

NewScientist



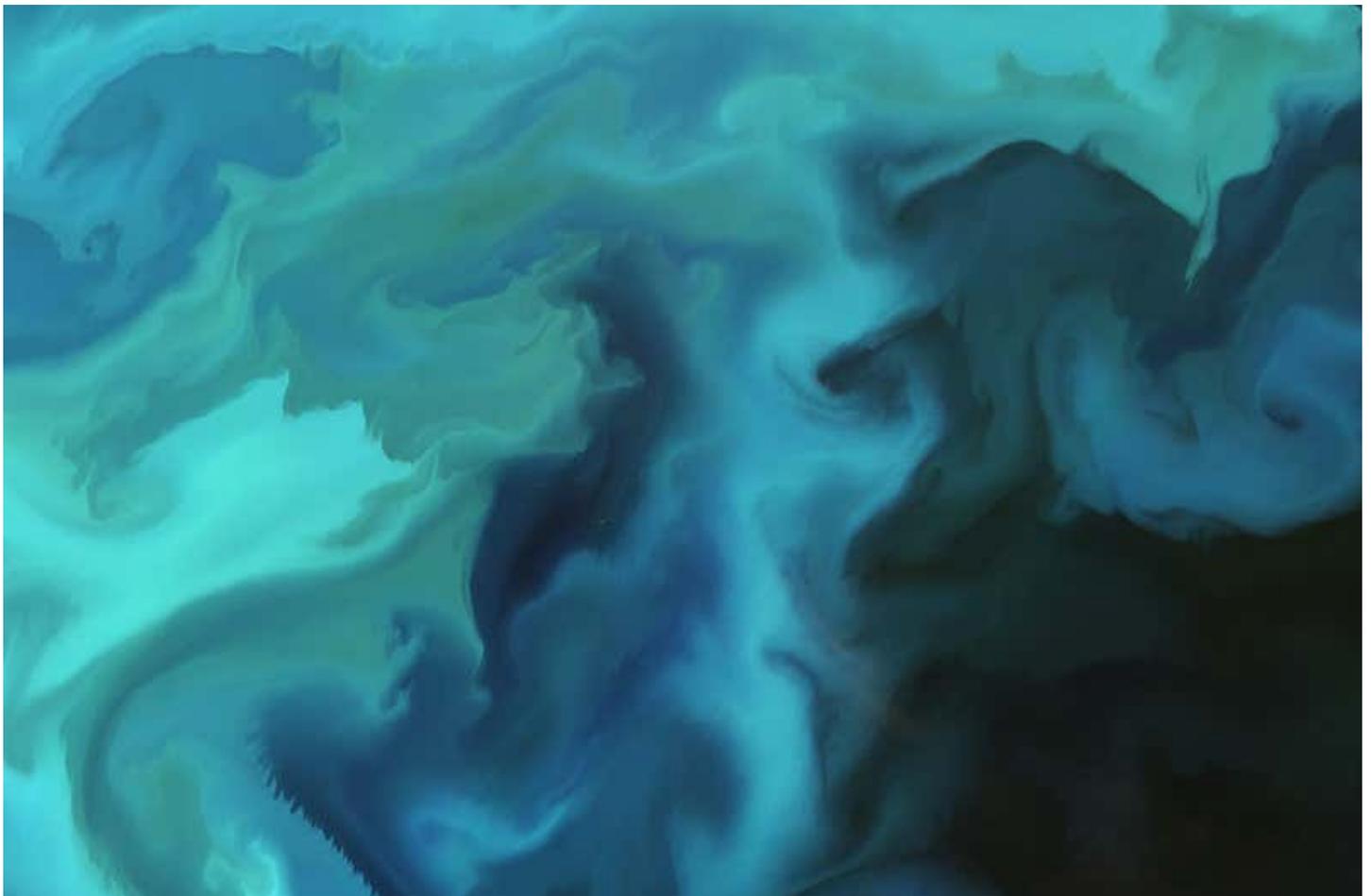
SUBSCRIBE AND SAVE 59%

Geoengineering fears make scrutiny of ocean seeding test vital

Talk of dumping iron into the ocean off Chile to boost plankton is a return of a controversial idea that warrants questions, says **Olive Heffernan**

EARTH | COMMENT 1 June 2017 , updated 23 June 2017

By **Olive Heffernan**



Can science imitate nature?

