Aotearoa New Zealand National Monthly Fire Danger Outlook (2025/2026 season)

Issue: November 2025

Current fire danger situation

Forest and Grass fire dangers have generally been low to moderate across the country over the past month, although have reached high to very high, and even extreme in some areas with westerly wind events and associated high temperatures and lower humidities, especially eastern parts of the country. Scrub fire dangers have been high to very high, but extreme in the past week over large areas of the country due to these wind events. Underlying Fire Weather Index (FWI) codes and indices have also increased over the past month in many areas.

La Niña is currently in place, but it is expected to be short-lived. In fact, there is a 70% chance for a return to ENSO-neutral during January-March 2026.

Current fuel and soil moisture status

As of 25 November (see Figure 6, left), soil moisture levels were near normal or above normal across a majority of both islands, but below normal soil moisture was observed in western Waikato, Hawke's Bay, Wairarapa, and central Canterbury. The New Zealand Drought Index (NZDI) currently indicates drier than normal conditions in the eastern North Island along with coastal Marlborough and North Canterbury.

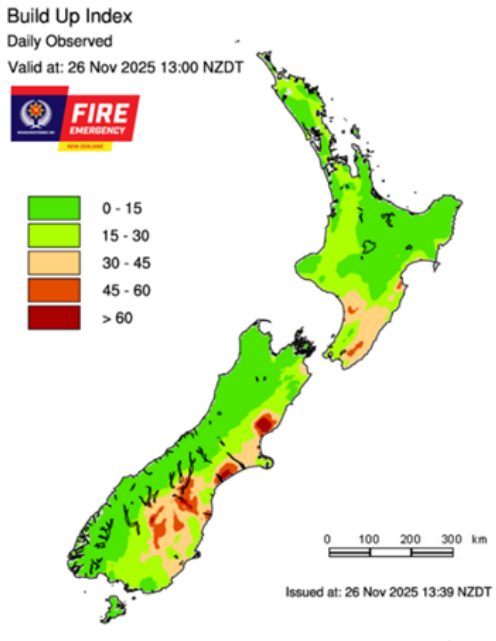


Figure 1: Map of the Buildup Index (BUI) from 26 November, indicating the total amount of fuel available for consumption.

These areas of dryness are evident in the FWI System moisture codes, as shown in the Buildup Index (Figure 1) and contributing Duff Moisture Code and Drought Code maps (Figures 2 & 3) that follow. These show that values have increased markedly over the past month, with elevated values now much more widespread.

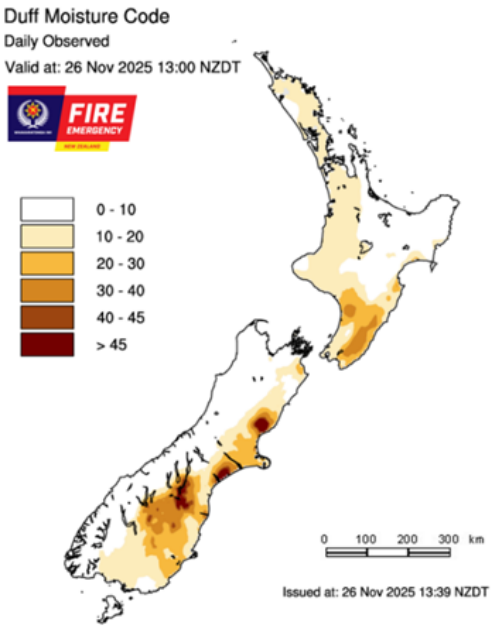


Figure 2: Map of the Duff Moisture Code (DMC) from 26 November, indicating the dryness and availability to burn of shallow soil organic layers and medium-sized woody fuels.

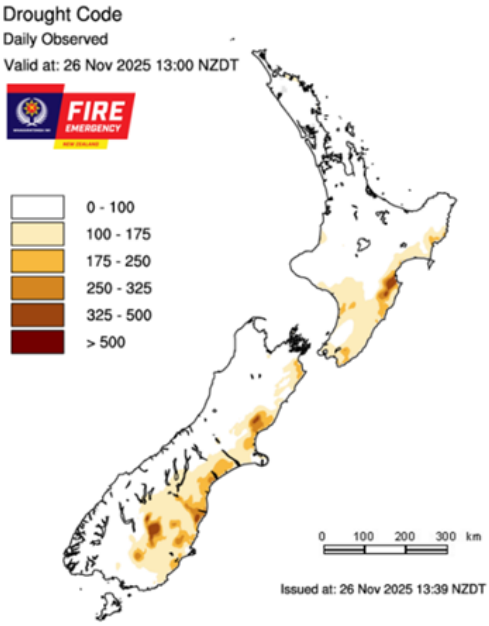


Figure 3: Map of the Drought Code (DC) from 26 November, indicating the dryness and availability to burn of deep soil organic layers and large woody fuels.

While current values are not unusually high for some areas (e.g. Central Otago), they are above normal for others for this time of year and certainly compared with the last few fire seasons (e.g. Hawkes Bay, Wairarapa, North Canterbury, coastal South Canterbury and Waitaki Valley). Ongoing monitoring of these changing conditions over coming weeks and months is therefore critical to ensure timely fire response and risk management.

Moisture contents in fine fuels, which are important for ignition and initial fire spread, and indicated by the Fine Fuel Moisture Code (FFMC), are a lot more variable and change rapidly from day to day and even during the day in response to changing weather conditions. However, we have seen frequent periods in recent weeks where strong winds, warmer temperatures and lower humidity have resulted in high FFMC values indicating rapid drying of fine fuels and increased risk of ignition.

Forecast climate and weather

The final couple days of November will feature another heavy rain event for the western South Island along with gusty winds.

During December, high pressure is favoured to gradually develop near or over New Zealand. While early December could feature areas of low pressure and notable rainfall, dryness may become more pronounced in the second half of the month. Temperatures during December are likely to be above average for most of the country, although wind speeds may be below normal overall.

The December-February period may see easterly or north-easterly air flows gradually become dominant. Near normal to above normal rainfall is favoured for the upper and eastern North Island, while the western and lower South Island could move in a drier direction. Temperatures are forecast to be above average, especially in western New Zealand. Below normal wind speeds are favoured for most of the country.

For more information, see page 9.

The La Niña climate pattern

La Niña is currently in place, but it is expected to be short-lived. In fact, there is a 70% chance for a return to ENSO-neutral during January-March 2026.

No two La Niña events are the same, and each event can produce different effects on weather conditions and therefore fire dangers across New Zealand depending on its timing, strength, and duration. In general, however, La Niña events are historically associated with higher-than-normal pressures east of New Zealand, resulting in more northeasterly winds than normal. This typically leads to wetter than normal conditions being favoured for northern and eastern areas, while drier than normal conditions tend to prevail in the south and west.

