



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

November 10 2021

The Glasgow Climate Conference



**UN CLIMATE
CHANGE
CONFERENCE
UK 2021**

IN PARTNERSHIP WITH ITALY

As the [COP 26 international climate conference](#) continues in Glasgow, an array of new international agreements and commitments have been declared, ranging from the "probably empty words" to the "actually game-changing." Here are some of the highlights:

India made some [surprisingly strong new climate](#)

[commitments](#), with Prime Minister Narendra Modi announcing that the nation would aim to generate [50% of its electricity from renewables, reach 500 gigawatts of installed renewables capacity, and reduce its carbon emissions by 1 billion tonnes by 2030](#), as well as setting a goal to reach [net-zero emissions by 2070](#). This may not sound all that impressive, given that many other countries and US states are trying to reach net-zero and 100% renewable electricity by 2050 or earlier, but it's actually one of the best pieces of news to come out of COP 26. India is already [working intensively](#) on deploying more renewables and upgrading its grid, and these new commitments should keep pushing that in the right direction. And, of course, India is really big, home to 17% of humanity and coming in just behind the US and China as the third-largest national greenhouse gas emitter, so what it does matters quite a lot. Great news!

A new deal was struck to help **South Africa** transition away from coal, and it could prove to be a model for climate finance and development. South Africa is currently heavily dependent on coal power, and it also has a terrible, often-malfunctioning electric grid, with blackouts a major problem. Now, after long negotiations, the US, France, Germany, UK, and EU have jointly agreed to provide [\\$8.5 billion in grants and other financing over the next three to five years](#) to help South Africa shut down coal plants and deploy renewables, with a special focus on creating new jobs in fields like EV manufacturing in former coal-dependent regions. This is [potentially a great model](#) for international climate justice, with richer, historically bigger polluters helping developing countries leapfrog over the stage of fossil

fuels dependency!

And just before the Glasgow meeting proper, the USA and European Union agreed to **immediately drop tariffs on each other's steel and aluminum**. This may sound incredibly picayune, but it's [potentially one of the most impactful pieces of climate policy this year](#). This incentivizes the EU and US to use each other's steel, which tends to use newer, cleaner processes like electric-arc furnaces, instead of the dirtier stuff from China. That's not a trivial thing: iron and steel production is responsible for 7% of all carbon emissions, and Chinese steel is responsible for 60% of that-4% of humanity's carbon emissions-The EU and US also agreed on a shared methodology to quantify the carbon emissions used to manufacture steel, and to preferentially trade in lower-carbon steel. This "**Green Steel Deal**" could eventually be a huge market boost for the new renewables-powered steel manufacturing that's taking off in [Colorado](#) and [Sweden](#)! Great news.

As previously discussed in this newsletter, over 100 countries have joined the US and EU-led [Global Methane Pledge](#), to reduce methane emissions at least 30% from 2020 levels by 2030. Rising anthropogenic methane emissions, from agriculture, natural gas well leaks, and more, are [a big deal](#), both contributing substantially to global warming and lasting only a relatively short few years in the atmosphere, so their trajectory is quite important.

[Over 100 countries signed a pact to halt and reverse deforestation and forest degradation by 2030](#). (For [some excellent context on the state of Earth's forests, see here](#)). In theory, this is huge great news, especially as there was some [nascent international funding](#) attached- but the world has been here before. A [very similar pledge was made in 2014](#) at a climate summit in New York, and it had [very little real-world impact](#). We'll see how this one goes.

Financial entities worth a collective \$130 trillion, including nearly all major Western banks, joined a new group called the "[Glasgow Financial Alliance for Net Zero](#)," nominally committed to aiding a transition to net-zero emissions by 2050. It's [far from clear how genuine or loophole-filled](#) these commitments are, but it's likely to be a step in the right direction!

For a good summary of these early deals coming out of Glasgow (including some pledges on coal and climate finance that overlap substantially with progress already covered by this newsletter), check out [this article from the World Resources Institute](#).

