that the satellite altimetry measurements were too high during the first six years that they were collected; after this point, scientists began using TOPEX/Poseidon's back-up sensor. The error in those early measurements distorted the trend, masking a long-term increase in the rate of sea-level rise.

GLITCH FIX

The problem was first identified in 2015 by a group that included John Church, an oceanographer at the University of New South Wales in Sydney, Australia. The researchers identified a discrepancy between sea-level data collected by satellites and those from tide gauges scattered around the globe[2]. In a second paper, published in June in *Nature Climate Change*[3], the team adjusted the altimetry records for the apparent bias and then calculated rates of sea-level rise using an approach similar to Cazenave's. The trends lined up, Church says.

Still, Nerem wanted to know what had gone wrong with the satellite measurements. His team first compared the satellite figures with data from tide gauges that showed an accelerating rate of sea-level rise. Then the researchers looked for factors to explain the difference between the two data sets.

The team eventually identified a minor calibration that had been built into TOPEX/Poseidon's altimeter to correct any flaws in its data that might be caused by problems with the instrument, such as ageing electronics. Nerem and his colleagues weren't sure that the calibration was necessary — and when they removed it, early satellite figures of sea-level rise aligned more closely with the tide-gauge data. The adjusted data showed the rate of sea-level rise increasing over time.

"As records get longer, questions come up," says Gavin Schmidt, a climate scientist who heads NASA's Goddard Institute for Space Studies in New York City. But the recent spate of studies suggests that scientists have homed in on an answer, he says.

If sea-level rise continues to accelerate at the current rate, the world's oceans could swell by about 75 centimetres over the next century, Nerem says. That is in line with projections made by the Intergovernmental Panel on Climate Change in 2013.

"All of this gives us much more confidence that we understand what is happening," says Church, who adds that humanity needs to reduce its output of greenhouse-gas emissions — and quickly. "The decisions we make now will have impacts for hundreds, and perhaps thousands, of years." ■

1. Dieng, H. B., Cazenave, A., Meyssignac, B. & Ablain, M. *Geophys. Res. Lett.* **44,** 3744–3751 (2017).
2. Watson, C. S., White, N. J., Church, J. A., King, M. A., Burgette, R. J. & Legresy, B. *Nature Clim. Change* **5,** 565–568 (2015).
3. Chen, X. *et al. Nature Clim. Change* **7,** 492–495 (2017).

COMMUNITY

Female astronomers of colour endure bias

Two-fifths of those surveyed report feeling unsafe at work.

BY RACHAEL LALLENSACK

Women of colour working in astronomy and planetary science experience high rates of harassment at work, a study finds. In a survey, a striking 40% of these scientists reported feeling unsafe in their workplaces owing to their gender, and 28% reported feeling unsafe on account of their race.

The findings, published on 10 July in the *Journal of Geophysical Research: Planets*, illustrate a well-researched phenomenon: a woman's risk of being subjected to gendered or race-based harassment is higher if she belongs to multiple minority groups (K. B. H. Clancy *et al. J. Geophys. Res. Planets* http://doi.org/b9mz; 2017). Women of colour were more likely than white women or men of colour to recall a negative workplace experience during a five-year period from 2011–15. Such incidents included having their mental or physical ability questioned.

"This is something that I've known about, that I've seen and experienced, as someone of colour, for as long as I've been in the field. So I'm not surprised," says Cristina Thomas, an astronomer at the Planetary Science Institute who is based at NASA's Goddard Space Flight Center in Greenbelt, Maryland. "I was very happy to see someone quantify what was happening so other people would see it."

The study, whose participants ranged from undergraduate students to senior researchers, suggests that the negative environment experienced by many female scientists of colour is often apparent to colleagues of other genders or ethnicities.

Eighty-eight per cent of the 474 participants — a group that was 84% white and included both men and women — had heard remarks that were racist, sexist or directed at a person's gender or intelligence in their current workplace (see 'Hostile climate').

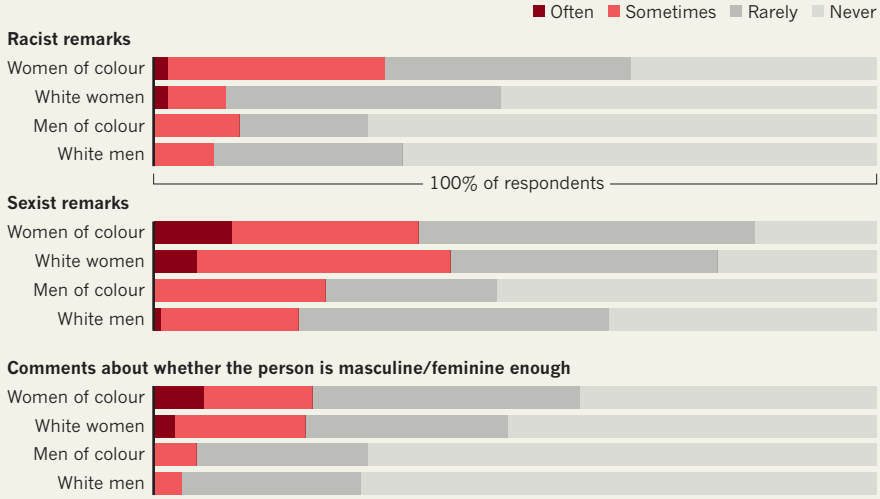
"It doesn't matter what we do at the individual level because the system is broken."

