

Antarctica Total Solar Eclipse Trip Report: [By Jen Winter](#)

Expedition Leaders Vic & Jen Winter

The Secret Society of Antarctic Total Solar Eclipse Chasers

“Why don't we go to the Moon for New Year's and watch the ball drop at Times Square with a telescope ?”

This was about the scale of what was being proposed, but we had to get it done. We would need to organize an expedition to take passengers to a barren and remote section of Antarctica and time it in such a way to watch an event that would last 1 minute and 20 seconds, so close to the horizon that a snowdrift could block the view. It was land of the Midnight eclipse. A total solar eclipse happens about once every 18 months at some spot on the globe. Our company takes people to see them. This time, the path of totality was a cruel reminder that man does not occupy all of earth's square footage. The event was so unusual that there had never before been a human who had ever seen a total solar eclipse in Antarctica. So we began what seemed like an impossible dream and set-out to make it happen.

Our most daunting obstacle was the fact that Antarctica has a huge amount of nothingness where there are no inhabitants or visitors. We aren't talking about “no McDonalds”. In this neighborhood, hundreds of thousands of square miles have never experienced a human footprint. In the winter (our summer) the Sun never rises. In the summer (our winter) the Sun never sets. It just goes around in a wobbly circle. This surreal fact would mean that our eclipse would occur at about midnight. We were also lucky because the eclipse would happen in the late spring, when temperatures should have been about freezing. A friend in Cape Town found a Russian company who recently began flying cargo aircraft to a new ice runway in the eclipse path. We could fly there in just 6 hours. All we had to do was fly to South Africa to catch the flight and have perfect weather in which to fly and see clear sky.

Their point on the map appeared to be in the path, but the sun was so low in the nighttime sky, that we could miss it entirely with an unfortunate position of a small hill. I spent weeks worth of long nights fretting and worrying, calculating with special software, maps and simulations. We have a lot of friends who know how to calculate a lot of astronomical details, but nobody on earth has ever needed to calculate this before. The overall good news was that with a perfectly flat horizon, the distance the sun should be up from the earth was about the width of an outstretched thumb... turned sideways. We acquired a spot on a plateau with a good clear view in just the right spot.

Once we felt secure that the expedition was possible, and the eclipse visible... we proceeded with our plans. This would mean that some 9 months ahead, to pay-out our life savings to fill a very big gas tank. In Antarctica, one doesn't pull your car to a filling station. The fuel must be sent ahead by icebreaker the year before. We needed to send the fuel for our airplane's gas tank. Now we were in business. We had a flight to the ice, a view of the show and now gas to come home.

Fast-forward through the months of agony in negotiations, strained communications with Governing agencies, Scientists, Russians, Indians, Japanese, Swiss, Spaniards, Canadians some English and one very colorful Kansan lady who moved to Botswana. At some point, I forgot to remember that jumping a cargo plane to the Antarctic circle was strange. When we learned that the 30-foot thick ice heaved, dumping $\frac{3}{4}$ of the science station's fuel (including ours) into the ocean where it sank, I wasn't even terrified anymore. I knew we would muddle-through somehow. There was something I had learned from the Russians in my time in their care. While they work very differently than most Americans, if it is at-all possible, then no matter how difficult, they will get the job done.

Come November, Vic and I packed our bags with a strange sense of calm. At this point, the rest of the journey was no longer in our hands. In the wee hours of Monday morning, we quietly donned the travel clothes laid out days before. In the Atlanta airport, our group began to gather. We saw friends we hadn't in

years, noses all pressed against the glass, looking for our flight to Neverland. Something about this expedition felt more sobering than any of those before. We arrived in Cape Town, soon completely assembled as of dozens of enthusiasts from around the world serious and brave (or stupid) enough to risk our necks for 80 seconds of heaven on earth.