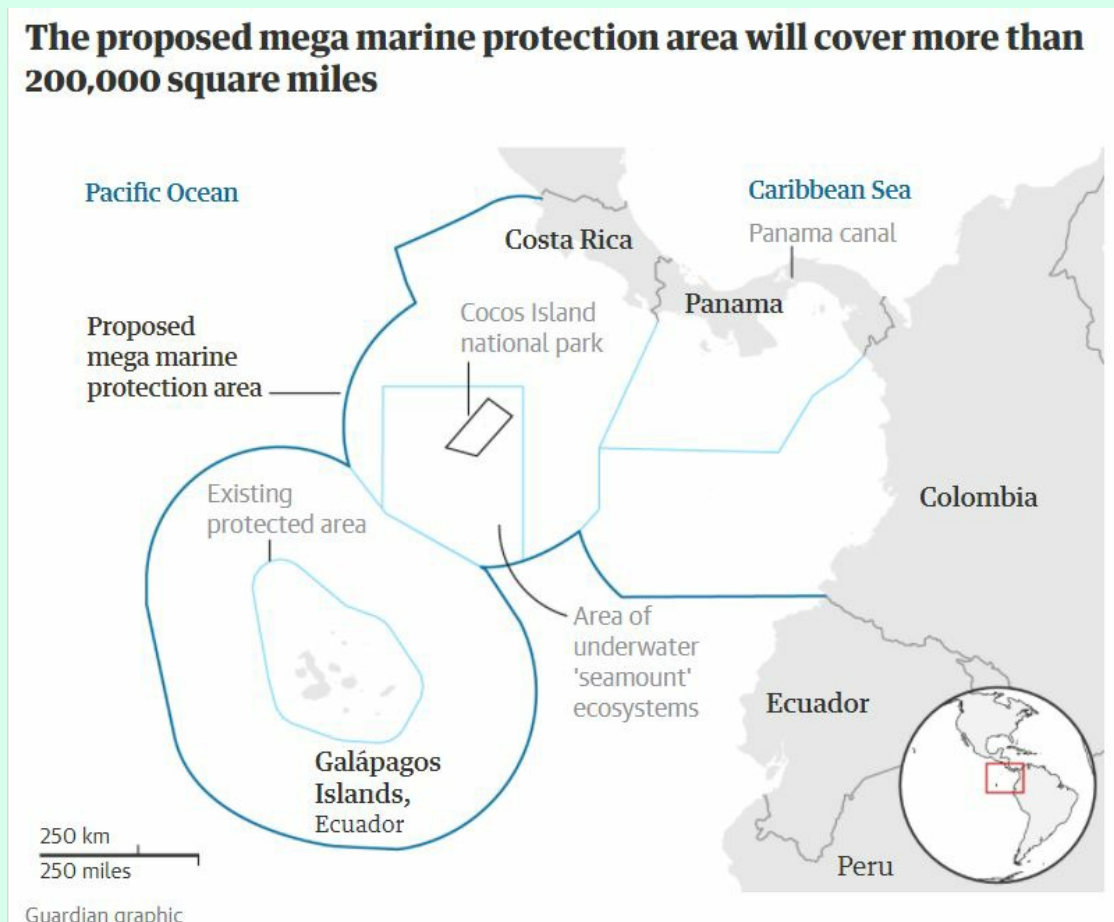
And a final note: it's sometimes difficult to know what tone to take when describing climate action, because so many differing narratives are true to a certain extent. Earth is [warmer than it's been in 125,000 years](#) and accelerating rapidly, with already-beginning and likely rapidly-escalating severe damage to vulnerable ecosystems and human populations as a consequence of that, which makes anything short of a complete civilization-wide mobilization to address the underlying issues feel-and be-woefully inadequate. Yet on the other hand there has been *incredible* progress made on climate change in the last few years. Compare the modern situation, with [cheap renewables advancing around the world](#) and the EU, US, China, and India all making transformative climate pledges to, say, the 2000s, when it looked like the entire world would keep building coal plants for the rest of the century, no major world leaders even talked about climate issues much, and renewables were still expensive novelties. There's new

reasons for hope and fear on the macro-scale, as three new studies demonstrate. [Human-generated carbon emissions have spiked again after COVID, up by 4.9% since 2020.](#) Yet a new calculation has found that the latest round of climate commitments (including the new India ones from COP 26 discussed above) have a [greater than 50% chance of keeping global warming below 2 degrees Celsius](#) if they're followed up on. There are of course untold other variables impacting that, from "governments not keeping their promises" and "unexpected feedback loop effects in the planetary system" on the pessimistic side to "energy technology continuing to advance faster than expected" on the optimistic side-but this is the first time that staying below 2 C has even seemed to be within reach under current commitments.

