

prototypes developed by MIT They're intended to harness strong winds at high altitude





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The climate crisis has been described as a hyperobject—a multifaceted concept that's too vast to grasp effectively. So, artist Michael Najjar has created an ongoing series of works that convey the emotion of living in a potential ecodystopia—and the tech-enabled eco-utopia we could have



stratospheric injection, 2022

Using a long exposure photograph of the March 2021 Fagradalsfjall volcanic eruption in Iceland, this artwork imagines a world that is becoming ever hotter. Here, a volcano seethes and roils, spewing redhot lava and engulfing the landscape in a thick orange haze. However, volcanic eruptions actually play a major role in cooling the planet. Sulfur dioxide from volcanic plumes combine with other types of gas in the atmosphere, reflecting solar radiation back into space and lowering the Earth's temperature.



hat will the Earth look like a few

centuries from now? Will we be living in a post-apocalyptic world ravaged by global warming? Or on a climate-controlled planet governed by technology? *cool earth*, an ongoing series by German artist Michael Najjar, envisions two distinct futures, juxtaposing scenes of environmental devastation against images of cutting-edge climate engineering.

"I'm always interested in how new technologies affect our society," Najjar says. "I've been working on the topic of space exploration for the past 10 years, and after looking up at the universe for such a long time, my perspective changed and I became more interested in looking down at our planet." To this end, the 57-year-old decided to spotlight the concept of geoengineering—large-scale intervention in the Earth's natural systems to mitigate climate change.

In *cool earth*, Najjar explores geoengineering techniques, ranging from artificial rain to solar radiation management. "Many of these technologies are in their early stages, but they need to be massively scaled and multiplied," Najjar argues. "We have to accept that we will never go back to the romantic ideal of a balanced relationship between humans and nature. Instead, we need to redefine how we coexist with the environment."

More than an aesthetic exercise, *cool earth* is, above all, a clarion call for climate action. "People don't react to numbers and facts, they react to emotions. And that's what art is able to [evoke]," he reflects. "We all know that we are heading towards the climate apocalypse, but we are not behaving the way we should. As artists, we have a very strong responsibility to make people think about that—and to get them to act." *michaelnajjar.com*

DELLE CHAN is a London-based writer.



electric rainfall, 2022

Here, a fleet of drones zaps clouds with electrical impulses to stimulate condensation and trigger rainfall. Similar geoengineering technology is already being trialled in the United Arab Emirates, with some success—in July 2021, the desert area in and around Dubai experienced heavy rain after drone inducement.

arctic elegy, 2022

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The Lilliehöökbreen glacier provides a perilous backdrop for a lone human in a dinghy, who risks being crushed by collapsing ice. The dangling shelf is a clear metaphor: we're at an ecological tipping point, particularly where the ice sheets are concerned, and once that fragile equilibrium is gone, there is no going back.



silk leaf, 2022

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Three shimmering green structures, shaped like leaves, stand tall amid a frozen landscape. Built using a biological material derived from silk proteins and plant chloroplasts-the brainchild of British-Italian inventor Julian Melchiorri-these imaginary structures are capable of artificial photosynthesis using only light and water. In the future, this technology could be used in both indoor and outdoor settings on a wide scale, vastly reducing the amount of carbon dioxide in the atmosphere.

eruption II, 2022

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In March 2021, Najjar traveled across Iceland's Geldingadalir Valley to photograph the Fagradalsfjall eruption spending "two weeks in the field with the raw force of nature". The striking X-shaped composition of this artwork draws the gaze to the center of Fagradalsfjall's gushing crater the source of its huge power.





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This artwork pictures a dystopian future in which human civilization has been wiped out by the climate apocalypse. Despite the soft light and seemingly serene setting, the overall mood is vaguely unsettling. Here, a humanoid robot stands alone on a blacksand beach, against a backdrop of craggy rock formations which, on closer inspection, are actually the peaks of a mountain range that has been submerged by rising sea levels, a terrible legacy of global warming



