

[Back to contents](#)

Stratospheric Satellites: A New Technology For Monitoring Global Disasters

(Source : Global Aerospace Corporation ; issued July 3, 2002)

ALTADENA, Calif. --- At the annual meeting of the Global Disaster Information Network in Rome, Italy, last month, Global Aerospace Corporation introduced a new type of satellite that could provide communications and remote sensing data for disasters in remote areas of the world that have no technological infrastructure.

Stratospheric Satellites consist of advanced NASA "super-pressure" balloons that fly at 115,000 feet, combined with steering systems and a solar array. They can carry remote sensing or telecommunications payloads up to two tons, roughly the size and weight of a small truck. According to Dr. Alexey Pankine, a CalTech Ph.D. and Project Scientist at Global Aerospace, "Networks of Stratospheric Satellites can be directed to group themselves, fly over and monitor disaster areas."

The super-pressure balloon component of the Stratospheric Satellite was successfully flown in short NASA test flights in June 2000 and March 2001. Since then, super-pressure balloon development has continued with a goal of 100-day flights. Global Aerospace developed a trajectory control and solar array system for the balloon, allowing it to be steered over disaster areas and powered over the course of its long life. Advanced designs for the satellite are projected to have a flight life of 3-10 years.

With a projected life-cycle cost of less than \$400,000 per unit in production, Stratospheric Satellites are a low-cost alternative to aircraft and space satellite remote communications platforms. Like UAVs, Stratospheric Satellites fly much closer to Earth than space satellites, providing 20 times higher resolution surface images and 160,000 times higher signal radar; but unlike UAVs, Stratospheric Satellites cost 10 to 100 times less.

In addition to monitoring global disasters, Global Aerospace is considering other uses for the new technology. According to Kerry Nock, President of Global Aerospace, "Because they are relatively inexpensive, can be steered, are independently powered, and can carry a large payload, they will be a cost effective way of bridging the last mile in telecommunications coverage."

A constellation of 400 Stratospheric Satellites covering most of the northern hemisphere is projected to cost less than \$160 million -- less than the cost of most space satellites including launch. Operations costs are expected to be less than \$10 million per year.

Global Aerospace Corporation is a research and development corporation located in Altadena, Calif. The company was founded in 1997 by former engineers and scientists from the Jet Propulsion Laboratory. Clients include NASA, JPL and the Computer Science Corporation.

-ends-

[Back to the top](#)[Send this page](#)