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[Experiment Trying to Create Algae Bloom Goes Ahead Despite Enviro Fears](#)



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A German research ship carrying 20 tons of iron sulfate is currently motoring towards the South Atlantic, and the crew plans to dump its mineral cargo into the [ocean](#) in a controversial science experiment. The researchers will be testing a technique called ocean fertilization, in which iron is dumped into nutrient-poor waters to induce a huge blooms of phytoplankton. After the photosynthesizing plankton grows and absorbs carbon dioxide, researchers hope it will die and sink down to the seafloor still bearing that greenhouse gas in a natural form of carbon sequestration. Ocean iron fertilization is considered one of the more promising options for global-scale geoengineering, which aims to slow or reverse the effects of climate change caused by man's burning of fossil fuels [[Wired News](#)].

But the so-called [LOHAFEX experiment](#) has raised the ire of some environmentalists, who worry about unknown consequences of interfering with the marine ecosystem. [Ocean](#)

fertilisation experiments have been carried out on a few occasions in the past, but became controversial in 2007 when a company called Planktos announced it would dump iron fillings [sic] off the coast of the Galapagos islands. Some environmental organisations ... expressed concerns that this was tantamount to pollution and, by affecting plankton at the bottom of the food chain could have unforeseen consequences [[New Scientist](#)]. The company Planktos went out of business and never conducted its experiment (largely due to the bad publicity), but the incident caused the UN Convention on Biological Diversity to ask countries not to permit ocean fertilization experiments.

While environmentalists from the organization [ETC Group](#) originally argued that the new experiment is illegal because it violates the UN moratorium, it now appears that the experiment won approval from the German ministry of the environment based on an international maritime convention that allows legitimate scientific research on ocean fertilization. Researchers involved in the project say the experiment will answer crucial questions regarding the procedure's effectiveness. [The new study will address, among other things, marine biology, the flow of carbonaceous particles, and biodiversity questions that have barely been analysed during previous experiments, says \[researcher\] Karin Lochte. "These are exactly the kind of data you need to assess whether or not large-scale ocean fertilization is justified," she says \[\[Nature News\]\(#\)\].](#)

Geoengineering experts say the experiment shouldn't provoke fears of a large-scale alteration to the ocean's ecosystems. "Twenty tonnes of iron particles in the vast ocean is very much [a] drop in the bucket and is unlikely to have a lasting effect," says Ken Caldeira of Stanford University. "The rational concern is that experiments will lead down some slippery slope – that small experiments could be scaled up without any regulation" [[New Scientist](#)]. Caldeira does believe that profit-motivated companies should be barred from conducting similar experiments as a first step towards selling carbon "offsets" to balance out emissions. He says this would simply encourage companies to continue emitting greenhouse gases. Ocean fertilisation and other geoengineering schemes, says Caldeira, should be seen as potential short-term solutions that could cool temperatures while humans switch to non-fossil sources of energy [[New Scientist](#)].

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Image: Lawrence Berkeley Laboratory, a previous ocean fertilization experiment

January 12th, 2009 3:12 PM Tags: [ecosystems](#), [geoengineering](#), [global warming](#), [green technology](#), [ocean](#), [ocean fertilization](#) by [Eliza Strickland](#) in [Environment](#), [Technology](#) | 6 comments | [RSS feed](#) | [Trackback >](#)

6 Responses to "Experiment Trying to Create Algae Bloom Goes Ahead Despite Enviro Fears"

1. 1. *roy* Says:
[January 12th, 2009 at 4:37 pm](#)

Experimenters should be allowed to go ahead only after their sponsors have signed a nice little indemnity form, holding them liable for all potential damages, under international conventions on the law of the sea.

2. 2. *Brad Arnold* Says:
[January 13th, 2009 at 2:27 am](#)

The result of algae blooms are predictably because they are occurring on a regular basis off our shores caused by fertilizer runoff. Algae blooms predictably will cause dead zones as the algae sucks all the oxygen out of the water. In other words, fertilizer runoff is the same as seeding the ocean with iron. In order to make removing vast quantities of CO2 from the air with an ocean organism work, you need to find (or design) an organism to use the oxygen in CO2 rather than getting it from the water. I question the intelligence of anyone who thinks they will get different results from an algae bloom created with iron from one created by fertilizer runoff.

