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than 90%. He says that the mouse genome is far more complex than he had thought. "This has been an unfolding story," he says. "We saw patterns that were so confusing." What has emerged is only a partial sketch, he says. Sequencing the entire genomes of more laboratory and wild strains will paint a fuller picture and settle the differences between the two maps. "It's going to be resolved," Churchill says.

Although the teams present two evolutionary histories for the lab mouse, "the similarities are more important than the differences," Mott says. And the ability to deduce polymorphisms in other strains doesn't depend on an unambiguous history.

Researchers will be eager to make use of the data, say both teams. Mark Daly at the Broad Institute in Cambridge, Massachusetts, and a co-author with Frazer, has already applied the map to 100 strains of mice that had been genotyped for 150,000 SNPs, and will soon be able to assign millions more SNPs to these mice.

The projects could also spur the use of less common lab strains by providing better genetic maps, says Elizabeth Fisher, a geneticist at University College London. "There's an enormous amount of diversity out there that we're not capitalizing on," she says. A collaboration of hundreds of researchers called the Complex Trait Consortium plans to breed 1,000 new mouse strains (see 'Mice unlimited'). And now those strains will be easily genotyped. "It's going to allow us to make better mouse lines for the future, with levels of diversity that are more like human diversity," Churchill says. ■

Ewen Callaway



MEDICAL OPINION COMES FULL CIRCLE ON CANNABIS DANGERS

Frequent use more than doubles psychosis risk.

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Q&A: Jürgen Graeser

On 29 August, Jürgen Graeser of the Alfred Wegener Institute for Polar and Marine Research in Potsdam, Germany, will embark on an eight-month Russian-led voyage on a drifting ice floe to the North Pole. The German will join 35 Russian colleagues from the Arctic and Antarctic Research Institute in St Petersburg, Russia, to collect a wealth of atmospheric and sea-ice data in one of the most remote and inhospitable regions of the planet. **Quirin Schiermeier** spoke to the first Westerner invited to spend time on a Russian drifting station.

Why is this expedition special?

There'll be no ship, no aircraft, no fixed route, nothing. We will never know what the next day will bring. For me, this is the ultimate challenge. Work in Arctic stations has, of late, become quite comfortable. I've read many books about what 'real' expeditions were like, but I never thought it would be possible to participate in such an adventure.

Where will you be at the winter solstice?

I'll be drifting in the Arctic Ocean, somewhere near the North Pole, on an ice floe some 2 kilometres across and 3 metres thick. A suitable floe is being sought now. The Russians will build a makeshift research base on it made of prefabricated wooden cabins.

What will your daily routine be?

I'll be in charge of a small 'aerological' station, doing a range of atmospheric and meteorological measurements. I'll also use radiosondes and a tethered balloon to make a profile of the ozone and aerosol concentrations in the lowest layer of the atmosphere. Such high-resolution measurements have never been taken before at such high latitudes. At the end of each day, I'll transmit the most basic data to Germany. Satellite communication beyond 80° N is extremely slow, so this will take

some time. Other than that, the days will be punctuated by the meals we'll eat together.

Russia is claiming parts of the Arctic. Is there a political background to the project?

The expedition is not equipped to search for geological evidence that could back up such claims. During preparatory meetings, the plans for exactly what the Russian team will do have had a low profile, but I doubt that any ill will is intended. The Russians have been using drifting stations for more than 50 years, and this is the first time a foreigner has been invited, which signals improved scientific openness towards the West. There's an agreement that all data will be made openly available as well.

What can go wrong?

You need to be constantly aware of polar bears. All team members have been trained to shoot. Also, the floe might become unstable or break. The worst case would be if the floe were to sink. This happened in 2004, and the whole team had to be evacuated by helicopter. Alcohol is also a bit of a concern: each member of the team is officially permitted one can of beer and one bottle of spirits per week. I would have preferred a bit more beer and less spirits. Drink can have disastrous consequences there. ■



Jürgen Graeser with a tethered meteorology balloon.

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