Copernicus Sentinel data (2016), processed by ESA

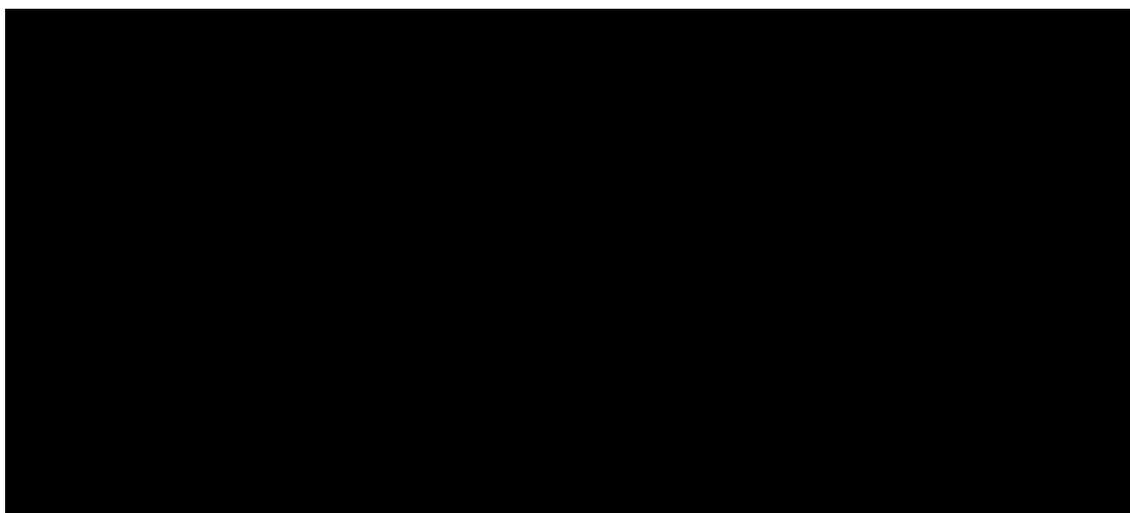
If a Canadian team gets its way, 10 tonnes of iron dust will be dumped into waters off the coast of Chile. The Oceaneos Marine Research Foundation, a non-profit organisation based in Vancouver, aims to use “ocean seeding” to replenish the sea with nutrients essential for the growth of phytoplankton. The idea is to boost the food chain and revive declining fish stocks.

This has obvious appeal. Globally, fisheries are in dire straits, and if exploitation continues at the same rate, we will [run out of seafood by 2048](#). Chile is a case in point – overfishing has decimated nearly all its major commercial fisheries.

But the proposal has sparked concern among some scientists sceptical of the technique’s benefits and worried about other possible implications. The backlash comes – in part – because of the legacy of a [similar scheme in 2012 off the coast of British Columbia, Canada](#). It caused an outcry and there was no evidence of benefits to the sockeye salmon population it was hoping to revive, or to the Haida community that helped fund the project.

Some critics worry that trials of the sort proposed in Chile could set the scene for something far more elaborate and potentially profitable – using ocean seeding to slow climate change, with the know-how largely in private hands.

ADVERTISING



The idea that ocean seeding could cool the climate by removing carbon dioxide from the atmosphere isn’t new. It was first proposed in 1988 by a US biochemist named [John Martin](#) who said: “Give me half a tanker of iron, and I’ll give you an ice age.”

Plankton blooms

Martin's idea was that restoring nutrients to parts of the ocean lacking them would stimulate plankton blooms, which would suck carbon out of the atmosphere as they grew. Once they died, the plankton would sink to the ocean floor, taking the carbon with them and burying it for centuries.

Since 1990, at least 12 open-ocean experiments have collectively shown that – as a concept – this has merit; one [five-week test in the Southern Ocean](#) triggered a large bloom, at least half of which sank below 1000 metres to the seabed. But the fear that we will end up nourishing deadly toxic algal blooms or trigger some other unintended outcome led the UN to ban commercial ocean fertilisation in 2008. International law only permits non-commercial small-scale seeding for research purposes.

The proposed trial off Chile fits this bill, so why the outcry? Oceaneos's Chilean plans are clouded in obscurity, with details of its compounds and methods yet to be spelled out. And in its previous incarnation, the organisation sought to draw down carbon from the atmosphere, a technology it tried to patent.

Given the pace of climate change, it is conceivable that we will have to turn to geoengineering in the future, whether that's seeding oceans with iron or deflecting the sun's rays. While neither option is desirable, in choosing the best course of action, research – like the proposed trial off Chile – will be vital.

