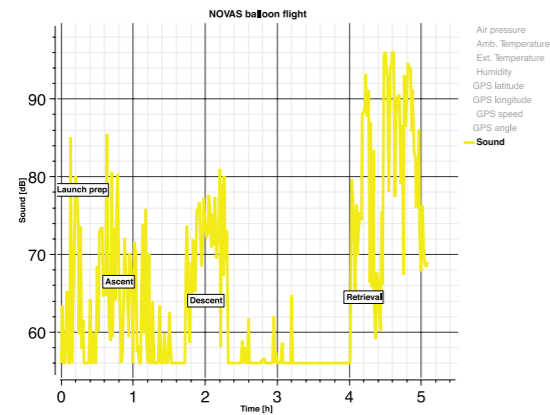
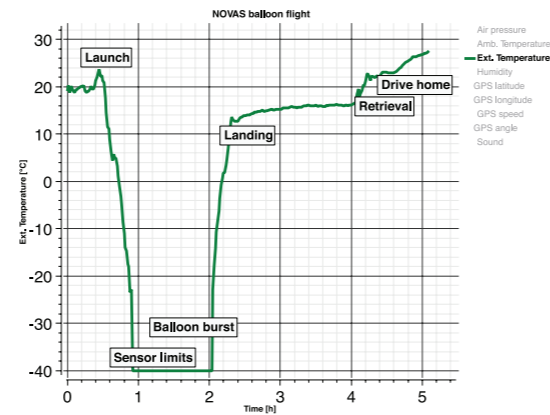




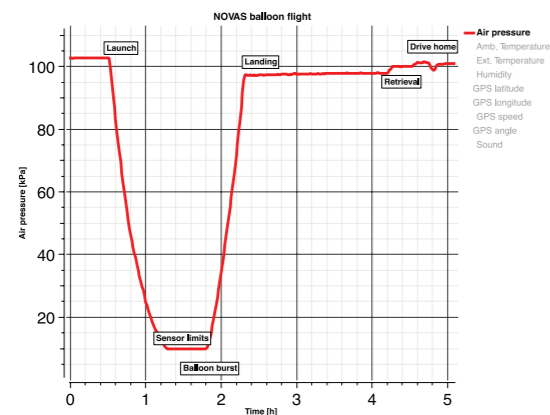
SOUND DATA



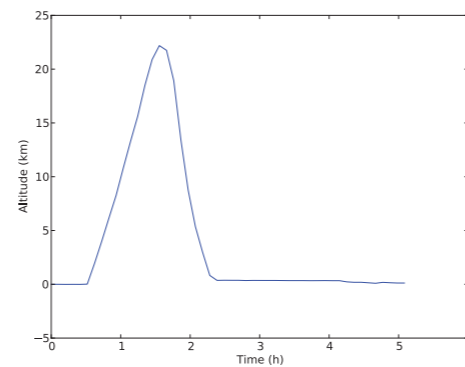
EXTERNAL TEMPERATURE DATA



ATMOSPHERIC PRESSURE DATA



ALTITUDE DATA



Pressure at launch was 102.7 kPa, but on landing it was only 97.5 kPa – the students quickly realized why. They'd launched from sea level, but landed on top of a hill.

The project was the brainchild of Simon Sloan

"Having seen a similar project carried out by the BBC I knew straight away that something like this would inspire, excite and motivate children in our partner schools in a way that would take them far beyond the physical and mental confines of the classroom. We invited Dr Croft to share his expertise with us and following a really successful pilot both UK and USA groups have continued to develop the project every time, incorporating Labdisc sensors, trackers and even 3D printed mission patches."

The facilitators of this exciting project were Alan Thompson and Alan Crist, Education technology facilitators from Hi-Impact Consultants, UK:

"Every year at BETT we hand-pick fresh education technology tools and when we saw the Labdisc we knew it would be perfect for the Near Space Balloon Challenge"

The Labdisc breaks new scientific ground

The initial launch objective was to capture images of Earth but using the Labdisc in the second launch created a unique opportunity to collect some real scientific data from near space. The Labdisc's built-in sensors recorded a rich variety of in-flight data, including the upper atmosphere and enriching the students' understanding of massive data changes in a short time-frame.

What was inside the helium balloon spacecraft?

The Labdisc measured ambient temperature from inside a Styrofoam cooler; with an external sensor protruding through the foam. In addition, the Labdisc was configured to measure air pressure, humidity, GPS – latitude and longitude, and air pressure computed to altitude. What the students could deduce from raw data over time provided new insights about the flight, such as how the balloon suddenly moved at 100 km an hour due to gusts of wind or the exact location when the balloon burst.

From the initial hypothesis, experiment design, pre-launch prediction tools and post-landing data analysis, the students conducted themselves like real scientists.



What conditions did the Labdisc contend with in near space?

"I was really surprised at what a rich data-set we got from the Labdisc considering the extreme conditions in near space, similar to those found on Mars with around 0.6% of the Earth's atmospheric pressure and temperatures of -60 °C"