3. 3. *Chubbee* Says:
[January 13th, 2009 at 6:03 am](#)

This experiment is being done in deep water allowing the algae to sink to great depth. Fertilizer blooms occurring in shallow water never sink to a depth and pressure great enough to theoretically sequester the carbon. This is not to say that I believe this to be a good idea, just clarifying the difference between the two.

4. 4. *Amber D* Says:
[January 13th, 2009 at 3:11 pm](#)

i dont think this experiment should be illegal, but this is a very good article otherwise.

5. 5. [Chris Peterson](#) Says:
[January 15th, 2009 at 9:44 pm](#)

It's funny how environmentalists scream constantly about how we need to do something about Global Warming. Then when scientists try to do legitimate research on a solution they have to fight the same environmentalists to do it.

6. 6. [russ](#) Says:
[March 11th, 2009 at 6:45 pm](#)

Southern Ocean Whales Bid Fair Winds And Following Seas To The Crew Of PolarStern

So Long And Thanks For All The Fish From The Restored Ocean Pasture

The flagship German research vessel of the European Union and her science crew of 50 scientists from Germany, India, and around the world departed from their Southern Ocean pasture a day or so ago. The ship and her dedicated scientists had prescribed and on January 27th administered 10 tonnes of iron to a several hundred sq. kilometer patch of ocean. The iron was just the tonic the ocean needed and within days a verdant ocean pasture began to bloom. Ocean satellites picked up an image of the bloom on Valentines Day, what better gift for Mother Earth, than her ocean restored and growing nutritious plankton for every form of sea life from tiny krill to the great whales and everything in between fish, penguins, seals, and seabirds.

Which of these blooms is not like the other?

Image source <http://oceancolor.gsfc.nasa.gov/>

The project, years in planning, had run into a brief tempest and delays whipped up by the spin of dark green organizations as it was about to begin. Claims that the work would be in violation of some mysterious laws, were quickly proven to be false. Those spinning the claims were the same dark greens who in many statements have declared that they are against mitigation of climate changing CO2 that involves the production of carbon offset credits. As EU president Vaclav Klaus stated earlier this week, "Environmentalists are less concerned about any crisis posed by global warming than they are eager to command human behavior and restrict economic activity." The EU president has that right even though his skepticism on the topic of global warming, wrought by the obvious casting of the topic as a political fodder by the dark greens, is ill advised. He's hardly alone in his choosing to oppose the idea of climate change when faced with such obvious politicization of the important topic. More intelligent and caring leaders prevailed in Germany reversing a nefarious order by German environment minister that threatened to stop the project as the ship arrived in mid January in the Southern Ocean.

Ocean replenishment and restoration as proven possible by this experiment might remove seven times as much CO2 from the air as the Kyoto Protocol calls for. The oceans pastures have been decimated by high CO2 resulting in billions of tonnes of lost plant life in just a few decades. Replenishing the mineral micro-nutrients, esp. iron, can restore those pastures and turn billions of tonnes of CO2 into ocean life instead of acidifying ocean death.

Here at Planktos Science we are tickled green that the LohaFex ocean replenishment and restoration project has gone so well. The tonnes of iron replenished are now growing what will be millions of tonnes of plankton biomass which in turn will produce hundreds of thousands of tonnes of krill and other zooplankton. The next step on that food chain are the baby calves of the Southern Ocean Great Whales as the new pasture is within their traditional nursery. The food chain formula tells us to expect tens of thousands of tonnes of whales being nourished from this wonderful gesture led by Chief Scientists Victor Smetacek and Wajih Naqvi, our most heartfelt thanks to you both. For more information on ocean replenishment and restoration visit <http://www.planktos-science.com>

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<http://www.planktos-science.com/newsroom>

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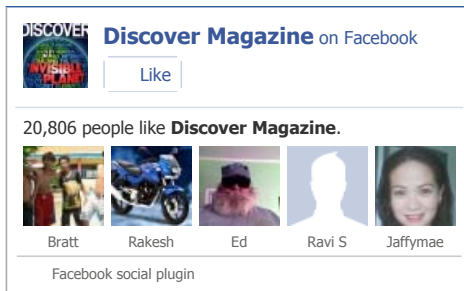
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