The El Niño-Southern Oscillation (ENSO), which includes El Niño and La Niña phases, is often highlighted in seasonal forecasts, as it the most important source of intraseasonal variability for New Zealand. But while ENSO provides predictability over longer timescales, it doesn't fully explain all climate variability. Increasing global Sea Surface Temperatures (SSTs) due to climate change in recent years have also altered traditional impacts of ENSO phases and its associated weather patterns. It is therefore essential to continue monitoring the fire season through the Fire Weather System, with an understanding that even under normal or near-normal conditions, there will be periods of elevated fire danger.

What to watch for

Rushed burning

This time of year often sees people burning in unsafe conditions, particularly strong winds or ahead of frontal changes. This can be due to a perception that they need to rush to burn ahead of the next rain or ahead of the imposition of fire season restrictions or prohibitions.

People should be reminded to apply in advance for their permits, which are free and issued within 5 to 10 working days depending on if a site inspection is required. In some cases, extended duration permits can be issued where the same burn site is used in the same way regularly. They should also be reminded to regularly check whether forecasts, and to consider delaying their burns if windy or changeable conditions are predicted.

Wind Events

Windy conditions are frequent during late spring and early summer, and this year has seen a number of strong wind events. Wind poses a significant fire risk, particularly when combined with the Foehn effect, which brings strong, warm, dry winds to the lee of elevated terrain, such as with the north-westerlies experienced in the eastern regions of both islands.

These wind events can result in the occurrence of strong wind gusts that can cause fires to flare-up, produce embers or spread to adjacent vegetation. But they can also result in higher temperatures and lower relative humidity that drives up FFMC values producing higher Initial Spread Index (ISI) values. The ISI represents this combined effect of wind and fine fuel moisture content, as an indicator of potential fire rate of spread. Vegetation types like scrub and cured/dead grass that contain abundant elevated fine dead material are highly response to strong winds that increase ISI values, under which they spread very rapidly and produce dangerous intensities.

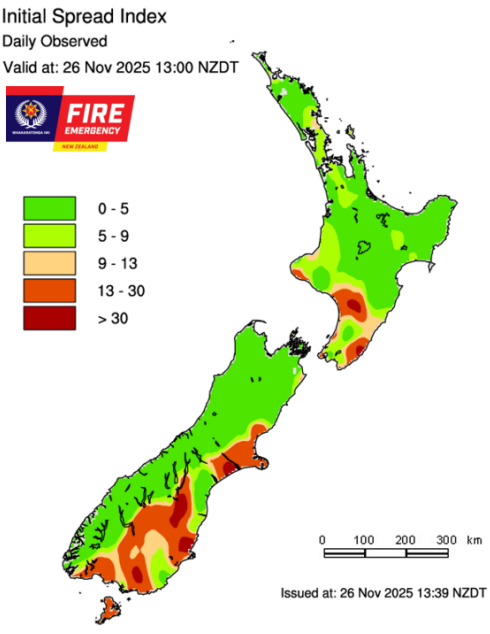


Figure 4: Map of the Initial Spread Index (ISI) from 26 November, indicating potential rate of fire spread following ignition.

Holdover fires

Deep-seated burning is less common at this time of year, but burns can still smoulder or burn slowly when DMC and DC fire danger values are low to moderate, and medium to heavy fuels are too damp to be fully consumed. But as conditions dry over subsequent days and weeks, these fuels become more available to burn—potentially increasing fire activity and the risk of escape, especially during dry and windy periods.

In several parts of the country, recent storms have left communities managing recovery efforts. As conditions become more suitable for burning, we are likely to see an increase in fire use, including the disposal of multiple large piles of debris. This increased activity may involve individuals who are not regular fire users, which heightens the need for advice to be given around careful planning and burn execution to prevent unintended fire behaviour and burn escapes.

Complacency

There is a common belief in many of our communities that destructive wildfires only occur during the peak of summer when conditions are extremely dry. This misconception can lead to complacency among the public, landowners, and even firefighters at other times of year. In reality, some of the most significant wildfires in New Zealand in recent years have taken place in spring and early summer—often without drought conditions—when prevailing weather and fire dangers are more variable.

Brief periods of drying, combined with strong winds and the presence of fine, fast-burning fuels, can still create ideal conditions for fires to ignite, spread rapidly, and burn with moderate to high intensities that make them difficult to control. These factors can result in large-scale fire events, even outside the traditional mid-summer period as clearly shown by the recent Kaikoura (see Photo 1) and Tongariro wildfires.

Photo 1. Rapidly spreading fire near Kaikoura driven by very strong, foehn northwesterly winds (October 2025).

Grass curing

After a slow start due to damper than normal conditions, grasses have begun to die-off across much of the country. As conditions become warmer and drier, this seasonal die-off—known as grass curing—will continue to occur. In elevated cooler zones, particularly where tussock grasses dominate, frost curing has already led to significant drying, increasing the amount of dead fuel present which can remain for some time before it breaks down and is gone, even as exotic grasses green up.

This accumulation of cured and dead grass heightens the risk of ignition and fire spread. When combined with wind, these dry cured grass fuels contribute to faster-moving fires, greater fire intensity, and potentially larger burn areas. Proactive management of grass fuels is essential now, before widespread curing intensifies over the summer months.

Light flashy fuels

Forest fuel types with dense canopy cover and substantial medium to heavy fuels tend to be slower to dry out following the moister conditions of winter and spring, making them a lower early summer fire risk compared to the mid-summer peak. In contrast, fine fuels and those exposed to direct sunlight, such as scrub, logging slash, grass if cured, and young plantations (often interspersed with grass or scrub), are more reactive to atmospheric changes. These fuels can dry out or absorb moisture rapidly, as reflected by the highly variable FFMC values.

As a result, these fuel types pose an elevated fire risk, particularly during the warm, sunny and windy conditions typical of late spring and early summer. Vigilance is essential during this period, as fires in these areas can ignite and spread quickly under the right conditions, as evidenced by the recent Tongariro fire (Photos 2 & 3).

Areas to watch:

As seasonal fire dangers have increased, pockets of elevated values have become apparent and, in the short term, these are expected to remain in several areas over the next month or so. The change in prevailing weather pattern under the influence of La Niña conditions will see fire potential decrease in some of these areas to more normal levels, but become elevated in new areas.

Other areas have seen a decrease in fire dangers over the past month due to regular rainfall events, and La Niña may cause the below normal fire potential in these areas to expand or decrease further.