In sum, this writer feels that despair is at least as much of a threat as denial. When faced with a planetary-level crisis, it's important to celebrate the wins and remember that the outcomes of the climate crisis will be determined by humanity, that our choices will define the future of this planet, and that there are people across governments, industries, science, and ordinary citizens doing their best to make that future bright-and making real short-term positive changes along the way.



Eastern Tropical Pacific Marine Corridor



Also announced at Glasgow was a major new marine conservation initiative that conservationists have been striving for since 2008: the expansion of union of marine protected areas in Costa Rica, Panama, Colombia, and Ecuador to create the **Eastern Tropical Pacific Marine Corridor**. Ecuador first [announced the](#)

[expansion](#) the Galapagos Marine Reserve to protect an additional 60,000 square kilometers, mostly along the wildlife-rich underwater Cocos Ridge mountain range. The next day, Colombia announced the creation of an additional 160,000 square kilometers of marine protected areas, and joined Ecuador, Costa Rica, and Panama in pledging to create a [500,000 square kilometer fishing-free corridor](#) uniting the waters of the four countries (see map above). This will create an [unprecedentedly](#) biodiversity-rich and well-protected swathe of the Pacific. Great news!



The Bipartisan Infrastructure Bill



After lengthy Congressional wrangling, the House of Representatives passed the **Infrastructure Investment and Jobs Act**, previously widely known as "the bipartisan infrastructure framework" or "BIF," with 13 Republicans joining all but six Democrats. (Pictured: Speaker Pelosi signing it). Having passed the Senate

in the summer, the bill now heads to President Biden's desk to be signed into law. A \$1.2 trillion bill with **\$550 billion in new spending**, the Act focuses primarily on physical infrastructure, with upgrades planned for everything from roads to airports to seaports to [working to ensure that all Americans have access to high-speed Internet](#). However, there are [several noteworthy and admirable environmental provisions also included](#).

There's **\$65 billion in upgrades to the power grid**, a key necessity for both supporting new renewable energy projects and staying resilient in an age of increasing climate disasters. There's **\$66 billion for passenger rail**, and **\$39 billion for public transit**. There's \$5 billion to get started on a federally-funded network of electric vehicle charging stations, and another **\$2.5 billion for electric school buses**. There's [\\$6 billion in Department of Energy loans to boost American battery manufacturing](#), which could be *really* helpful. And, with potentially the biggest impact on ordinary Americans' health, **\$55 billion to upgrade water infrastructure**, including [\\$15 billion for replacing high-lead drinking water pipes](#). The bill also has an array of [climate resiliency funding](#), with funds for the Army Corps of Engineers to deal with floods, NOAA to expand coastal mapping, and the Forest Service to study wildlife prevention strategies.

Then there are some more controversial aspects: **\$8.5 billion for carbon capture and sequestration**, **\$8 billion to develop hydrogen fuels**, and **\$4.7 billion to clean up abandoned oil wells**. All of these technologies and practices are great in theory, but in practice have often been used as free funding and/or propaganda sources by fossil fuel companies. The eventual outcome of this funding is TBD-it may help develop useful technologies, but also promote "reputation laundering" of

fossil fuel companies wanting to look like they're doing something while still burning dirty energy. And there's at least one piece of outright anti-climate spending, moving the needle in the wrong direction: **\$18 billion in loan guarantees for a new liquid natural gas project in Alaska**. There's also [concern about potential subsidies](#) for the heavily damaging logging- and wood pellet-burning industries in this or a future reconciliation bill.

