Survey of Rural Decision Makers 2025

Short report for the Climate Change Commission

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1 Purpose and remit

He Pou a Rangi – Climate Change Commission contracted Manaaki Whenua – Landcare Research (MWLR)[1] to fill knowledge gaps relating to climate-related risks and actions that the rural sector may take to prepare for/adapt to those risks. Specifically, they sought to better understand:

- climate beliefs (e.g. whether respondents believe in climate change and the extent to which they believe that climate change is anthropogenic)
- how the rural sector perceives climate-related impacts on their businesses (e.g. whether they think changing climate will be net beneficial or net detrimental)
- managerial focus (e.g. how much effort is spent on climate considerations vis-à-vis other day-to-day demands on the farm)
- the past, current, and anticipated future uptake of specific adaptation practices (e.g. increasing water storage or using recycled water).

These knowledge gaps were to be addressed by including a series of co-designed questions in the 2025 Survey of Rural Decision Makers. After additional discussion, the focus of the fourth bullet point above was changed to understanding adaptation in the face of shifting seasonal weather patterns and extreme weather events.

2 Methods

2.1 Survey design

The Survey of Rural Decision Makers was first conducted by MWLR in 2013. It has been conducted every second year since, making the 2025 survey the seventh wave in the series. It is among the longest-running farmer surveys in the world.

A core set of topics has been included in each wave of the survey. These topic include:

- ownership structure
- property type and location
- current land use
- land-use change
- profitability
- preferences and values
- demographics
- future planning.

[1] On 01 July 2025, Landcare Research New Zealand Ltd became the New Zealand Institute for Bioeconomy Science Ltd; Manaaki Whenua – Landcare Research operates as an internal group within this Institute, which is less formally known as the Bioeconomy Science Institute (BSI).

In addition to these core topics, each wave of the survey included several topics of contemporary scientific and/or policy interest. The 2025 Survey of Rural Decision Makers included the following additional topics:

- participation in catchment groups
- managerial focus
- irrigation
- wilding conifers
- climate and weather
- greenhouse gas mitigation
- adoption of new technologies
- attitudes toward gene technologies
- use of farm advisors
- regulation
- well-being.

The questionnaire was co-developed with stakeholders and tested extensively with farmers, foresters, growers, and lifestyle block owners before it was enumerated (i.e. administered). It was reviewed by the Manaaki Whenua – Landcare Research Social Ethics Panel (approval number 2223/29) under the guidelines of the Code of Ethics developed by the New Zealand Association of Social Science Researchers.

2.2 Enumeration

The 2025 Survey of Rural Decision Makers was conducted online using the Qualtrics survey platform. Advantages of online data collection versus in-person or telephone surveys include reducing costs, increasing data-entry efficiency, improving engagement through tailored question types; and enabling a personalised experience via complex branching and randomisation (e.g. Dillman 2006; Bethlehem & Biffignandi 2012). Recognised challenges include sampling bias due to lower Internet access in rural areas (e.g. Vehovar & Manfreda 2008), although New Zealand's high internet penetration (Commerce Commission of New Zealand 2025) reduces this concern. In addition, New Zealand's uptake of satellite fixed broadband – which covers all rural areas – is the highest of any developed country (OECD 2025).

Potential respondents were invited to participate via email. The contact database largely consisted of farmers, foresters, growers, and lifestyle block owners who had completed previous waves of the survey and those who had signed up for the 2025 Survey of Rural Decision Makers to support a charity partner. The database of potential respondents was augmented with registrants in a national farm location database.

Each potential respondent received a unique URL to facilitate reminders being sent and to stop people from responding more than once, thereby preventing double counting. Reminders were sent to non-responders at three-weekly intervals until the survey closed. Respondents could choose to opt out of this and/or all future surveys.

Beef+Lamb New Zealand, Dairy New Zealand, the Farm Foresters Association, Horticulture New Zealand, and the National Animal Identification Tracing (NAIT) programme each encouraged participation through their member newsletters. Participation was incentivised via a $15 donation to a charity selected by each respondent. The list of charity partners for 2025 included the Rural Support Trust, the Farmers Adverse Events Trust, New Zealand Young Farmers, Rural Women New Zealand, and Young Grower of the Year. In addition, ten $500 supermarket vouchers were distributed to respondents via prize draws.

To accommodate seasonal pressures in different industries (e.g. pruning, calving, and lambing), the survey was open from 1 June to 15 August 2025.

2.3 Survey sample

In total, 2,794 people completed the 2025 wave of the Survey of Rural Decision Makers.

Some 1,914 commercial operators responded. This 'commercial' sample represented 4.4% of the roughly 43,500 commercial farms and forests in New Zealand (Stats NZ 2025).

Some 881 respondents identified as lifestyle block owners. This 'lifestyle' sample represented 1.3% of the estimated 66,000 properties in AgriBase (see https://www.asurequality.com/services /other-services/agribase/) whose owners would self-identify as lifestyle block owners as defined by MPI (2022).

Respondents represented all 13 cities and 51 of 53 rural districts in New Zealand. The average respondent is a 64-year old male of European/Pākeha ancestry with a diploma in agriculture. This demographic profile is consistent with earlier waves of the survey (e.g. Niles et al. 2025; Stahlmann-Brown et al. 2025), although slightly older than the average reported by Murphy (2024).

Respondents were asked to identify all their land uses and then asked which land use they considered their primary activity. Among the 1,914 commercial respondents, 52% identified their primary activity as raising sheep and beef, 2% as dairy, 4% other livestock, 9% horticulture, 5% forestry, and 7% other primary industry. This last category includes graziers, farm-based tourism operators, and beekeepers.

According to Stats NZ's Agricultural Production Statistics (Stats NZ 2025), sheep and beef farmers represent 47% of primary industry, dairy farmers represent 21%, other livestock farmers represent 4%, arable farmers represent 4%, horticulturalists represent 15%, and foresters represent 9%. In the 2025 Survey of Rural Decision Makers, sheep and beef farmers and those involved in other forms of primary industry were over-represented while horticulturalists and foresters were underrepresented. Survey weights based on Stats NZ farm counts were used when a nationally representative commercial sample is called for in the analysis.

3 Results

This short report presents high-level results from the 2025 Survey of Rural Decision Makers to provide insights on the questions outlined in Section 1 (Purpose and remit). Results are organised according to topic area (climate beliefs and expectations; seasonal weather patterns; extreme weather events; and land management). The presentation of results is driven by figures, and each figure is supported by a few sentences of explanatory text. Note that due to rounding, or ability to select multiple options, some figures may not add to 100%.

The questions used in the analysis are included as Appendix 1 to this short report. Please note that they are a subset of all questions in the entire survey (so some questions may appear to be 'missing' from the numbered sequence Appendix 1).

3.1 Climate beliefs

Survey respondents were asked two foundational questions about climate change belief. The first question was stated as follows:

> Please select the statement that best indicates your personal beliefs about climate change. *Note that this question asks whether climate change is occurring, not about the causes*.

- Climate change is not occurring
- There is insufficient evidence to know whether climate change is occurring
- Climate change is occurring
- Unsure

Conditional on selecting the answer 'Climate change is occurring', a smaller set of respondents then saw the following question:

> Please select the statement that best indicates your personal beliefs about the causes of climate change.

- Climate change is mostly driven by natural causes
- Climate change is driven equally by natural causes and human causes
- Climate change is driven mostly by human causes
- Unsure

Figure 1 presents results for both questions.

Some 69% of commercial respondents believed that climate change is occurring, 6% believed that climate change is not occurring, and 26% either believed there is insufficient evidence to know whether climate change is occurring or reported being unsure.

Among the 69% respondents who believed that climate change is occurring, 41% describe the cause as being mostly human, 42% described the cause as being driven equally by human and natural causes, and 14% described the causes as being most natural. Only 3% of respondents who believed that climate change is occurring were unsure about the causes.

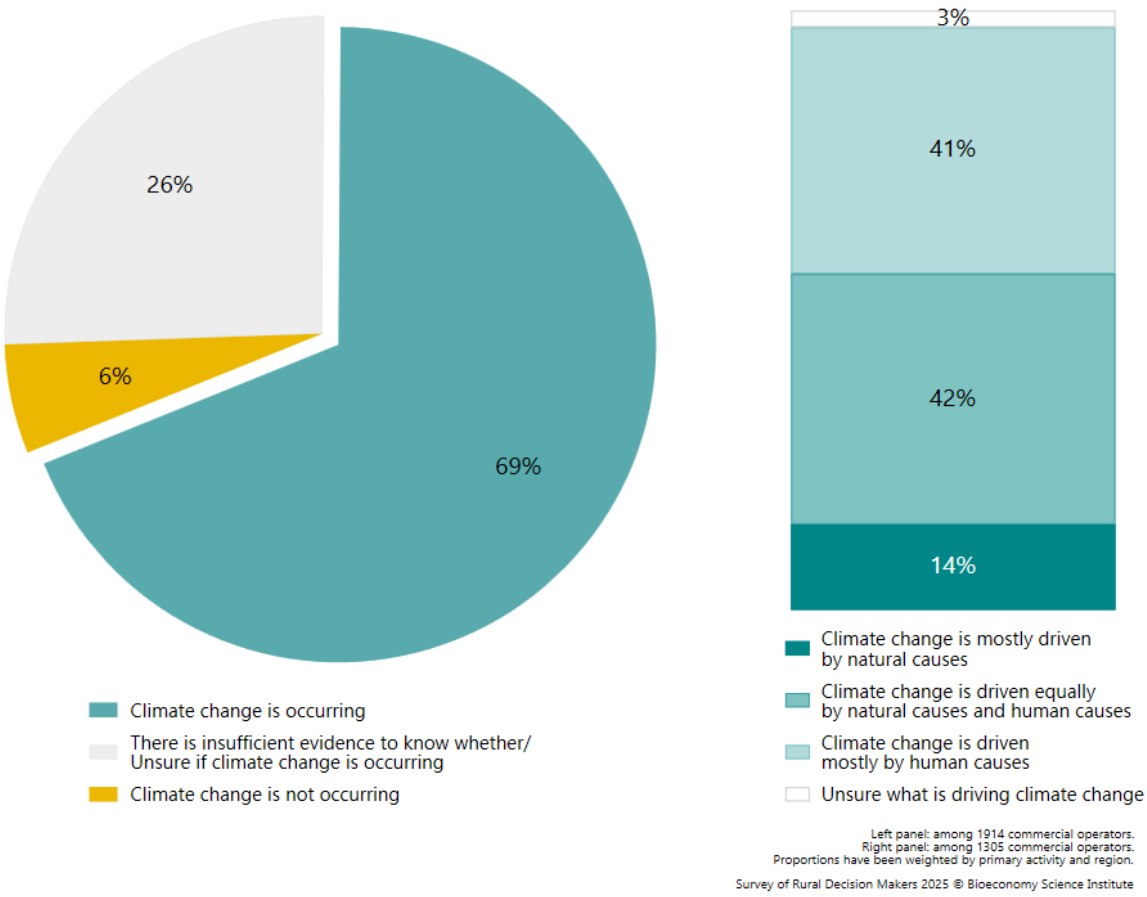

Figure 1. Climate beliefs and opinion on the causes of climate change.

Farmers, foresters, and growers were also asked about climate change in the 2021 Survey of Rural Decision Makers. In that survey, the question was worded as follows:

> Which of the following statements best describes your personal thoughts about climate change?

- Climate change is real and is already affecting New Zealand (positively or negatively)
- Climate change is real. Although it is not yet affecting New Zealand, it will in the next 10 years (positively or negatively)
- Climate change is real. Although it will not affect New Zealand in the next 10 years, it will in the future (positively or negatively)
- Climate change is real, but it will not affect New Zealand
- Climate change is not real
- Unsure.

In 2021, 10% of respondents selected 'Climate change is not real' and 9% of respondents selected 'Unsure.

Figure 2 shows the percentage of those holding various climate beliefs among commercial respondents by primary activity (based on the 2025 survey). The numbers in parentheses below the pie charts show the numbers of respondents. The numbers on the charts are percentages holding a specific belief. Dairy and arable farmers were the least likely to believe that climate change is occurring (62%) while foresters were the most likely to believe that climate change is occurring (92%).

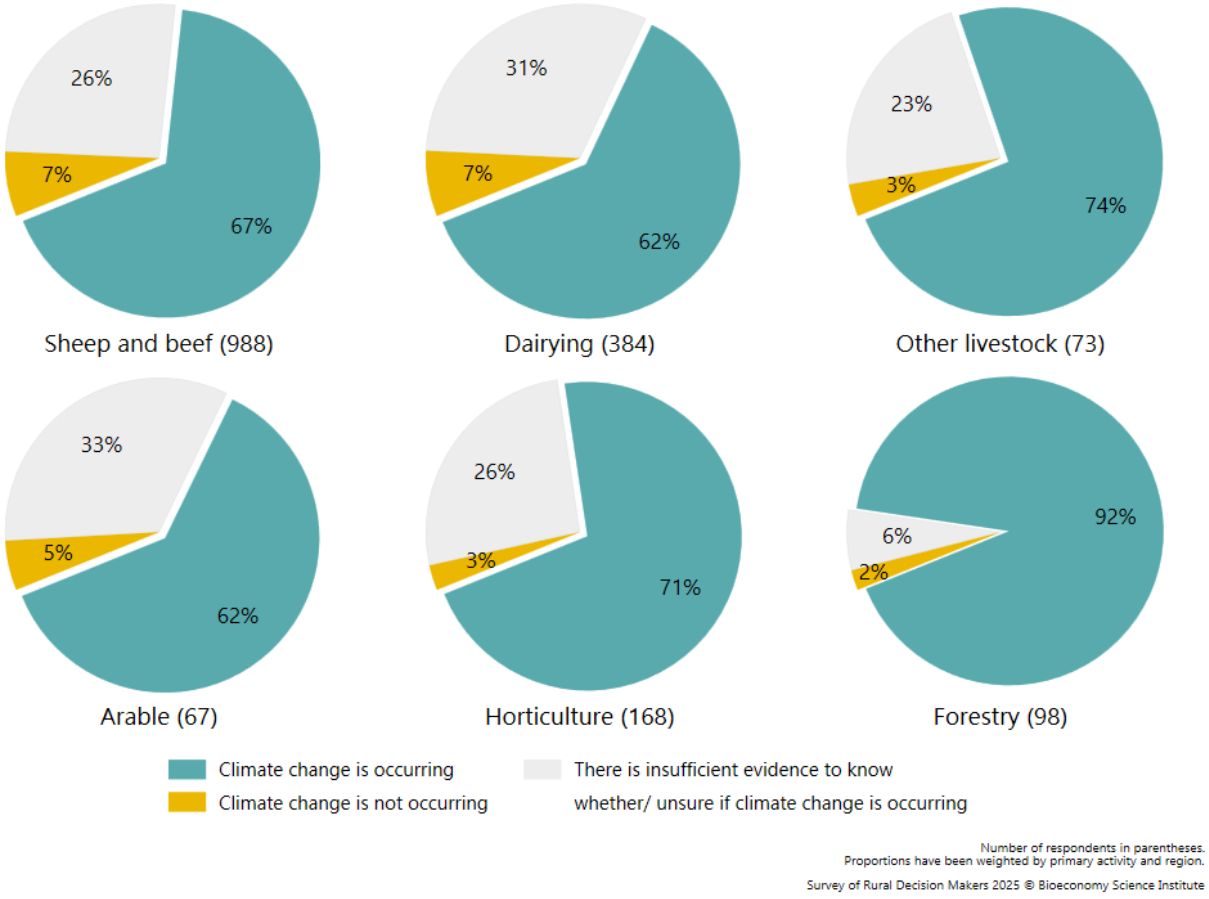

Figure 2. Climate beliefs (by industry).

Figure 3 shows climate belief among commercial respondents by region. The numbers in parentheses below the pie charts show the numbers of respondents. The numbers on the charts are percentages holding a specific belief. Respondents in Wellington (78%) and Tasman/Nelson (77%) are most likely to believe that climate change is occurring; respondents in Taranaki (62%) and Northland (63%) were least likely to believe that climate change is occurring.

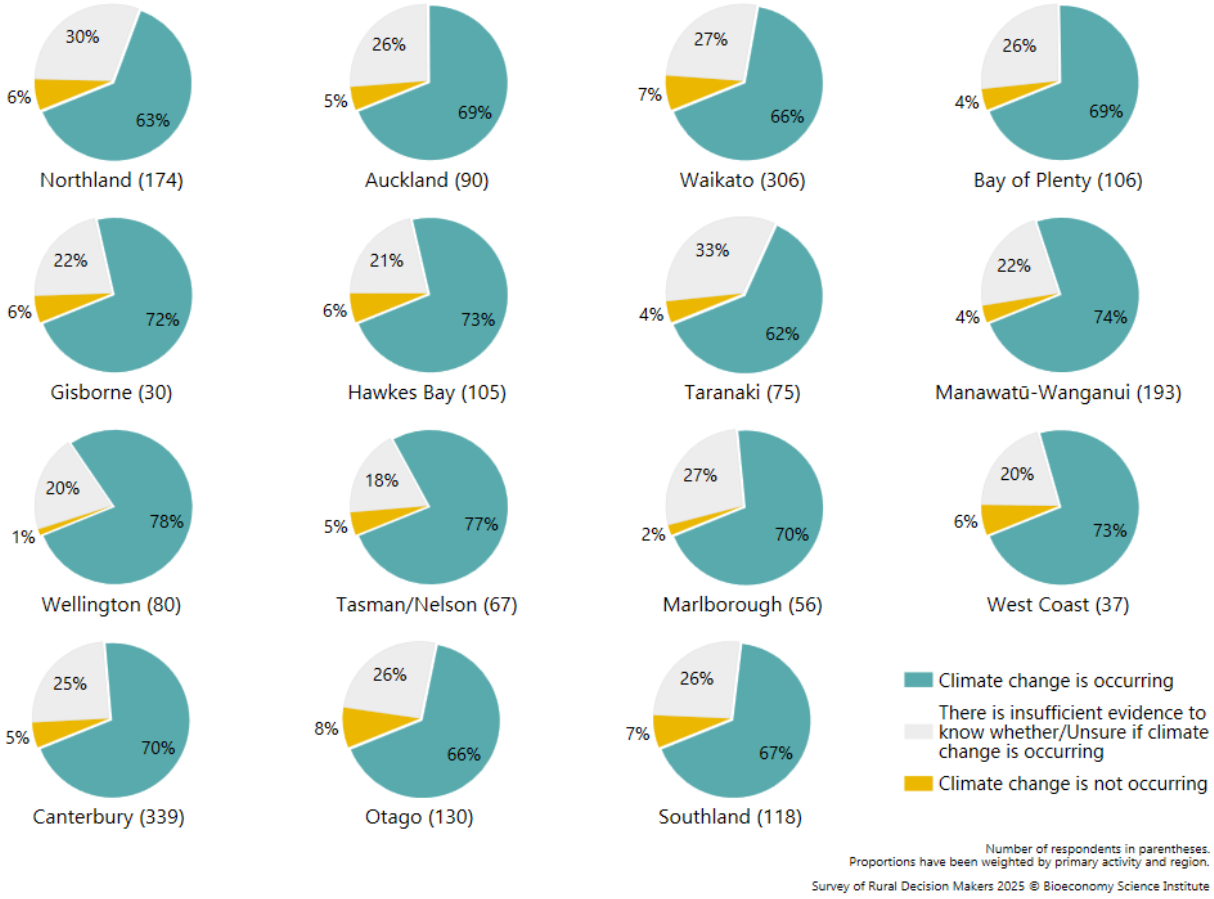

Figure 3. Climate beliefs among commercial respondents (by region).

Figure 4 shows beliefs about the cause of climate change (among commercial respondents who believed climate change is occurring) by primary activity. The number of respondents is shown in parentheses below the bars, with percentages on the bars. Foresters (59%) and horticulturalists (55%) are most likely to believe that the cause of climate change is mostly human. Dairy farmers (31%) and arable farmers (31%) are least likely to believe that the cause of climate change is mostly human-driven.

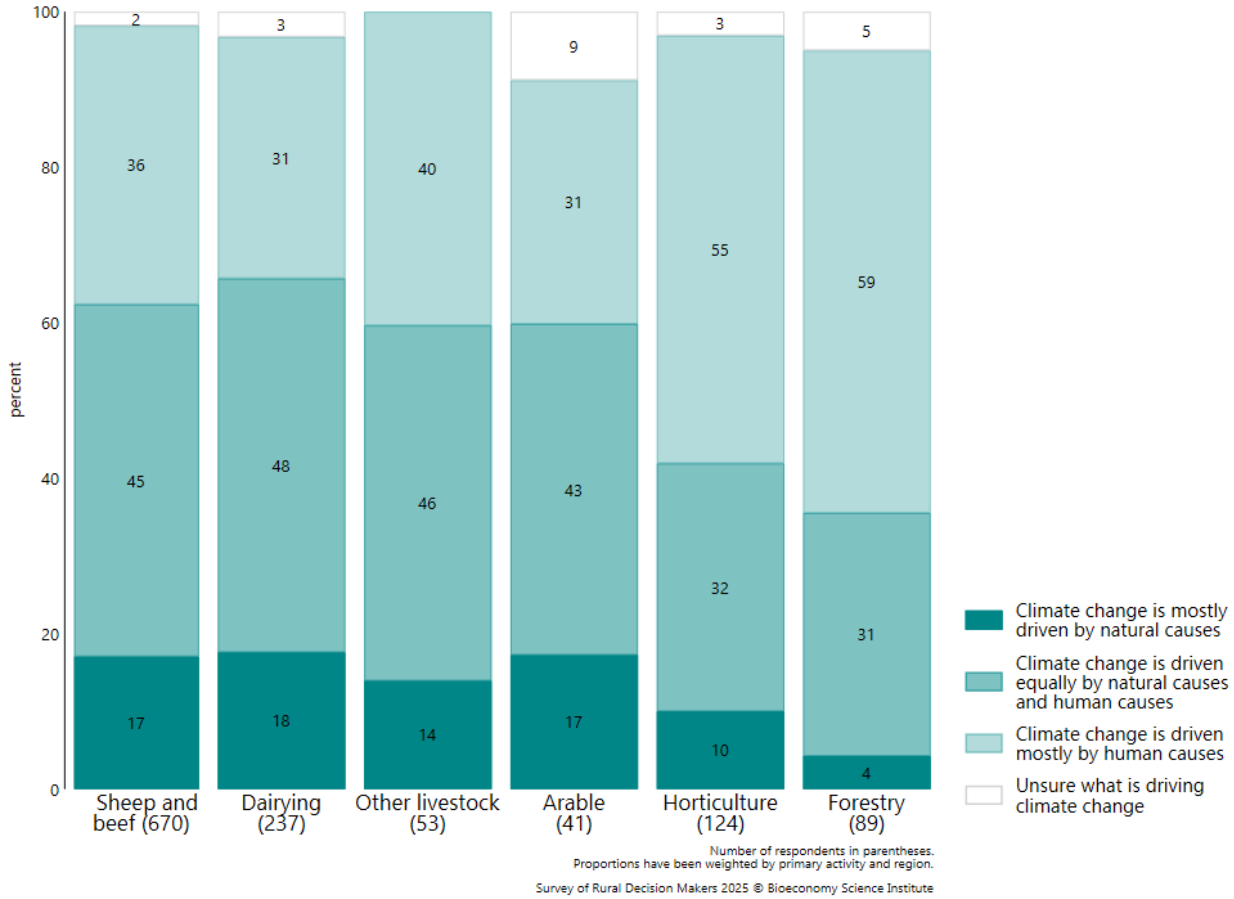

Figure 4. Opinion on the cause of climate change (among believers, by industry).