North Island:

Pockets of elevated fire dangers currently exist in Hawke's Bay and coastal Manawatu/Whanganui. The move to more easterly onshore winds under La Niña, with lower temperatures, moist air and increased rainfall, is expected to bring a return to more normal fire danger levels in Hawke's Bay and Wairarapa—but due to the foehn effect, with more warmer drier conditions, continue to increase fire potential in western areas of Manawatu and along the Kapiti Coast.

Frequent rain events have decreased fire dangers to slightly below normal levels for this time of year in eastern Northland and the Coromandel, and above average predicted rainfalls for the northern North Island over the next few months should further reduce fire potential to below normal across these areas and to slightly below normal levels for the upper parts of the Island from Rotorua across to Hamilton northwards.

Other areas in central and southern parts of the Island are expected to see more normal fire potential, although it may pay to watch the currently dry areas (based on soil moisture anomaly and Drought Index) in northern Taranaki and southern Wairarapa.

South Island:

The South Island is also expected to be influenced by more frequent easterly/northeasterly flows in the coming months. This should see a return of the currently elevated fire dangers in coastal Canterbury and North Otago (and dryness seen in the Drought Index in coastal Marlborough) to more normal levels—recognising that normal in these areas still produces high fire dangers.

On the West Coast, the foehn effect from the easterly winds passing over the Alps is again likely to result in reduced rainfall and higher temperatures than normal in these areas. This is expected to result in slightly above normal fire potential, particularly given the prevalence of high scrub fuels that can dry out rapidly in this region. These warmer, drier conditions could also extend south to parts of western Otago and Southland. Ongoing monitoring of fire danger conditions in these areas will be essential.

Other parts of the South Island should see more normal fire potential—but again recognising that normal for the summer period in many of these areas, such as inland Canterbury, the Mackenzie Basin, Central Otago and even Nelson, can still mean elevated fire dangers.

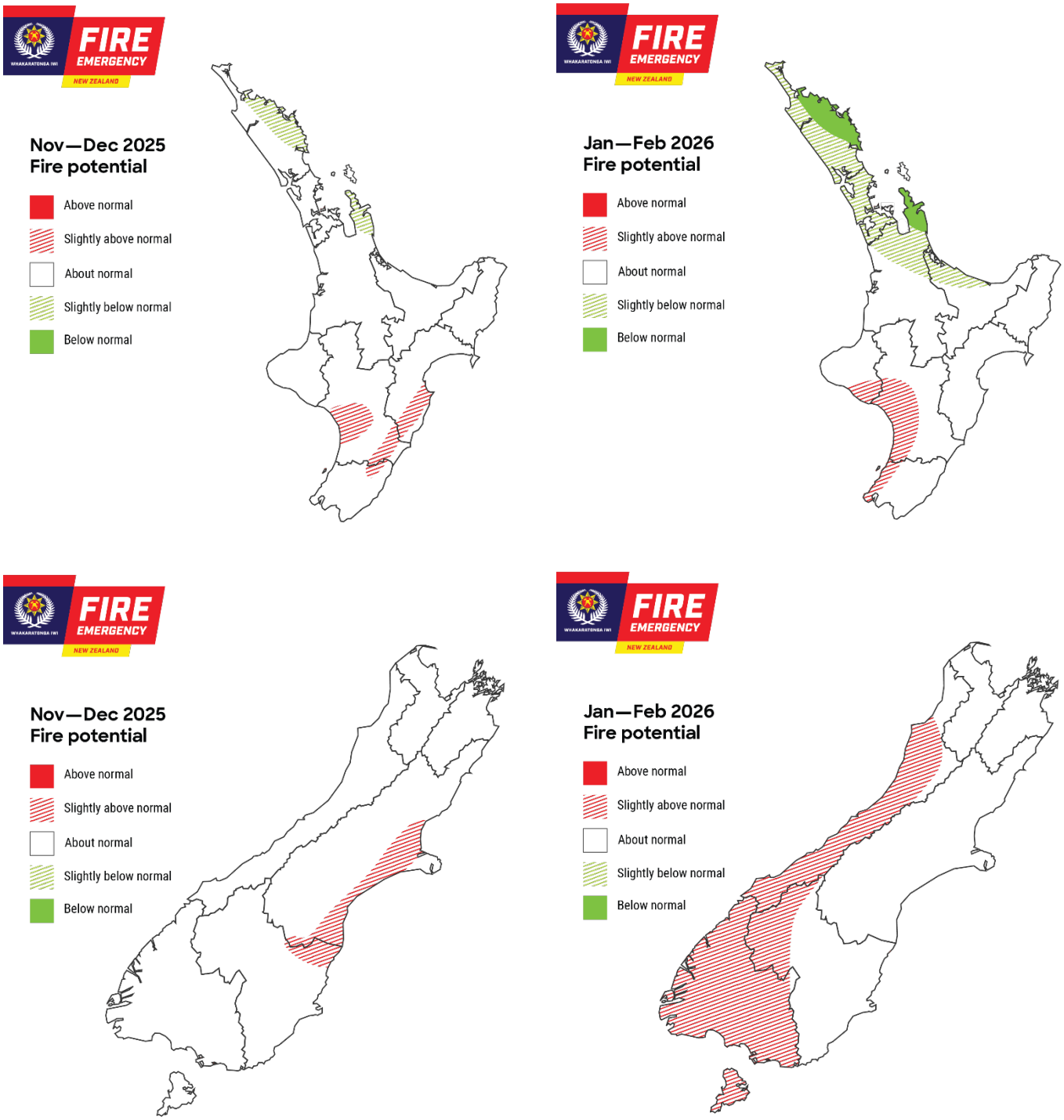


Figure 5. Fire potential over the next three months for the North and South Islands based on assessment of the current conditions as well as the effects of climate predictions for the periods from November - December (left) and January - February (right).

Photos 2 & 3. Tongariro fire (November 2025).

Current climate

In October, temperatures were above average (0.51-1.20°C above average) or well above average (>1.20°C above average) in the entire North Island, Marlborough, Tasman, and Canterbury. Fiordland, parts of lower Westland, and interior Otago experienced temperatures below average (0.51-1.20°C below average). So far in November, temperatures have been well above average across nearly all of New Zealand (Figure 6, right).

October rainfall was well above normal (>149% of normal) or above normal (120-149% of normal) for Southland, Otago, the West Coast, South Canterbury, Banks Peninsula, Auckland, the Waikato, about the Tararua Range, the ranges in the Bay of Plenty, most of the Manawatū, and northern Taranaki. Rainfall was below normal (50-79% of normal) or well below normal (<50% of normal) for Central Hawke's Bay, eastern Northland, coastal Bay of Plenty, Marlborough, and North and Mid-Canterbury. So far in November, above normal to well above normal rainfall has been observed in the upper North Island and the northeast corner of the South Island, with below normal rainfall generally observed in the lower North Island and much of the South Island (Figure 6, middle).

