NASA balloon launch at Wanaka Airport

Photo credit: www.csbf.nasa.gov

NASA (National Aeronautics and Space Administration) has been assessing the suitability of Wanaka Airport as a site for the launch of an unmanned scientific research balloon. A test launch has been approved for 8am on Sunday 15 March 2015, providing weather conditions are calm. The launch will be deferred until the next suitable day if conditions are not perfect.

NASA

WANAKA airport

QUEENSTOWN LAKES DISTRICT COUNCIL

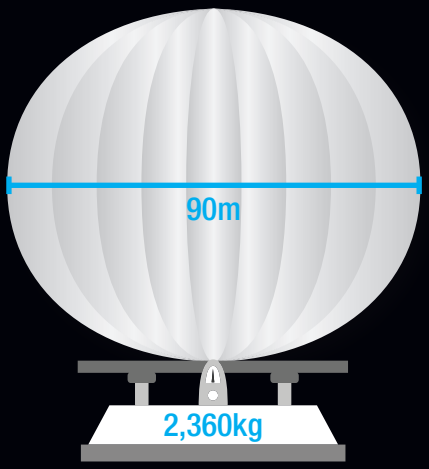
QUEENSTOWN airport

C.S.B.F. PALESTINE, TEXAS

Basic facts

Questions such as **"HOW DID THE UNIVERSE, GALAXIES, STARS, AND PLANETS FORM AND EVOLVE?"** and **"ARE THERE EARTH-LIKE PLANETS BEYOND OUR SOLAR SYSTEM?"** are being answered by NASA with the help of experiments flown on scientific balloons. Scientific research balloons gather data that is used to investigate the origins of the universe, assess the effects of cosmic rays on the atmosphere and continue the hunt for planets.

The balloon is **90M** in diameter and weighs **2,360KG**. At cruise altitude it is a similar size to Dunedin's Forsyth Barr Stadium.



The balloon is **UNMANNED** and will be controlled by the Columbia Scientific Balloon Facility in Palestine, Texas.

84

STATE HIGHWAY 84 WILL BE TEMPORARILY CLOSED AT LUGGATE and there will be a detour in place via Hawea Flat for motorists travelling between Wanaka and Cromwell.

The upcoming launch in Wanaka is a **TEST RUN**, meaning that no scientific measuring equipment will be on board.

Helium, the same gas used to fill party balloons, is used in NASA balloons. These very large balloons can carry a payload weighing as much as **3,600KG** (8,000 pounds), about the weight of three small cars. They can fly up to **42KM** (26 miles) high and stay there for up to **TWO WEEKS**.

The official countdown will begin at midnight on the day before the launch and the balloon will be launched on the following morning between **7 AND 11AM**, subject to calm wind conditions. If the wind is not agreeable for launch, it will be delayed at least 24 hours.

Various New Zealand aviation bodies, including Wanaka and Queenstown airports, Airways New Zealand and the Civil Aviation Authority, have been involved in helping NASA work through the logistics of launching the 2,366kg balloon from Wanaka Airport.

25 NASA STAFF are expected to be in Wanaka for two months to provide logistical support for the launch.

The balloon is **LAUNCHED** by partially filling it with helium with the payload section suspended beneath it. As the balloon rises, the helium expands, filling the balloon until it reaches float altitude in **TWO TO THREE HOURS**.

In line with NASA's stringent health and safety plan, those who live within a **2.1KM RADIUS** of Wanaka Airport will be asked to remain indoors until the balloon is out of range. This will affect 12 households for a 30-minute window between approximately 7am and 11am on launch day.