Figure 5 shows beliefs about the cause of climate change (among commercial respondents who believe climate change is occurring) by region. The number of respondents per region is shown in parentheses to the left of the bars, with percentages for belief types on the bars. Respondents in Tasman/Nelson (55%) were most likely to believe that the cause of climate change is mostly human-driven. Respondents in the West Coast (17%) were least likely to believe that the cause of climate change is mostly human.

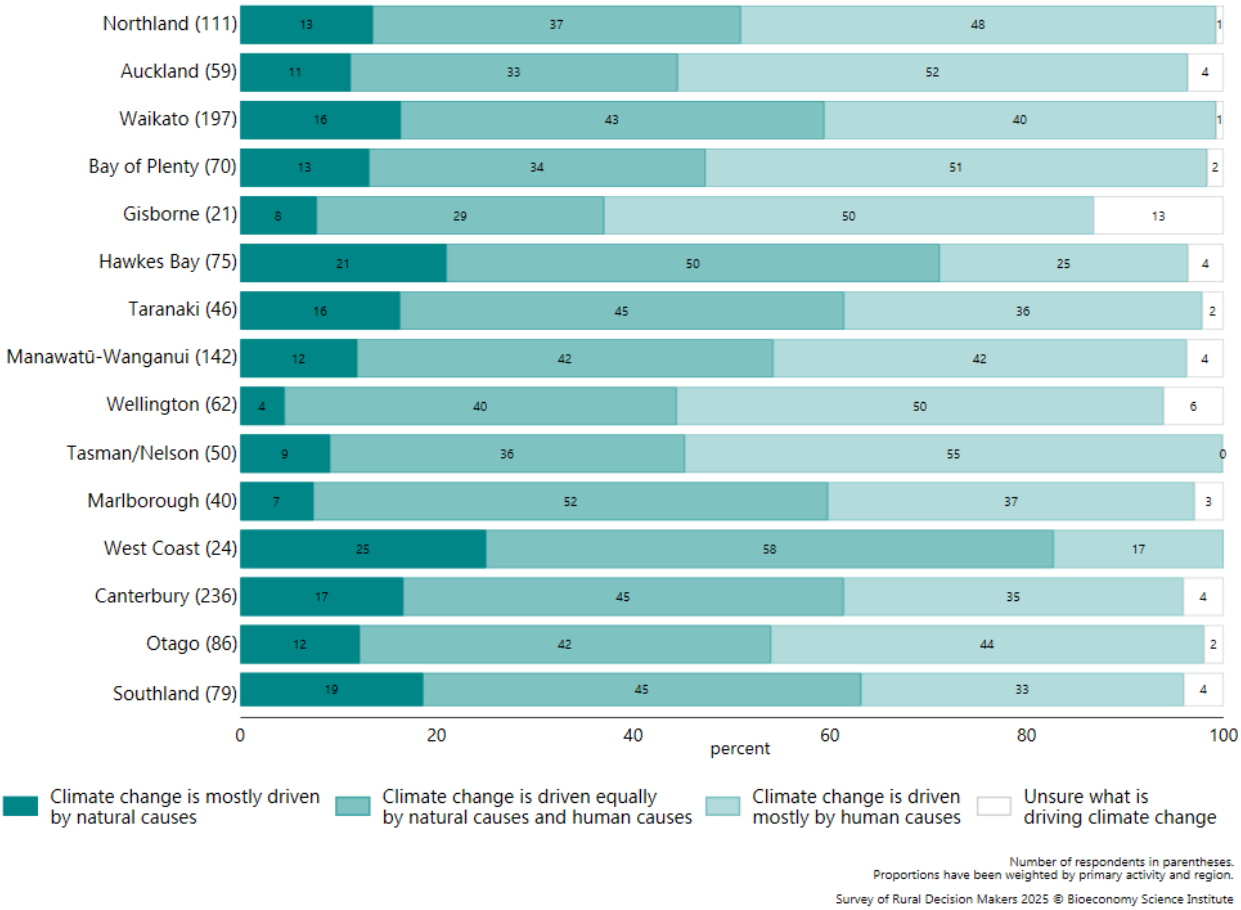

Figure 5. Opinion on the cause of climate change among commercial respondents (among believers, by region).

3.2 Seasonal weather patterns

Because Te Pou a Rangi – The Climate Change Commission was interested in respondents' perceptions of both seasonal weather patterns and extreme weather events, we used randomisation in the 2025 Survey of Rural Decision Makers. Specifically, respondents who believed that climate change is occurring were randomly split into two groups: half saw questions relating to seasonal weather patterns and half saw questions relating to extreme weather events. Under the assumption that people who do not believe climate change is occurring also do not think that seasonal weather patterns have changed, all non-believers were shown the extreme weather questions.

Figure 6 shows whether commercial respondents believed that seasonal weather patterns (specified as temperatures and rainfall) have changed in the last 10 years. In Hawke's Bay 83% of respondents reported that seasonal weather patterns have changed, versus 39% of respondents for the West Coast. Respondents in Taranaki report the greatest uncertainty (34% Unsure).

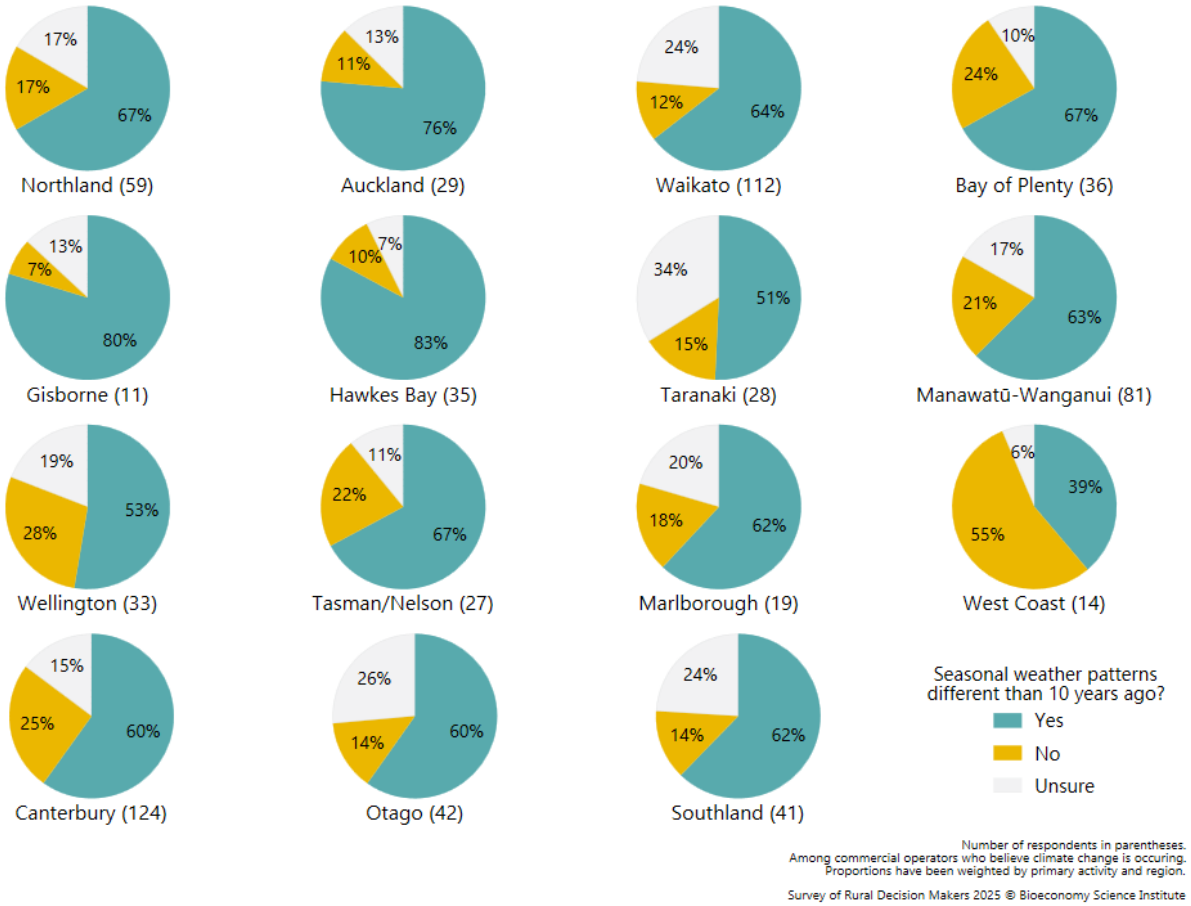

Figure 6. Change in seasonal weather patterns over the last 10 years among commercial respondents (among believers, by region).

Figure 7 shows how commercial respondents believe rainfall (top row) and temperature (bottom row) patterns will change over the next 25 years by season. More respondents believed that spring and winter would be wetter and that summer would be drier. Temperatures were expected to rise in all seasons.

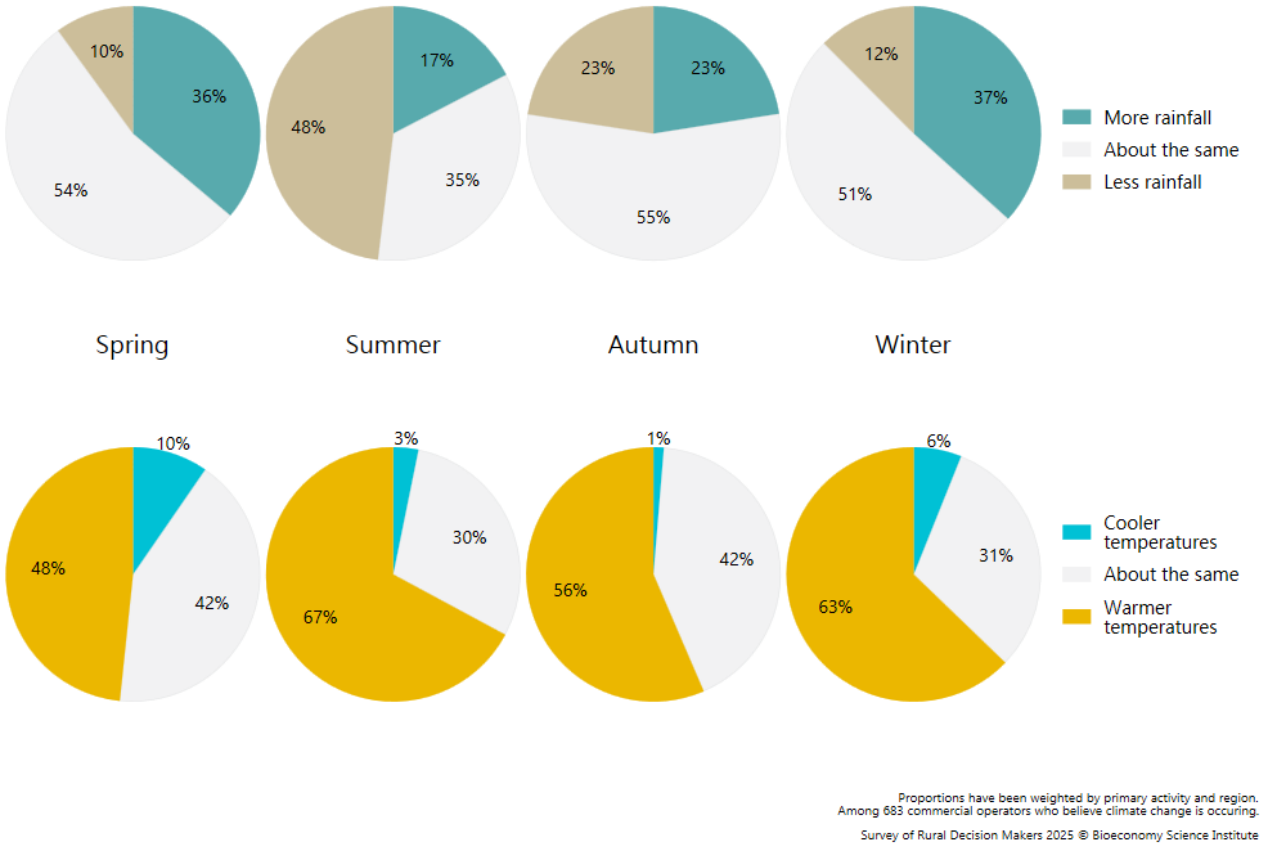

Figure 7. Expectations of change in seasonal weather patterns over the next 25 years among commercial operators who believe in climate change.

Figures 8, 9, 10, and 11 show expectations about rainfall (left panel) and temperature (right panel) for each region by season. The numbers in parentheses show numbers of respondents. The numbers on the bars are percentages in each class.

More spring rainfall was expected by 58% of respondents on the West Coast, 58% of respondents in Gisborne, and 57% of respondents in Southland (Figure 8). Warmer spring temperatures were expected by 79% of respondents in Auckland, 64% of respondents in Hawke's Bay, and 61% of respondents in Marlborough.

A majority of respondents in Gisborne expected wetter summers in the future (Figure 9) while a majority of respondents in Northland, Auckland, Waikato, Taranaki, Manawatū-Wanganui, and Wellington expected drier summers in the future. Apart from Canterbury, a majority of respondents in each region expected warmer summer temperatures.

Respondents in Gisborne generally expected more autumn rainfall in the future (Figure 10). Autumn temperatures were most commonly expected to rise. Wetter winters were expected in Northland and Auckland (Figure 11), and warmer winters expected by a majority of respondents in regions except the West Coast.

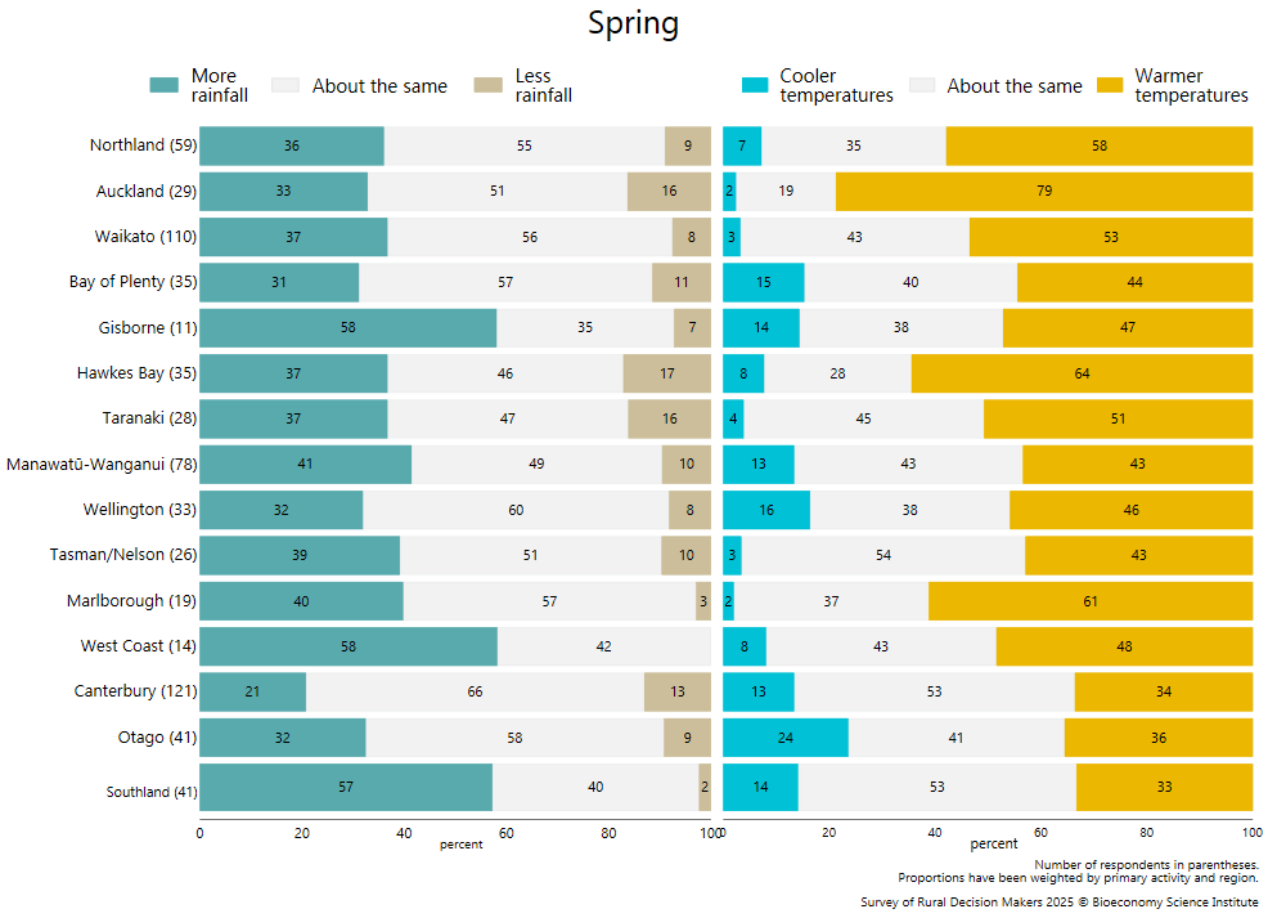

Figure 8. Expectations of change in spring weather patterns over the next 25 years among commercial operators who believe in climate change (by region).

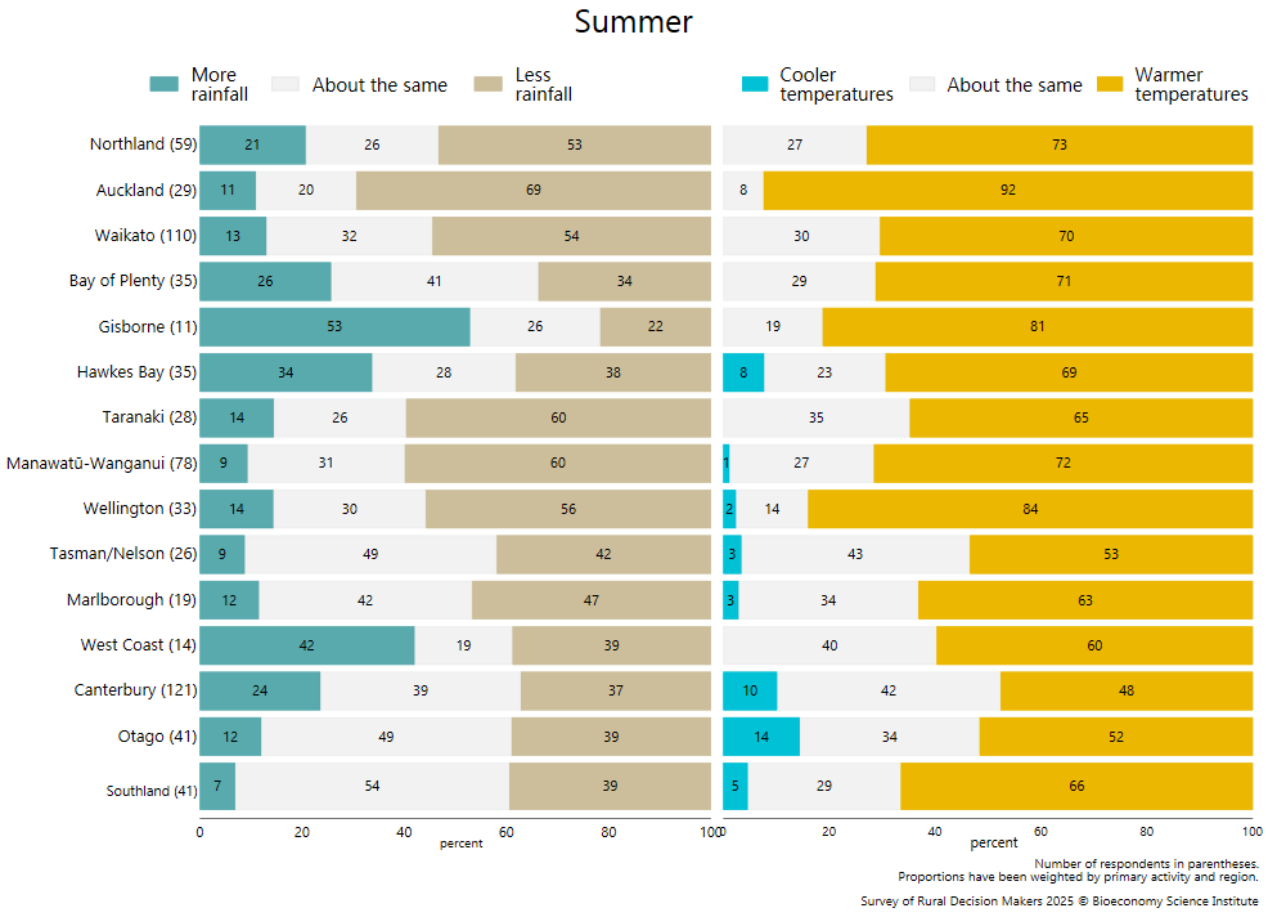

Figure 9. Expectations of change in summer weather patterns over the next 25 years among commercial operators who believe in climate change (by region).