As of 25 November (see Figure 6, left), soil moisture levels were near normal or above normal across a majority of both islands, but below normal soil moisture was observed in western Waikato, Hawke's Bay, Wairarapa, and central Canterbury. The New Zealand Drought Index (NZDI) currently indicates drier than normal conditions in the eastern North Island along with coastal Marlborough and North Canterbury, with parts of Hawke's Bay seeing very dry to extremely dry soil.

Climate drivers

Sea surface temperatures (SSTs) in the central equatorial Pacific have continued to cool, and below average surface ocean waters dominate the equatorial Pacific over and east of the International Date Line. The current traditional Niño 3.4 Index anomaly is -0.71°C, while the relative Niño 3.4 Index (RONI) 30-day value is −0.93°C. Both of these values exceed the -0.7°C threshold typically utilised to define a La Niña event.

The Southern Oscillation Index (SOI) value in October 2025 increased dramatically compared to September, and crossed the conventional La Niña threshold, with a current month-to-date value of -1.2 standard deviation. While short term intra-seasonal variability – associated with the Madden-Julian Oscillation (MJO) – played a role in this recent trend, it signals enhanced coupling between the ocean and the atmosphere.

Subsurface ocean temperature anomalies in the eastern Pacific cooled further in October, with anomalies intensifying to below -5°C at depths between 50 and 150 meters, east of approximately 120°W. Compared to last month, the core of these negative anomalies has shifted slightly eastward. In contrast, subsurface temperatures in the western Pacific remained above average. This east-west gradient in subsurface temperature anomalies continues to reflect ongoing oceanic La Niña conditions.

The Indian Ocean Dipole (IOD) remained strongly negative in October, with a value of -1.1°C, the strongest negative IOD recorded since 2008. According to guidance from the Australian Bureau of Meteorology, the IOD is expected to return to the neutral range by the end of the calendar year.

New Zealand's coastal water temperatures cooled markedly around New Zealand during October. However, water temperatures in late November have once again warmed significantly, with marine heatwave conditions in place across much of the North Island and the upper South Island.

Although La Niña is currently in place, it is expected to be short-lived. In fact, there is a 70% chance for a return to ENSO-neutral during January-March 2026.

Figure 6: Maps showing the current soil moisture anomaly, as well as rainfall and temperature differences from normal since the start of the month.

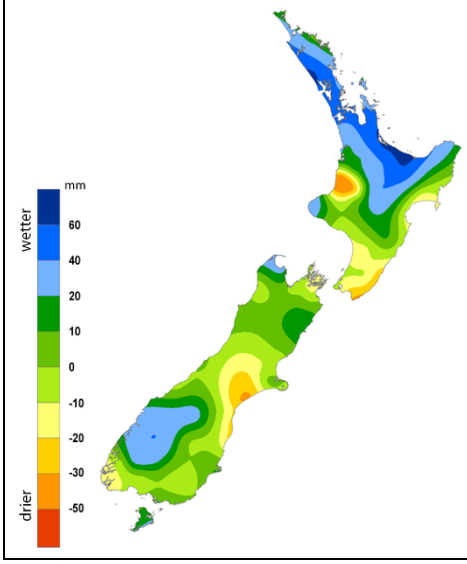
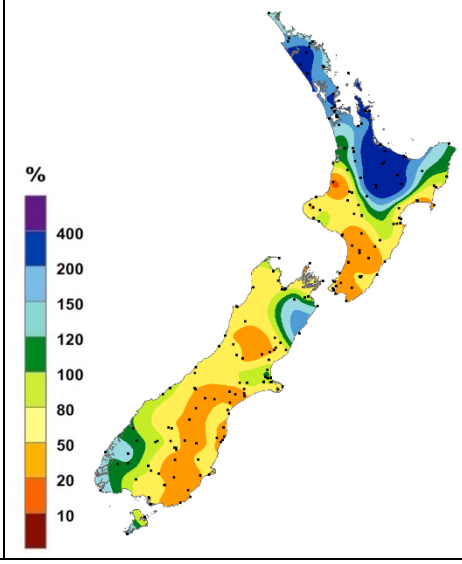
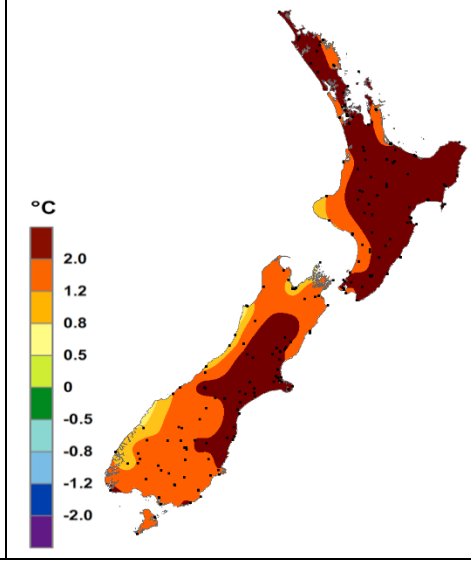
Soil moisture anomaly: 25/11/25	Rainfall anomaly: 1/11/25 – 25/11/25	Temperature anomaly: 1/11/25 – 25/11/25
		

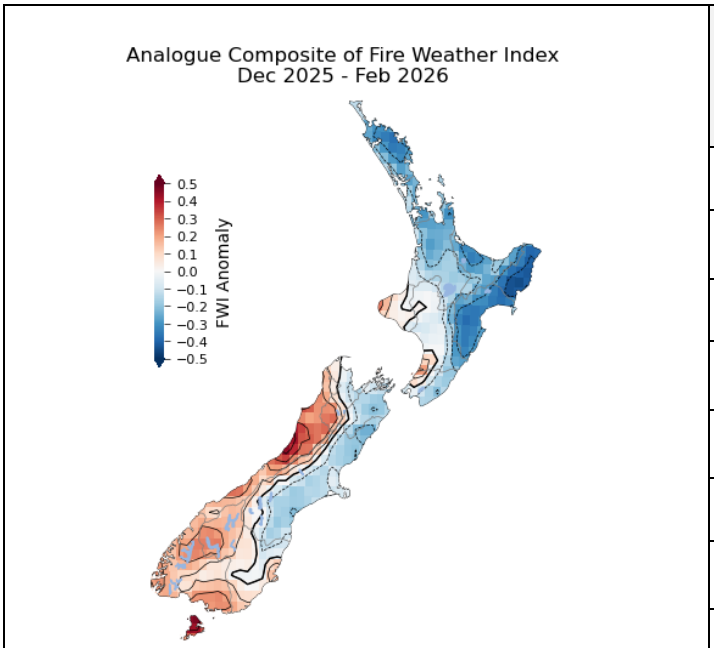
Photo 4. Tongariro fire, Central North Island (November 2025). [Credit: Leigh Anne White, ex 1News]

Fire season analogues

To help understand what fire weather conditions may be like this summer, we can look at analogues. Analogues are historical years with similar climatic conditions to the current year.

