Correspondence

Save Maori people's sacred tree species

New Zealand's largest and oldest living tree species, the kauri (*Agathis australis*), is threatened with extinction by an invasive pathogen, *Phytophthora agathidicida*. These conifers live for more than 2,000 years, reaching heights in excess of 50 metres and girths of up to 14 metres. They are cultural icons, regarded as living ancestors by the indigenous Maori people. With no known treatment against kauri dieback, we stress that the only immediate option to halt the soil-borne pathogen's spread is complete closure of kauri forests.

This drastic proposal has met with strong resistance because of the economic implications of losing a million or so visitors every year. The collective action from mandated government agencies has so far been inconsistent and ineffective, despite reasonable resources. Indigenous and community groups are being left to develop their own management plans in isolation.

As scientists, we know that the losses we face are too catastrophic to risk piecemeal measures. The government must push for urgent research into controlling the pathogen. Until that is better understood, all kauri forests should remain shut.

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DANNI THOMPSON/ALAMY

A hiker looks up at New Zealand's largest giant kauri tree (*Agathis australis*).

Tighten attribution of weather events

Your claim that the connection between extreme weather and climate change is "now routine and reliable science" misrepresents the current state of climate-extreme attribution science (see *Nature* **560**, 5; 2018).

Although methods to quantify the contribution of climate change to particular extreme weather events are developing rapidly, the science is at an early stage, and there is as yet no consensus on which approach is best. We are still a long way from achieving high confidence in quantitative results (see go.nature.com/2wlyuc6).

Attribution depends fundamentally on global climate models that can adequately capture regional weather phenomena — including circulation anomalies such as the weak jet stream and large, persistent planetary-scale atmospheric waves that characterized this summer's weather. Accurate simulation of such extremes remains a challenge for today's models.

It is not enough to increase the size of the ensemble of simulations if the models themselves have fundamental limitations. Any statement on attribution should therefore always be accompanied by a scientifically robust demonstration of the model's ability to simulate the global and regional weather patterns and the related weather phenomena that lie at the root of extreme events.

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**On behalf of 5 co-signatories (see go.nature.com/2n4zys3).*
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Undergrad research: classroom training

I have mentored seven undergraduate research students over the past three years, all of whom have been co-authors on scientific papers and conference abstracts. In my view, their success had less to do with their academic prowess or even my mentoring abilities, and more to do with their preparation before engaging in research (see also J. Ankrum *Nature* http://doi.org/gdwps2; 2018; and J. Trant *Nature* **560**, 307; 2018).

These students had previously taken courses that were largely enquiry-based. They participated in multi-part projects or case studies — for example, collaborating over several class periods to address a specific problem. They were given real data sets to sharpen their analytical skills. In these projects, formidable obstacles were put in their way to stimulate awareness of thought processes (metacognition), a useful faculty when it comes to dealing with uncertainty and unpredictability in research results.

This classroom training in teamwork, critical analysis of the literature and reasoning like researchers helps to equip undergraduate students for the research lab, so that they can start contributing to its productivity from the outset.

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Teach PhD students to peer-review

I suspect that journal editors could be reluctant to seek out early-career scientists as peer reviewers (see M. Casado *Nature* **560**, 307; 2018). Researchers at this stage are often invisible to editors, because they have no publications or online research profile. Senior scientists, who have the grounding and scope necessary for in-depth peer review, are seen as a safer bet. In my experience, however, training graduate students in the critical assessment of research papers goes a long way towards equipping them for the task.

I ask graduate students participating in a research-methods course to independently review the same selection of manuscripts before these are submitted for publication. They then collectively discuss the merits or inadequacies of each paper. In the process, the students learn how peer review works, how to avoid pitfalls in publishing and how to prepare and improve their own papers.

Ultimately, such group peer-teaching exercises could help to improve the peer-review process for all researchers, even the experienced ones.

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