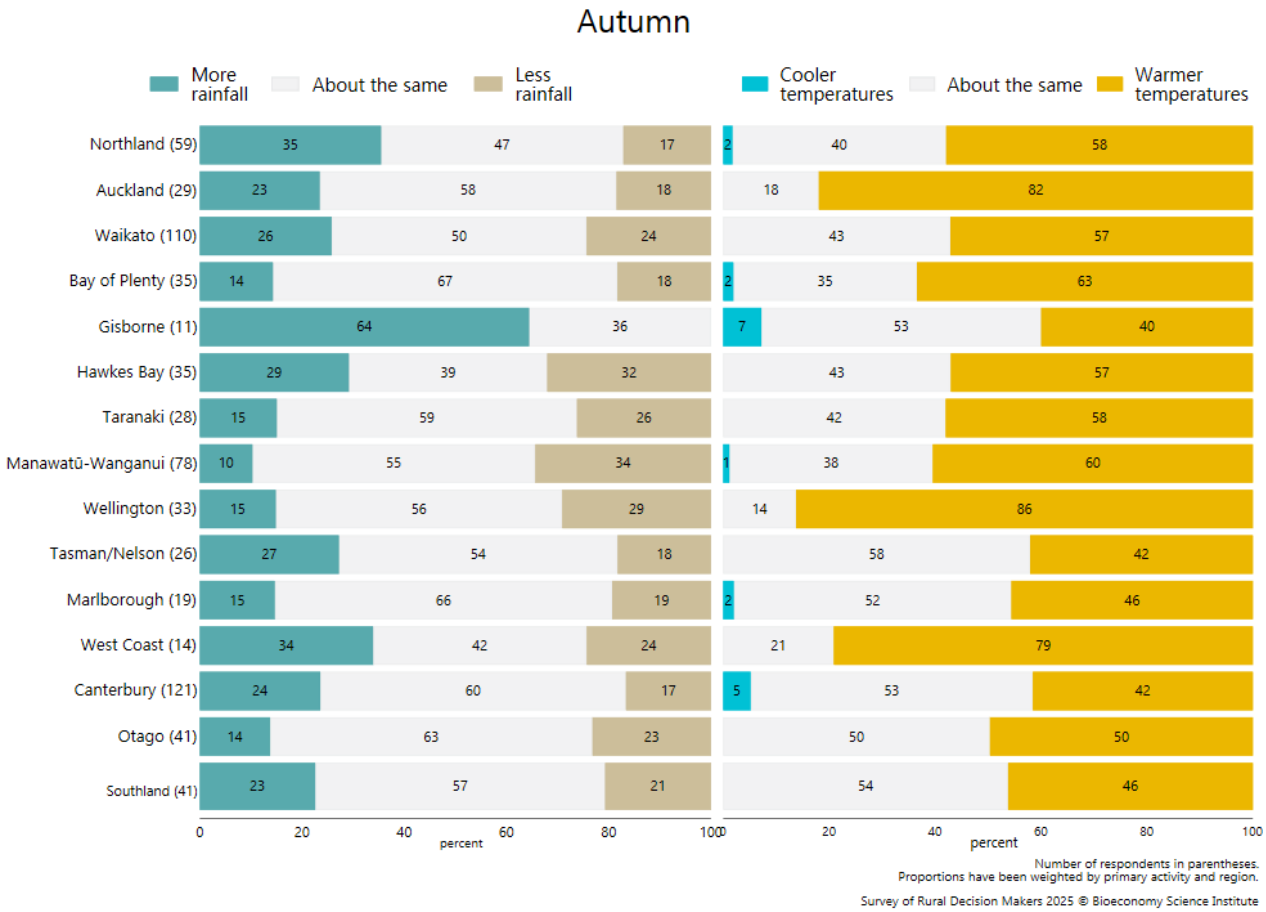

Figure 10. Expectations of change in autumn weather patterns over the next 25 years among commercial operators who believe in climate change (by region).

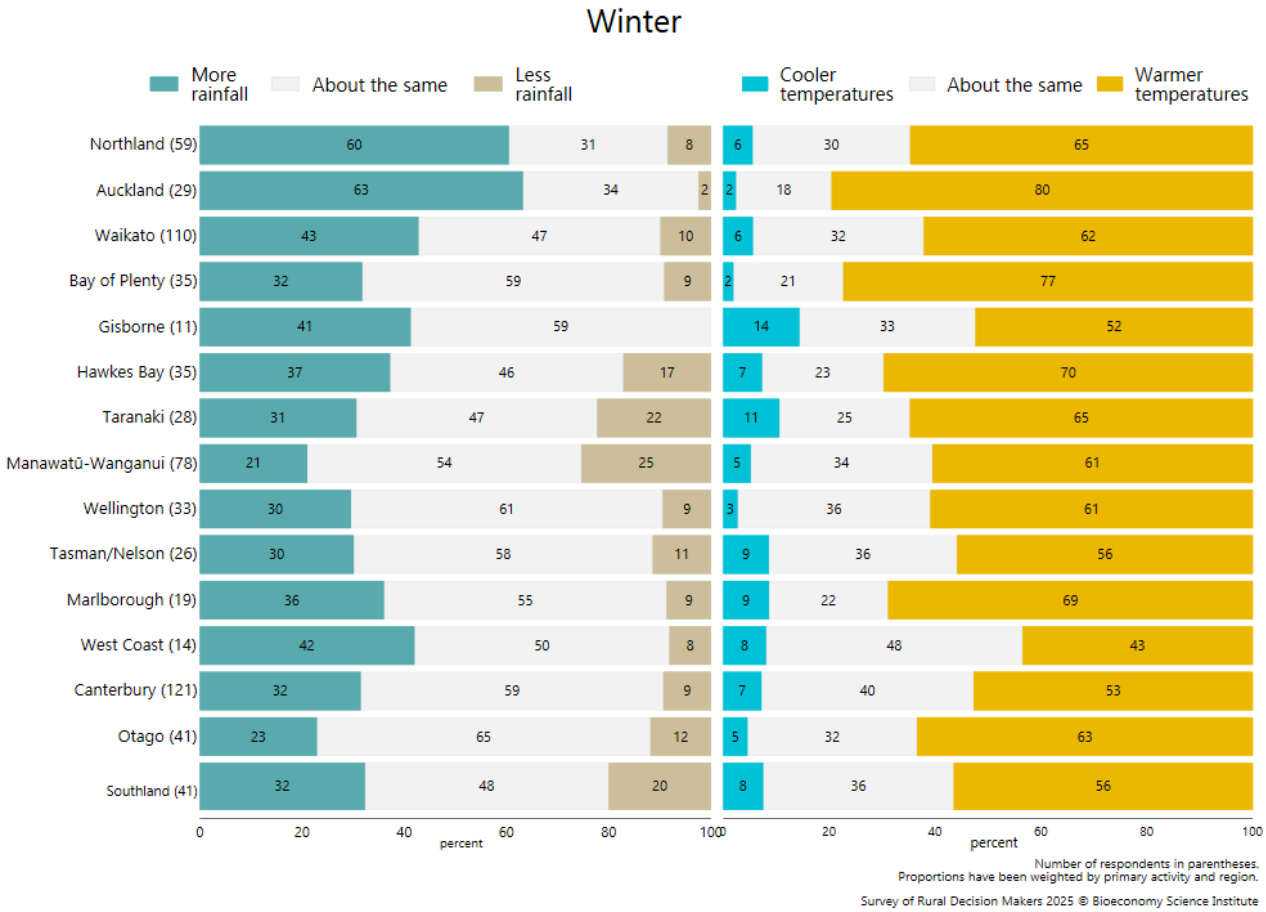

Figure 11. Expectations of change in winter weather patterns over the next 25 years among commercial operators who believe in climate change (by region).

Respondents were asked about the impacts of shifting seasonal weather patterns on their properties. Figure 12 indicates whether they: i) had made changes on their property (upper left); ii) whether they could make changes (lower left); iii) whether they believed their property was resilient (upper right); and iv) whether they felt the ability of the property to adjust to shifting seasonal weather patterns was beyond their control (lower right). The median respondent neither agreed nor disagreed in all cases except one: the median respondent believed/agreed that they can make on-property changes to adjust to shifting seasonal weather patterns (lower left).

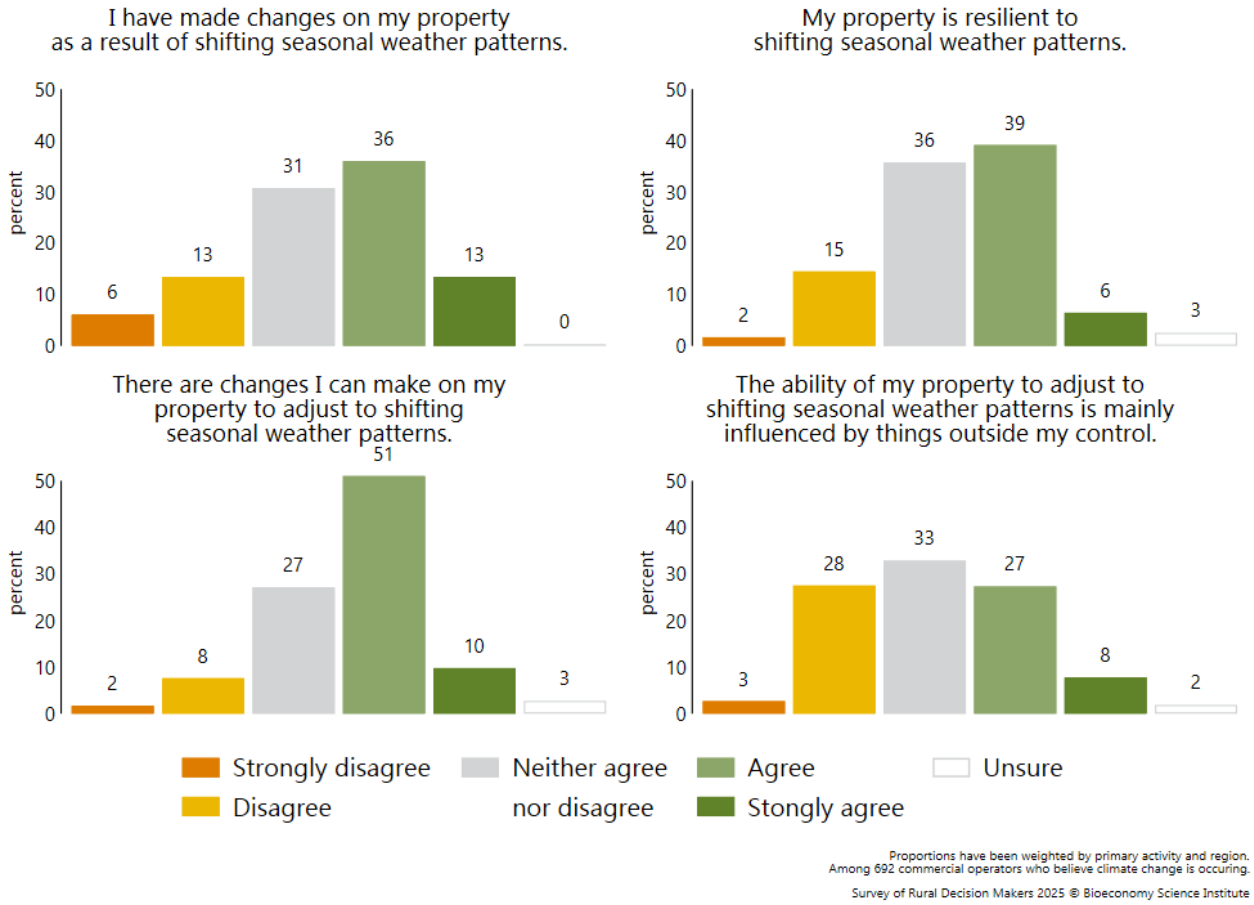

Figure 12. Agreement with statements about farm resilience and making changes to the farming operation in response to changes in seasonal weather patterns, among commercial operators who believe in climate change.

Figures 13, 14, 15, 16 describe agreement with each of the four statements shown in Figure 12, when broken down by primary activity (industry). In each figure, the number of respondents is shown in parentheses below the bars, with percentages on the bars.

Dairy and arable farmers were more likely to have made changes to the property as a result of shifting seasonal weather patterns (Figure 13). Arable farmers were more likely than other groups to believe that there were changes they can make to adjust to shifting seasonal weather patterns (Figure 14). Dairy farmers were the most likely to believe that their property was resilient to shifting seasonal weather patterns (Figure 15). And dairy farmer disagreed most strongly out of all industry groups that factors outside their control influenced their ability to adjust to shifting seasonal patterns (Figure 16).

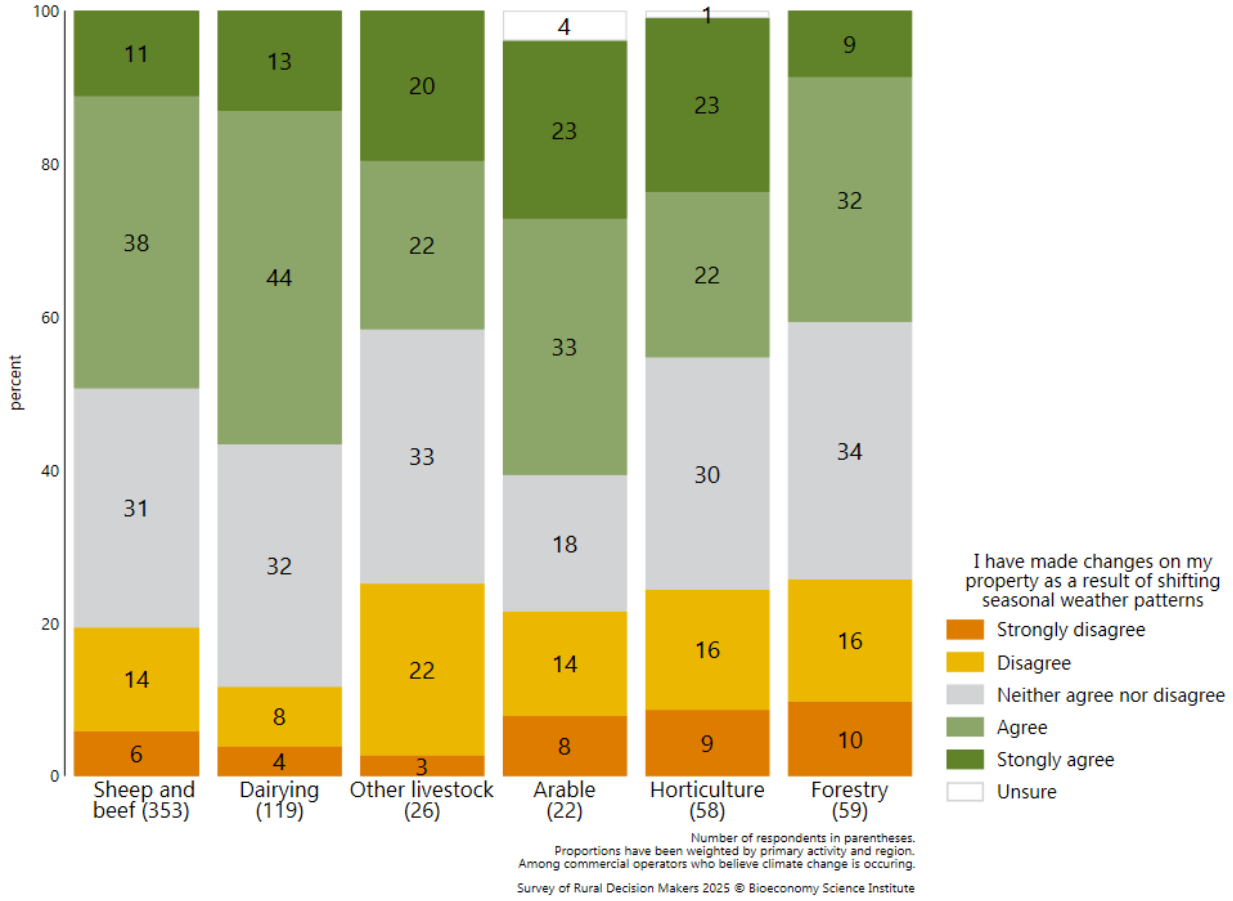

Figure 13. Agreement with statement, 'I have made changes on my property as a result of shifting seasonal weather patterns' among commercial operators who believe in climate change (by industry).

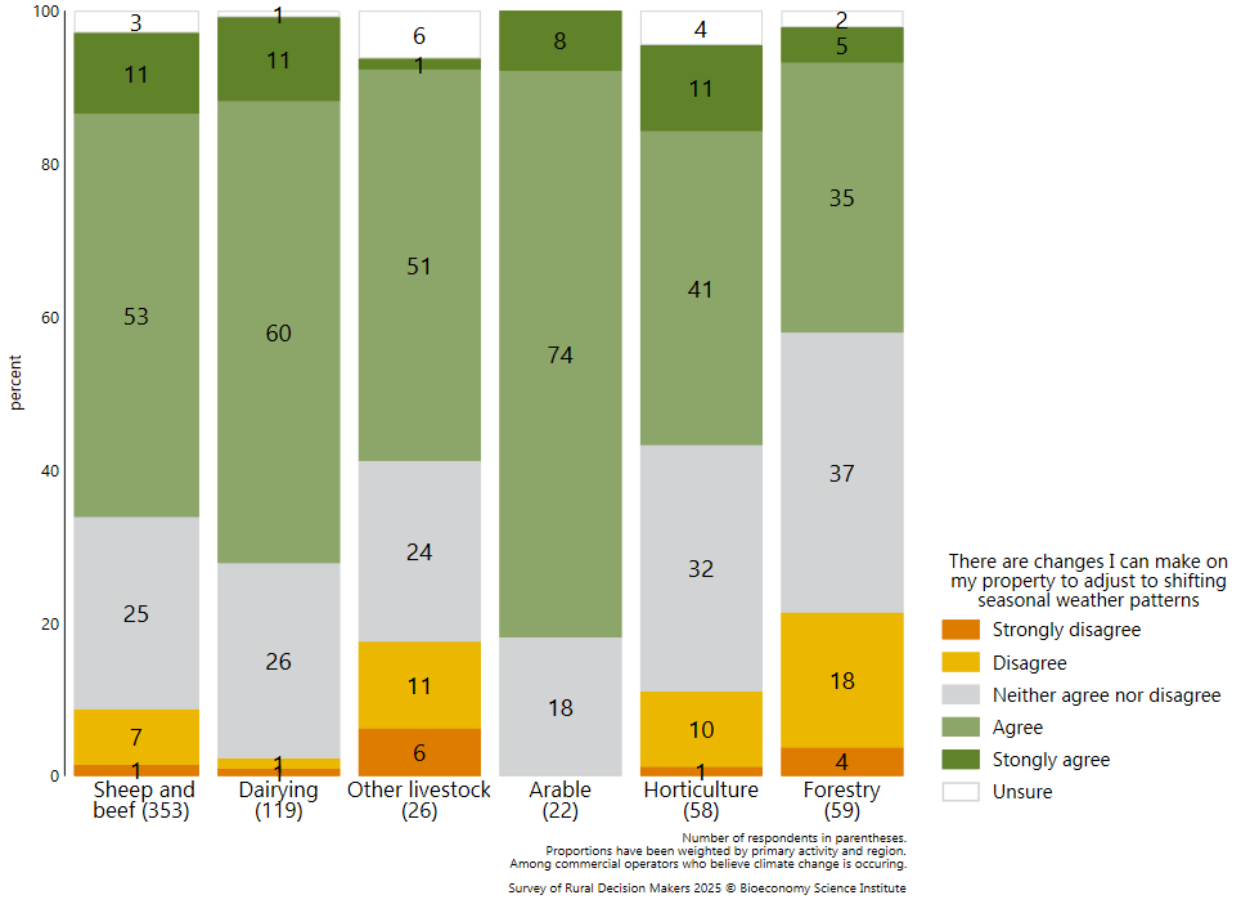

Figure 14. Agreement with statement, 'There are changes I can make on my property to adjust to shifting seasonal weather patterns' among commercial operators who believe in climate change (by industry).