It's equally vital that any trials that inform geoengineering – whether intended for this or not – are always conducted for the public good.

Article amended on 23 June 2017

We have corrected the date of John Martin's comments on ocean seeding

More on these topics: [climate change](#) [oceans](#) [fish](#)



TRENDING

LATEST

VIDEO

FREE

- Covid-19 news: Germany, France and Italy suspend AstraZeneca vaccine** **1**
- A Japanese spacecraft bombed an asteroid and it barely flinched** **2**
- Ancient 'computer' may have used bejewelled rings to model the cosmos** **3**
- Colorado's legal cannabis farms emit more carbon than its coal mines** **4**
- Fingerprint ridges carry nerve endings that make us hypersensitive** **5**

Magazine issue 3129 , published 10 June 2017



SUBSCRIBE

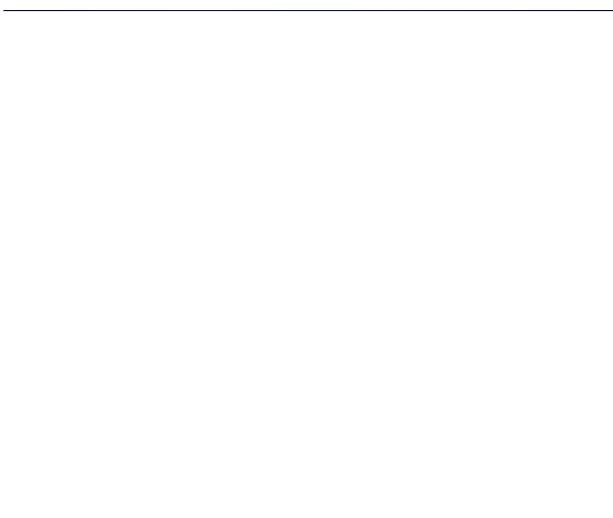
VIEW IN THE APP

Previous article

NASA is right to pay homage to the living for the first time

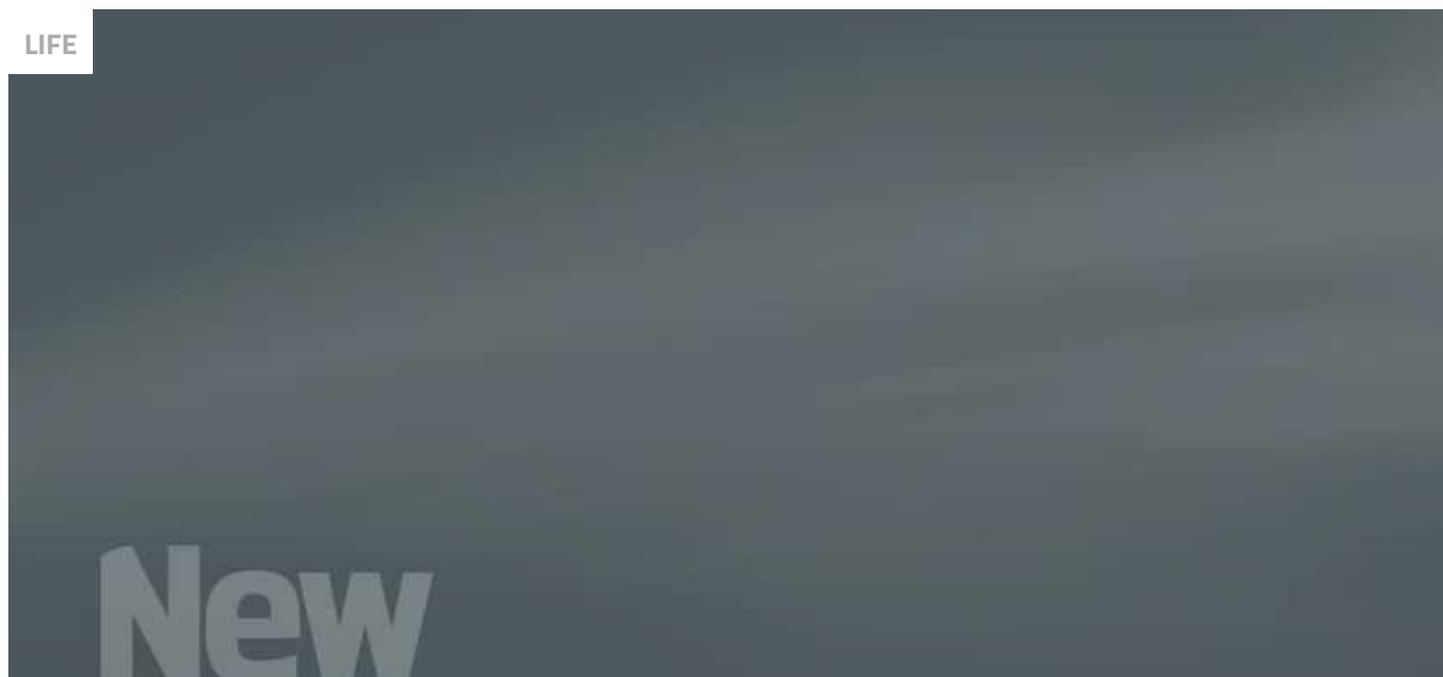
Next article

How to combat the dark Facebook ads aiming to swing UK voters



MORE FROM NEW SCIENTIST

LIFE



