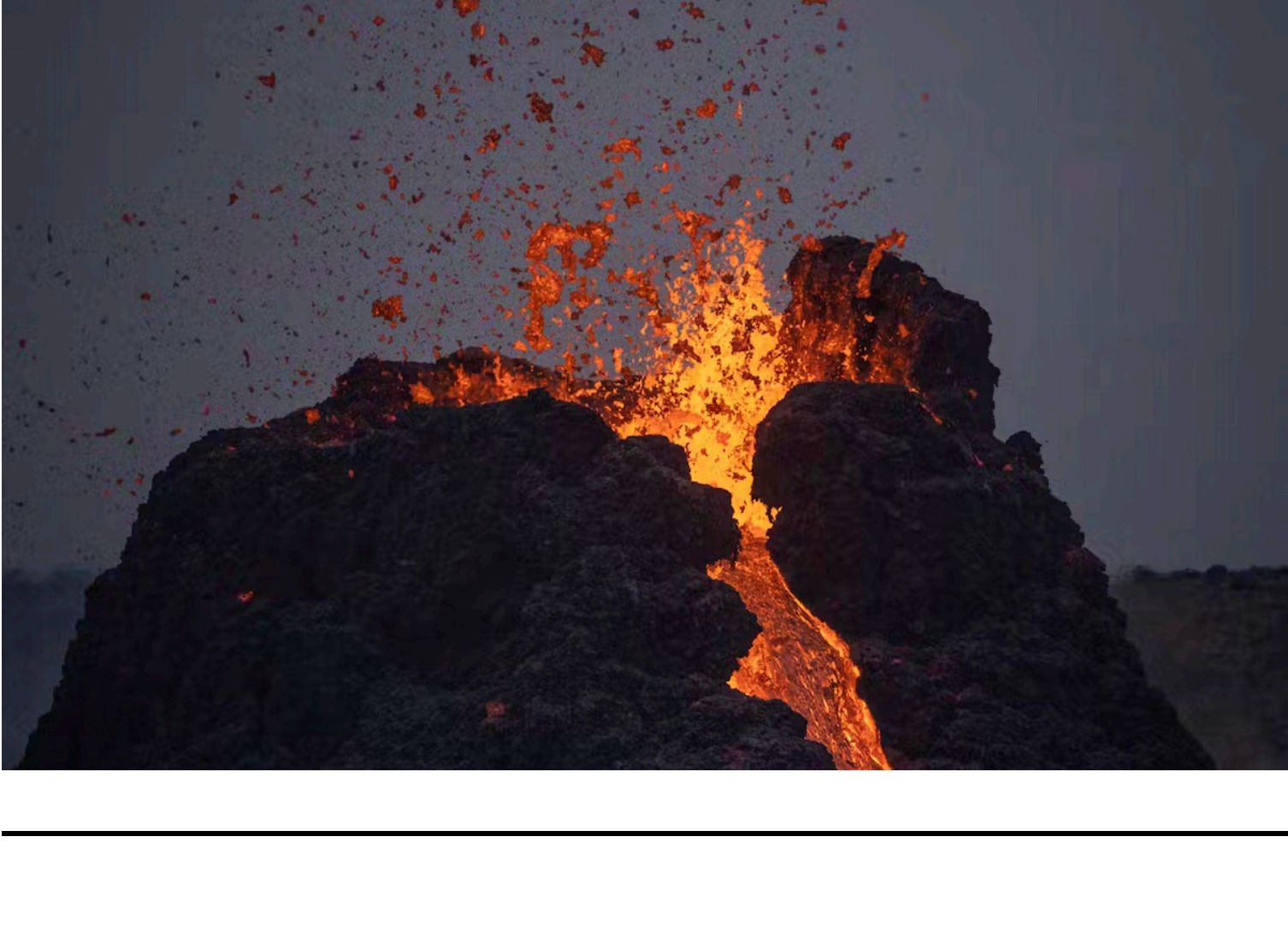




Photo courtesy: Global Family Travels

Greetings Airrows!

Good morning! The people and places we find at the top and bottom of our planet hold a special kind of allure: remote, vast, quiet. While Iceland and Antarctica can be places of quiet contemplation, they're also places that aren't shy about loudly reminding us of the unpredictability of life on Earth. In fact, as I write this, the people of Iceland are preparing for a volcanic eruption signaled by what the Washington Post calls a "barrage of hundreds of earthquakes." Read on for more about a unique learning experience in Iceland, the latest news from Antarctica, and how Swoop, a Tomorrow's Air partner operating there is taking up the climate challenge. Take in the news, too: an update on the first 100% sustainable aviation fuel powered flight, a new direct air capture plant in California and more.



Insider Travel Tip: Learning in Iceland with Global Family Travels



The last time I was in Iceland was for the opening of Climeworks' Orca direct air capture plant, and it was thrilling. Next time I visit this remarkable country I'll take my son along with me, as part of a Global Family Travels experience that promises to keep us "immersed living in science."