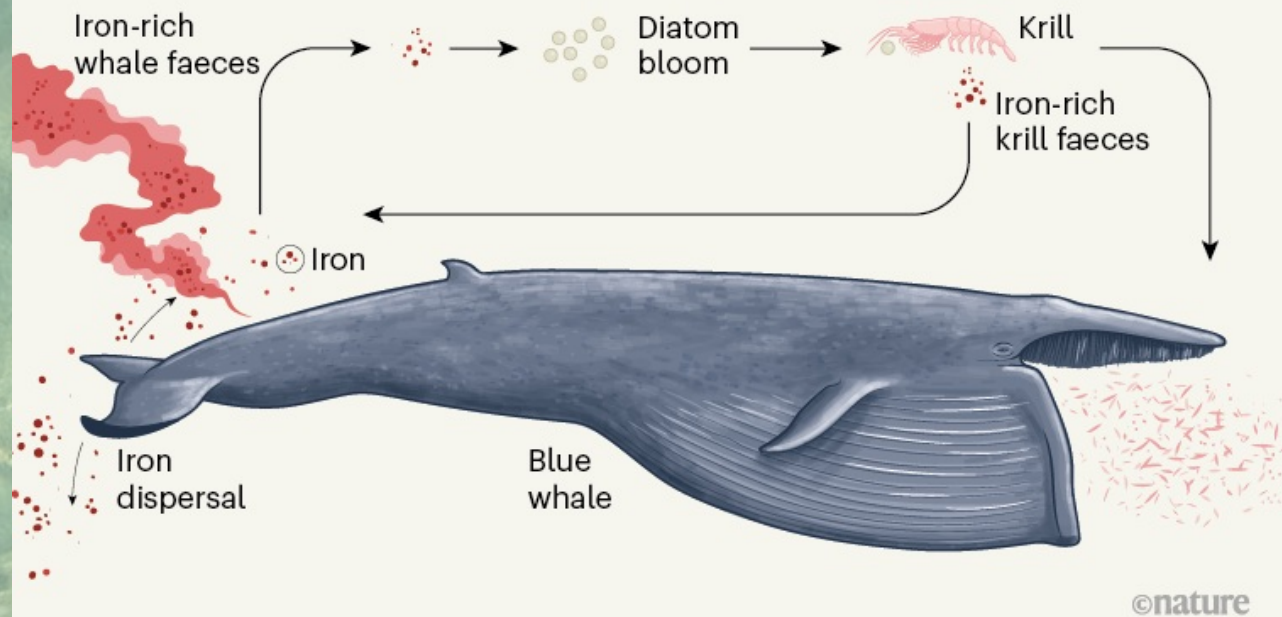
Overall, though, [this is a big deal](#), and the nation is on balance better off for its passing the House!

It's important to note here, for those of you not obsessively following American legislative arcana, that this was one of the two major bills constituting President Biden's domestic agenda. **The second one, widely known as "the Build Back Better Act" or "the reconciliation bill,"** is still very much up in the air at the moment, will likely be passed on party lines if at all, and is where the Democratic Party is trying to pass some more ambitious stuff, [potentially including](#) federal paid leave, Medicare expansion, universal preschool, limiting prescription drug costs, affordable housing programs, child tax credit extensions, and [a lot of really excellent climate action spending to heavily fund further development and adoption of renewables, nuclear power, electric vehicles and carbon capture](#). This is a closer approximation of what we actually need to speed American decarbonization: you may note that the bipartisan infrastructure bill that just passed the House includes a lot of climate stuff "around the edges," from dealing with disasters to upgrading the power grid, but doesn't address the core struggle of transitioning to renewables ASAP. However, it's far from clear when we'll get that bill and how much will make it through the gauntlet of Senate and House "moderates." Part of the reason the bipartisan infrastructure bill took this long was pass was due to complicated inside-baseball "hostage trading" in Congress in an attempt to make sure the BBB Act wouldn't be abandoned. We'll now see how that turns out, though Democratic leaders appear cautiously optimistic, [having signed a deal with on-the-fence representatives to move forward](#).

For the moment, though, the infrastructure bill that just got passed is worth celebrating in its own right, as an [investment in the nation's future](#)



The Whales of Earth



In the twentieth century, the great baleen whales of Earth's ocean teetered on the brink of extinction due to a rapacious whaling industry. (This was [in large part due to the Soviet Union's quota system mandating a pointless mass whale slaughter even while there wasn't much demand for whale products](#)). Since then, many species have recovered magnificently-but new research in the journal *Nature* indicates that baleen whales are much more important to ocean ecosystems than we knew, and that the planet could still really use a lot more whales.