This season's analogues were generally weak. They were chosen based on their large-scale circulation patterns, generally during past La Niña years (Figure 7). The subjective analogue seasons are selected with expert interpretation from Earth Sciences New Zealand.

This month's analogues are in general agreement with what the dynamical models are indicating for the December-February period, with decreased fire danger in the upper and eastern North Island and eastern South Island, but increased chances in the west of both islands.



Forecaster-selected analogue season - Dec to Feb
2022-2023
2021-2022
2017-2018
2010-2011
2005-2006
2001-2002
1999-2000
1995-1996

Figure 7: Analogue fire seasons as selected with expert interpretation from ESNZ. The Fire Weather Index (FWI) is a combination of the Initial Spread Index and Buildup Index, and is a numerical rating of the potential frontal fire intensity. In effect, it indicates fire intensity by combining the rate of fire spread with the amount of fuel being consumed. Here, the Fire Weather Index anomaly is calculated by averaging historical analogue years together and comparing to the average FWI between 1991-2020 for the relevant season.

Photo 5. Puketapu fire, Palmerston, Otago (November 2025).

Climate outlook: December 2025

During December, high pressure is favoured to gradually develop near or over New Zealand. While early December could feature areas of low pressure and notable rainfall, dryness may become more pronounced in the second half of the month *(note that the precipitation anomaly image for December (Figure 8, centre) may be showing a scenario that is too wet in the North Island)).* Air flows are expected to become more northeasterly over time as high pressure sets up near or over the country, although wind speeds will likely trend below normal during the month due to high pressure nearby. Above average temperatures are generally favoured, especially in western New Zealand (Figure 8).

Climate outlook: December 2025 – February 2026

A developing easterly-quarter air flow anomaly will be favoured during the season. Temperatures for the next three months are expected to be above average overall, especially in the west of both islands (Figure 9). With La Niña likely in place during some of the season, the North Island, particularly northern and eastern parts, may experience occasional short and sharp rainfall events due to low pressure or moisture plumes moving out of the subtropics (especially from January). However, the western and lower South Island may move in a drier direction. Above normal relative humidity is expected in most northern and eastern regions, with below normal relative humidity in western New Zealand. Wind speeds are favoured to be below normal for the season as a whole across most of the country.

The tropical cyclone season for the Southwest Pacific runs through April. The official tropical cyclone outlook for 2025-2026 indicates a normal to elevated chance for 1-2 ex-tropical cyclones to pass within 550 km of New Zealand.

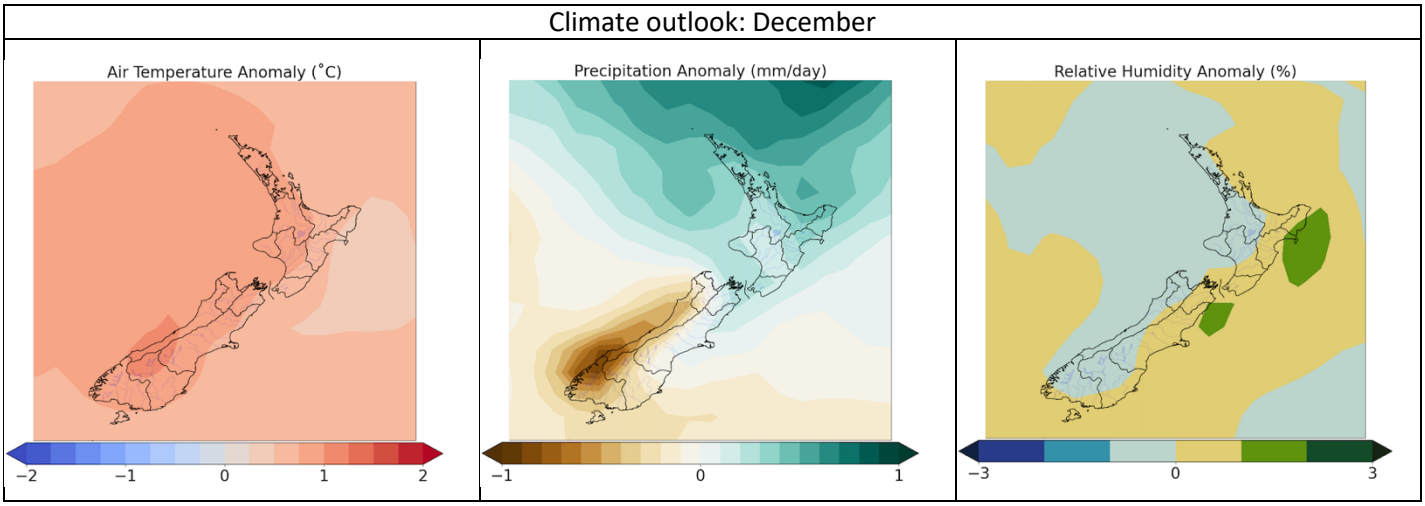


Figure 8: Climate outlook for December showing forecast temperature (left), rainfall (middle) and relative humidity (right) anomalies.