I like that Global Family Travels founder Jennifer Spatz has experience creating this kind of trip – for more than a decade she's been intentionally building education components into unique travel itineraries. For her Iceland itinerary, she's made sure to bring along an expert guide to help us understand things like how climate change has affected Iceland's geography, how nature reacts to the retreat of a glacier and volcano eruptions, and how changing ocean temperatures are threatening some of the local wildlife. Alongside the implications of climate change we'll learn about all the different ways we can help.

Speaking recently to a *Travel and Leisure* reporter for a feature article about her special blend of education and adventure, Jennifer remarked, "It's my hope that travelers of all ages who immerse in Iceland's living science during this adventure return home with a deeper understanding of our climate emergency and set some intentions about actions they can take to reduce their carbon footprint and protect our environment." Thanks, Jen!



Photo courtesy: Global Family Travels

Explore

Dispatch from Antarctica



In a recent study published in *Nature Climate Change*, British Antarctic Survey researchers found the collapse of the West Antarctic ice sheet "unavoidable". The ice sheet is home to the Antarctic Peninsula, the most popular landing point for visitors to the continent. In fact, 75 percent of tours dock at the peninsula, and it is also the landing strip for the majority of the continent's airports. Tomorrow's Air partner Swoop has been leading tours to Antarctica for over 15 years. A certified B Corp company with a sustainability strategy that isn't afraid to tackle tough topics, Swoop is an example of a company taking advantage of the opportunity it has to inspire and educate travelers for climate action. A lot has changed in our environmental and political climate since Lars Lindblad led the first-ever tourist expedition to Antarctica in 1966. But conservation tourism is still guided by his belief that "you can't protect what you don't know." Find out more about recent developments in Antarctica along with a list of resources and a look Swoop's approach to sustainability in our blog.

Photo courtesy: [Eugene Morton](#), 2018

Learn

November AirBite: What's in the Air?



We all share the same air. But what is air, exactly? Our atmosphere is a very delicate system made up of gasses: 78 percent nitrogen, 21 percent oxygen, and one percent other stuff (NASA). Gasses like carbon dioxide and other so-called "greenhouse gasses" are included in that one percent of other stuff, and although they make up just a tiny percentage of our atmosphere they play a major role in trapping heat and warming our planet.

Carbon dioxide is the most abundant greenhouse gas in the atmosphere. It is measured in parts per million (ppm) which indicates the number of carbon dioxide molecules per million molecules of dry air. Currently, the concentration of carbon dioxide in our atmosphere stands at around 400 ppm whereas methane, the second most abundant greenhouse gas, is only around 2 ppm (UN News). Since the industrial revolution humans have added 1.5 trillion tonnes of carbon dioxide pollution into the atmosphere (NOAA). Once in the atmosphere carbon dioxide can stay for up to 1,000 years, whereas methane cycles out within 12 years (IEA). Methane cycles out quicker, but it absorbs more energy, and is also a significant contributor to global temperature increase.

The upshot: our air is like a cocktail of gasses and the changes we're making today have implications for generations to come.

Carbon Removal & Sustainable Aviation Fuel In The News



- Carbon Removal Knowledge Gaps**
I want to share this [tool](#) from Frontier Climate that organizes the myriad unknowns in carbon removal technologies. It was developed to help focus researchers on the most important open questions that need attention as we try to expand the use of these technologies. When you click through it, keep in mind that our collective – through our carbon removal orders and our commitment to 'help scale' these technologies—is contributing to the larger community that's helping find the answers.
- Sustainable Aviation Fuel**
Reuters reported that Britain's Civil Aviation Authority recently granted Virgin Atlantic a permit for a transatlantic flight powered only by SAF (sustainable aviation fuel) to showcase how it can be used to decarbonise flying. Virgin Atlantic is planning to fly from London to New York on November 28 using 100 percent SAF. Virgin must also obtain permission from regulators in the United States, Ireland, and Canada for the flight.
- First Commercial Direct Air Capture Plant Opens in the United States**
Heirloom Carbon opened its first plant in Tracy, California, on Thursday, November 9, 2023. The plant will remove up to 1,000 tons of carbon annually - equal to the amount of exhaust from about 200 cars.
- Global Direct Air Capture Conference Highlight**
U.S. Special Envoy for Climate John Kerry spoke to attendees at the first-ever [Direct Air Capture Conference](#). Along with voicing support for the carbon management through technologies we champion at Tomorrow's Air, Kerry itemized the key steps needed to restore our climate: decarbonize energy, end deforestation, and tackle non-CO2 emissions like methane. He said, "Scientists have convinced me that we can't get to net zero without capturing CO2. Removing CO2 from the atmosphere through technologies like direct air capture are crucial. Even in scenarios where we are aggressively mitigating emissions. We can't be content with just one track or two tracks, we have to put every solution on the table."

Learn More

Until Next Time

We know we need to reduce the emissions from our travels, and we know we need to clean up the carbon dioxide already in the air. Thanks for learning about climate-conscious travel, carbon removal, and sustainable aviation fuel with Tomorrow's Air, and encouraging your friends to follow via [Instagram](#), [Facebook](#) and [LinkedIn](#), and considering [investing yourself](#).

I'm always interested to hear what's on your mind, so feel free to reach out, christina@tomorrowssair.com

Onward!

Christina Beckmann



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