12 HOUSEHOLDS

30 MIN WINDOW

BETWEEN 7AM AND 11AM

Questions and answers

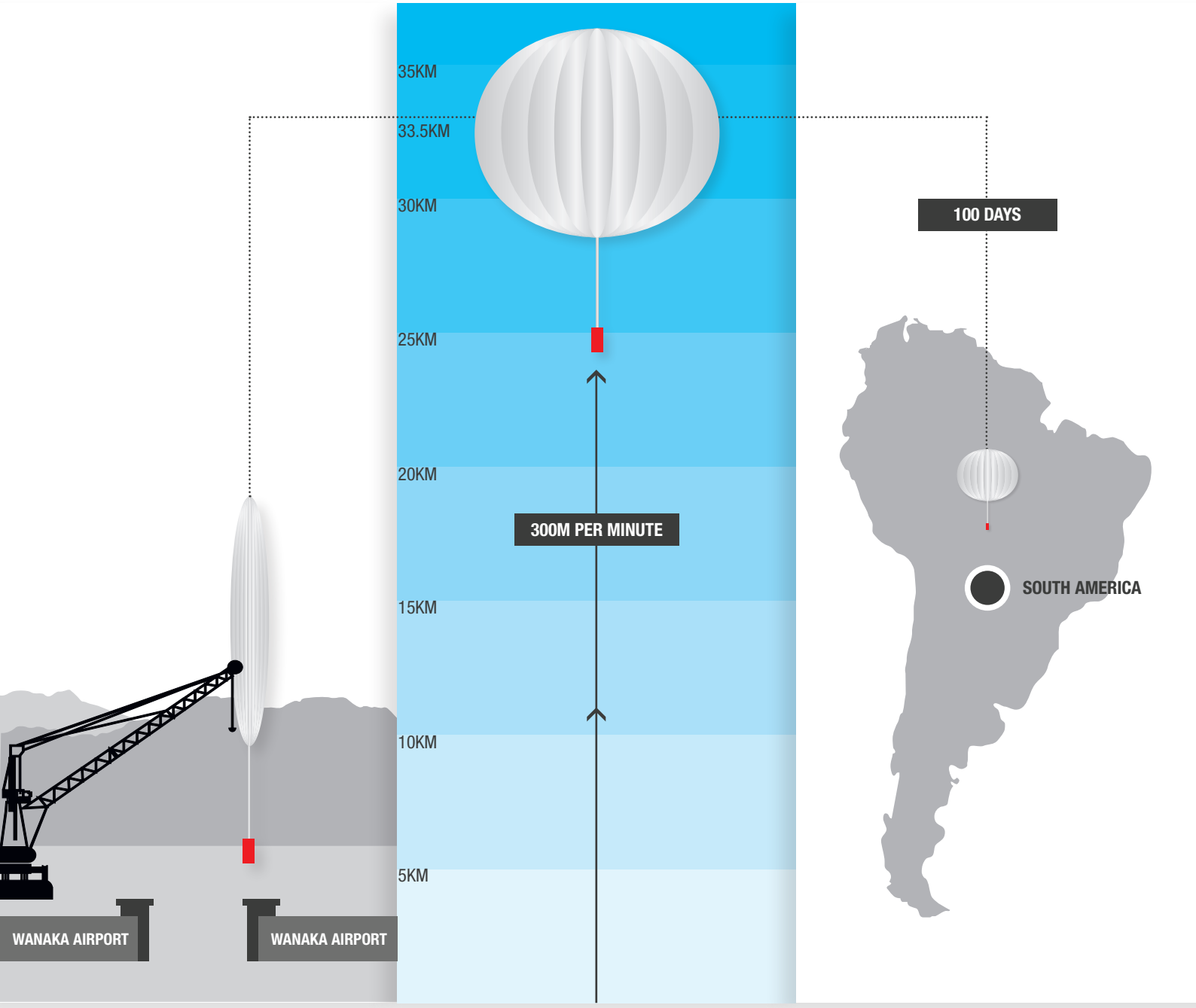
WHY WANAKA AIRPORT?

According to NASA experts, Wanaka is the perfect location for several reasons: its latitude, calm conditions and dispersed population around the airport, particularly in the east where the balloon is likely to drift.

HOW DOES THE LAUNCH PROCESS WORK?

The balloon will be connected to a crane and partially inflated with helium at Wanaka Airport. As it rises, the lower atmospheric pressures will cause the balloon to fully inflate.

It will rise at approximately 1,000ft (or 300m) per minute and travel to 110,000 feet (around 33.5km). It typically takes two to three hours to reach this float altitude. From there, it will remain airborne for 100 days and then come to a gentle rest in South America.