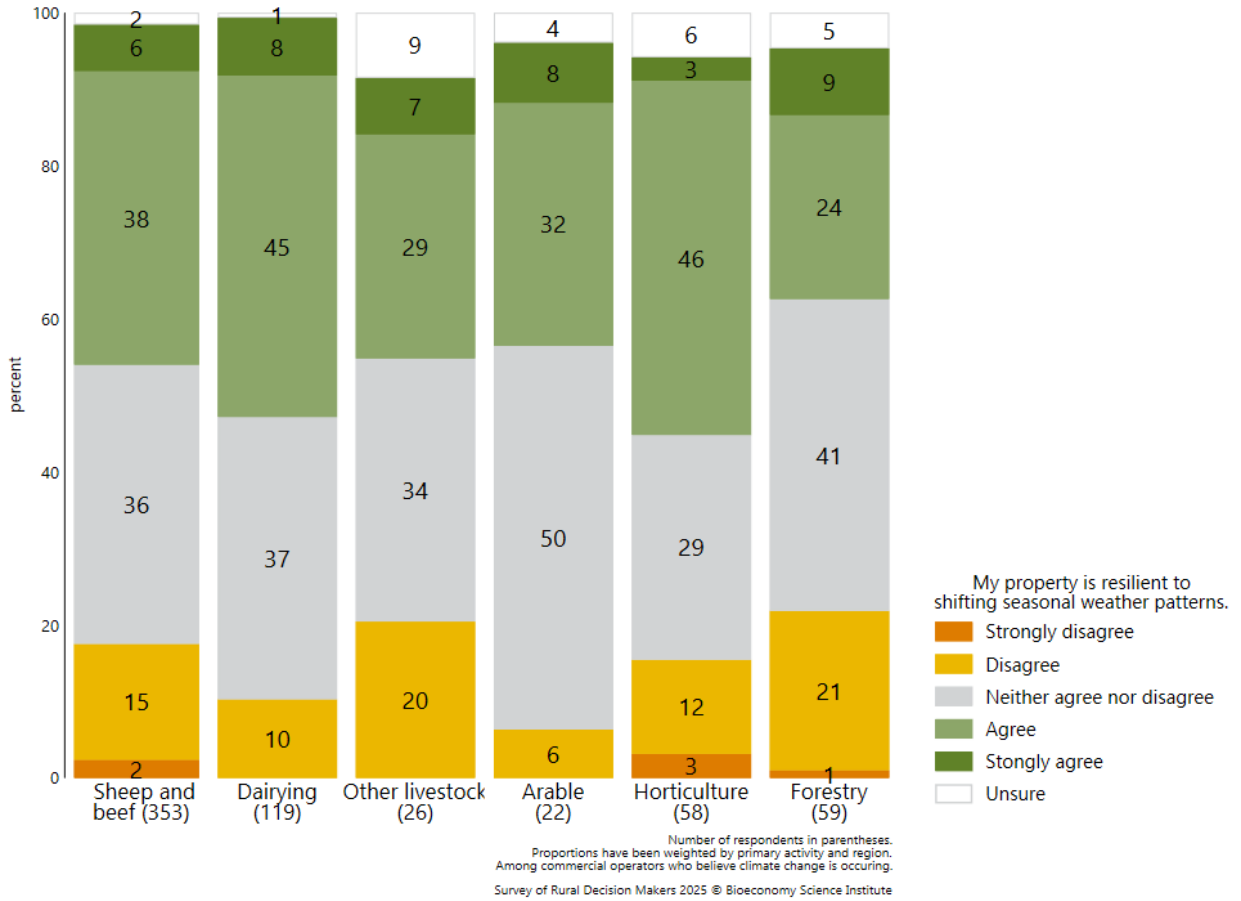

Figure 15. Agreement with statement, 'My property is resilient to shifting seasonal weather patterns' among commercial operators who believe in climate change (by industry).

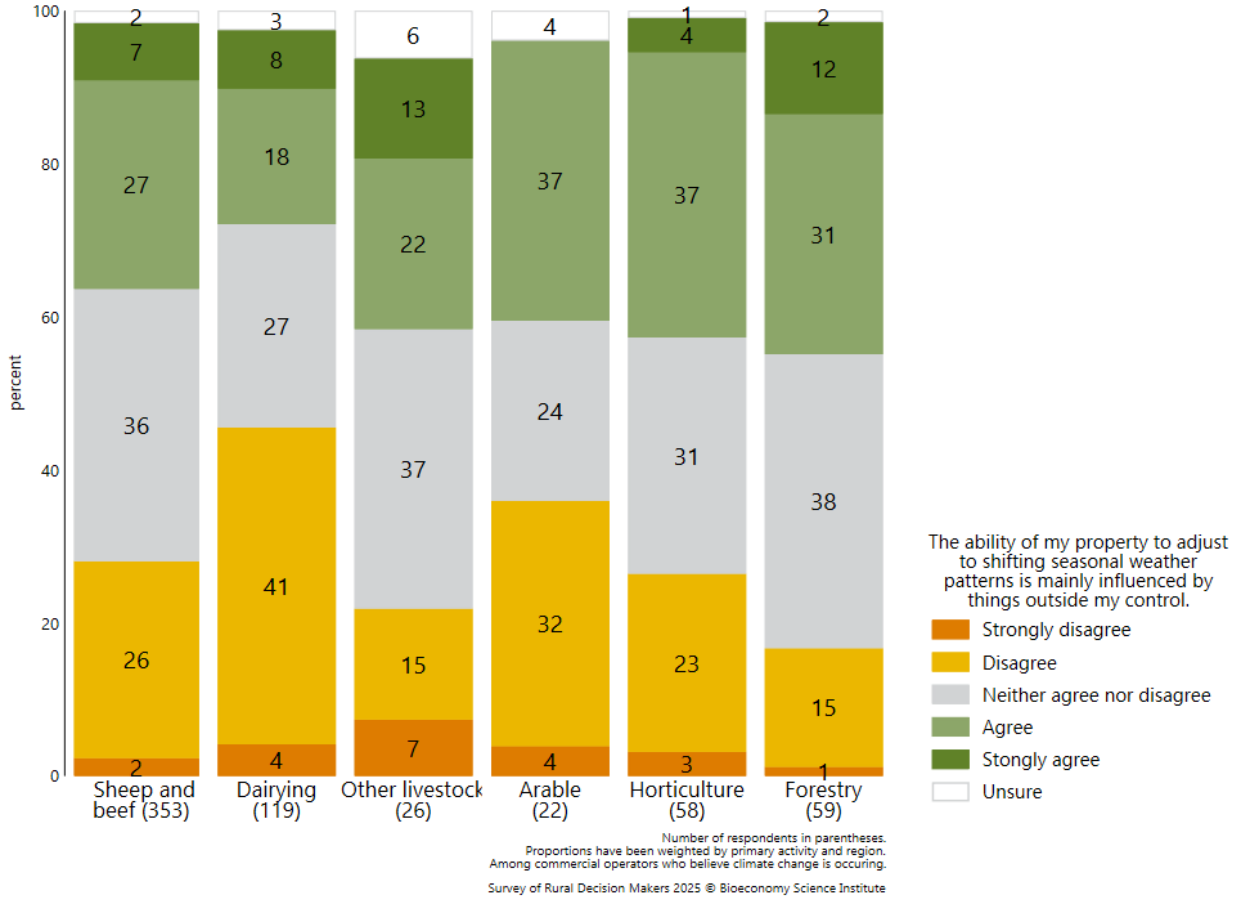

Figure 16. Agreement with statement, 'The ability of my property to adjust to shifting seasonal weather patterns is mainly influenced by things outside my control' among commercial operators who believe in climate change (by industry).

Commercial respondents were asked to indicate any current land uses that would no longer be viable if seasonal weather patterns changed as they had expected (as shown in Figures 8–11). Their responses (as percentage values at end of bars) are depicted in Figure 17, together with the number of respondents who currently undertake that activity (in parentheses at start of bars). For example, 205 respondents indicated that they have sheep and beef on their operations, and 5% of these indicated that that activity would no longer be viable if seasonal weather patterns shifted as they expected. For the 14 respondents who grew kiwifruit, 37% of them indicated that growing kiwifruit would become unviable.

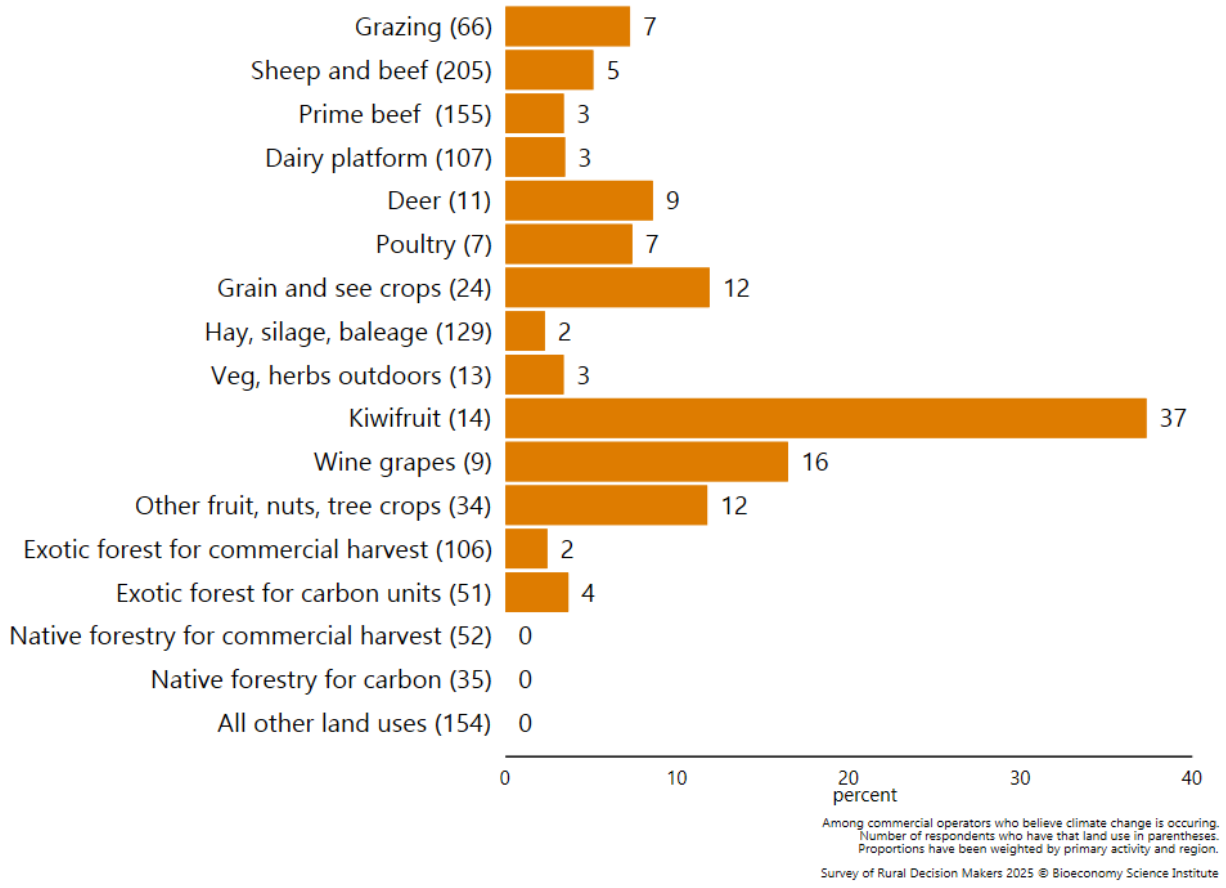

Figure 17. Current land uses that would no longer be viable if seasonal weather patterns were to change as commercial operators who believe in climate change indicated they expected it to in earlier questions.

Respondents who believed climate change is occurring were then asked to select up to three items from a list provided that they thought would most help them adapt to changing seasonal weather patterns. Figure 18 indicates these selections. For example, 44% of respondents selected access to new tools suited to a changing climate, but only 4% selected access to skilled workers in their area.

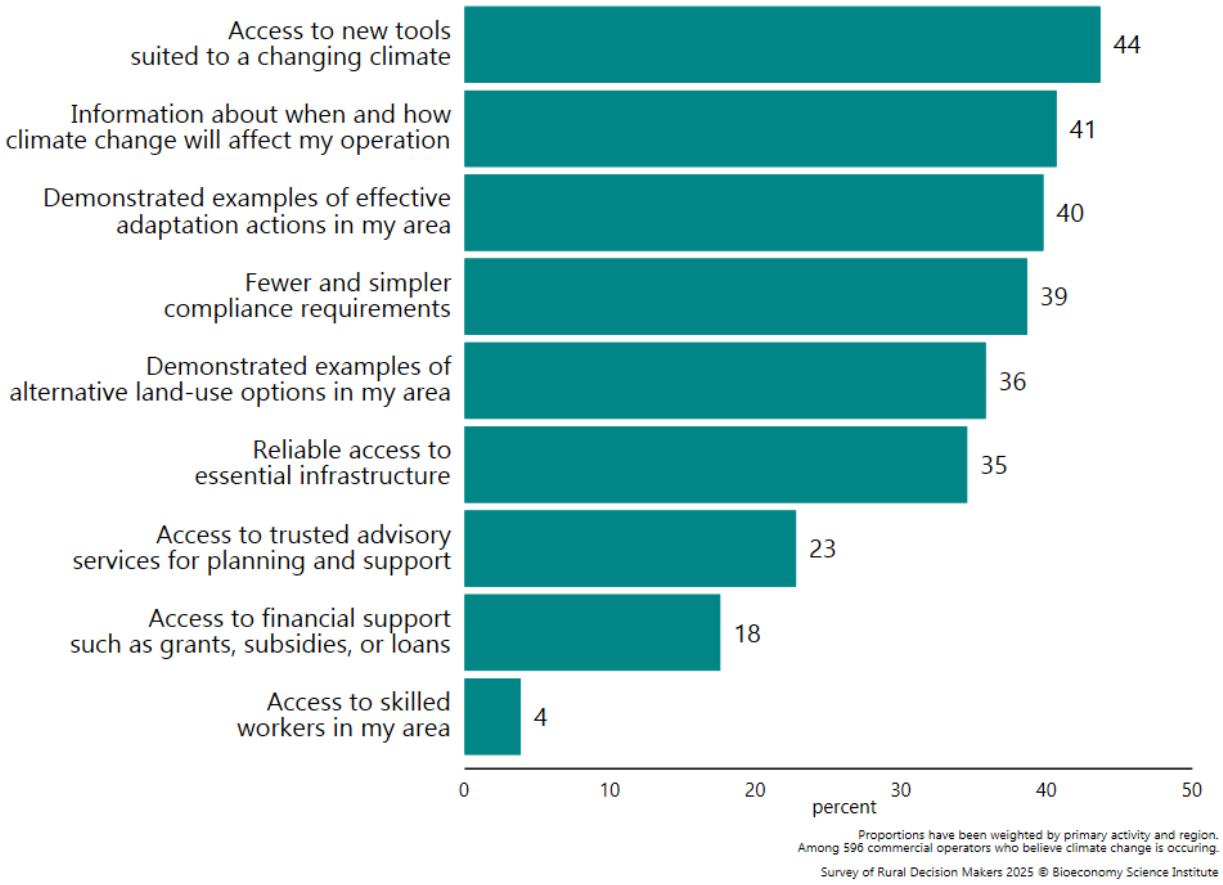

Figure 18. Factors that would most help commercial operators who believe in climate change adapt to changes in seasonal weather patterns.

Figures 19 and 20 are similar in design to Figure 18, but break down the items selected by the primary activity of respondents. Access to new tools suited to a changing climate was selected by 60% of dairy farmers (Figure 19) and 65% of arable farmers (Figure 20). Foresters would find demonstrated examples of effective adaptation most helpful.

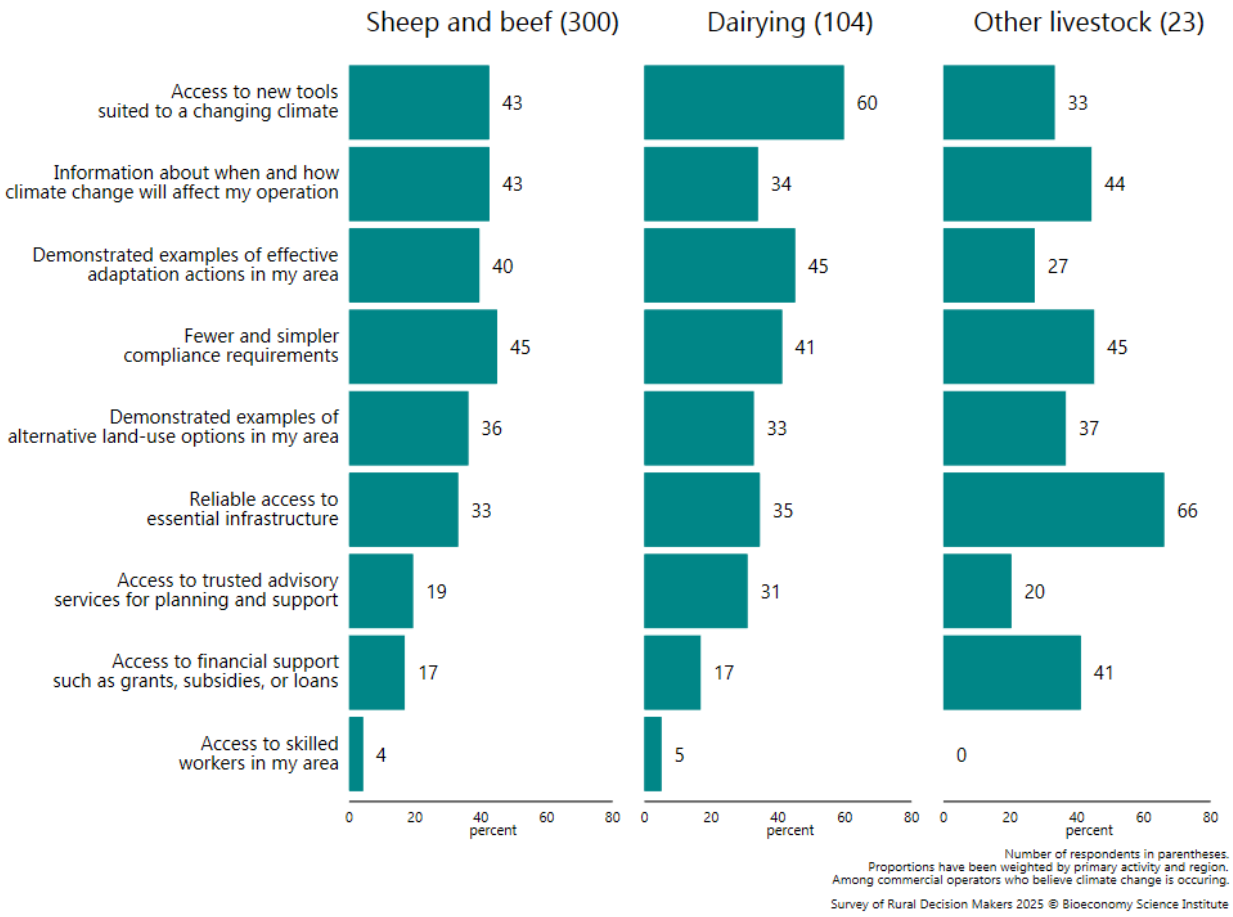

Figure 19. Factors that would most help commercial operators who believe in climate change adapt to changes in seasonal weather patterns (for stock industries, among respondents who believed climate change is occurring).

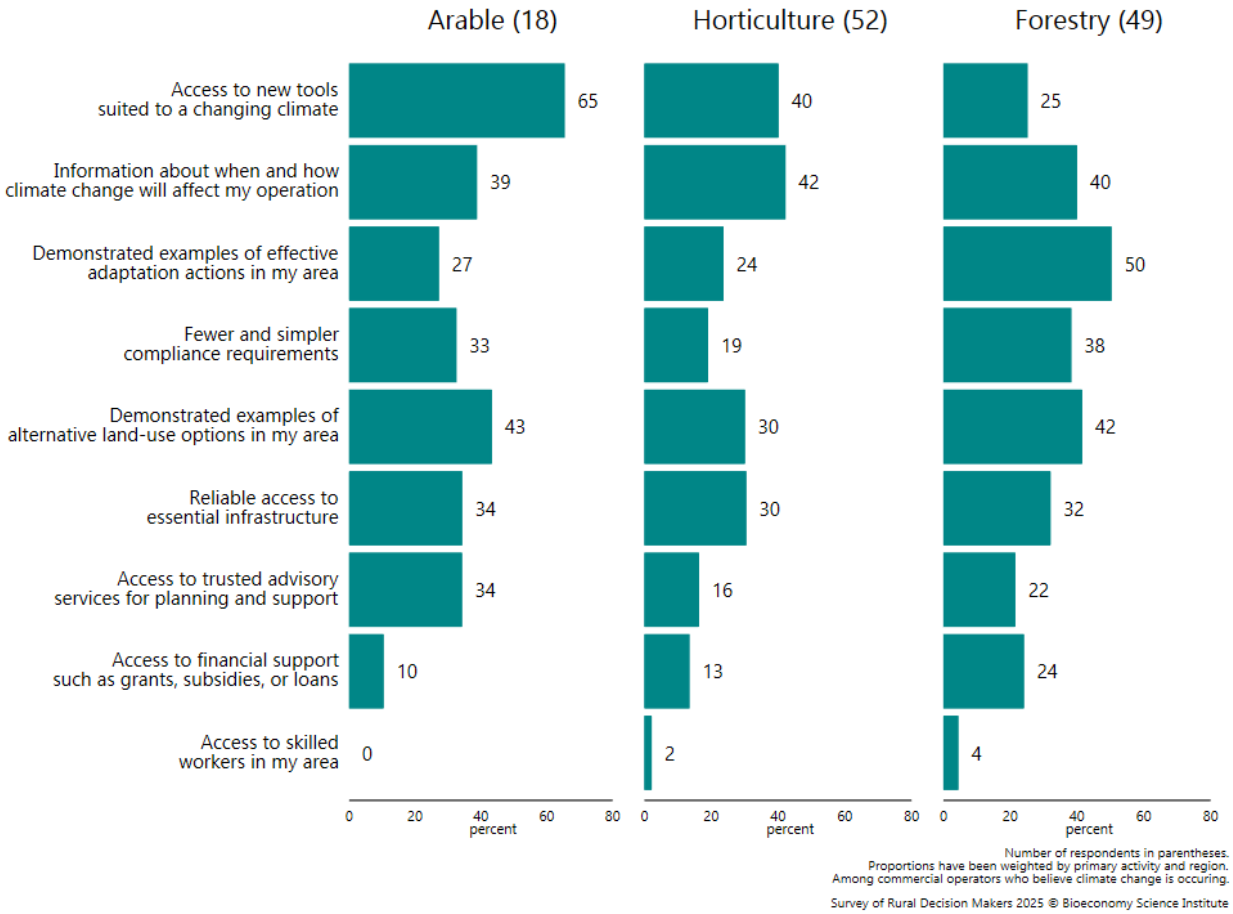

Figure 20. Factors that would most help commercial operators who believe in climate change adapt to changes in seasonal weather patterns (for arable, horticulture, and forestry industries, among respondents who believed climate change is occurring).

3.3 Extreme weather events

As noted in Section 3.2, respondents who believed that climate change is occurring were randomly split into two groups: half saw questions relating to seasonal weather patterns and half saw questions relating to extreme weather events. Under the assumption that people who do not believe climate change is occurring also do not think that seasonal weather patterns have changed, all non-believers saw the extreme weather questions.

