

BEFORE THE HEARINGS PANEL APPOINTED BY TIMARU DISTRICT COUNCIL

IN THE MATTER

of the Resource Management Act 1991
(the Act)

AND

IN THE MATTER

of hearing of submissions on the proposed
Timaru District Plan – Hearing F: Hazards
and Risks (Natural Hazards only) - Other
District-wide Matters

STATEMENT OF MIKE ANNAND FOR HORTICULTURE NEW ZEALAND

16 April 2025

INTRODUCTION

1. My name is Mike Annand.
2. I am the National Sales Manager, New Zealand, for FrostBoss Limited (formally NZFrost Fans). My role is to work with growers and councils on frost fan placement and consenting. I have been employed in this role for two years.
3. Prior to my current role I was employed by Farmlands as their National Pip and Stone technical manager and as the Hawkes Bay Horticulture Sales Manager. I have been in the apple industry for over 25 years in senior roles. I have had extensive on the ground experience carrying out frost fighting.

FROST FANS

1. When determining frost fan placement, we consider katabatic drift and, in some cases, undertake a climate study to determine the best placement for maximum effectiveness.
2. As a result of the above assessment, frost fans are sometimes placed in a typically warmer spot on the block. This means that the frost fan start temperature will need to be higher than on other parts of the block, that is from 0.5 degrees C to 5 degrees C.
3. The reason for the range in start temperature is that, if the frost fan is in the warmer part of the block, the colder part can be 3 degrees C plus colder. If the fan was unable to start at higher temperatures, then the grower will run the risk of losing the crop in the colder parts of his/her block.
4. A temperature probe placed in the block away from the frost fan and placed in colder spots if possible, will trigger the fan at the set temperature. FrostBoss fans also have a back up probe on the back of the fan and a temperature probe on the tower.
5. The Frost fan works by pulling the warmer air from the inversion layer which sits above the frost fan and mixing it across the orchard. So, the start temperature needs to be above freezing temperature to allow the fan to work at it best.
6. Frost Fans are expensive to run, consuming upwards of 21 litres per hour of fuel, so growers do not want to waste fuel by running the fans unnecessarily.

SUMMARY

We request that the 2.0C threshold for the operation of frost fans be removed to allow frost fans to be operated as appropriate.