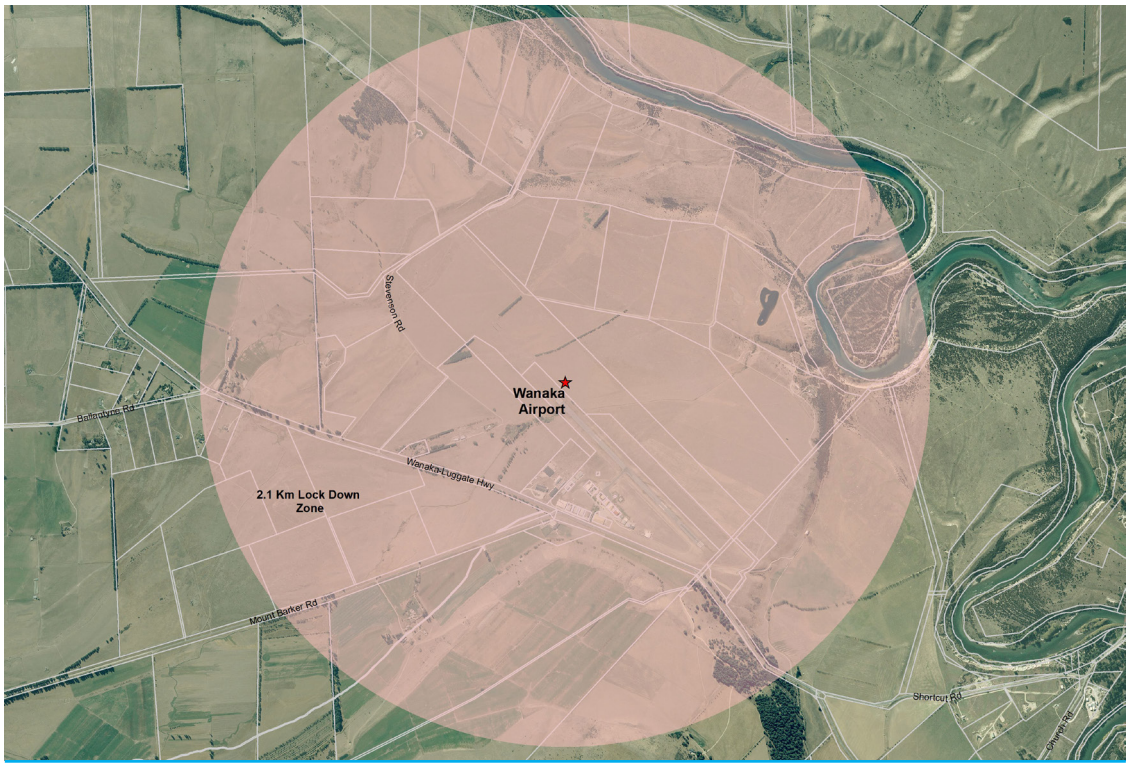


WHAT IS THE BALLOON MADE OUT OF?

NASA's balloons are constructed of polyethylene film, which is the material found in plastic bags. The film for this balloon is only 0.0038 centimetres thick, making it about the same as an ordinary sandwich wrap. The film is divided into 280 banana-peel shaped sections and sealed together under heat.

WHY ARE PEOPLE WITHIN A 2.1KM RADIUS BEING ASKED TO STAY UNDER COVER?

NASA is a world-leading operator with a stringent health and safety plan and the Columbia Scientific Balloon Facility has a proven track record of safe launches, having successfully overseen more than 1700 launches. Having a safety zone is standard procedure for a NASA balloon launch and is a precautionary measure that will affect 12 households.



CAN THE PUBLIC WATCH THE LAUNCH?

Immediately after lift-off the balloon will be visible for miles around so people will not need to be at the airport to see it. The best viewing points will be on the Hawea Flat side of the Clutha River, on Mt Iron or on the hill on the other side of the Red Bridge.

HOW WILL THE LAUNCH BENEFIT THE REGION?

The project will boost tourism and support the economy for Wanaka, the region and New Zealand.

The launch has already shown its benefits, as NASA has used local and national businesses to invest in the infrastructure required for the project such as ultra fast broadband.

If NASA deems the test launch a success, it could be the start of a long-term relationship with Wanaka and the airport could become an annual or biennial launch site to send universities' detectors and instruments to near space, putting the region on the map for its technological capabilities and attracting investment.

How do I find out more?

COME ALONG to the community information session on 5 March, 5.30pm at the Lake Wanaka Centre, Wanaka to hear more about the project. If you live within the 2.1km safety zone, NASA and Wanaka Airport staff will be in direct contact with you as well.

'LIKE' QLDC'S FACEBOOK PAGE AND TWITTER feed to stay up to date with the project.

Check out the website **www.wka.co.nz** for more information, including photos and progress reports.

To track the flight visit **www.csbf.nasa.gov/newzealand/wanaka.htm**

Contact Ralph Fegan **0274 323 616**