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Kite Skiing Across Antarctica to Break 3 World Records, in Stunning Photos

Blythe Copeland
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credit: Sebastian Copeland

Sebastian Copeland is no stranger to cold journeys through Polar terrain: Images he took during a photographic study of Antarctica won him the Photographer of the Year award in 2007, and three years later he released a documentary that followed him on a trek to the North Pole.

His most recent trip, though, was even more extreme than usual: Copeland and traveling partner Eric McNair-Landry spent three months on a transcontinental trek of Antarctica, setting not one, but *three* world records along the way, with help from kites that tapped the wind to make skiing much faster.

Here, Copeland shares photos from that trip for a bracing look at one of the world's most powerful -- and little seen -- climates.

Copeland and McNair-Landry started the Antarctica Legacy Crossing at the Novolazarevskaya Russian base station on November 5, 2011. Less than two months later, on December 27, they checked in at the Pole of Inaccessibility, more than 1,100 miles away.

The Pole is aptly named; as Copeland blogged on the day the pair reached it:

This marks a first in the history of polar exploration: until today, no team had succeeded in reaching the POI without assistance or motorized transportation. The farthest point from any coast, the POI is effectively the heart of Antarctica, and regarded as the most difficult spot to reach in complete autonomy. A bust of Lenin, and a communications tower is all that remains of the Soviet era base which has been buried by drifting snow since it was abandoned almost fifty years ago.

After reaching the Pole of Inaccessibility, Copeland and McNair-Landry set out to claim another record: They became the first travelers to go from that point to the South Pole without help -- and without vehicles.

In his blog post recapping day 55 of the trip, Copeland says that this second leg of the journey is believed to have gone 500 to 1000 years without precipitation and writes,

We are now traveling a stretch of the globe that has never seen a man until now. In spite of the simplistic human urge to plant a little flag on unconquered land, perhaps to claim some type of ownership–or simply to say: “I exist” -- there is something undeniably exciting, almost mystical, about setting prints where none have been before.

In Antarctica especially, it gives the experience the taste of another world.

But it wasn't all smooth sailing: Parts of the trip were made even more difficult by rough, windblown snow drifts, called sastrugi.

These icy bumps made kite skiing physically tough and also more dangerous, writes Copeland, since the sledges were liable to stop abruptly when "hitting sastrugi from the wrong angle at speed generates enough force to tip it, or flip it."

Crossing Antarctica without vehicles also meant that Copeland and McNair-Landry were responsible for hauling their own supplies: 400 pounds each of tents, food, shovels, and other gear.

When they couldn't rely on the kites, the men pulled the weight of the loads themselves -- including while they criss-crossed the ice bridges and crevasses of a 9000-foot hike up a glacier.

The winds that made it possible for the men to travel by kite skiing aren't just your regular breeze: They're katabatic winds, created at the poles when the sun is unable to warm the ground directly. The rays reach the air, instead, and force cold air to sink.

As Copeland writes, "Try and visualize the cloud of cold air that shoots down the opening door of a freezer. These winds gain speed as they shoot downhill, sometimes reaching speeds in excess of a hundred miles an hour."

On days that provided enough wind for kite skiing, the men could travel the same disance in six minutes using wind power t\hat they could with 60 minutes of walking.

Copeland also looked at this trek as a way to draw attention to climate change, pointing out that even though you could never call Antarctica warm, it's still a "formidable player in the implications of climate change both from a geopolitical perspective as well as within its ecosystem."

He writes, "But the poles are like great receptacles of what happens remotely: and warming activities conducted thousands of miles away are impacting these fragile systems. Small fluctuations in temperatures are generally visible fastest colder climates, where ice or snow is susceptible to melt."

The sastrugi may have been one of the most striking parts of the Antarctica landscape, but the continent has plenty going on under the ice, too. Copeland says that during one kite skiing session, he heard a low, loud noise that sounded like a sonic boom.

He and McNair-Landry came up with this explanation: "All we could conclude...is that ice crystals below the surface of the ice form large hollow areas that get covered with blowing snow which freezes over. This creates pockets of air.

"The disturbance of running weight over it, as we speed through, settles the ground which spreads and results in creating that sound. The first time it happened, I thought a jet fighter was flying over head!"

When they weren't traveling, the men took shelter in these tents, where they were protected from temperatures that dropped to -40C (on average) and white-out storms.

Copeland also spent his off-hours blogging the trip, posting daily updates from the furthest parts of the globe using iridium satellite technology. You can read a full recap of the trip at SebastianCopeland.com

Copeland and McNair-Landry reached their final destination -- Hercules Inlet -- two days earlier than they'd expected, and were transported from there to Puntas Arenas, Chile. (On his blog, Copeland writes that McNair-Landry lost 12 pounds and he himself lost 30 -- but that otherwise, they were in good shape.) Next up: A documentary based on the photos, video, and blog records that the men kept.