

# Science of the Snowy Scheme *with Kirsten Banks*

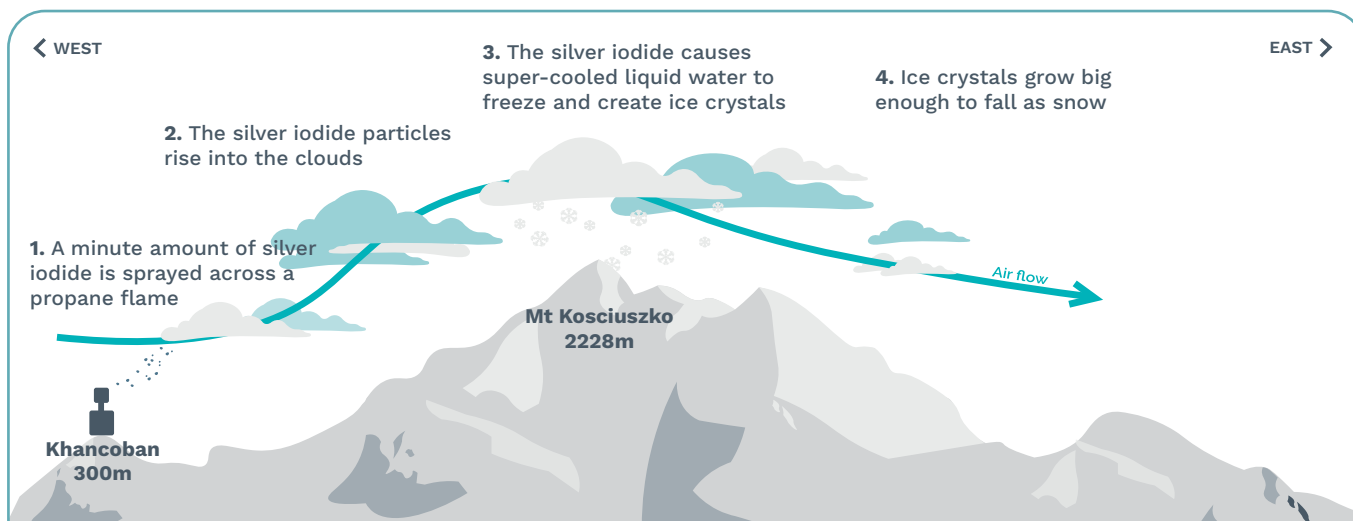
## Cloud seeding

### Overview

Snowy Hydro has an established cloud seeding program in the Snowy Mountains to enhance snowfall during the winter season. Following a successful trial beginning in 2004, cloud seeding moved to an operational program in 2013 under NSW legislation, the Snowy Mountains Cloud Seeding Act 2004 (SMCS Act).

Cloud seeding is a weather modification technique which involves the introduction of seeding particles into suitable clouds to encourage the formation and growth of ice crystals, in turn enhancing the amount of precipitation falling from the cloud.

The terrain of the Snowy Mountains region and the prevailing moist westerly weather systems during the winter months offers significant potential for cloud seeding.



### How does cloud seeding work?

Snowy Hydro's cloud seeding program involves introducing a minute amount of silver iodide into inefficient cloud to encourage snowflake growth and enhance precipitation. The program uses 23 specialised ground-based generators to release the seeding material, located along the western slopes of the target area within the Snowy Water Catchment.

### Did you know?

Clouds above the Snowy Mountains often contain high amounts of Super Cooled Liquid Water (SLW) - water droplets that are still in the liquid phase, even at temperatures below freezing. To fall out of the clouds as snow, SLW needs to form ice crystals. This can naturally occur through interaction with tiny airborne particles (like dust or other ice crystals), or when cloud temperatures are extremely cold. Cloud seeding introduces additional particles into clouds with high SLW to enhance snowfall.



## When does clouding seeding happen?



Only weather systems that meet specific criteria are targeted for cloud seeding. In particular, clouds need to contain high amounts of SLW and precipitation needs to be falling as snow (and not rain) to elevations of 1,400 metres or below within the target area.

The Cloud Seeding Program runs from May to October and has been shown to increase snowfall by 14% on average during operations.



The SMCS Act states that the area primarily targeted for increased precipitation must land within the Snowy Water Catchment.

Scan the QR code to view the map.



snowyhydro



## Looking after our environment

Environmental management has always been a critical component of the Cloud Seeding Program. To date, we have collected over 13,000 environmental samples as part of the Cloud Seeding Program's Environmental Management Plan with no evidence that cloud seeding has increased levels of silver in the environment.

Samples collected as part of our environmental chemistry monitoring program are independently analysed, then reviewed by the NSW Environment Protection Authority.