

News in brief



DUST-UP OVER DISEASE LINK

A study published on 17 July calls into question research from 2021 suggesting that no consistent link exists between dust storms and Valley fever – an infectious disease that occurs in the Western United States and elsewhere, caused by inhaling soil-dwelling *Coccidioides* fungi.

The authors of the new paper (D. Q. Tong *et al. GeoHealth* 6, e2022GH000642; 2022) say the data set used in the 2021 analysis – the Storm Events Database, maintained by the US National Oceanic and Atmospheric Administration – is known to contain errors and uses a definition of ‘dust storm’ that is inconsistent with that used by most meteorological organizations.

“Based on our knowledge of the fungus, it’s transported in dust, and there is no reason to believe that dust storms couldn’t carry [it],” says co-author Morgan Gorris, an Earth-systems scientist at Los Alamos National Laboratory in New Mexico.

Andrew Comrie, a climate and health scientist at the University of Arizona in Tucson, who wrote the 2021 paper (A. C. Comrie *GeoHealth* 5, e2021GH000504; 2021), acknowledges that the database could be more complete, but still thinks his analysis would have picked up a link to Valley Fever cases. “If there was a reliable signal, it should show up,” he says.

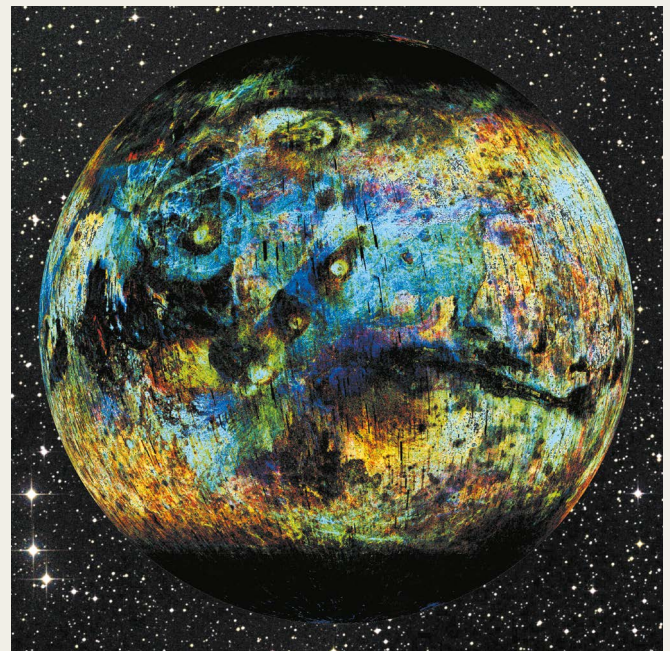
PARCEL-CARRYING DRONES DELIVER CARBON SAVINGS

Drones that fly packages straight to people’s doors could be an environmentally friendly alternative to conventional modes of transportation (T. A. Rodrigues *et al. Patterns* 3, 100569; 2022).

Thiago Rodrigues, a transportation researcher at Carnegie Mellon University in Pittsburgh, Pennsylvania, and his colleagues attached packages weighing 0.5 kilograms or less to four-rotor drones and flew them at speeds of 4–12 metres per second.

This allowed the researchers to determine how much energy was needed to fly a drone, as well as the quantities of greenhouse gases emitted by generating the electricity to charge the drone’s battery.

The team compared the environmental impact of various ‘last-mile’ delivery methods – which take a package on the final leg of its journey – and found that greenhouse-gas emissions per parcel were 84% lower for drones than for diesel trucks. Drones also consumed up to 94% less energy per parcel than did the trucks. The research indicates that using drones to deliver medication and other small items could cut the environmental impact of product deliveries.



Machine learning locates meteorite source on Mars

This unusually multicoloured view of Mars shows the distribution of 90 million impact craters across the planet’s surface, mapped by researchers using a machine-learning algorithm trained on data from previous Mars missions. The colours represent the size, age and density of the craters: for example, blue areas depict the largest and youngest ones.

Scientists made the map while investigating the origin of a meteorite called Black Beauty, which was found in the Sahara Desert in 2011. The lump of rock was thrown out into space when an asteroid struck Mars at least 5 million years ago. The team used the algorithm to narrow down the possibilities, and eventually worked out the exact location of this impact (A. Lagain *et al. Nature Commun.* 13, 3782; 2022). The researchers suggest that the 10-kilometre-wide crater – named Karratha – could be the focus of a future Mars mission.