Respondents were asked which extreme weather events had affected their' properties over the previous 10 years, if any. In Figure 21, the results are shown separately for respondents who believe climate change is occurring (top row) and those who do not (bottom row). The numbers in parentheses show numbers of respondents. The numbers on the bars are percentages in each class.

Among change believer, 68% reported they had experienced drought in the previous 10 years, compared to 54% of non-believers. Believers were also more likely to have experienced severe storms and flooding in the previous 10 years. Some 26% of non-believers indicated that they had not been affected by any extreme weather events in the last 10 years compared with 15% of believers. Within each group, drought was experienced by more respondents than storms, flooding, heat waves, or wild fires.

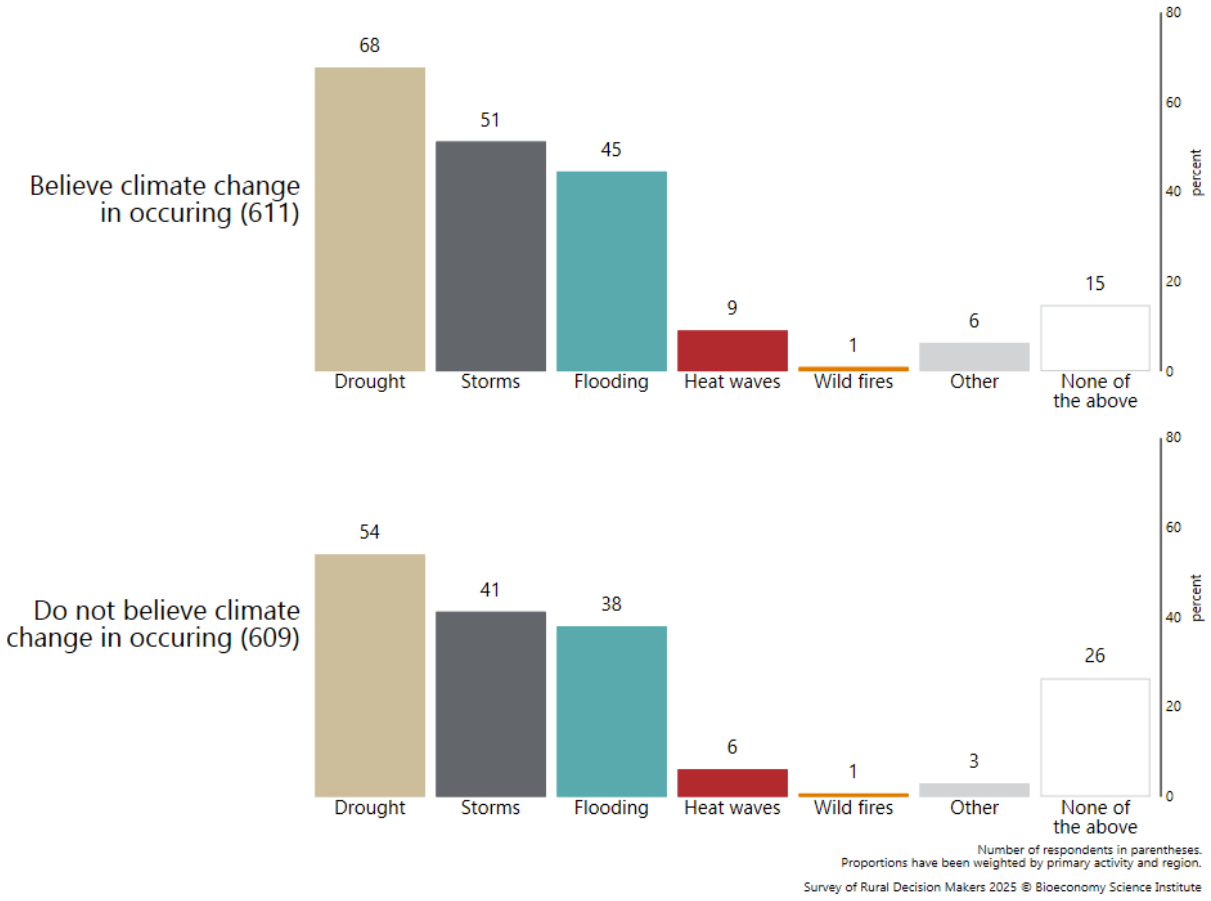

Figure 21. Extreme weather events that have affected the property in the past 10 years, as reported by commercial operators who do (top panel) and do not (bottom panel) believe climate change is occurring.

Figure 22 shows how just those respondents who believed climate change is occurring expected the frequency (top row) and intensity (bottom row) of extreme weather events would change over the next 25 years, organised by event type. Respondents widely believed that drought and storms would become more frequent and more intense. The frequency and intensity of wildfires was expected to change the least.

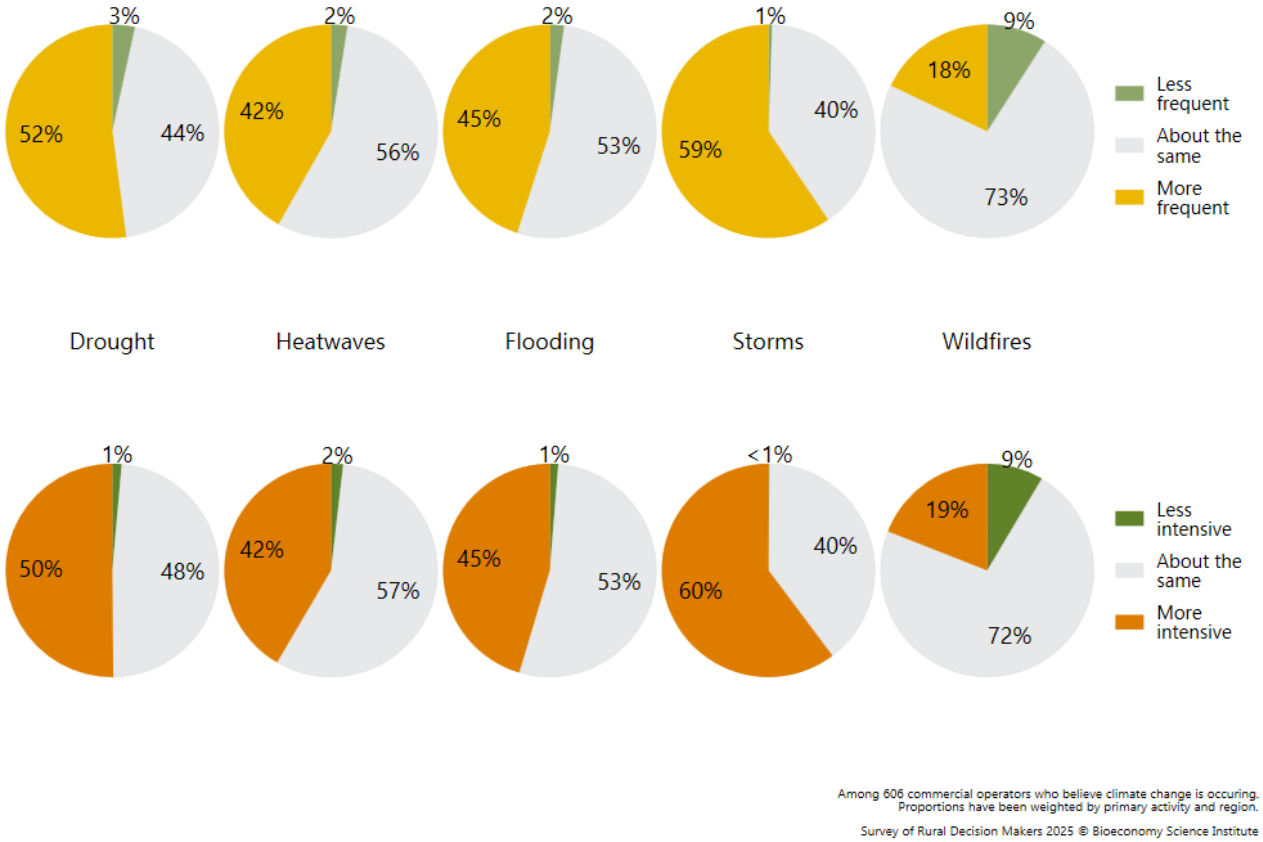

Figure 22. Expectations of change in extreme weather events over the next 25 years (among commercial operators who believe climate change is occurring).

Figures 23, 24, 25, 26, and 27 are all of a similar design and show number of respondents who were asked about extreme weather events, per region in parentheses beside the bars, with percentages responding for each expectation about extreme future events shown on the bars. All these figures show expectations about the future frequency (left panel) and intensity (right panel) of extreme weather events by region.

The frequency of drought was expected to increase by the majority of respondents in Northland (60%), Auckland (53%), Waikato (56%), Bay of Plenty (65%) Gisborne (55%), Taranaki (65%), Tasman/Nelson (82%) ,Marlborough (58%) and Otago (50%) (Figure 23). The intensity of drought was expected to increase by 80% of respondents in Tasman/Nelson.

The frequency of heatwaves was expected to increase by a majority of respondents in Bay of Plenty (61%), Gisborne (54%) and Marlborough (61%) (Figure 24). The intensity of heatwaves was expected to increase by a majority of respondents in Auckland (53%), Bay of Plenty (52%), Gisborne (53%), Wellington (51%), and Marlborough (55%).

Both the frequency and intensity of flooding were expected to increase by a majority of respondents in Northland, Bay of Plenty, Gisborne, Tasman/Nelson, and Marlborough (Figure 25). Extreme storms were expected to increase in both frequency and intensity by a majority of respondents everywhere except on the West Coast and in Southland (Figure 26). Finally, the frequency and intensity of wildfire events was expected to remain unchanged by the majority of respondents in all regions (Figure 27).

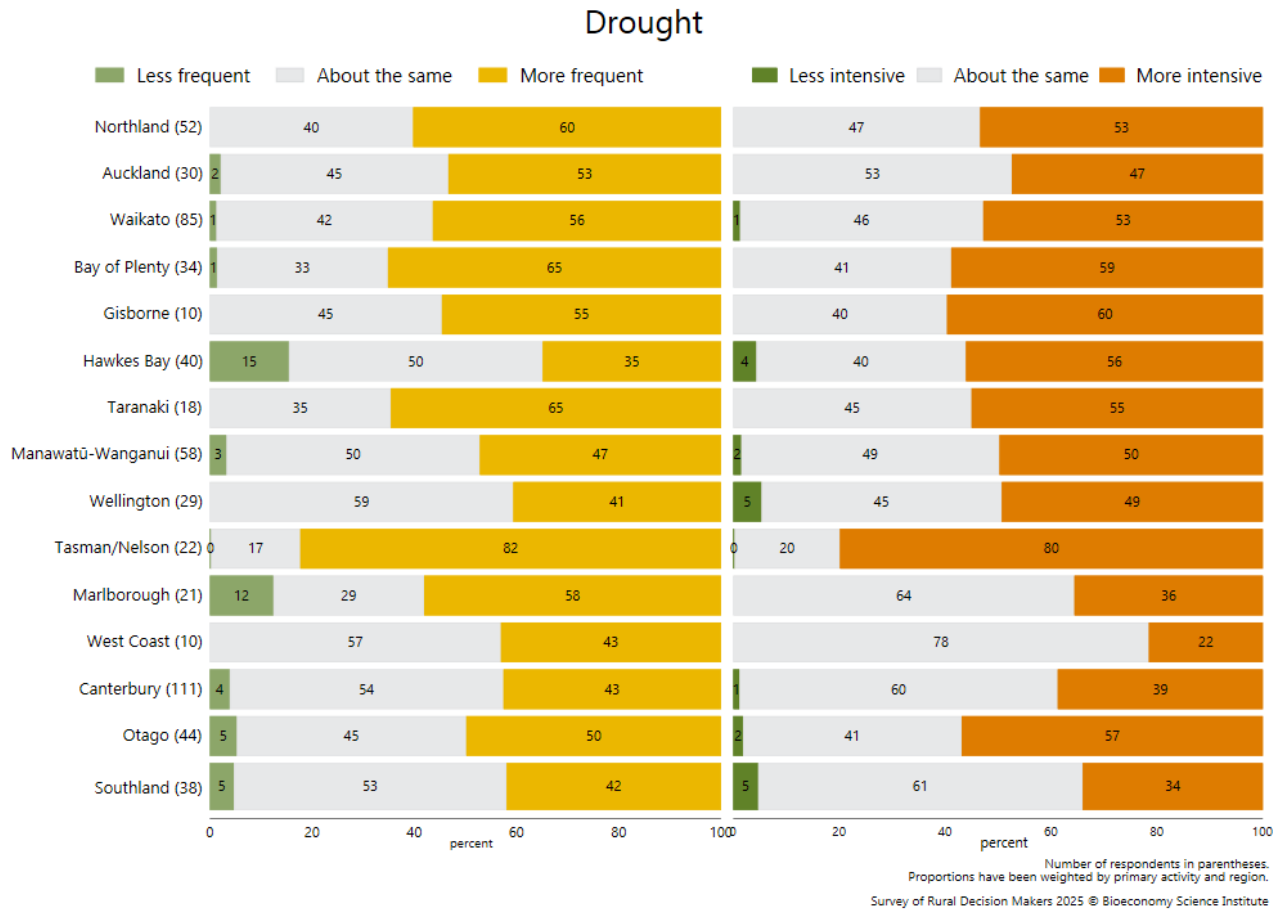

Figure 23. Expectations of change in drought over the next 25 years among commercial operators who believe climate change is occurring (by region).

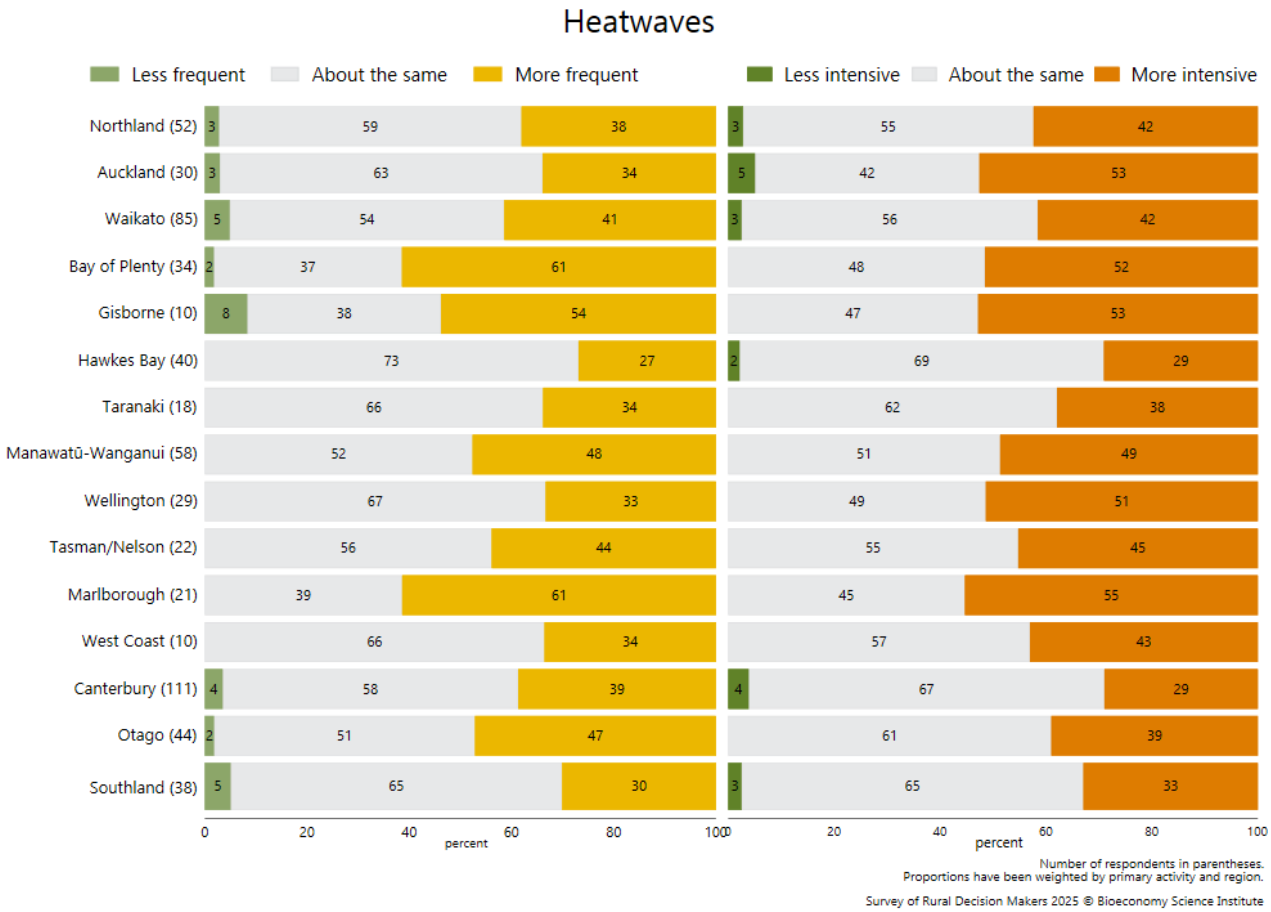

Figure 24. Expectations of change in heatwaves over the next 25 years among commercial operators who believe climate change is occurring (by region).

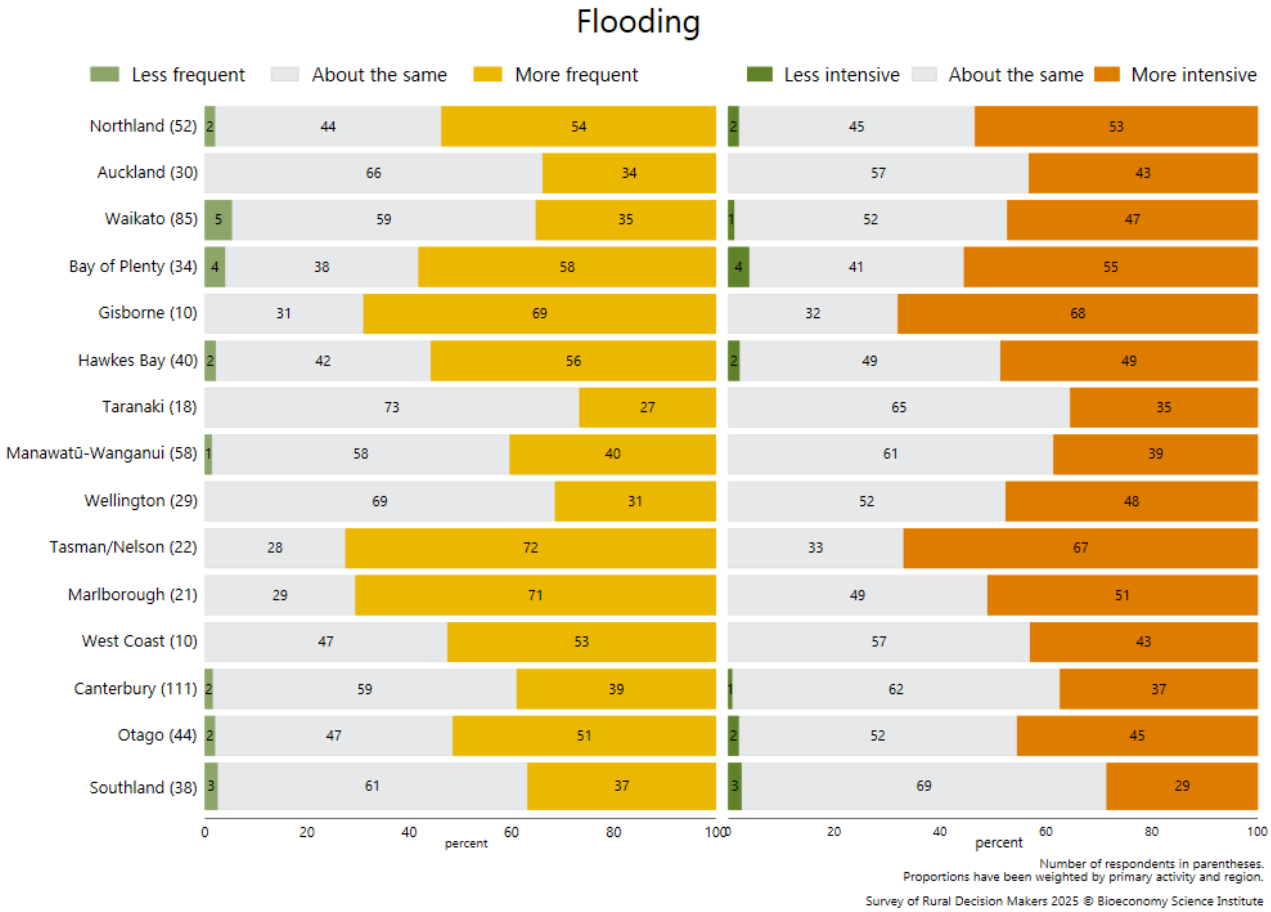

Figure 25. Expectations of change in flooding over the next 25 years among commercial operators who believe climate change is occurring (by region).