Forced to hover in a holding pattern in Cape Town for days in advance of Antarctic take-off, we made our way as-if we were all ignoring the obvious. I called it the elephant in the living room. We kept busy at local sightseeing attractions and chatted over wine as-if in a week-long party, all the while completely pre-occupied by the fear that the dream wouldn't be real in the end. Antarctica. If I say it enough times, does it become normal? It couldn't be both ways. The operations chief twice delayed our departure due to horrific storms that leveled our tents and blew-away equipment. We were a group of only 70 people who could ever hope in our lifetimes be able to say that on vacation, we would travel to 70 degrees south, stand on the ice in the path of humble enlightenment and see this miraculous event. "Remember," I said at dinner, to one of the eclipse virgins, "Saint Benedict saw a total eclipse once. That moment is now painted on fresco's all over Europe as his moment of enlightenment.... and what kind of impact did St. Benedict have after that?" One day brought me to stand at the very tip of Cape Point on the Southern end of South Africa. I stood at the end of this outstretched peninsula and looked hard at the ocean to the South. "That's the end of the world." I thought as I squinted my eyes to imagine how many thousands of miles more that flight would take me. "I'm going there." I felt a little taller that day.

So then the call came. "Be ready in 45 minutes!" Sober reality was over. Giddiness set-in and every article we had packed and set-out was now scattered and missing. I felt like an expectant father taking his wife to the hospital. Clients were scattered like children, all hunting for one last item. The displaced Kansan from Botswana wanted to go in a dress with sandals. One gal came staggering to the bus with shoes untied and coat over her shoulder vowing never to drink again. With a lump in my throat, the bus pulled away from the Hotel. We were going. It would happen. Through the airport, stamping passports and screening bags, the excitement didn't let up. We could hear the future coming like a parade around the corner.

Here, we were introduced to our airplane; a motley loaded cargo craft with a roll-up ladder. It could have been a hot-air balloon for all we cared; it was our ride. Feet tapped in anticipation through the obligatory safety talk. For pity's sake, we all knew how to buckle a seat-belt. Granted, the emergency oxygen procedure would have stumped the most seasoned traveler. The non-conventional crew had rigged a videocamera from a cockpit window to the cabin where they projected the image directly on a view-screen for us. After earplugs and last minute crew scrambling to tie-down a few items, the craft rumbled and shook and heaved us into the air with the drama due our journey. I looked at Vic, squeezed his hand and smiled.

Six hours went by at amazing speed. Before I knew it, the crew had uncorked the champagne to celebrate crossing the Antarctic Circle. "How far before we can't turn back?" asked our friend David Levy. Vic winked and said quietly, "We're beyond it." He returned a quiet "Oh". During our flight, visitors were permitted into the navigation pit where we could look out the huge expanse of glass-windows below. It was an Ilyushin-76 and had a glass-bottomed nose. Once again at landing, the viewscreen was turned on to show us our landing. Like a countdown for lift-off, I remember seeing the airstrip markers click by. Eventually, our plane groaned to a stop and we all looked around at each other like children who fell asleep in the car. "We're in the path!" I shouted. All we had to do was get out of the airplane and we would be within the path of darkness. We would ultimately be a bit greedy, however, and want a better vantage point to look the eclipse directly in the eye.

Someone should make a comedy sketch about what we all look like getting off this plane onto a skating-rink of ice. Vic stopped a few feet off the ladder, bent down and kissed the ice. Most of the rest were happy to just hug each other. Cameras clicked every few feet. One gentleman opened his hometown newspaper to have his picture taken reading the local sports section. We scattered like waddling penguins in little baby steps. A good hour passed before anyone was terribly concerned about our lost tents. Three had blown-down and couldn't be repaired. We could stay in the underground storage hangar. It couldn't blow down.

What you can't prepare for is Antarctica's miles and miles of nothingness. As far as the eye can see, there is crisp, white oblivion on all sides. In a few minutes, the dreamy confusion changed to a staggering frustration. Everyone wore the same color yellow and red parkas. With hoods and snow-goggles on, it became impossible to tell one puffy clone from another. Communication was impossible, as distances between landmarks spanned farther than the brain could associate. After the giddiness of landing wore-off, a second level of frustration set-in. Parkas and gloves, and sunglasses and snow boots all served to make movement more clumsy. Vic's glasses kept fogging over. I kept stubbing the ends of my boots on the ice and getting my hair caught in the velcro on my hood. Our friend Bob described the feeling as: "Ok, I'm alive and I can see." Snowmobiles and bodies came and went swishing by in a flurry of activity and anticipation. Our Russian hosts soon started flagging people to come for scenic flights in the little twin propeller planes. Bulldozers moved luggage with pull-behind sleds. All the bags looked alike too. We only had a few hours before the eclipse would begin, so we struggled to find our equipment and belongings in the blur of strangeness and activity. We unpacked and re-packed tripods from sleeping bags as red and blue airplanes now buzzed over the camp's tents at unerringly low altitude. Everyone was now on their own, making their preparations alone. Like frantic ants, we scurried to be ready for our ride to the viewing location.