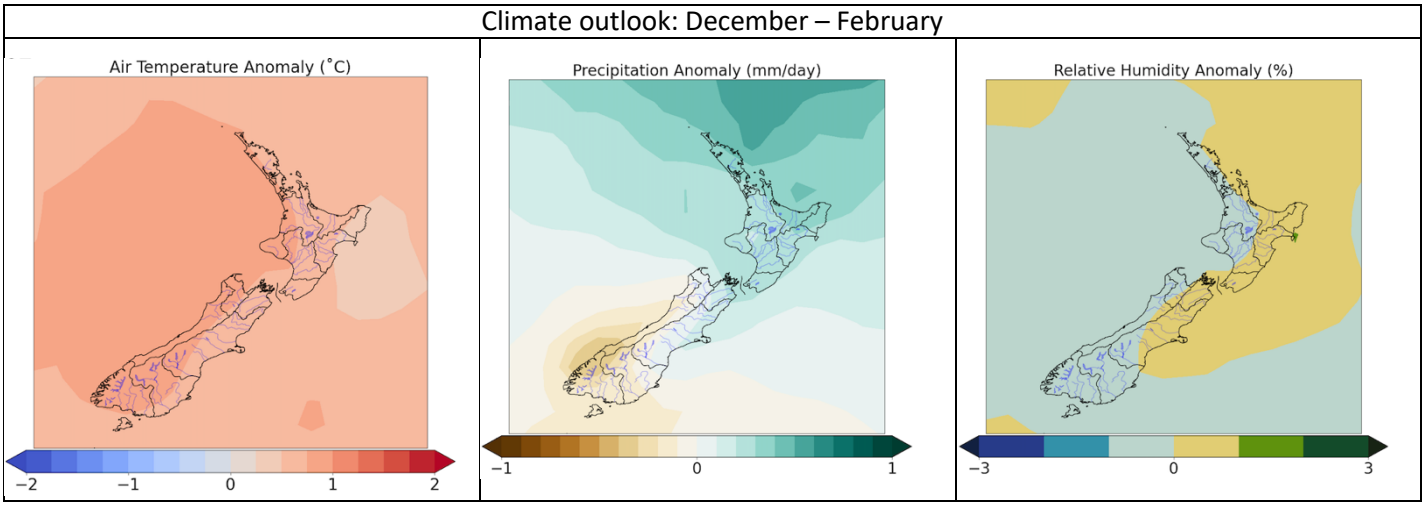


Figure 9: Climate outlook for December-February showing forecast temperature (left), rainfall (middle) and relative humidity (right) anomalies.

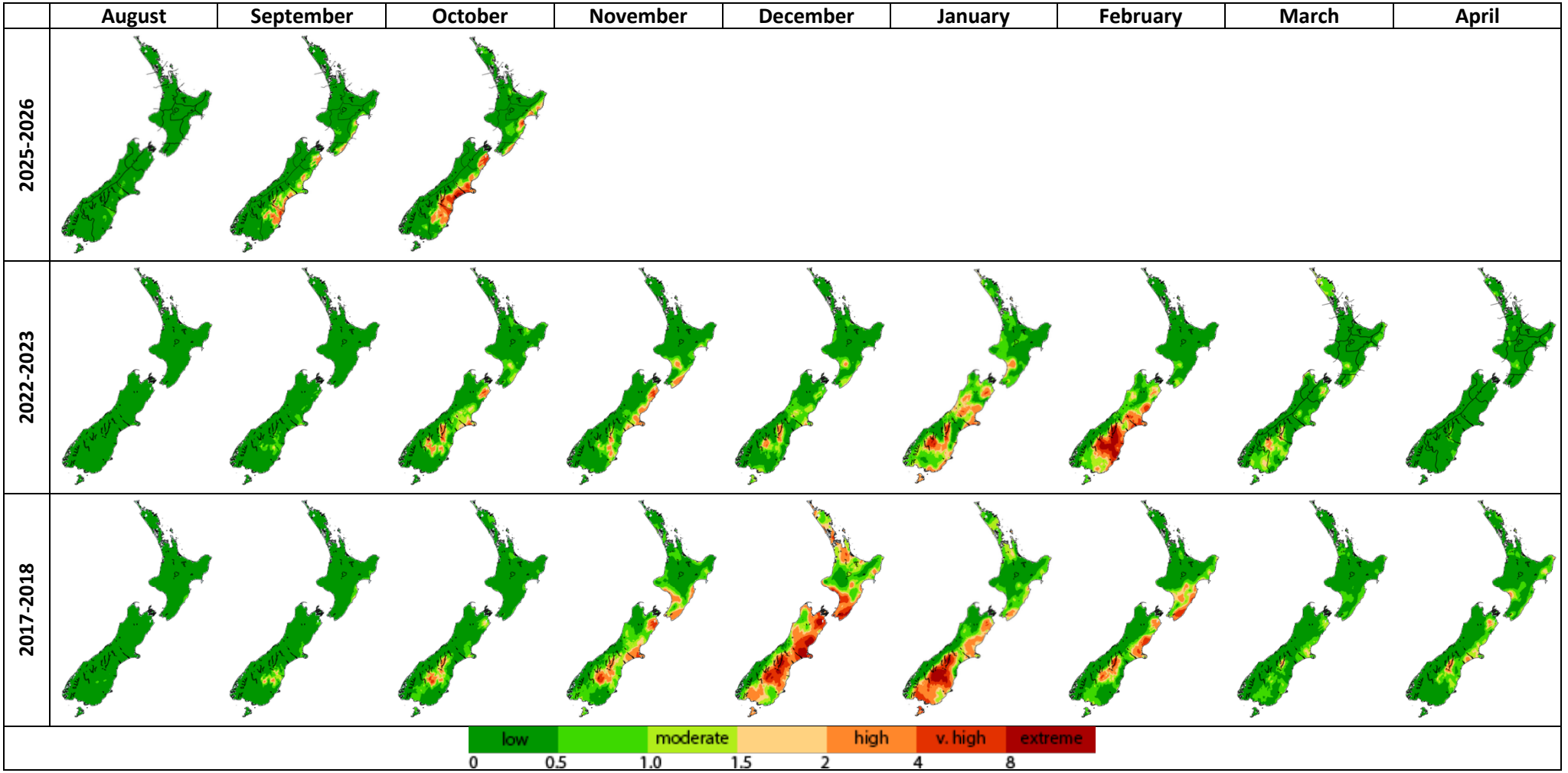


Figure 10: Monthly average severity rating for the current year 2025/2026 and the comparative years of 2022/2023 and 2017/2018. These are analogue years for the current season and give us an insight into what the upcoming season may be like.