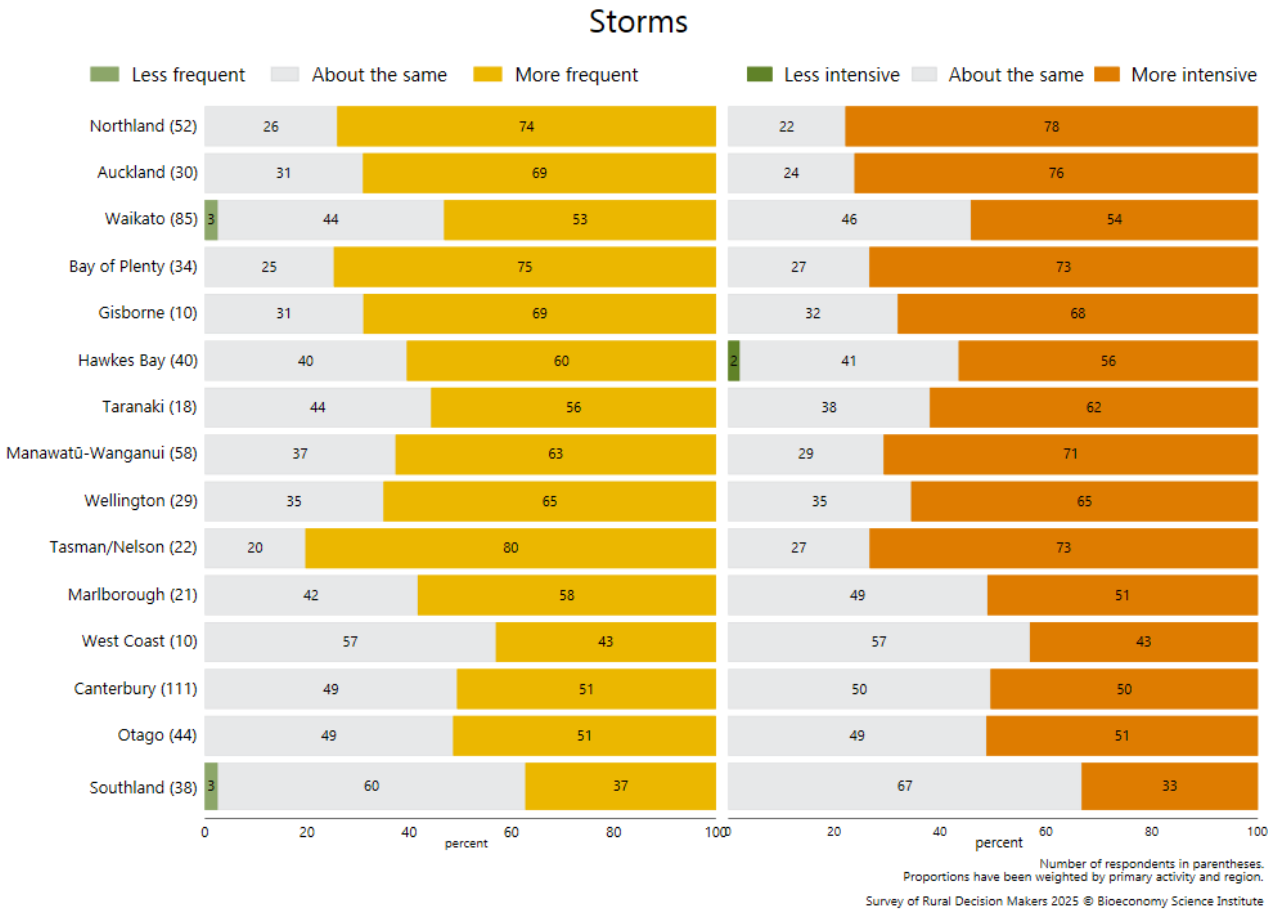

Figure 26. Expectations of change in storms over the next 25 years among commercial operators who believe climate change is occurring (by region).

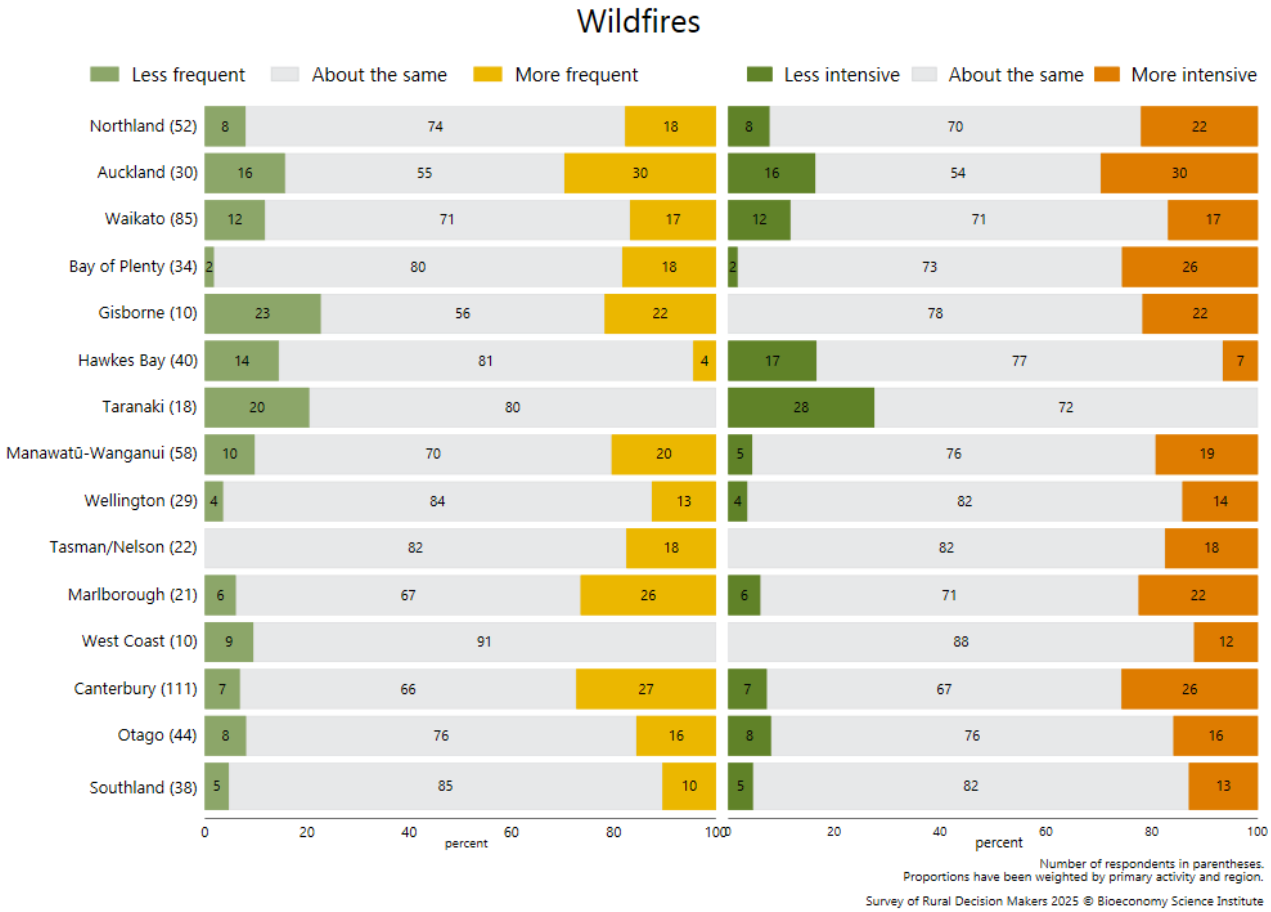

Figure 27. Expectations of change in wildfires over the next 25 years among commercial operators who believe climate change is occurring (by region).

Figure 28 indicates whether respondents: i) had made changes on their property to avoid damage (upper left); ii) felt they could make changes to their property to adjust (lower left); iii) had made changes on their property to recover faster (upper centre); iv) felt the ability of their property to adjust to extreme weather events was beyond their control (lower centre); and v) believed their property was resilient to extreme weather (upper right). In each of the five topics, responses for those who believe climate change is occurring (left-hand side) are separated from those who do not believe climate change is occurring (right-hand side).

Regardless of climate belief, the *median respondent* thought that the ability of their property to recover from extreme weather event was influenced by things outside their property's boundaries. The median *climate believer* had made changes to their property to avoid damage and recovery faster from extreme weather events, and thought they could make changes on their property to better recover from extreme weather events. The *median non-believer* neither agreed nor disagreed with these statements. Similarly, the median respondent – regardless of climate belief – neither agreed nor disagreed that his or her property was resilient to extreme weather events.

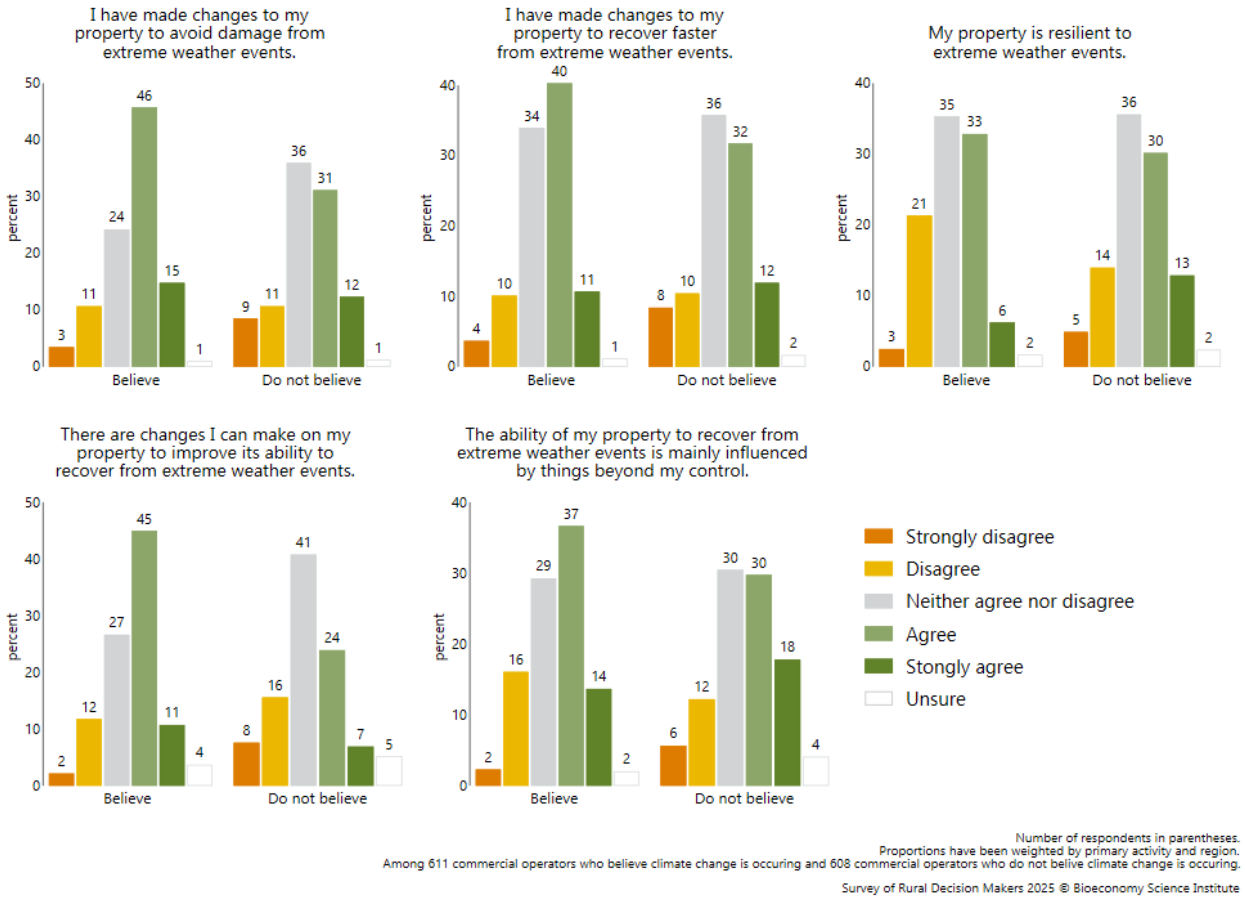

Figure 28. Agreement with statements about their farming operation's state and attitude to making changes to its operation in response to changes in extreme weather events (each broken down into those who believe [left side each part] and do not believe [right side each part] that climate change is occurring).

Figures 29, 30, 31, 32, and 33 are all designed similarly to one another. In each figure the bars are ordered by primary activity; the number of respondents in each activity is shown in parentheses beside the bars, and the percentages for each of the 6-point degrees of agreement with each statement are shown on the bars. The results are presented separately for respondents who believed climate is changing (left side each figure) and whose who did not (right side each figure).

Climate change believers were more likely to have made changes to their property to avoid damage from extreme weather than non-believers in all primary activities except horticulture (Figure 29). Believers in the 'Other livestock' industry were most likely to have made changes.

Climate change believers were equally likely to have made changes to recover faster from extreme weather events than non-believers for all primary activities except forestry (Figure 30), but more likely to indicate that there were changes they could make to improve recovery from extreme weather than non-believers for all primary activities (Figure 31).

Non-believers in other livestock, arable, horticulture, and forestry were more likely than believers to state that their property was resilient to extreme weather events (Figure 32). Finally, climate change believers in dairy, other livestock, arable, and horticulture were more likely than non-believers in those industries to think that the ability of their property to recover from extreme weather event was influenced by things beyond their control (Figure 33). Non-believers in forestry were more likely to think this than believers.

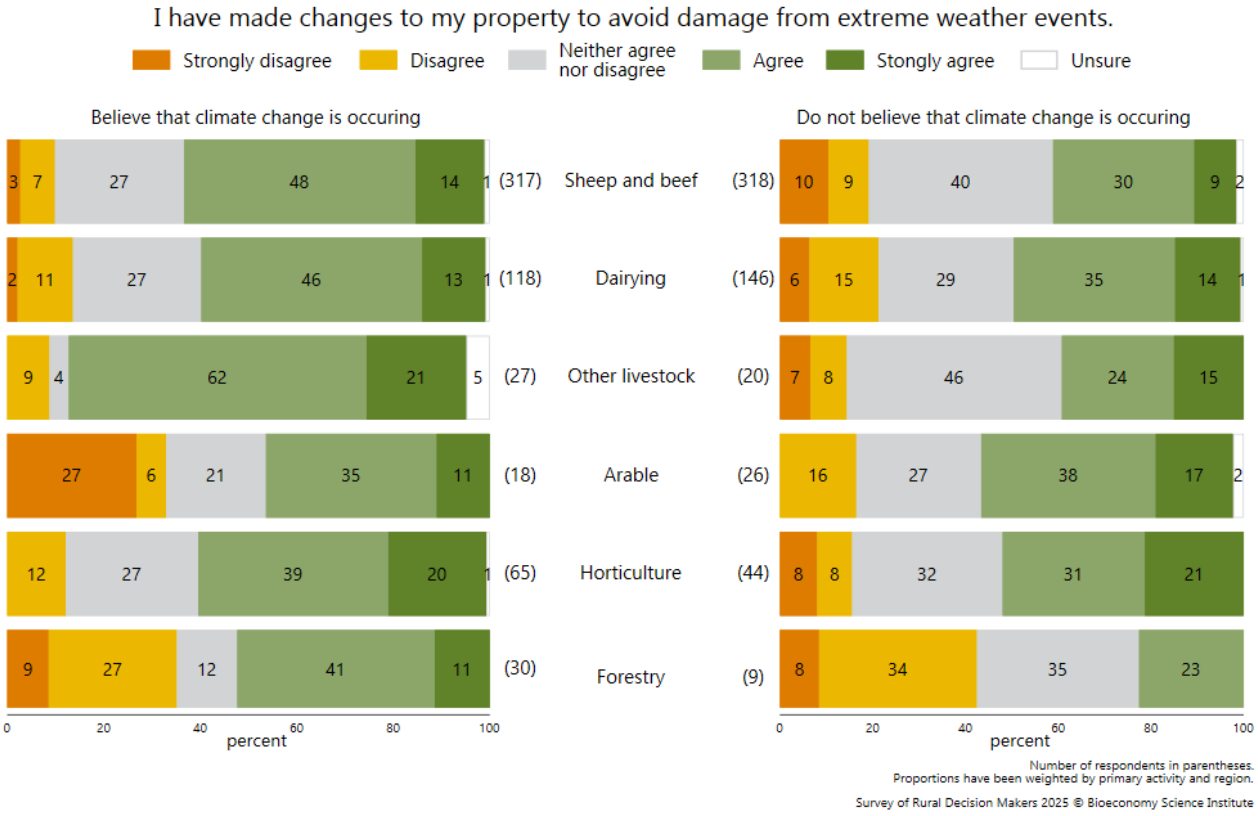

Figure 29. Agreement with statement, 'I have made change to my property to avoid damage from extreme weather events' (broken down by industry and within that by those who do and do not believe climate change is occurring).

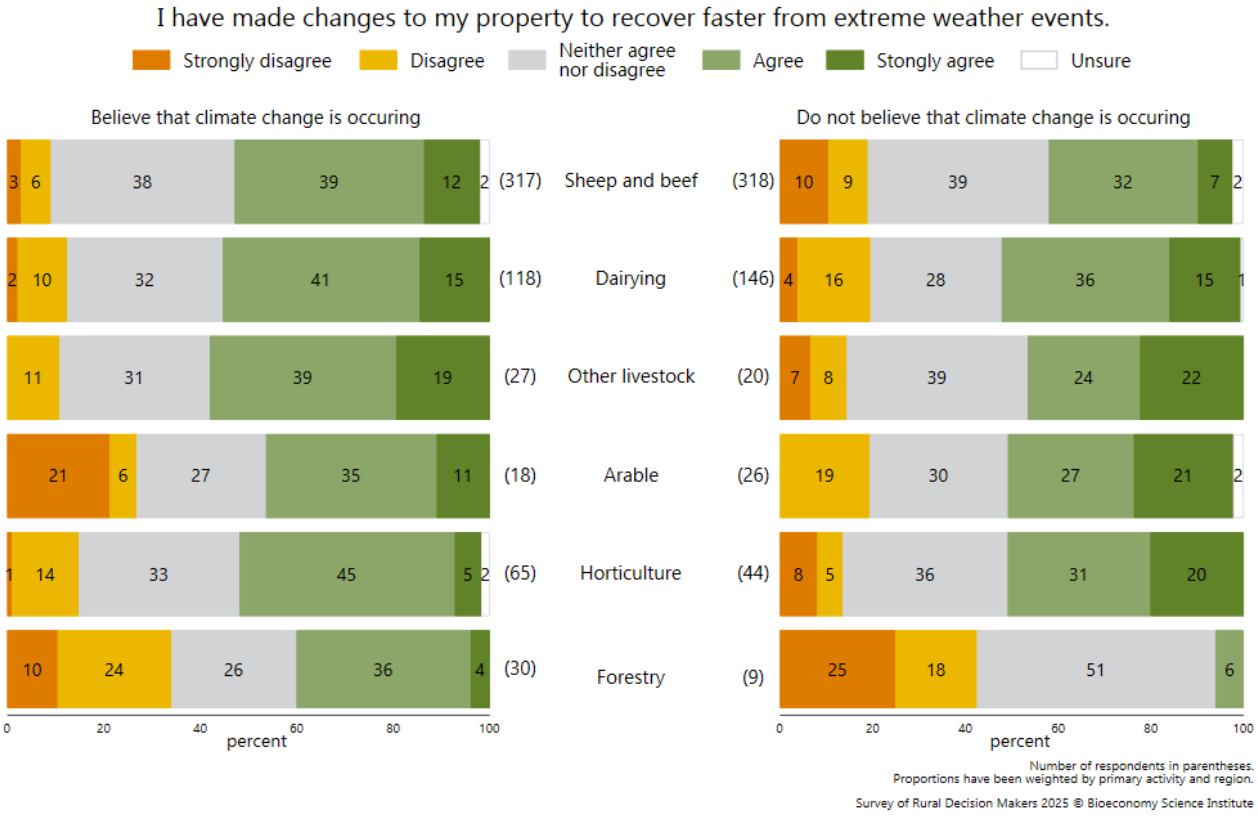

Figure 30. Agreement with statement, 'I have made change to my property to recovery faster from extreme weather events' (broken down by industry and within that by those who do and do not believe climate change is occurring).

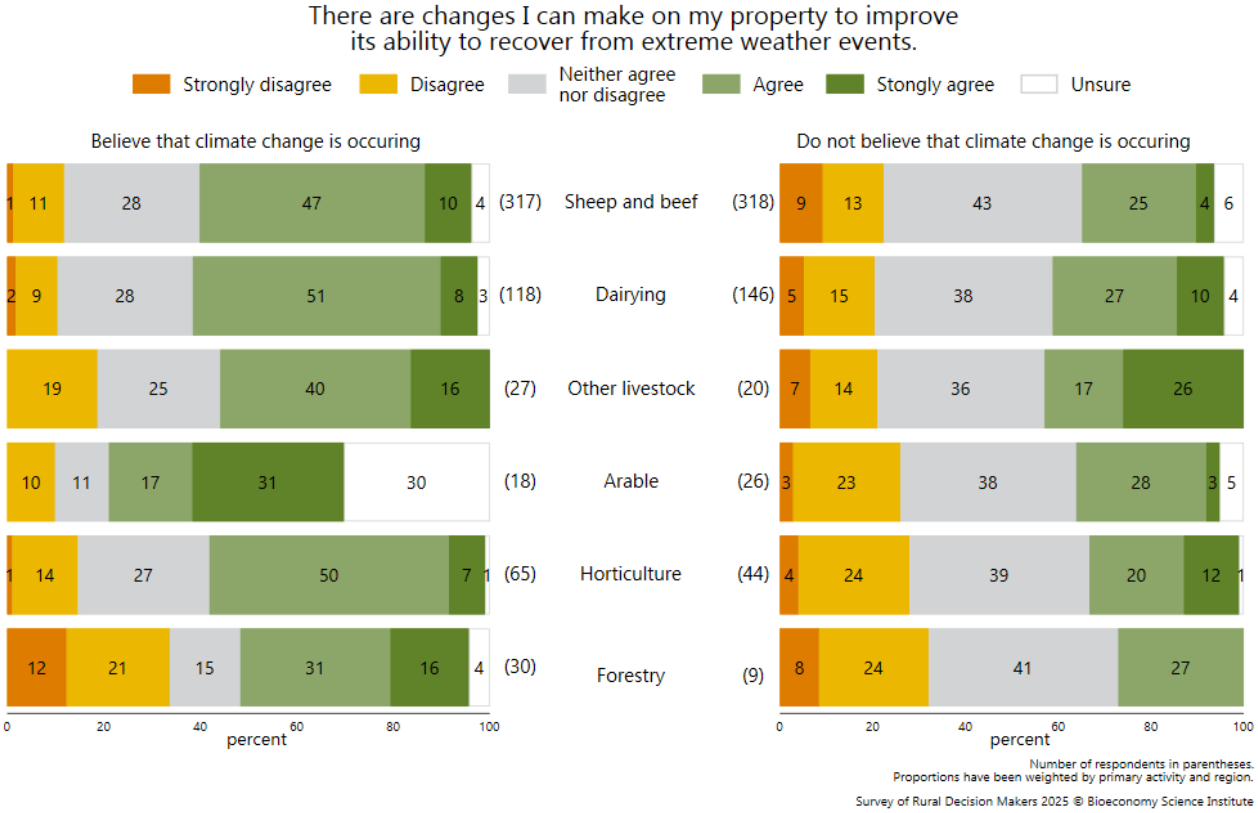

Figure 31. Agreement with statement, 'There are changes I can make on my property to improve its ability to recover from extreme weather event' (broken down by industry and within that by those who do and do not believe climate change is occurring).