We were scheduled to begin moving the group at 8pm. With a bit of confusion over how we would move 75 people overland with bulldozers and a couple of 10-passenger airplanes, the trek began. The Indian science team had a bulldozer with a passenger cab, and no blade; a passenger bulldozer, I guess. They hooked it up to a small square building and began to drag it on sleds. 10 of us climbed 7 feet up into the dozer cab while another 20 boarded the box on skis. It grumbled forward without complaint over the uneven bumps of drifted snowpack. Our passenger bulldozer was well-equipped with windows and carpeting. It had heat too, but we didn't need it bundled up and packed-in like eager, puffy bumble-bees. We sighed a relief to know that another step in the plan was soon to be completed. We were running out of problems to prevent our solar eclipse bliss.

The detail which nobody had yet appreciated was the sky. Without perfectly clear skies to the horizon, the entire expedition would be a sad disappointment. This sky was a once-a-year clear day. Vivid blue overhead faded like a mirage into soft shades of nothingness at the horizon. When we exited our cozy bulldozer, we noticed the sight to the north included a view for hundreds of miles of clean, clear nothingness. They say that on a clear day, you can see forever. We could pretty-much see forever from this spot.

There was only one small problem. That wasn't the direction we needed to look. In the other direction were small hills and a snowbank just to the left of the setting sun. Perhaps setting sun isn't the right term, as it was more like a rolling sun. A small bump on a hill we hadn't expected could ruin everything! Now, as a group 10 of us worried, and paced and calculated. We had dueling GPS's and compared compass readings for a few minutes before we realized that the sun would be mostly visible, but a tiny part still below the horizon. Remember, we had already left the known world and had long since landed on a foreign planet. Watching the sun move from right to left, dip below the horizon and pop back up wasn't so crazy anymore. With the disk at it's lowest, we scrambled to walk away from the hills. Somebody claimed that if you want to make an object appear smaller, move away from it. "Prove it!" I said, knowing we only had 45 minutes until the main event. He pointed to the North, where our long shadows were stretched a half-mile. "Look! The Sun hits the ground up there, but it doesn't here." This was convincing enough, so our parade began. We were running out of time, running out of sun, and it felt like we weren't moving anywhere with landmarks that wouldn't change.

Someone dropped his bags and said, "Here's good enough!" and nobody argued with him. The moon had begun moving partly in front of the Sun and temperatures had begun to drop. Setting up, our tripod legs were so cold, they burned my exposed fingers when I tightened them. Vic and I had 4 cameras we hoped to use. Lens caps fell away as more pesky bi-planes buzzed us, landing to deliver more people to the site. The cries piped-out from everyone around, "My camcorder is dead!" "My camera won't turn on!" The cold was now quite bitter and playing havoc on equipment. Vic was now on auto-pilot as his news photographer instincts kicked-in. He stomped around a little like a robot in big snow boots plugging things in and setting things up. "We did it!" cried David Levy. He was to my immediate left and came running to

hug me. I put film in one camera to find its winder had fallen off. Moving to my second camera, the film back popped open in my hand, exposing film. Hopefully nobody's videotape will reveal the colorful words I uttered about then. We had brought some hand tools to fix equipment problems and I started to rifle through the bag to find them. "How long 'till totality?" I asked someone. My watch was too cold to read the LED display. "Seven minutes!" shouted Vic. I dropped the tools and hollered the all-American battle-cry "Duct-tape!" We strapped it up and clicked a few frames through. My second camera now wouldn't do anything. It wouldn't fire. It wouldn't advance. It was gone.

"Look!" shouted David, pointing to the ground in front of us. "Shadow Bands!" for those who have never seen them, shadow bands are an effect of sunlight when it is reduced so much that it is affected by the atmosphere like light on the bottom of a swimming pool. Many people think shadow bands are just a hoax like green flash. Most eclipse chasers have "sort-of" seen shadow bands a little bit. That was the extent of my experience thus far. "Look at the white" David said, pointing to the bumpy parts of the snow catching the Sun. I hopelessly glanced at them not expecting to see anything. All I could see was what looked like smoke or snow washing over in a wave. Then it occurred to me that it moved with too regular of a pattern to be smoke. "Wow!" Now that I knew what I was looking at, I could see them everywhere. The sky was glimmering with the effect and the sun itself was flickering like looking into a movie projector in a theater.

