# Correspondence

## Landslide tragedy demands hazard-mapping rethink

The Wayanad landslides of 30 July in the Indian state of Kerala caused huge disruption and are thought to have claimed up to 500 lives (see go.nature.com/3yte3yv). They should be a wake-up call to change current practices of landslide hazard mapping.

These devastating incidents seem to have occurred mainly because of unexpected high-intensity, short-duration rainfall. Our own unpublished analysis suggests that the affected region received nearly 7% of its average annual rainfall in less than one day, after a month in which overall rainfall was 15% lower than expected.

Besides overall amount, rainfall duration and intensity are risk factors in precipitating landslides, yet they are often ignored in hazard mapping. It is a similar story for pre-existing soil moisture, which could be crucial in triggering landslides even with relatively low overall rainfall.

To improve identification of landslide hotspots, researchers must augment conventional landslide susceptibility maps with the joint probability of rainfall intensity and duration, as well as hydrological variables such as soil moisture, under a scenario of a changing climate. Collaboration between geologists and hydrologists is urgently needed to implement this practice.

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## Think of the carbon before binning old chemicals

A journalistic adage states that headlines written as questions can always be answered 'No'. The Technology Feature 'Your reagent is past its use-by date. Should you bin it?' (*Nature* **631**, 698–699; 2024) is a case in point.

Faced with a long-past expiry date or a tatty old label on a bottle, some researchers and safety officers clear perfectly good chemicals from lab shelves. But the article does not describe the environmental impacts, in particular the huge embodied carbon emissions of laboratory reagents. Acetone manufacturing, for example, is estimated to produce more than 2 kilograms of carbon dioxide equivalent per kilogram of solvent (F. E. Liew *et al. Nature Biotechnol.* **40**, 335–344; 2022).

Unless they are highly air-sensitive, most chemicals degrade very slowly. In the past, researchers would quickly recrystallize, redistil or sublime old stocks. Today, a quick spectrum or assay can confirm a compound's purity or activity, and a trial reaction can be performed almost immediately.

Universities, companies and research councils must set up chemical libraries, establish sharing networks and take seriously the idea of recovering and reusing large volumes of solvents. This will reduce waste and ensure that one person's shelved reagent can be transferred to the methods section of another's paper — not only cheaper than disposal, but crucial for the decarbonization of the chemical and biological sciences.

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## Clarify medical use of AI under EU law

The European Union's Artificial Intelligence Act entered into force on 1 August. Phased implementation begins in February 2025, banning artificial intelligence (AI) systems deemed to pose unacceptable risks. Before that happens, policymakers must do more to ensure that patients' safety and interests are protected.

Medical AI systems enjoy broad exemptions under Article 5 of the act, which prohibits the marketing or use of AI systems that: manipulate individuals' decisions in ways that can cause harm or exploit vulnerabilities; classify people on the basis of social behaviour, personal traits or biometric data; or infer emotions or intentions. So 'manipulative' practices by AI systems might be allowed in medical treatment, with consent.

But secondary legislation and guidance are needed to define what is and is not permissible, and how equity, patient safety and data privacy will be protected. Platforms should have to ringfence exempted medical AI systems and the health data used to train them, and health institutions should have officers responsible for safeguarding patients' data. European regulators should work with global institutions to develop lists of proscribed AI systems to ensure that restrictions do not inadvertently foreclose innovations.

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**The authors declare competing interests; see go.nature.com/3swg7gu for details.**

## Save Europe's largest marine reserve

The Selvagens Islands Nature Reserve in Portugal's Madeira region is Europe's largest fully protected marine area, having been expanded in 2021 to 2,677 square kilometres, an area larger than Luxembourg (F. Alves *et al. Nature* **601**, 318; 2022). But a decision by the regional authorities to reverse a commitment to ban fishing there puts one of the last intact marine ecosystems in the North Atlantic Ocean at risk (A. M. Friedlander *et al. PLoS ONE* **12**, e0187935; 2017).

By exploiting a legislative provision allowing biological samples to be collected for research, as of 12 July the authorities are permitting fishing for tuna in the reserve, with 90% of the catch to be sold commercially.

No scientific advice or impact assessment exists to support this decision, and no economic or social losses have been demonstrated to justify it. The first landing by a single vessel under this scheme returned more than half a tonne of skipjack tuna (*Katsuwonus pelamis*). Tuna are highly migratory open-ocean fish that can be captured outside the reserve — in the other 99% of Madeira's waters.

Fully protected, intact ecosystems in European seas are scarce and cannot be at the whim of political cycles and elections. Along with almost 300 scientists (see go.nature.com/3x8fkeo), I urge local authorities to honour their commitments and to continue on the path towards the global target of protecting 30% of the ocean by 2030.

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