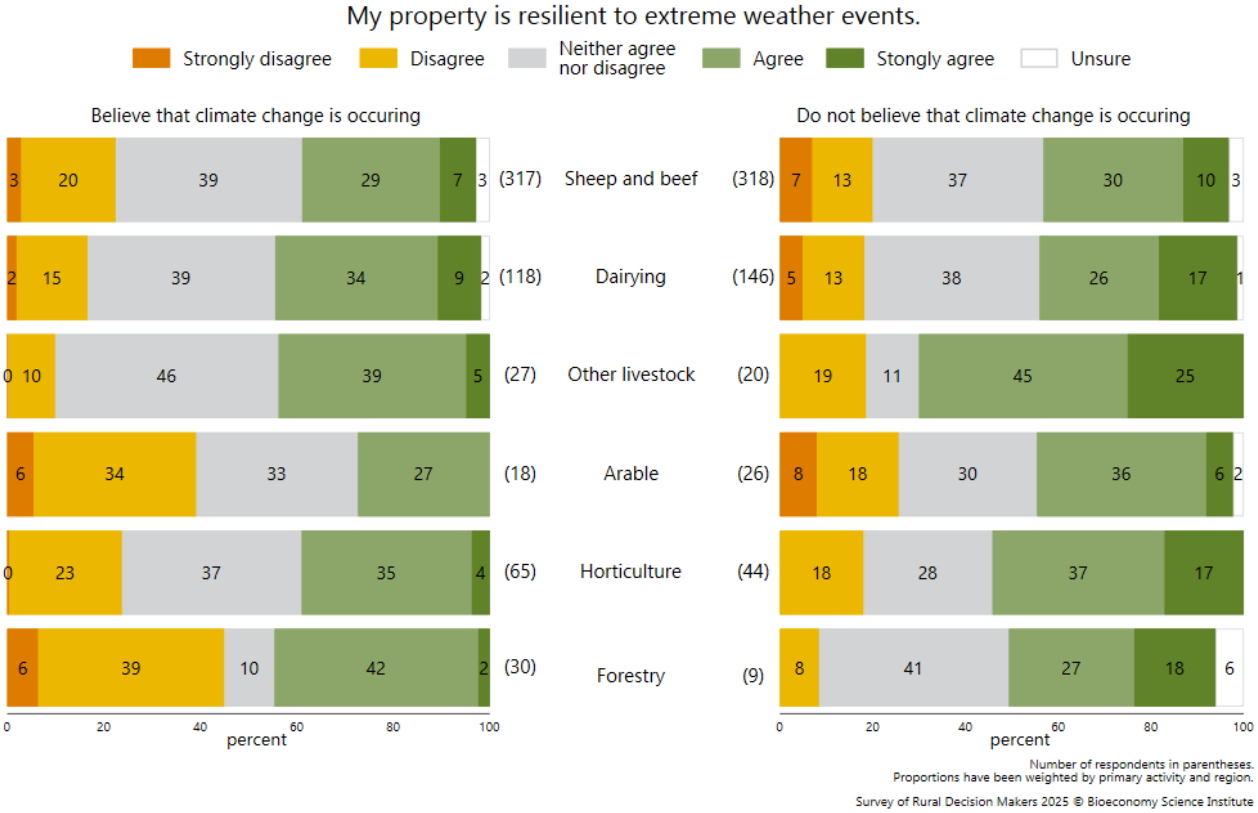

Figure 32. Agreement with statement, 'My property is resilient to extreme weather events' (broken down by industry and within that by those who do and do not believe climate change is occurring).

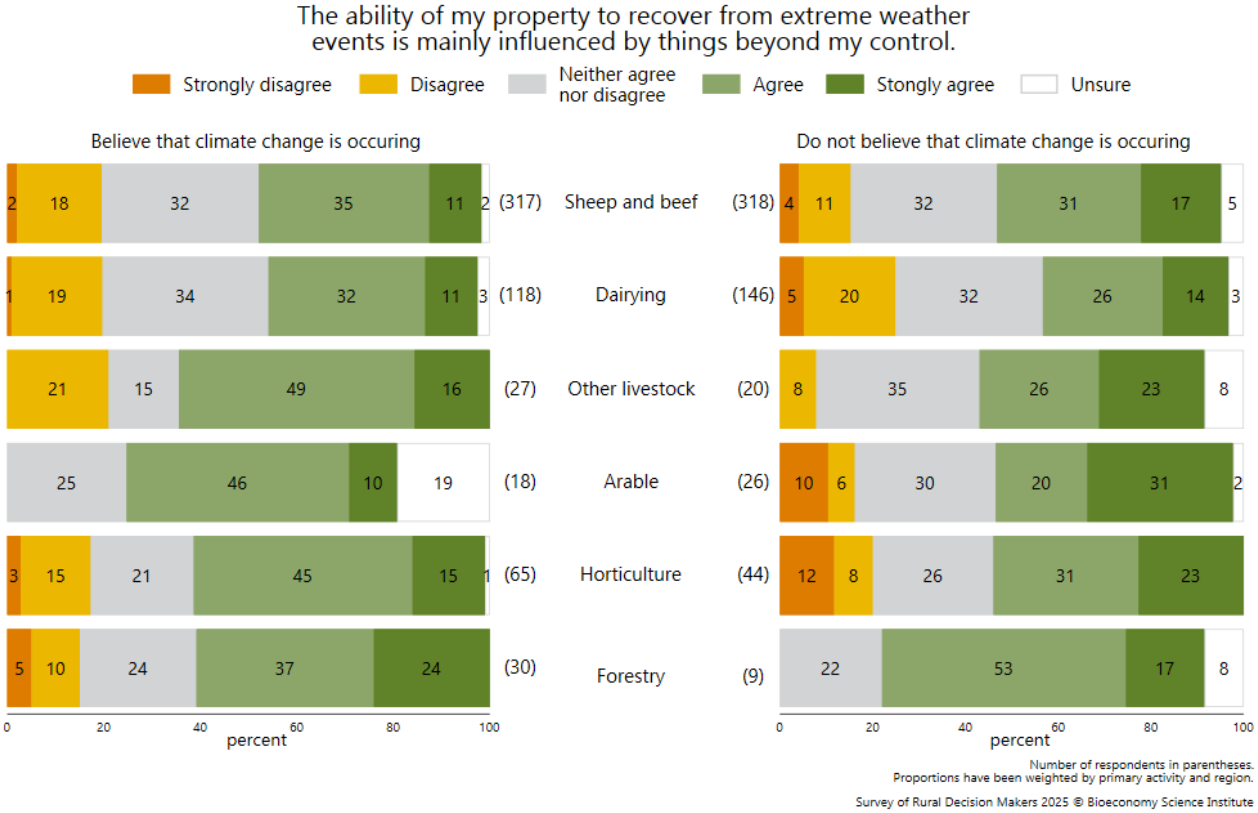

Figure 33. Agreement with, 'The ability of my property to recover from extreme weather events is mainly influenced by things outside beyond my control.' (broken down by industry and within that by those who do and do not believe climate change is occurring).

Respondents were asked to indicate any current land uses that would no longer be viable if extreme weather events changed as they had expected (as shown in Figures 23–27). Figure 34 shows the responses as percentage values, arranged by land use. The number of respondents who currently undertook that activity is shown in parentheses to the left of the bars.

For example, 170 respondents indicated that they have sheep and beef on their operations, and 4% indicated that that activity would no longer be viable if extreme weather events changed as they expected. Of the 12 respondents who grew kiwifruit, 31% indicated that growing kiwifruit would become unviable. No respondent with forestry (whether for timber harvest or carbon credits) indicted that that forestry would become unviable.

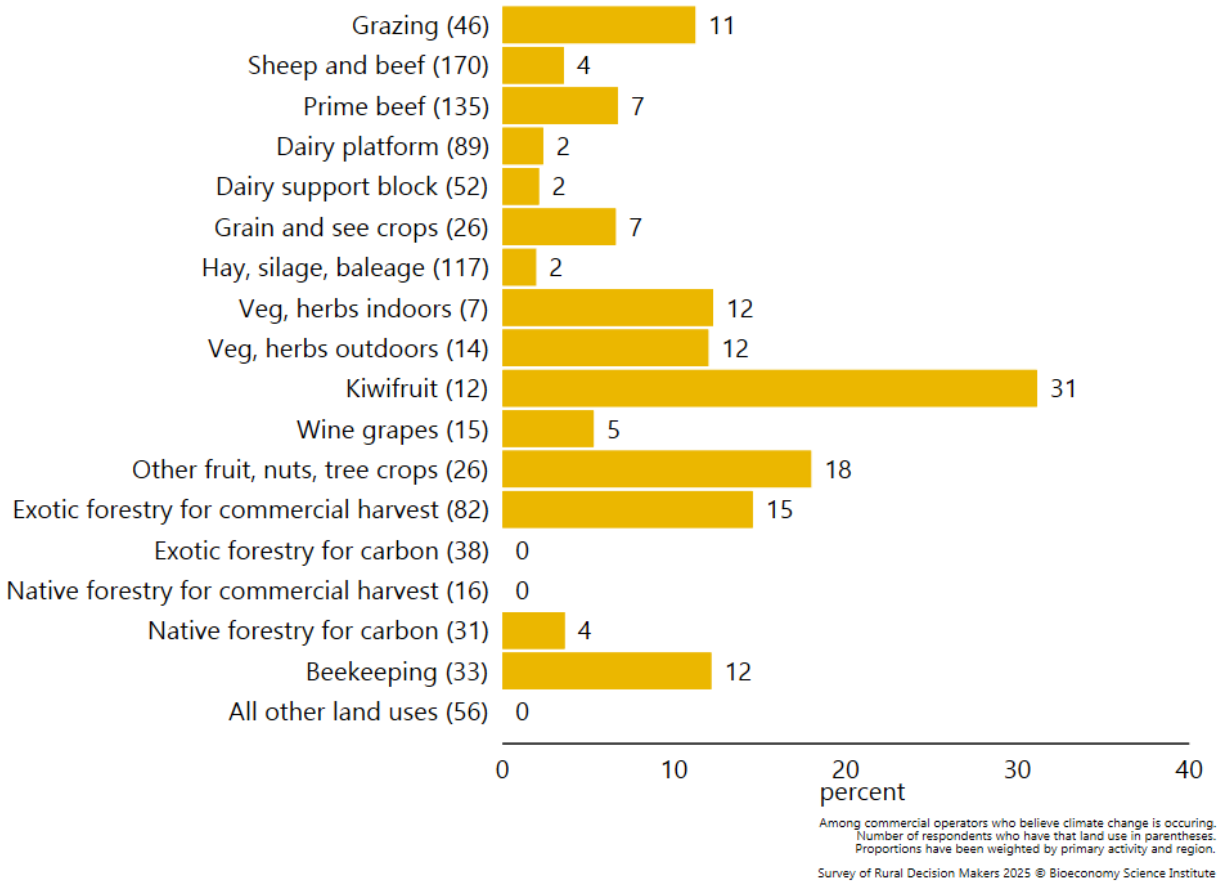

Figure 34. Current land uses that would no longer be viable if extreme weather events were to change as commercial operators who believe in climate change indicated they expected it to in earlier questions.

Respondents who believed climate change was occurring were asked to select up to three items that would most help them adapt to extreme weather events from a provided list of nine items. Figure 35 shows these selections. Response levels to items varied: for example, 53% of respondents selected reliable access to essential infrastructure, but only 6% selected access to skilled workers in their area.

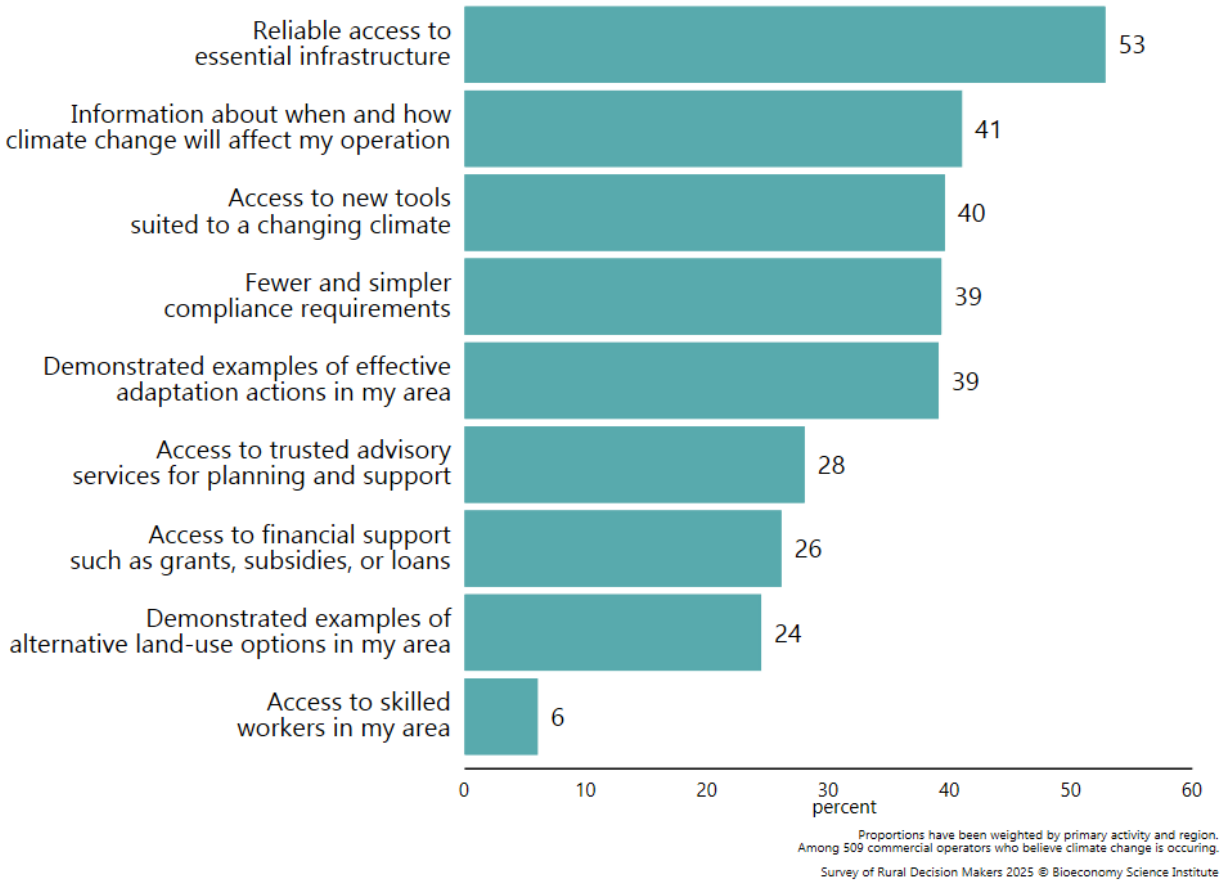

Figure 35. Factors that will most help commercial operators who believe in climate change adapt to extreme weather events.

Figures 36 and 37 show the items selected by respondents in Figure 35, broken down by primary activity (industry). For stock industries, access to new tools suited to a changing climate was selected by 62% of dairy farmers (Figure 36). Horticulturalists would find demonstrated examples of effective adaptation and reliable access to essential infrastructure most helpful (Figure 37).

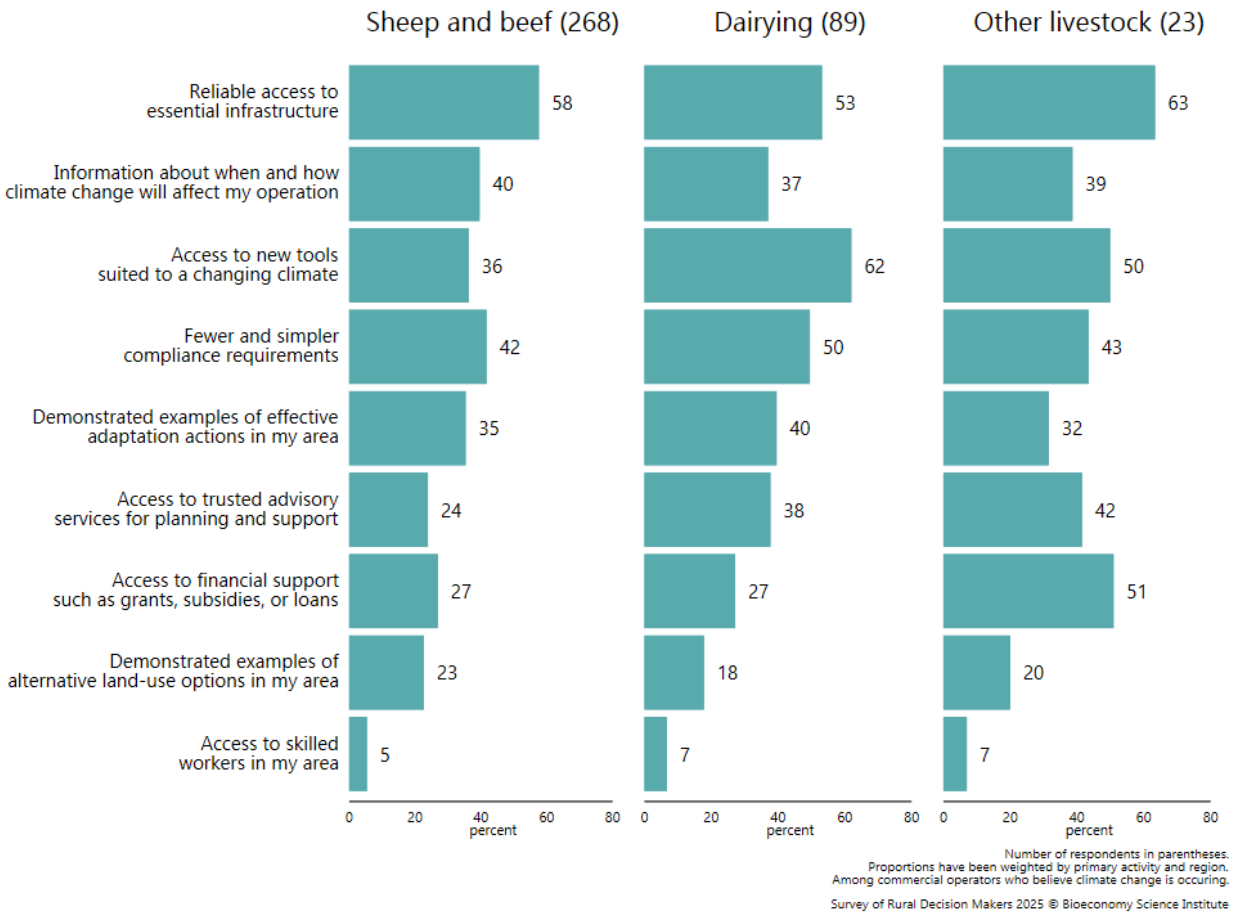

Figure 36. Factors that will most help commercial operators who believe in climate change adapt to extreme weather events (by stock industry type).

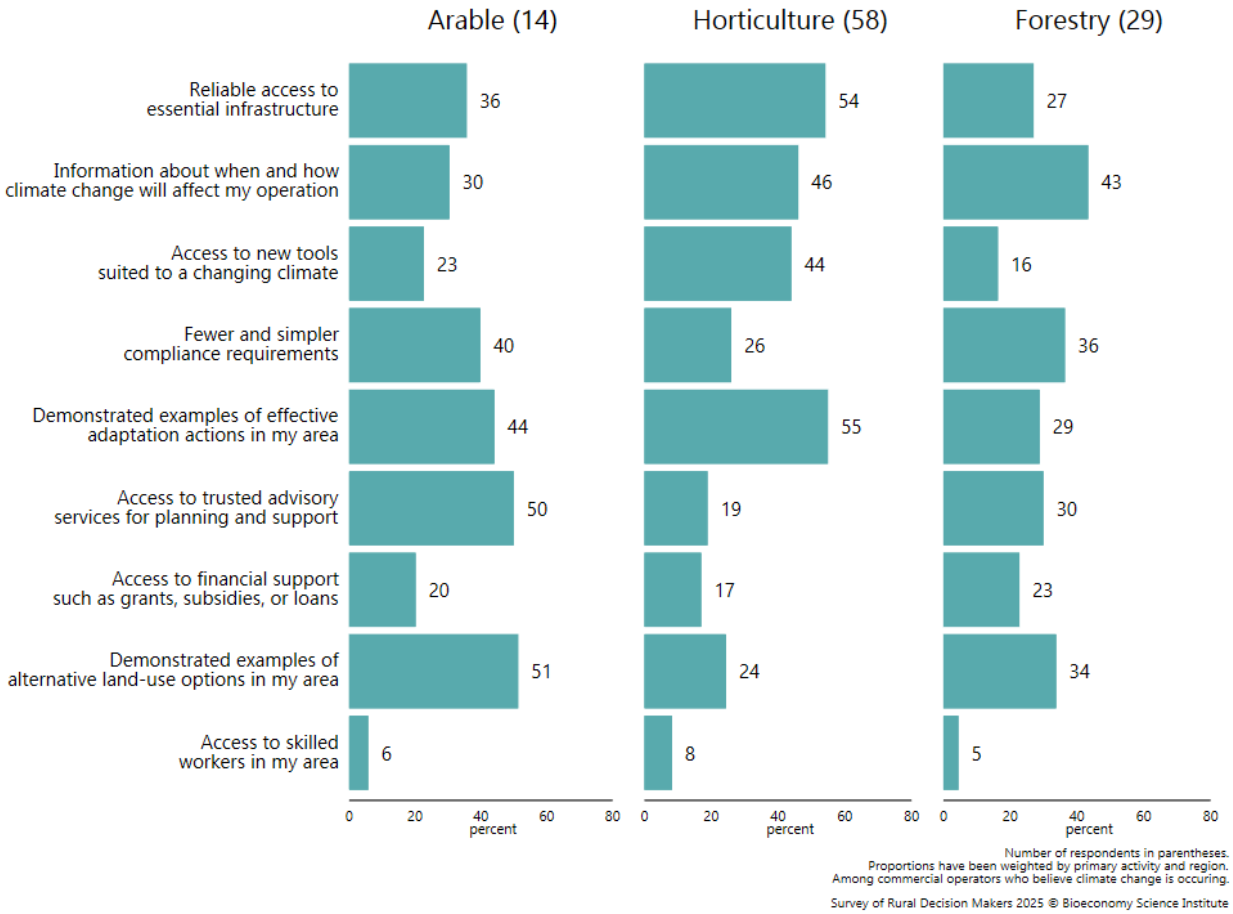

Figure 37. Factors that will most help commercial operators who believe in climate change adapt to extreme weather events (for arable, horticulture, and forestry industries).