"Here comes the shadow!" said Vic, pointing to the eastern sky. It was swooping down like a huge bird overhead. Dark and monstrosous, it curved its wing down over the sun, touching it just as the moon finished moving over the disk. "Diamond Ring!", we all shouted as the last shard of light pierced through the valleys on the moon. On came sudden darkness as the image erupted into burning flames of orange, red and green around the Sun. It's corona, which can only be seen during a total eclipse, shone like golden wings of an angel out in all directions. Shooting up from the edge in 1:00 position, was the spire of a green streamer, lofting solar energy off into space. I clicked a camera, but had no idea what buttons I was pushing, much less which knobs were being turned. Everyone was incoherently scrambling and crying and shouting all at the same time. "It's green!" "Look at all that color!" "It's beautiful!" "My camera won't work!" I don't know why, when we are all standing there after traveling such an amazing journey to see the eclipse, we are compelled to suggest a notion we figure didn't dawn on anyone else, saying "Look at that." but we are. The horizon under the left of the shadow was emerald green. The horizon everywhere else was cotton-candy blues and pinks.

The eclipsed sun sat perfectly there, on the end of the earth to where we had traveled ourselves to see it. It boiled in sunset golden yellow, orange and red like molten lava. Two spots of ruby-red prominences lumped out from behind the moon, revealing the sun's chromosphere in live and unaffected color. I scanned around and spotted the white dot of the planet Venus in the dark sky. Then, as the moon rolled just a tiny bit more, a glimmer of light came creeping from its edge. Pinched between the moon and earth, it came first as a hint of red, then exploded into rainbow colors back to white. My heart was pounding with the thrill of a lifetime. "Wahoo!" I was now sobbing with happiness, crying and screaming in joy. Shouts and cheers from a crowd which I hadn't noticed before erupted, accompanied by fireworks. After only 80 seconds of heaven, it was over. The shadow bands returned, but we didn't care. We all ran around and hugged everything and everyone in sight.

My brain kept reeling, "We pulled it off!" in disbelief. All that planning, all that effort, and the huge gamble that everything would work out did. Slowly, we began to look around at the wreckage. Dead cameras and broken photo dreams littered the landscape. With chemical toe-warmers in our gloves, we shivered our equipment back into our bags. We carefully returned every trace of our presence back into our bags for our return. "Negative 22 degrees Celsius." announced Bob. The wind was howling and the cold had become fierce. Suddenly, my parka was ringing. I had completely forgotten the satellite phone in my pocket. David Levy needed to give a telephone interview to Discovery Channel Canada. I answered it and handed it over to David. The next few minutes blurred in chattered teeth and a cold trudge back to our bulldozer. With a murmur of exiting moviegoers, our team piled back into our cozy people mover for our ride home. "We did it. We did it. We did it." was all we could think about in numb shock. "... and it was beautiful!" About then Fred chimed-in, "Hey! There's a person in my eclipse picture." He passed his digital camera around for everyone to see his coveted prize. Between our group and the eclipse was a line of more people. One of these people landed smack-dab on the horizon between Fred and the eclipse.

“Cool!” said Bob.

“You can say that again.” said Vic.

We didn't spend much more time in Antarctica. One guest played the violin and another guy taught people to fence in the world's first fencing championship held in Antarctica. We also never did completely warm back up after the chill of the night before. We all took scenic flights and saw unbelievable sights of marvelous amazement we could never hope to describe in words. Too soon, however, our base commander came to us to say we would need to leave early. A new storm was coming which could trap us there for days. After hearing the harrowing stories from the blizzard the week before, we were mostly eager to go.

Now the elephant occupying our living room was the fact that it was over, and we would have to leave all of our good friends to go home. Their friendship warmed the experience much more than the Antarctic chill could ever undo. Before we left, we formed our own little society of very special humans. The first people to witness a total solar eclipse from Antarctica; The Secret Society of Antarctic Total Solar Eclipse Chasers.

- Jen Winter