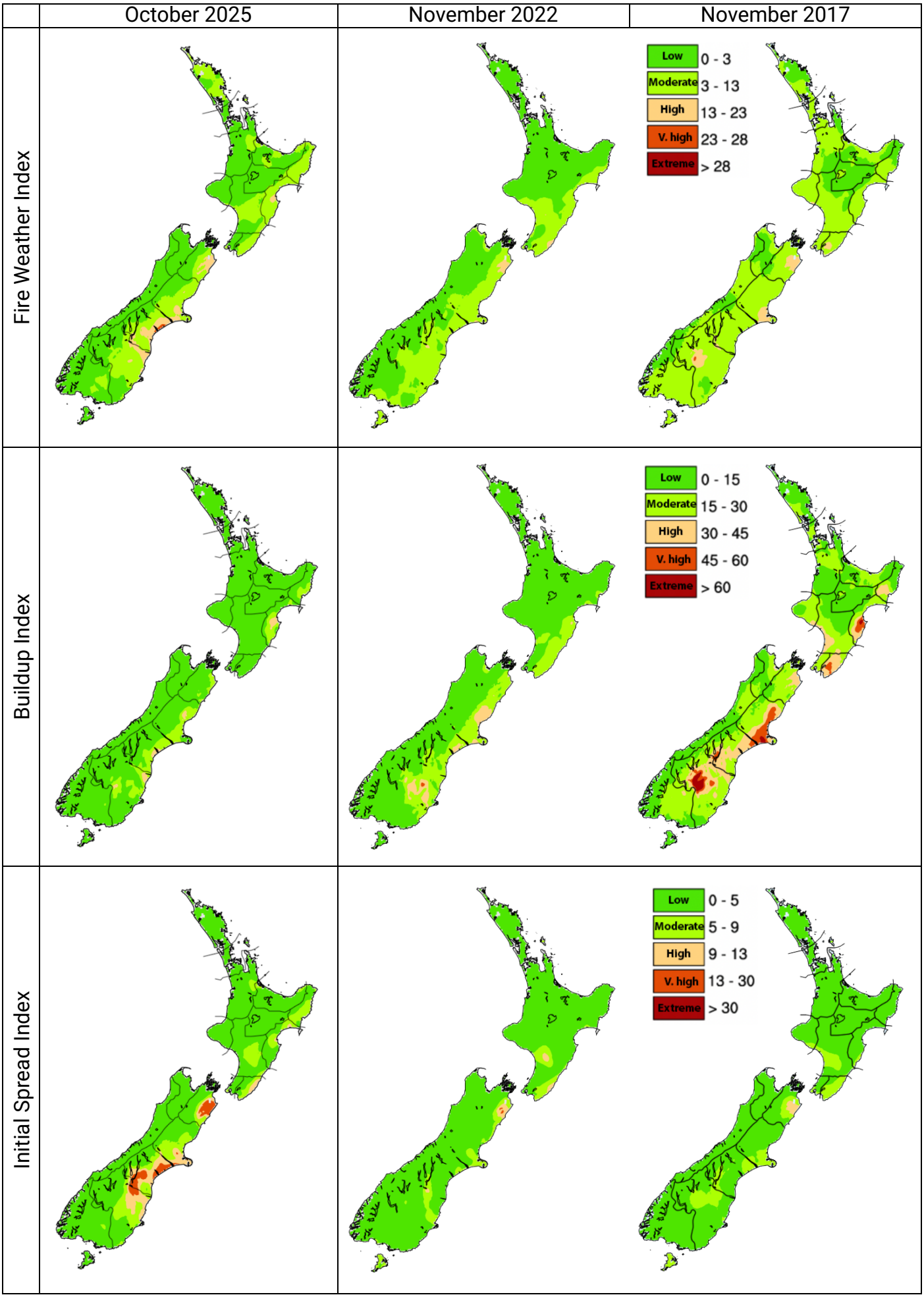


Figure 11: The most recent observed month (left column) and analogue months for November (middle and right columns); monthly average for the Fire Weather Index (top), Buildup Index (middle) and Initial Spread Index (bottom).

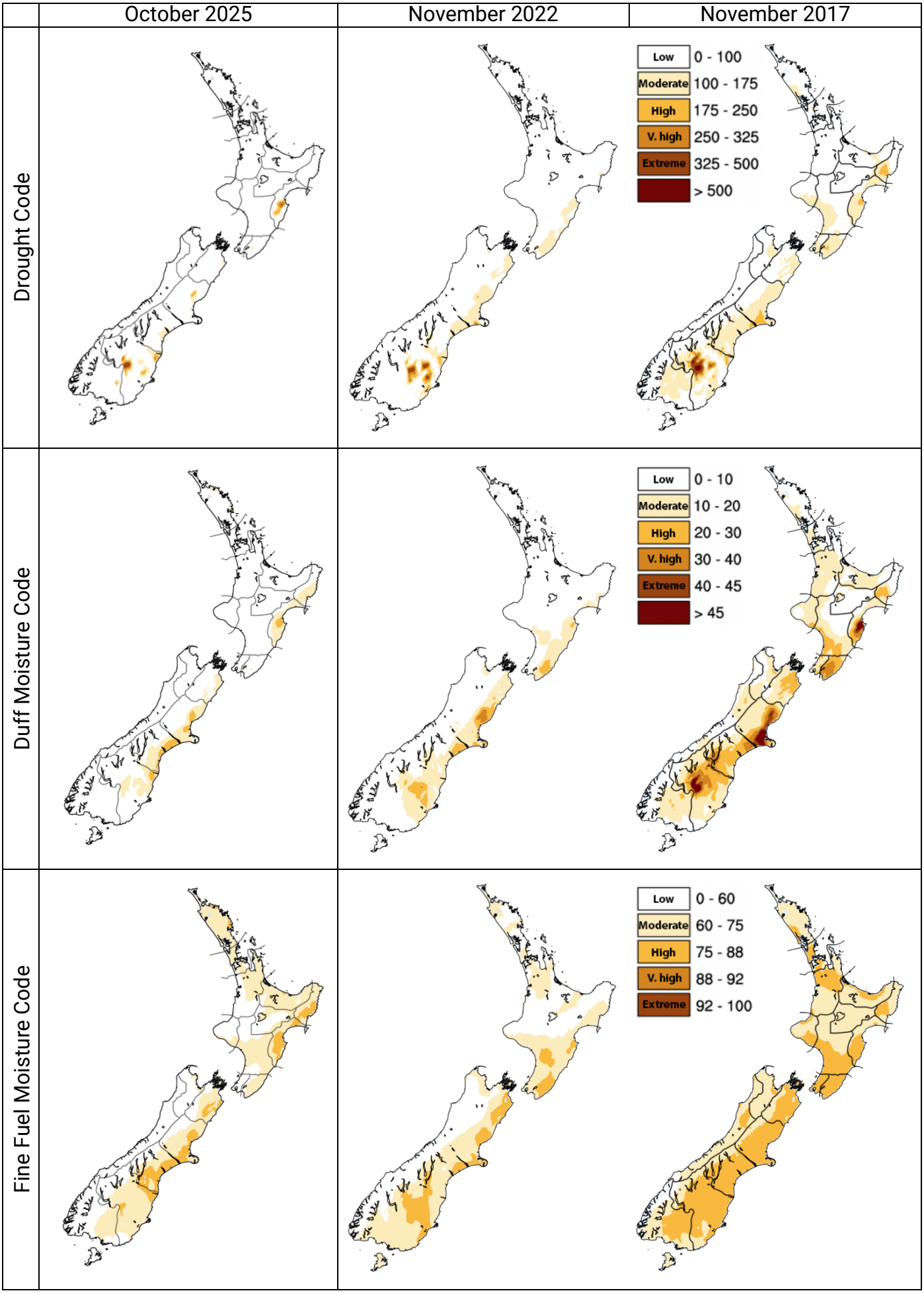


Figure 12: The most recent observed month (left column) and analogue months for November (middle and right columns); monthly average for the Drought Code (top), Duff Moisture Code (middle) and Fine Fuel Moisture Code (bottom).