Survey respondents included 45 women of colour, who collectively accounted for 11% of participants. That proportion is double the percentage of minority women in the United States who hold bachelor's degrees in physical science.

The analysis is the first of its kind in the astronomy and planetary-science fields, and one of few in a science, technology, engineering or medicine discipline that specifically examines the experiences of women of colour,

HOSTILE CLIMATE

Women of colour who work in astronomy and planetary science reported hearing disparaging or hostile comments from their peers more often than white people of either gender or men of colour.



SOURCE: CLANCY, K. B. H. *ET AL. J. GEOPHYS. RES. PLANETS* HTTP://DOI.ORG/B9MZ (2017).

says study co-author Christina Richey, former chair of the American Astronomical Society's Committee on the Status of Women in Astronomy in Washington DC. The research team was made up of two planetary scientists and two social scientists, including anthropologist Kathryn Clancy of the University of Illinois at Urbana-Champaign, who led a high-profile survey of harassment in scientific fieldwork that was published in 2014 in *PLoS ONE* (K. B. H. Clancy *et al. PLoS ONE* **9,** e102172; 2014).

The latest study found that harassment and discrimination can have a heavy impact on a person's career decisions. Eighteen per cent of women of colour and 12% of white women reported avoiding a class, conference or professional event because they did not feel safe attending. Such events can help to foster professional networks, mentorship and opportunities for collaboration — connections that can advance a scientist's career, says Zuleyka Zevallos, a sociologist at Swinburne University of Technology in Melbourne, Australia.

SYSTEMIC SOLUTIONS

"If a culture of hostility remains in place, it doesn't matter what we do at the individual level because the system is broken. The pipeline is broken," says Zevallos, who helped to implement gender-education programmes at universities in her former position at the Australian Academy of Science in Canberra.

The analysis has sparked intense discussion online among astronomers and planetary scientists. Several female scientists of colour have shared their stories on Twitter, describing the significant, but sometimes subtle, consequences of harassment and discrimination in their own lives.

Chanda Prescod-Weinstein, a theoretical physicist at the University of Washington in Seattle, tweeted that when faced with events that she thought might expose her to harassment, discrimination or other negative experiences, she sometimes brought her husband along. But that created an extra financial burden for the couple.

In recent years, professional societies such as the American Astronomical Society and American Geophysical Union have taken steps to prevent harassment at their meetings. The latest study suggests several actions that research institutions, funding agencies and scientific societies can take to reduce harassment. These include updating their codes of conduct to bar harassment; instituting mandatory cultural-awareness training; encouraging leading researchers to model appropriate behaviour; and putting in place swift sanctions for perpetrators.

"It's time to pivot away from the conversation of, 'Is gender equity and racism a problem in science?', and shift to taking action," Zevallos says. "We can't afford to lose more women of colour, white women and under-represented minorities." ■

GRZEGORZ BRONIATOWKI/GREENPEACE

Activists have tried to block logging operations in the Białowieża Forest.

CONSERVATION

Europe fights for ancient forest

European Commission takes Poland to highest court over policy allowing logging in a biodiversity hotspot.

BY QUIRIN SCHIERMEIER

A campaign by scientists and environmental activists to prevent a surge in logging in Europe's ancient Białowieża Forest is headed to the courts.

The European Commission announced on 13 July that it is referring Poland to Europe's highest court after the Polish government declined to roll back controversial new rules that allow more tree-felling in Białowieża — a biodiversity hotspot and the largest remaining patch of a primeval forest that once covered the European Plain. The court case could take years, but the commission has also asked for an immediate ban on logging to prevent further environmental damage.

That's a rare request, says Agata Szafraniuk, a Warsaw-based legal expert with environmental-lawyer group ClientEarth, which is campaigning to protect the forest. The Court of Justice of the European Union (ECJ) has been asked only four times before to impose interim bans on activities that might result in environmental harm — and in all cases, it ordered a halt within days or weeks. (Those instances concerned the illegal hunting of wild birds in Malta and, twice, in Italy; and the building of a highway through protected wetlands in northeast Poland.)

The battle over management of Białowieża — a United Nations World Heritage Site whose roughly 1,500 square kilometres straddle the Poland–Belarus border — has been raging for more than a year. The forest provides habitats for a rich diversity of fungi, insects, birds and mammals, including the largest population of European bison (*Bison bonasus*), and is also a valuable research resource. Scientists have conducted numerous studies there, most recently into the activity of two bat species (*Nyctalus noctula* and *Nyctalus leisleri*)[1] and the Eurasian lynx (*Lynx lynx*)[2]. ▶