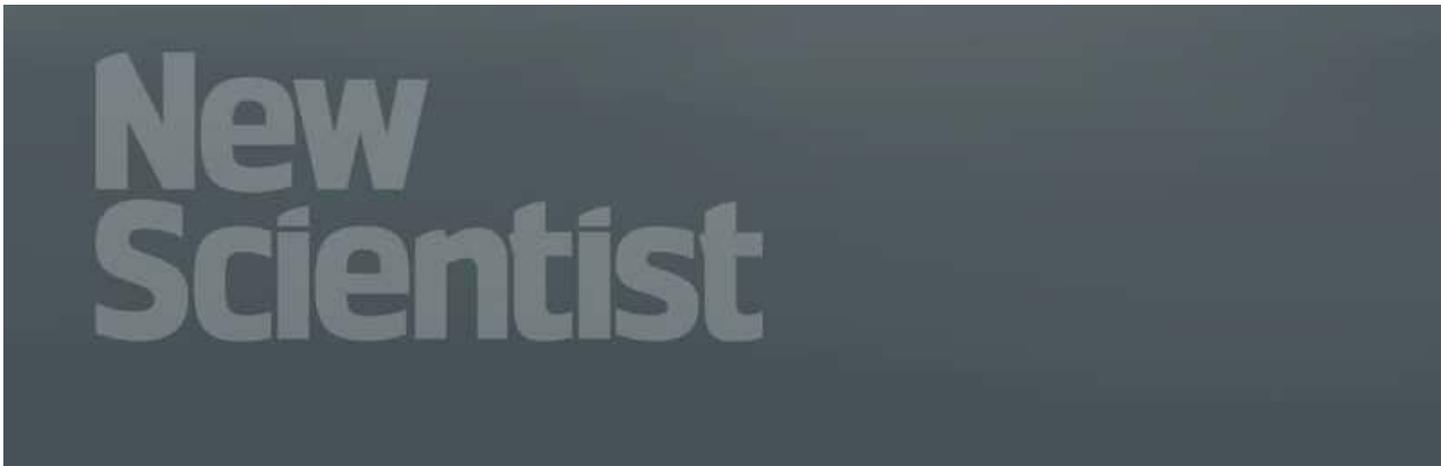


Altered bioelectric genes give zebrafish wings like flying fish



Covid-19 news: Germany, France and Italy suspend AstraZeneca vaccine





One side of Earth's interior is losing heat much faster than the other

LIFE



Electric catfish cannot be shocked and scientists don't know why

PROMOTED STORIES

Is bitcoin headed for the moon? Learn all about bitcoin

eToro

Doctor Reveals: It's Like a Pressure Wash for Your Insides

gut-solution

[Gallery] Teenage Pole Vaulter's Life Is Almost Ruined After Pictures Go

Tips-and-tricks.co

The bra that is here to revolutionize the market.

Cooling BRA PRO™

Recommended by

[Contact us](#) | [Coronavirus: customer update](#) | [Help](#) | [About us](#) | [Privacy & cookies](#) | [Cookie preferences](#) | [Terms & conditions](#)

[Advertise](#) | [Write for us](#) | [Events](#) | [Science jobs](#) | [Syndication](#) | [RSS feeds](#)
[Gift subscriptions](#) | [Student subscriptions](#) | [Educational subscriptions](#) | [Corporate subscriptions](#)

GET THE APP

FOLLOW US



© Copyright New Scientist Ltd.

Back to top