signal of just how profound ecosystem change has become.

Warmth-loving **nine-banded armadillos**, historically a denizen of Latin America and the southwestern US, are now [common in North Carolina](#), found as far north as Virginia, Iowa, and Nebraska, and may expand into Pennsylvania and New York State soon.

[Humboldt squid](#) used to be the titans of the Gulf of California, human-sized 100-pound five-foot cephalopods known as *el diablo rojo*, the red devil, by the fishers that pursued them. Now, after a decade of warmer waters and less food in the seas around Baja California starting in 2009-10, [most Humboldt squid are small enough to pick up in one hand, merely](#)



[the size of a human hand and forearm](#). (See picture: a squid caught in 2008 vs 2010). What gives? Humboldt squid normally reproduce at 18 months old, but now they're reproducing at five to six months-and they're staying small into the bargain. This is pretty astonishing-it's as if all bears suddenly became reproductively mature as cubs and suddenly bears were just the size of raccoons now. At least the species has found a way to survive in the changing ocean!



The **Turks and Caicos Islands**, a British overseas territory in the Caribbean, have been unprecedentedly battered by hurricanes lately. In 2017, the islands were hit by two massive storms, [Hurricane Irma](#) and [Hurricane Maria](#), in less than a month! Prior to this double whammy, a research team

had captured and measured an array of the islands' anole lizards as part of a study. When they returned, they found that the average body shape of the lizards had changed, with longer toe pads and shorter, less wind-catching hind legs. Testing their response to artificial gusts of wind ([pictured](#)) helped work out what had happened: in a [hyper-rapid natural selection event](#), all of the lizards with shorter toe pads had been swept off their perches and killed in hurricane-force winds, leaving

only longer-toed, extra-grippy anoles to breed the next generation! This may be occurring in response to storms on islands all over the Caribbean.

A [landmark new study](#) of birds in the Amazon Rainforest has found an array of changes, likely to help them fight for survival in a time of deforestation, wildfires, heatwaves, and drought. The researchers examined [decades' worth of weighing and measuring data](#) covering 77 non-migratory Amazonian bird species, collected from 1979 to 2019. (Pictured, the study's data collection in action, weighing a [long-billed gnatwren](#)).

All of the 77 species showed lower mean mass since the 1980s, with 36 of those species having **shrunk dramatically**, with a 95% [confidence interval](#). On average, those species had lost as much as 2% of their body weight for each decade since 1980. This may be an adaptation to lower food availability, and/or because smaller bodies are easier to keep cool in warmer weather.

Furthermore, a third of species surveyed had **increased their wing length**, in a rather surprising finding. It's unclear what evolutionary advantage this gives-perhaps something relating to heat dissipation or an aerodynamic benefit?- and underscores just how much we still have to learn about the changes taking place around us. Fascinating news!



The Weekly Anthropocene

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