

Daring Antarctic rescue mission sets off for South Pole

The US government plans to evacuate a sick crew member from an isolated research station.

Alexandra Witze

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Keith Vanderlinde, National Science Foundation.

The Amundsen-Scott South Pole Station in Antarctica is in the midst of the long, dark polar winter.

UPDATE: The Twin Otter rescue flight successfully made it to the South Pole on 21 June and returned to Rothera the following day, the National Science Foundation reports.

A Twin Otter aeroplane has left [Rothera station](#) near the Antarctic Peninsula, embarking on a daring mid-winter mission to rescue a sick crew member at the South Pole.

Only twice before — in 2001 and 2003 — has the US National Science Foundation (NSF) deemed a medical condition at its [Amundsen–Scott South Pole Station](#) serious enough to risk an evacuation. The journey involves flying one small, ski-equipped plane more than 2,400 kilometres into the icy polar night, landing in the pitch dark, picking up the sick person, refuelling, and attempting to lift off without freezing to the runway. Meanwhile, a second Twin Otter plane remains at Rothera in case the first itself needs rescuing.

“We are very, very concerned and will be until this is over,” says Kelly Falkner, director of the NSF’s polar programmes. “But I’m glad I’ve spent a lot of time in Twin Otters with some of the best pilots in the world.”

The NSF is not releasing the name or medical condition of the person who requires evacuation. There are 48 people overwintering at the South Pole: 39 men and 9 women. Whatever the person does, those tasks will be split between the remaining crew members, Falkner says.

There is a possibility that a second person will be flown out at the same time. That person has a different medical condition that was being managed at the station and would normally have continued to be treated there, Falkner says. But given that the first person will be evacuated, the second might leave at the same time.

Extreme effort

The Twin Otters are owned and operated by [Kenn Borek Air](#), an aviation company based in Calgary, Canada, with broad experience in both the Arctic and Antarctic. Almost certainly, the pilot flying from Rothera, a British Antarctic Survey outpost, to the South Pole will

have landed at the pole before — though in more temperate weather conditions.

Temperatures in mid-winter average about $-60\text{ }^{\circ}\text{C}$ at the pole. The Twin Otters are rated to fly in conditions as low as $-75\text{ }^{\circ}\text{C}$. They work at lower temperatures than the military LC-130 cargo planes that are the workhorse for supplying the pole in the summer months.

Depending on headwinds, the flight from Rothera to the pole should take around 10 hours. After returning to Rothera, the patient will probably be transported to Punta Arenas in Chile, and onward to a hospital yet to be disclosed.

Winter staff at the station maintain various areas of research, including [the IceCube neutrino observatory](#) and an experiment to [probe the cosmic microwave background glow](#) left over from the very early Universe. Astronomy takes precedence during the long polar night, which stretches from March to September.

Pushing the limits

Landing in mid-winter at the pole was long thought to be impossible. In 1999, when physician Jerri Nielsen developed breast cancer during the winter, the NSF airdropped equipment and drugs so that she could track and treat the disease, but she was not evacuated. “You're far, far away from hope down there,” says Dar Gibson, an engineer who worked that season with Nielsen.

In 2001, Ron Shemenski, another physician overwintering at the station, came down with gallstones and pancreatitis. The NSF decided his condition was severe enough to warrant bringing him out. “I didn't want to look back on that year and think there might have been something we could have done to save his life,” says [Jerry Macala](#), who was the station manager for the winter and participated in discussions about whether to evacuate Shemenski. Eventually, a Twin Otter flown by Kenn Borek pilots touched down on a runway outlined by flaming barrels.

“It was very cold, more than 90 below,” says Nathan Tift, who served as one of two meteorologists that winter. The evacuation was “so strange”, he says, “just because it had never happened before”. Crew members filed out and took a photograph of themselves with the visiting Twin Otter. But then, when the plane tried to take off, they realized that its skis had frozen to the runway from the friction of landing.

Workers had to rock the plane from side to side to liberate it, so that it could eventually take off. “For the second time that winter, we waved goodbye to the last plane of the season,” says Stephen Hudson, who was at the pole as a University of Washington graduate student in atmospheric science.

Long polar night

In 2003, another overwintering crew member developed gall-bladder problems and was evacuated. But most of the time, 'polies' expect that they will see no one until the end of the winter.

In 2001, Tift developed epileptic seizures after his colleague was evacuated, and was successfully treated with medication, remaining at the pole until the first flights out resumed in the spring. In 2002, Gibson underwent knee surgery at the pole, the first time the physician on-site had performed telemedicine with the help of doctors via a satellite link. Other polies helped in the makeshift operating theatre.

“One day you're having lunch with these guys,” Gibson says, “and days later you're lying on a table and these people are going to do surgery on you.” In 2011, the station manager had a stroke and, despite a campaign from her family to have her evacuated, she was kept at the station through the winter.

This year, the last flight left the pole in mid-February. Polies hadn't expected the next one until November.

Macala says he would pass along to the current station manager the advice he was given by an old Antarctic hand: “You're going to hear a lot of things from a lot of people, but ultimately you have to make the calls down there.”

That, and make sure to keep the plane's skis clear.

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Updates

Updated: This story has been updated with additional interviews.