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A Stratollite balloon made by World View is inflated in Page, Arizona.

SPACE SCIENCE

Scientific ballooning aims for the stratosphere

Commercial providers open the market for new types of research flight.

BY ALEXANDRA WITZE
BROOMFIELD, COLORADO

Private companies want to take scientific experiments sky-high in 2018 — aboard specialized balloons.

For decades, agencies including NASA and France's National Centre for Space Studies have flown balloon-borne experiments to realms higher than aeroplanes can reach but lower than satellites' orbits. Now, companies such as World View of Tucson, Arizona, are lofting payloads quickly and cheaply into the stratosphere, between 16 and 30 kilometres up. The commercial balloon flights have new capabilities that open up fresh types of science — such as low-cost monitoring of natural disasters, or testing how to explore Venus by studying Earth's geology, says Alan Stern, a planetary scientist at the Southwest Research Institute in Boulder, Colorado, and a co-founder of World View.

"We're turning what was rare scientific ballooning into something routine," Stern says.

Balloons occupy a sweet spot between planes, which can survey small areas of land in great detail, and satellites, which span the globe but provide images at much lower resolutions. "We need observations from balloons, because they're just so powerful," said Karl Hibbitts, a planetary scientist at the Johns Hopkins University Applied Physics Laboratory in Laurel, Maryland. He spoke at a meeting of the ▶