

If no-one is there when an iceberg is born, does anyone see it?

The titular paraphrasing of the famous falling tree in the forest riddle was well and truly answered this week, and shows just how far satellite remote sensing has come in recent years.

Last week sometime between Monday 10th July and Wednesday 12th July 2017, a huge iceberg was created by splitting off the Larsen C Ice Shelf in Antarctica. It is one of the biggest icebergs every recorded according to scientists from [Project MIDAS](#), a UK-based Antarctic research project, who estimate its area of be 5,800 sq km and to have a weight of more a trillion tonnes. It has reduced the Larsen C ice Shelf by more than twelve percent.

The iceberg has been named A68, which is a pretty boring name for such a huge iceberg. However, icebergs are named by the US National Ice Centre and the letter comes from where the iceberg was originally sited – in this case the A represents area zero degrees to ninety degrees west covering the Bellingshausen and Weddell Seas. The number is simply the order that they are discovered, which I assume means there have been 67 previous icebergs!

After satisfying my curiosity on the iceberg names, the other element that caught our interest was the host of Earth observation satellites that captured images of either the creation, or the newly birthed, iceberg. The ones we've spotted so far, although there may be others, are:

- ESA's **Sentinel-1** has been [monitoring the area for the last year](#) as an iceberg splitting from Larsen C was expected. Sentinel-1's SAR imagery has been crucial to this monitoring as the winter clouds and polar darkness would have made optical imagery difficult to regularly collect.
- Whilst Sentinel-1 was monitoring the area, it was actually NASA's **Moderate Resolution Imaging Spectroradiometer (MODIS)** instrument onboard the Aqua satellite which [confirmed the 'birth' on the 12th July](#) with a false colour image at 1 km spatial resolution using band 31 which measures infrared signals. This image is at the top of the blog and the dark blue shows where the surface is warmest and lighter blue indicates a cooler surface. The new iceberg can be seen in the centre of the image.
- Longwave infrared imagery was [also captured](#) by the NOAA/NASA **Visible Infrared Imaging Radiometer Suite (VIIRS)** on the Suomi NPP satellite on July 13th.
- Similarly, NASA also [reported](#) that **Landsat 8** captured a false-colour image from its Thermal Infrared Sensor on the 12th July showing the relative warmth or coolness of the Larsen C ice shelf – with the area around the new iceberg being the warmest giving an indication of the energy involved in its creation.
- Finally, **Sentinel-3A** has also got in on the [thermal infrared measurement](#) using the bands of its Sea and Land Surface Temperature Radiometer (SLSTR).

- ESA's **Cryosat** has been [used to calculate the size of iceberg](#) by using its Synthetic Aperture Interferometric Radar Altimeter (SIRAL) which measured height of the iceberg out of the water. Using this data, it has been estimated that the iceberg contains around 1.155 cubic km of ice.
- The only optical imagery we've seen so far is from the **DEMIOS1** satellite which is owned by [Deimos Imaging](#), an UrtheCast company. This is from the 14th July and revealed that the giant iceberg was already breaking up into smaller pieces.

It's clear this is a huge iceberg, so huge in fact that most news agencies don't think that readers can comprehend its vastness, and to help they give a comparison. Some of the ones I came across to explain its vastness were:

- Size of the US State of Delaware
- Twice the size of Luxembourg
- Four times the size of greater London
- Quarter of the size of Wales – *UK people will know that Wales is almost an unofficial unit of size measurement in this country!*
- Has the volume of Lake Michigan
- Has the twice the volume of Lake Erie
- Has the volume of the 463 million Olympic-sized swimming pools; and
- My favourite compares its size to the A68 road in the UK, which runs from Darlington to Edinburgh.

This event shows how satellites are monitoring the planet, and the different ways we can see the world changing.

