

Father and son send iPhone and HD camera into stratosphere (w/ Video)

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(PhysOrg.com) -- A father and young son from New York have succeeded in sending an HD camera and iPhone 19 miles high into the upper stratosphere and recording the flight.

Luke Geissbühler and son Max, 7, attached the camera and [iPhone](#) to a weather balloon, believing it would rise until it was high enough that the lack of atmosphere would burst the balloon and it would fall back to Earth. The balloon was required to survive glacial temperatures, high winds, and a possible splashdown in water. Since it was expected to rise

above 30-40,000 feet, the cruising altitude of commercial aircraft, the balloon also had to pass the weather balloon standards set by the Federal Aviation Administration.

They did some low-altitude testing and then took their balloon to a park in Newburgh, New York, where they launched it with the equipment in a small capsule tethered to the balloon. The camera and iPhone were protected from sub-zero temperatures by chemical hand-warming packets. They chose Newburgh as their launching site because it was a relatively sparsely populated area, and because it has a party store that sells helium.

The material used to make the capsule was simply a disposable takeout food container with spray-on insulation applied to the interior. The iPhone (borrowed from a friend) was loaded with InstaMapper, a free GPS tracking application that allowed the phone to act as a beacon for retrieving the balloon.

The balloon climbed at 25 feet per second, and after about 70 minutes it reached about 100,000 feet, where it burst and then descended on a small parachute, landing safely 30 miles away from the launch site. The Geissbühlers spent the evening and night searching for the balloon, and the iPhone's GPS eventually guided them to it atop a large tree. The camera was able to record 100 minutes of footage. A short video made by the father and son team has become a viral hit on Vimeo, a video-sharing website, where it has received over a million views.

Luke Geissbühler is a director and cinematographer, and had been involved in research on [weather balloon](#) enthusiasts for a feature film. He decided to do the project at the request of his son, who had been lobbying for a homemade spacecraft. He explained that his son asks for the impossible, and after explaining why it is impossible, he then begins to question and investigate whether it really is impossible.

Mr Geissbühler completed the project with assistance from his brother Phillip, a Boston-based physicist, who helped them work out how to cope with issues such as high winds, low temperatures, and how to predict the balloon's behavior.

More information: www.brooklyn.spaceprogram.org/BSP/Home.html

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