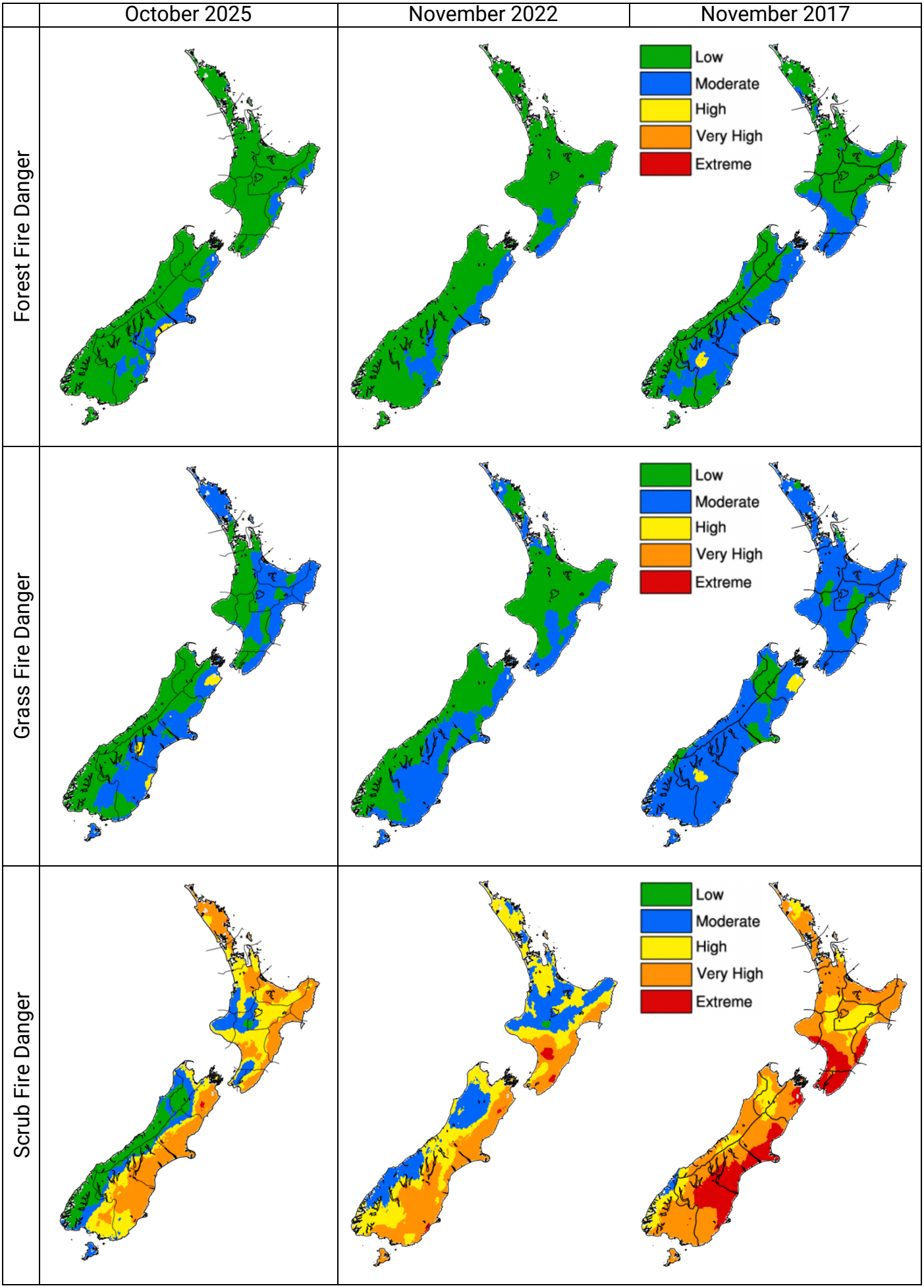


Figure 13: The most recent observed month (left column) and analogue months for November (middle and right columns); monthly average for the Forest Fire Danger (top), Grass Fire Danger (middle) and Scrub Fire Danger (bottom).

Background information on fire weather indices and codes

Fine Fuel Moisture Code: An indicator of the relevant ease of ignition and flammability of fine fuels.

0-74	Difficult
75-84	Moderately easy
85-88	Easy
89-91	Very Easy
92+	Extreme Easy

Initial Spread Index: Combines the effect of wind speed and the FFMC, providing a numerical rating of potential fire spread rate.

0-3	Slow rate of spread
4-7	Moderate fast
8-12	Fast
13-15	Very fast
16+	Extremely fast

Duff Moisture Code: A rating of the average moisture content of loosely compacted organic soil layers (duff/ humus) of moderate depth, and medium-sized woody material.

0-10	Little mop-up needs
11-20	Moderate
21-30	Difficult
31-40	Difficult & extended
41+	Extreme & extensive

Fire Weather Index: Combines the ISI and BUI to indicate the potential head fire intensity of a spreading fire (on level terrain).

0-5	Low fire intensity
6-12	Moderate
13-20	High
21-29	Very high
30+	Extreme

Drought Code: A rating of the average moisture content of deep, compact, organic soil layers, and a useful indicator of seasonal drought effects on forest fuels and amount of smouldering in deep duff layers and large logs.

0-100	Little mop-up needs
101-175	Moderate
176-250	Difficult
251-300	Difficult & extended
301+	Extreme & extensive

Daily Severity Rating: A numerical rating of the daily fire weather severity at a particular station, based on the FWI. It indicates the increasing amount of work and difficulty of controlling a fire as fire intensity increases. The DSR can be averaged over any period to provide monthly or seasonal severity ratings.

Buildup Index: Combines the DMC and DC, and represents the total amount of fuel available for combustion.

0-15	Easy control
16-30	Not difficult
31-45	Difficult
46-59	Very difficult
60+	Extremely difficult

Monthly Severity Rating: is the average of the DSR values over the month. DSR and MSR captures the effects of both wind and fuel dryness on potential fire intensity, and therefore control difficulty and the amount of work required to suppress a fire. It allows for comparison of the severity of fire weather from one year to another.

0-1	Low fire behaviour potential
1-3	Moderate fire potential
3-7	High to very high fire potential
7+	Extreme fire behaviour potential

This document was prepared by Earth Sciences New Zealand in collaboration with Fire and Emergency NZ