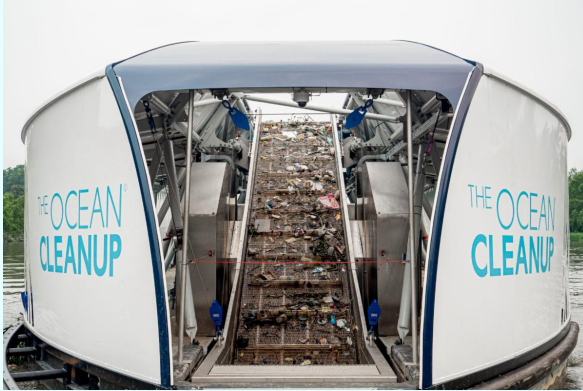
The most fascinating new finding, from which stems lots of new conclusions about how Earth's oceans work, is that **whales eat three times more than previously thought**. You'd think that humanity would know how much whales eat by now, but we only had estimates before this new study. The researchers started in 2010 and affixed motion trackers (via suction cups) to 321 individual whales from 7 different species of baleen whale, recording over 70,000 feeding events. They found that one adult blue whale eats up to 16 metric tons of krill and other food per day-an amount the mass of three African elephants.

Furthermore, this supports an entire marine ecosystem, with the iron plumes from their feces fertilizing phytoplankton that in turn provide food for krill and other whale prey species. (See diagram above). We knew that whales and whale poop had this effect, but when you scale it up by the amount that we now know whales eat, it looks like whale poop is *the* key factor determining the productivity of Earth's oceans. And this matches perfectly with the observed "[krill paradox](#)," where krill numbers in Antarctic waters decreased even though their major predators, whales, had been brought to the brink of extinction.

It now looks as though Earth has been substantially "under-whaled" for the last few decades, and that there's immense room for a more productive, life-rich, and carbon-sucking ocean: preliminary calculations estimate that returning the Southern Ocean to historical whale numbers, with the concomitant phytoplankton boom, [would be the equivalent](#) of adding an entire continent's worth of new forests. Even more exciting, some of the researchers involved [recommend that humanity start open-ocean iron fertilization experiments](#), hopefully kickstarting the diatoms-krill-whale cycle into higher gear again. This is a fascinating research area, of potentially great importance in determining the state of the future oceans of the Anthropocene!



Honeybees, Team Seas, & Michelle Wu



The group of YouTubers and other Internet celebrities that successfully [raised over \\$20 million for the Arbor Day Foundation to plant trees](#) with the #Team Trees initiative have started another environment-focused charitable endeavor. [#TeamSeas](#) is raising money for two highly effective organizations working to combat ocean plastics: [The Ocean Conservancy](#), which is currently working to collect

loose "ghost" fishing gear in the ocean and organize beach cleanups, and [The Ocean Cleanup](#), which has successfully developed and is working to deploy "Interceptor" robots which skim plastic off the surface of highly polluted rivers before they reach the sea (see image). #TeamSeas is trying to raise \$30 million by 2022, and are already past the \$13 million mark!

A colony of [an ecotype of "wild" honeybees](#), long thought to be extinct in Britain, were found to be living in the little-trodden woodlands of the [Blenheim estate](#). They're "smaller, darker, and furrer" than the common domesticated honeybee, have multiple queens per colony, and live in high-off-the-ground tree crevices. They also appear to have evolved resistance to the beehive-destroying varroa mite over the years, despite not receiving any help from humans!

On November 2, **Boston** elected **Michelle Wu** as its next mayor. Ms. Wu ran on a strong climate action and resiliency platform, and her ["Green New Deal for Boston"](#) has plans for everything from expanding free public transport to electrifying school buses to an urban climate corps. Hopefully she can bring these plans to fruition and [become a true "climate mayor"](#) in the vein of transformative leaders like [Paris' Anne Hidalgo](#)!



The Weekly Anthropocene

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