Mike Annand

15 April 2025

ATTACHMENTS

PAHEKO ORCHARDS

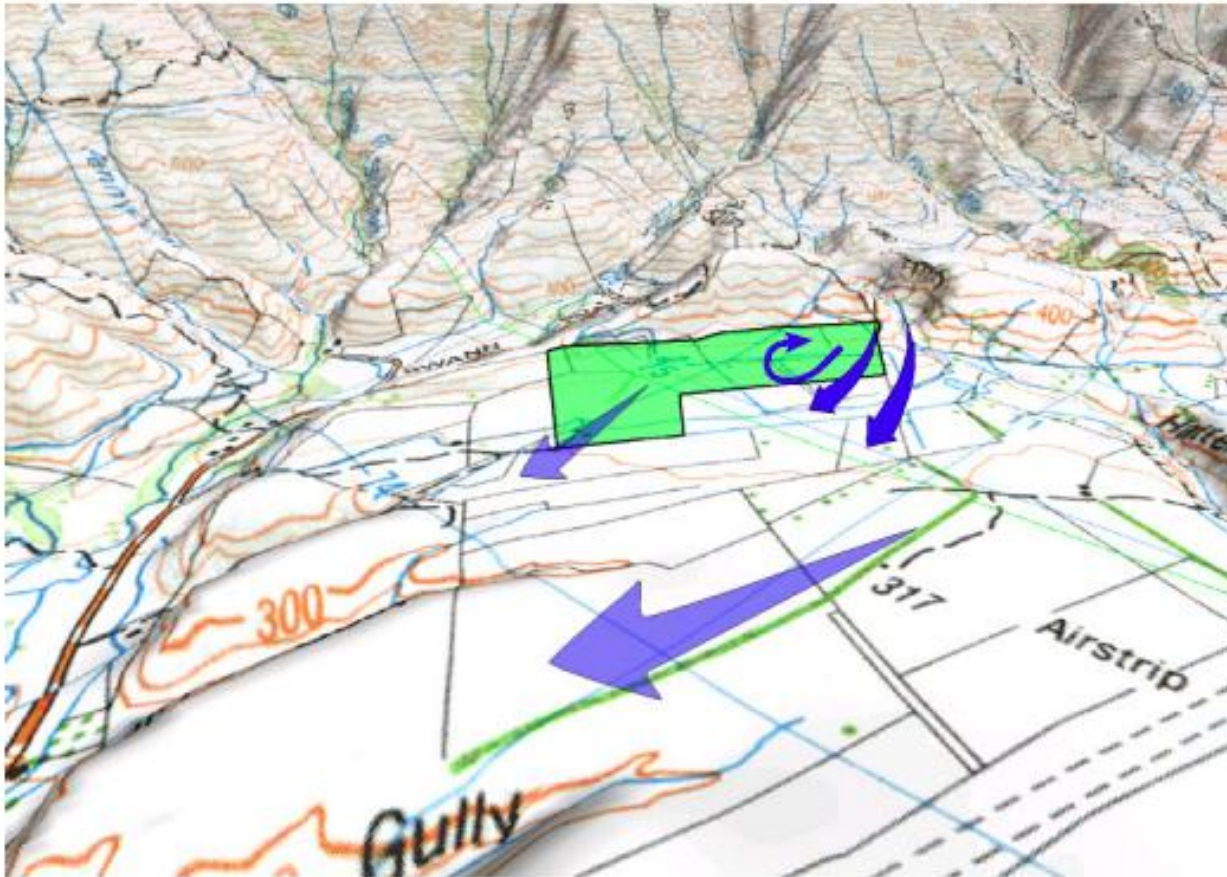


Figure 1 A schematic illustration of katabatic drift across the proposed Paheko Orchard. Katabatic drift was observed to blow from the north, although a return flow circulates air back towards Hatters Gully mid-slope.

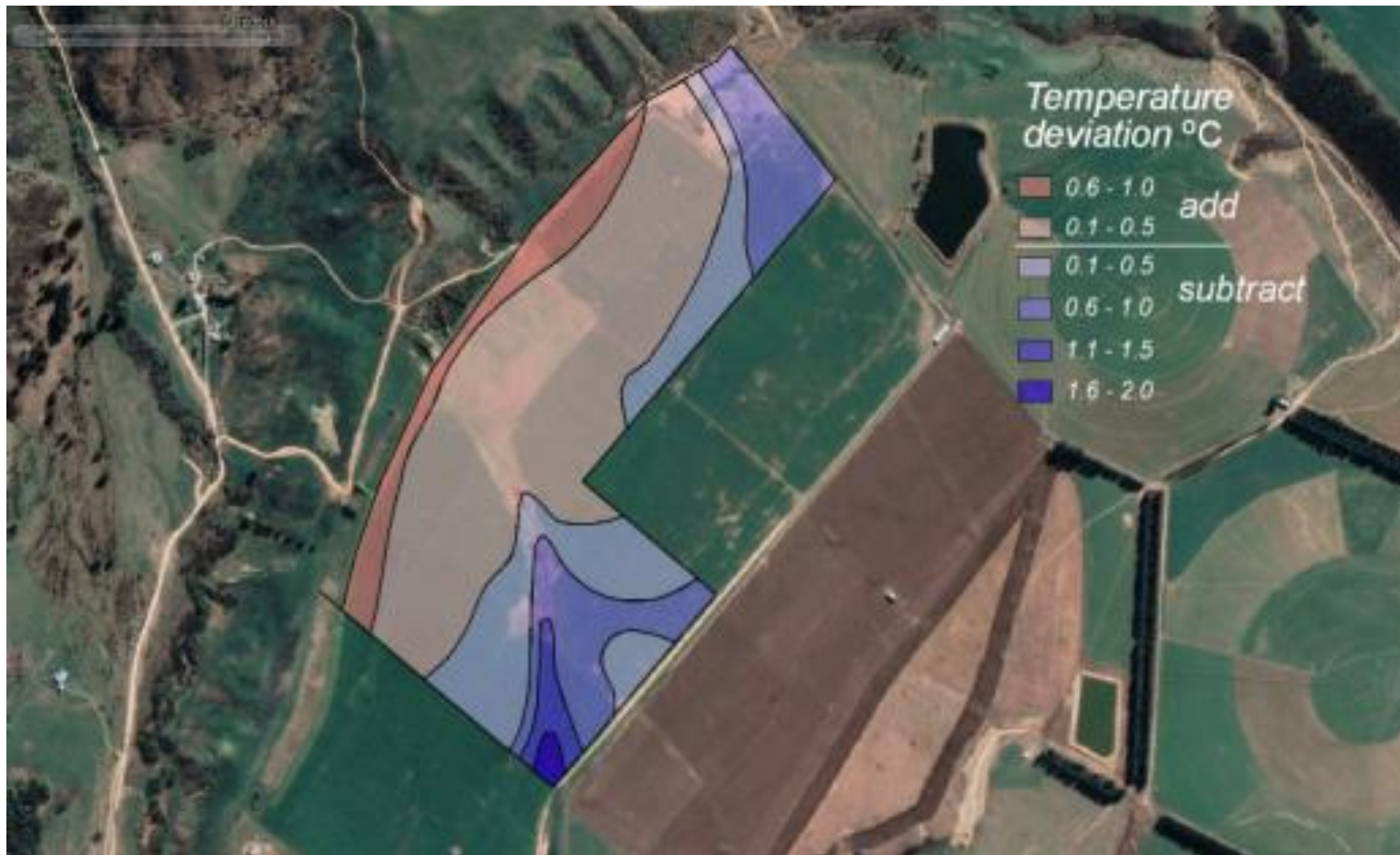


Figure 2 Block temperature map



Figure 3 Proposed location of frost fans