

## 2.1 WEATHER FORECASTS

### Fact Sheet Objective

- Outline factors helpful in interpreting weather forecasts for your orchard or vineyard microclimate



*Having a climate station in the National Climate Network right next to your orchard, like this one near Martinborough, is unusual (Photograph by Deborah Wardell).*

#### Your local knowledge

Accurate weather forecasts for your locality rely on the forecaster understanding the differences between your environment and that of the nearest closely monitored climate station. Local features, such as hills and proximity of the sea, play their part. Your understanding of local effects may be better than that of your forecaster—if so, use your local knowledge to interpret weather forecasts.

### Public weather forecasts

Public weather forecasts on radio, television, and in newspapers, use both categorical or 'event based' language (e.g. 'rain is expected tomorrow'), and qualitative or 'process' statements (e.g. 'winds easing slowly'). These statements contain hints that help with weather forecast interpretation. Look further into forecasts than their 'face value' and you can find plenty of useful information.

**Location** – forecasts describe weather at either specific locations or at district level. For example:

- The maximum temperature in Hamilton will be 17°C tomorrow.
- Southeasterlies are expected in Otago.

**Timing** – forecasts generally include the timing of events, and if some weakening or strengthening is expected. For example:

- Northwesterlies will be strong in the afternoon.
- The rain should ease before tomorrow night.

**Geography** – many forecasts contain clues about variations in expected conditions because of local geographical features.

For example:

- The winds will be strong in exposed places.
- Severe frosts are likely inland, but frosts should be light in coastal areas.

**At the orchard** – a forecast may have a clear message that something is happening in your area, but not necessarily in your orchard. This may include severe weather warnings. For example:

- Scattered showers are expected in Hawke's Bay.
- Thunderstorms are likely in the afternoon with hail at times.
- Heavy rainfall is expected in Coromandel overnight.

Think of forecast weather situations as dynamic, so they are constantly changing in time, space, and height. Map the impacts of this into your decision-making. You can turn the 'clues' given in the examples above into valuable information to guide your responses to day-to-day weather forecasts.

### Tailored weather forecasts

Tailored weather forecasts are designed to give you information that is specific to your locality and are offered by some Weather Forecasting service

Tailored to help you manage your orchard, they extract the probable impacts on your orchard from the regional weather forecast, a job that you would otherwise have to do.

Tailored forecasts take into account local features that affect the climate of your orchard, including altitude, distance from the sea, and nearby hills or mountains. The forecasts may include the timing of events and usually give you specific details. For example:

- 20–30 mm of rain on Thursday morning
- 60% chance of frost tonight
- Wet conditions, overcast with high humidity for the next three days.

As with general forecasts, there is still the important step of local interpretation to ensure the forecast is reliable enough for you to act on. All weather forecasts are issued with the expectation that you will use your local knowledge to judge what the forecast conditions will mean in your locality.

## Predictability of the microclimate

So how predictable is your local climate, on a scale that is important within your orchard? Just as the weather forecast is very good at times, it can be inaccurate at other times.

Check the reliability of your forecasts. Choose a weather forecast you normally check and score it, say once a week, for at least three months. Draw up a score sheet of forecast weather conditions that are important to your orchard, particularly considering:

- Extreme hot and cold (and frost) days
- Rainfall and leaf wetness
- Work days.

The score sheet will soon show which aspects of the forecasts are most reliable for you. An example is shown in Figure 1. You will be able to give some valuable feedback to your forecast provider too!

## Summary

- Look further into forecasts than their face value and you can find plenty of useful information.
- All weather forecasts are issued with the expectation that you will use your local knowledge to judge what the forecast conditions will mean in your locality.
- Check the reliability of forecasts using a score sheet. The score sheet will show which aspects of forecasts are reliable enough for you to act on.

Type of forecast (examples)	Right	Partly useful	Wrong
Strong winds			
Overnight frost			
Tomorrow's rain (nearby)			
Tomorrow's rain (at my place)			
No rain over the next 5 days			

Figure 1. Forecast scoring checklist.

## Timing

Be ready for the forecast situation to happen earlier or later than predicted, or to be more or less intense than expected. That's a simple way of adding value to a forecast.

## Further information

[www.metservice.co.nz](http://www.metservice.co.nz)

<https://secure.niwa.co.nz/climate-explorer/home.do>

[www.metvuw.com](http://www.metvuw.com)

[www.hortplus.com](http://www.hortplus.com)

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