3.4 Land management

Respondents who believed that climate change is occurring were asked whether they thought it would be positive, neural, or negative for their property, for New Zealand agriculture as well as for global agriculture. This tri-part question was also asked in 2021, allowing trend analysis. Figure 38 presents the responses for the 2021 in the left panel and 2025 in the right panel. The numbers of respondents for each class asked about are shown in parentheses above the bars, with percentages for perceptions of perceived anticipated impacts in each class on the bars.

Based on a statistical comparison on means,[2] survey respondents were statistically more positive about the effects of climate change on their own properties in 2025 than they were in 2021. Respondents were also statistically more positive about the effects of climate change on New Zealand agriculture than they were in 2021. There was no statistical difference for global agriculture.

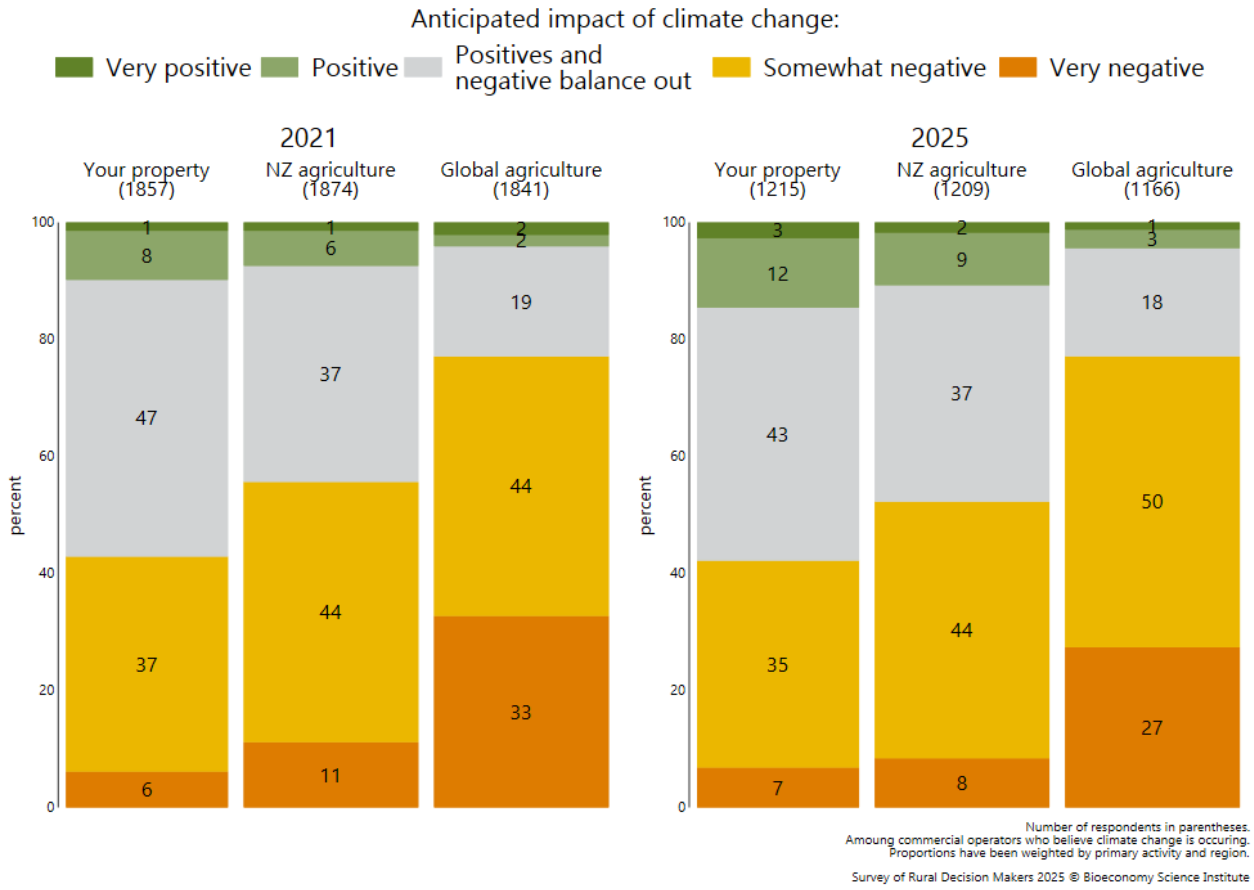

Figure 38. Anticipated impacts of climate change on property, New Zealand agriculture, and global agriculture in 2021 and 2025 (among climate change believers).

[2] A one-way ANOVA was estimated with a post hoc pairwise comparison of means using a Bonferroni procedure comparing the average expected impacts of climate change in 2021 and 2025. Perceived impact was measured on a 1–5 Likert scale, where 1 equals 'very negative' and 5 equals 'very positive'.

Finally, survey respondents were asked to describe the extent to which they focused on a variety of management practices. Management practices included adjusting to changing weather patterns, reducing greenhouse gas emissions, improving the health of waterways, improving animal welfare, and improving productivity. Figure 39 shows the respondents' managerial focus for the past 2 years in the left panel and their expected managerial focus over the next 2 years in the right. The numbers in parentheses to the left of the bars show the numbers of respondents for each of 10 areas of focus. The numbers on the bars are percentages for stated degree of focus in each area.

Reducing greenhouse gas emissions has been the area of least focus over the last 2 years and is expected to be the area of least focus over the next 2 years. Improving soil health, improving productivity, and improving animal welfare are areas of focus for both the last 2 and next 2 years.

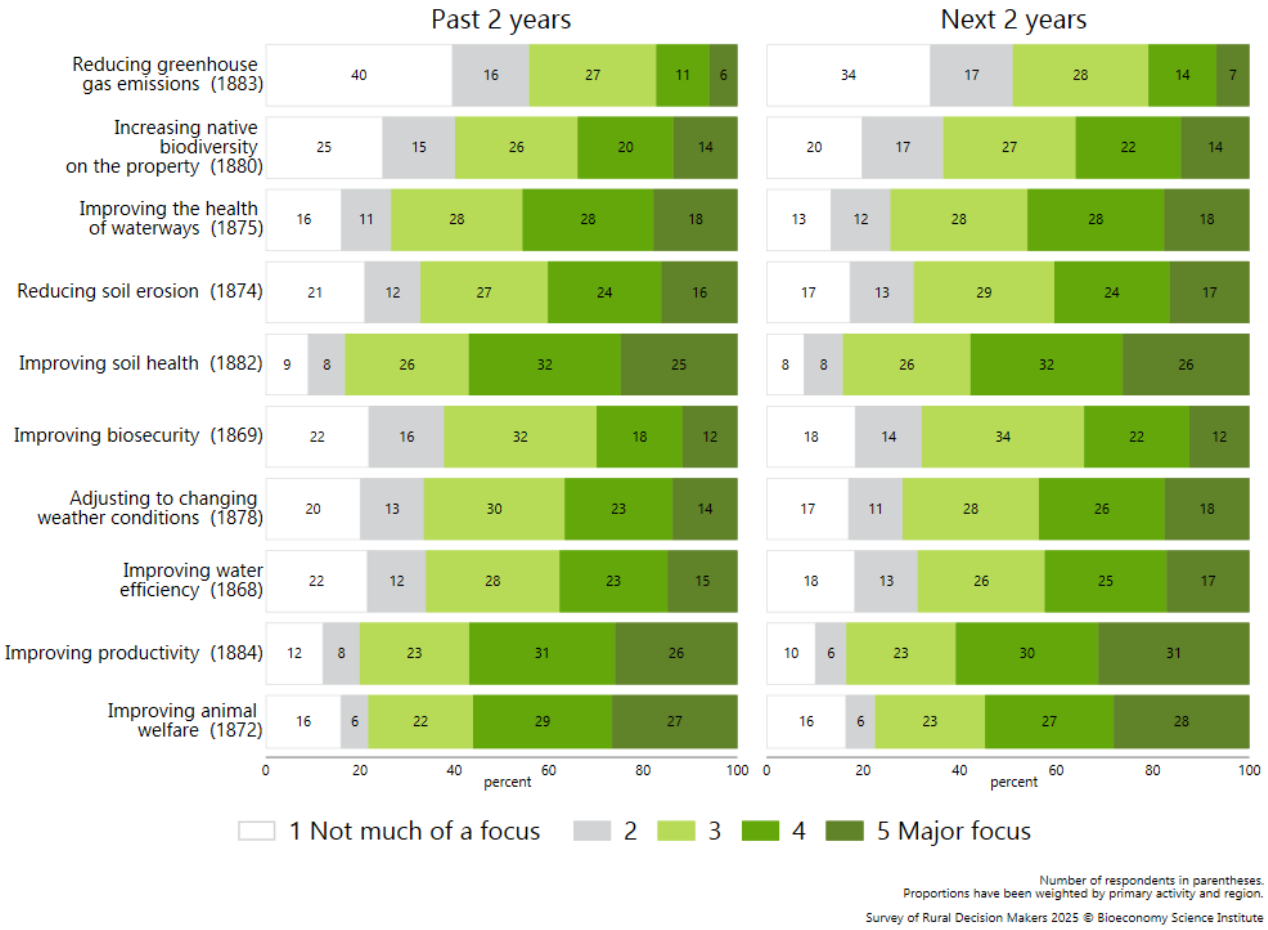

Figure 39. Managerial focus over the past 2 years (left) and for the next 2 years among all commercial operators.

4 Summary

Manaaki Whenua – Landcare Research (now a group of the BSI) was contracted to help understand climate beliefs, adaptation in the face of shifting seasonal weather patterns and extreme weather events, anticipated impacts on businesses, managerial focus. These questions were answered using the 2025 Survey of Rural Decision Makers, a large-scale, nationally representative survey of farmers, foresters, and growers plus lifestyle block owners.

This report categorised results into four broad themes:

- climate beliefs
- seasonal weather patterns
- extreme weather events
- land management.

Climate beliefs: Scepticism about climate change is high across New Zealand's primary sector. However, among climate change believers, 83% considered climate change to be at least partly anthropogenic (Figure 1). Dairy and arable farmers were less likely than other rural decision makers to believe that climate change is occurring, and conditional on believing, to think that the cause is anthropogenic (Figure 2, Figure 4).

Seasonal patterns and extreme weather events: To keep the survey length manageable, the survey employed branching and question randomisation. Half of climate change believers were shown questions about seasonal weather patterns, and half were shown questions about extreme weather events. All climate change non-believers were shown questions about extreme weather

Seasonal weather patterns: In every region except the West Coast, the median respondent reported that seasonal weather patterns had changed in the past 10 years (Figure 6). Respondents expected warmer temperatures in all four seasons over the next 25 years (Figure 7), especially in the North Island and Marlborough. Rainfall was expected to increase in spring (especially in Gisborne, West Coast, and Southland), decrease in summer (especially on the western side of the North Island), and increase in winter (especially in the top of the North Island) (Figures 8–11).

Most respondents – especially dairy farmers and arable farmers – expressed confidence that their properties were resilient to shifting weather patterns and that they could make changes to adapt to shifting weather patterns (Figure 15).

The top three items that would help respondents adapt to changing seasonal weather patterns were access to new tools, information about how and when climate change would affect their operations, and demonstrations of effective adaptation in their area (Figure 19).

Extreme weather events: These included drought, storms, and flooding and were reported as widely experienced by survey respondents over the past 10 years (Figure 21). Climate change believers were somewhat more likely to report having experienced such events than non-believers. Extreme drought was most expected to increase in Tasman/Nelson and the upper North Island. Extreme heatwaves were most expected to increase in Bay of Plenty, Gisborne, and Marlborough. Extreme flooding was most expected to increase in Gisborne and Tasman/Nelson. And extreme storms were expected to increase across the North Island and the top of the South Island. (Figures 23–27)

Most respondents made changes to their property to avoid damage from extreme weather events regardless of whether they believe in climate change (Figure 28, Figure 29). Those who believe in climate change were somewhat more likely to disagree that that the ability to recover from extreme weather events was mainly influenced by things outside their property's boundary (Figure 33). Overall, reliable access to essential infrastructure was the top item that would help respondents adapt to extreme weather events (Figure 35).

Land management: While most respondents reported that climate change would be detrimental for their businesses and for New Zealand agriculture as a whole, a small but growing share of rural decision makers believed that climate change was positive for their businesses and for New Zealand agriculture (Figure 38). Furthermore (see Figure 39), among 10 specified areas of potential past and future focus, reducing agricultural greenhouse gas emissions ranked last. Adjusting to changing weather conditions ranked near the middle. The greatest emphasis was placed on activities such as improving productivity, improving animal welfare, and improving soil health.

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Appendix 1 – Key survey questions

Q19 Over the past 2 years, how much focus have you placed on trying to achieve the following outcomes on your property?

- Reducing greenhouse gas emissions (Q19_1) ▼ 1 Not much of a focus ... 5 Major focus
- Increasing native biodiversity on the property (Q19_2) ▼ 1 Not much of a focus ... 5 Major focus
- Improving the health of waterways (Q19_3) ▼ 1 Not much of a focus ... 5 Major focus
- Reducing soil erosion (Q19_4) ▼ 1 Not much of a focus ... 5 Major focus
- Improving soil health (Q19_5) ▼ 1 Not much of a focus ... 5 Major focus
- Improving biosecurity (Q19_6) ▼ 1 Not much of a focus ... 5 Major focus
- Adjusting to changing weather conditions (Q19_7) ▼ 1 Not much of a focus ... 5 Major focus
- Improving water efficiency (Q19_8) ▼ 1 Not much of a focus ... 5 Major focus
- Improving productivity (Q19_9) ▼ 1 Not much of a focus ... 5 Major focus
- Improving animal welfare (Q19_10) ▼ 1 Not much of a focus ... 5 Major focus

Q20 Over the next 2 years, how much focus do you think you will place on trying to achieve the following outcomes on your property?

- Reducing greenhouse gas emissions (Q20_1) ▼ 1 Not much of a focus ... 5 Major focus
- Increasing native biodiversity on the property (Q20_2) ▼ 1 Not much of a focus ... 5 Major focus
- Improving the health of waterways (Q20_3) ▼ 1 Not much of a focus ... 5 Major focus
- Reducing soil erosion (Q20_4) ▼ 1 Not much of a focus ... 5 Major focus
- Improving soil health (Q20_5) ▼ 1 Not much of a focus ... 5 Major focus
- Improving biosecurity (Q20_6) ▼ 1 Not much of a focus ... 5 Major focus
- Adjusting to changing weather conditions (Q20_7) ▼ 1 Not much of a focus ... 5 Major focus
- Improving water efficiency (Q20_8) ▼ 1 Not much of a focus ... 5 Major focus
- Improving productivity (Q20_9) ▼ 1 Not much of a focus ... 5 Major focus
- Improving animal welfare (Q20_10) ▼ 1 Not much of a focus ... 5 Major focus

Q39 Please select the statement that best indicates your personal beliefs about climate change. *Note that this question asks whether climate change is occurring, not about the causes*.

- Climate change is not occurring (1)
- There is insufficient evidence to know whether climate change is occurring (2)
- Climate change is occurring (3)
- Unsure (4)

Survey branching: Shown if Q39 = 3

Q40 Please select the statement that best indicates your personal beliefs about the causes of climate change.

- Climate change is mostly driven by natural causes (1)
- Climate change is driven equally by natural causes and human causes (2)
- Climate change is driven mostly by human causes (3)
- Unsure (4)

Survey branching: Shown if Q39 = 3

Q41 What impact do you anticipate climate change will have on the viability of your property, NZ agriculture, and global agriculture overall?

- Your property (Q41_1) ▼ 1 Very negative ... 5 Very positive
- NZ agriculture (Q41_2) ▼ 1 Very negative ... 5 Very positive
- Global agriculture (Q41_3) ▼ 1 Very negative ... 5 Very positive

Survey branching: Shown to random 50% of those who chose 3 in Q39 AND all those who did not chose 3 in Q39

Q42 Has your property been affected by any of the following extreme weather events in the past 10 years? *Select all that apply.*

- Drought (1)
- Heat waves (2)
- Flooding (3)
- Storms (4)
- Wild fires (5)
- Other (please describe) (6)
- None of the above (7)

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q43 How do you expect the frequency and intensity of extreme weather events to change on your property over the next 25 years, if at all?

	Frequency	Intensity
• Drought (Q43_1)	▼1 Less; 2 About the same; 3 More	▼1 Less; 2 About the same; 3 More
• Heatwaves (Q43_2)	▼1 Less; 2 About the same; 3 More	▼1 Less; 2 About the same; 3 More
• Flooding (Q43_3)	▼1 Less; 2 About the same; 3 More	▼1 Less; 2 About the same; 3 More
• Storms (Q43_4)	▼1 Less; 2 About the same; 3 More	▼1 Less; 2 About the same; 3 More
• Wildfires (Q43_5)	▼1 Less; 2 About the same; 3 More	▼1 Less; 2 About the same; 3 More

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q44 If extreme weather events are as you expect 25 years in the future, would any of the following land uses no longer be appropriate for your property?

- *{List of all current land uses: chosen in Q13}*
- All activities would still be appropriate

Survey branching: Shown to random 50% of those who chose 3 in Q39 AND all those who did not chose 3 in Q39

Q45 To what extent do you agree or disagree with the following statements about the impacts of extreme weather events?

• I have made changes to my property to avoid damage from extreme weather events (Q45_1)	▼ 1 Strongly disagree ... 5 Strongly agree
• I have made changes to my property to recover faster from extreme weather events (Q45_2)	▼ 1 Strongly disagree ... 5 Strongly agree
• My property is resilient to extreme weather events (Q45_3)	▼ 1 Strongly disagree ... 5 Strongly agree
• There are changes I can make on my property to improve its ability to recover from extreme weather events (Q45_4)	▼ 1 Strongly disagree ... 5 Strongly agree
• The ability of my property to recover from extreme weather events is mainly influenced by things beyond my control (Q45_5)	▼ 1 Strongly disagree ... 5 Strongly agree

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q46 Which of the following will most help your property adapt to extreme weather events? *Select up to 3 answers.*

- Access to skilled workers in my area (1)
- Access to financial support such as grants, subsidies, or loans (2)
- Information about when and how climate change will affect my operation (3)
- Access to trusted advisory services for planning and support (4)
- Demonstrated examples of alternative land-use options in my area (5)
- Fewer and simpler compliance requirements (6)
- Access to new tools suited to a changing climate (e.g. technologies, plant and animal genetics, chemicals, medicines) (7)
- Demonstrated examples effective adaptation actions in my area (8)
- Reliable access to essential infrastructure (e.g. electricity, telecommunication, roads)
- Other (please specify) (10)

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q47 Are seasonal weather patterns on your property different than they were 10 years ago? By seasonal weather patterns, we mean high/low and average temperature and rainfall across seasons.

- Yes (1)
- No (2)
- Unsure (3)

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q48 How do you expect seasonal weather patterns to change on your property over the next 25 years, if at all?

	Rainfall	Temperature
Spring (Q48_1)	▼ 1 Wetter; 2 About the same; 3 Drier	▼ 1 Cooler; 2 About the same; 3 Warmer
Summer (Q48_2)	▼ 1 Wetter; 2 About the same; 3 Drier	▼ 1 Cooler; 2 About the same; 3 Warmer
Autumn (Q48_3)	▼ 1 Wetter; 2 About the same; 3 Drier	▼ 1 Cooler; 2 About the same; 3 Warmer
Winter (Q48_4)	▼ 1 Wetter; 2 About the same; 3 Drier	▼ 1 Cooler; 2 About the same; 3 Warmer

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q49 If seasonal weather patterns shift as you expect 25 years in the future, would any of the following land uses no longer be appropriate for your property?

- *{List of all current land uses: chosen in Q13}*
- All activities would still be appropriate

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q50 To what extent do you agree or disagree with the following statements about the impacts of shifting seasonal weather patterns?

I have made changes on my property as a result of shifting seasonal weather patterns (Q50_1)	▼ 1 Strongly disagree ... 5 Strongly agree
My property is resilient to shifting seasonal weather patterns (Q50_2)	▼ 1 Strongly disagree ... 5 Strongly agree
There are changes I can make on my property adjust to shifting seasonal weather patterns (Q50_3)	▼ 1 Strongly disagree ... 5 Strongly agree
The ability of my property to adjust to shifting seasonal weather patterns is mainly influenced by things outside my control (Q50_4)	▼ 1 Strongly disagree ... 5 Strongly agree

Survey branching: Shown to random 50% of those who chose 3 in Q39

Q51 Which of the following will most help your property adapt to shifting seasonal weather patterns? *Select up to 3 answers.*

- Access to skilled workers in my area (1)
- Access to financial support such as grants, subsidies, or loans (2)
- Information about when and how climate change will affect my operation (3)
- Access to trusted advisory services for planning and support (4)
- Demonstrated examples of alternative land-use options in my area (5)
- Fewer and simpler compliance requirements (6)
- Access to new tools suited to a changing climate (e.g. technologies, plant and animal genetics, chemicals, medicines) (7)
- Demonstrated examples effective adaptation actions in my area (8)
- Reliable access to essential infrastructure (e.g. electricity, telecommunication, roads) (9)
- Other (please specify) (10)