

Preparing for El Niño

Summer 2023/24

Ministry for Primary Industries
Manatū Ahu Matua



Forecasters have confirmed the arrival of the El Niño weather pattern in Aotearoa New Zealand. It may become stronger later this year and last into 2024.

Every El Niño is different. This means it's hard to predict its impact on our climate and weather.

However, during El Niño, New Zealand generally experiences stronger or more frequent winds from the south-west in spring and west in summer. El Niño can bring increased risks of drought and water scarcity, wildfire, heat-related human and animal health concerns, along with flooding.

It's important to have a plan and to be prepared.



What is El Niño?

Typically, El Niño peaks during early summer and weakens in the following year. Even as it weakens, its influence on the climate can linger, sometimes into autumn.

According to NIWA, sub-surface ocean temperatures have reached over 5°C above normal in parts of the eastern tropical Pacific this year, which suggests the current El Niño development is on a moderate-to-strong trajectory.

“One key difference between historical El Niño events and the current one is that 2023 already features widespread marine heatwaves in the Pacific and Atlantic Ocean, away from the equator. How the El Niño signal interacts with excess warmth across the ocean basins will have an important influence on New Zealand's weather patterns.”

NIWA meteorologist Ben Noll

There are many climate-related tools to help you manage. Since the last big El Niño in 2015-16, several new tools have also become available:

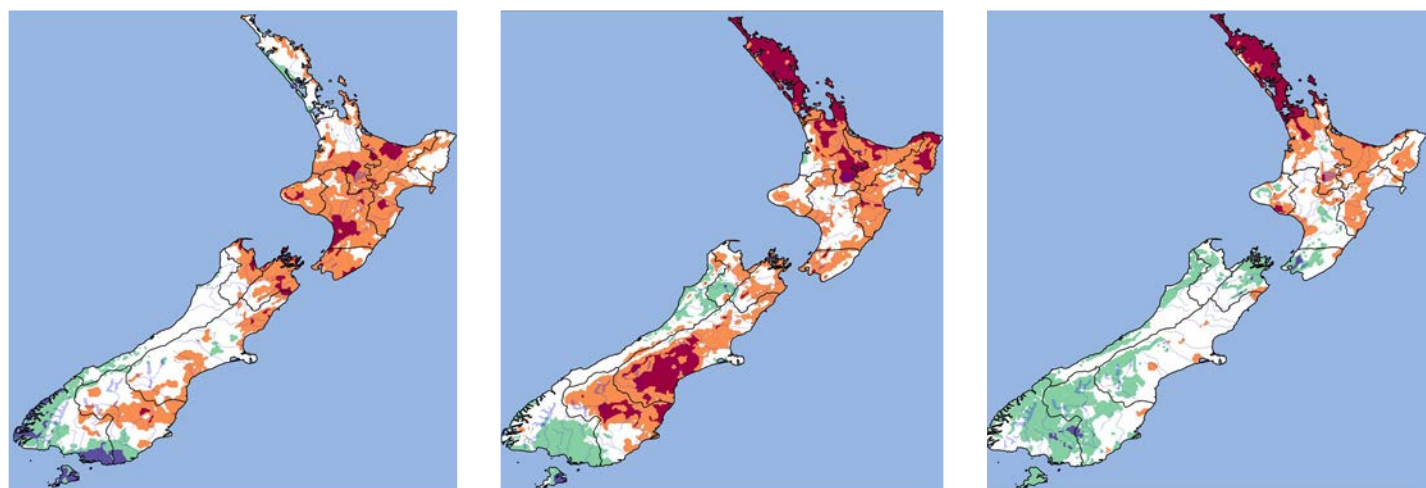
- NIWA's Drought Monitor – a system for keeping track of drought conditions across New Zealand.
niwa.co.nz/climate/information-and-resources/el-nino
- NIWA's Drought Forecasting Dashboard – a one-stop-shop for monitoring and predicting the risk for dryness and drought across the country with daily updates.
shiny.niwa.co.nz/drought-forecast/

- NIWA's Seasonal Climate Outlook – a once-monthly outlook of temperature, rainfall (flood and drought potential), soil moisture, and river flows with comments on the El Niño Southern Oscillation.
niwa.co.nz/climate/seasonal-climate-outlook
- NIWA's El Niño resource page – all about El Niño and La Niña, maps of historical episodes, and educational videos.
niwa.co.nz/climate/information-and-resources/el-nino
- El Niño seasonal rainfall pattern maps by NIWA – maps showing the chance for abnormally wet or dry conditions during each season of the year (see also maps below).
niwa.co.nz/climate/information-and-resources/el-nino/maps-and-charts

Other climate weather-related publicly available information, includes:

- NIWA's Daily Climate Maps -
niwa.co.nz/climate/daily-climate-maps
- NIWA Hotspot Watch:
niwa.co.nz/our-science/climate/publications/hotspot-watch
- MetService – rain radar:
metservice.com/maps-radar/rain-radar/all-new-zealand

Rainfall patterns associated with El Niño orange and red colours indicate an increased chance for below normal season rainfall



Chance of below normal rainfall (%)



Spring El Niño years:

1972, 1977, 1987, 1991, 1993, 1994, 1997, 2002, 2006, 2015, 2015

Summer El Niño years:

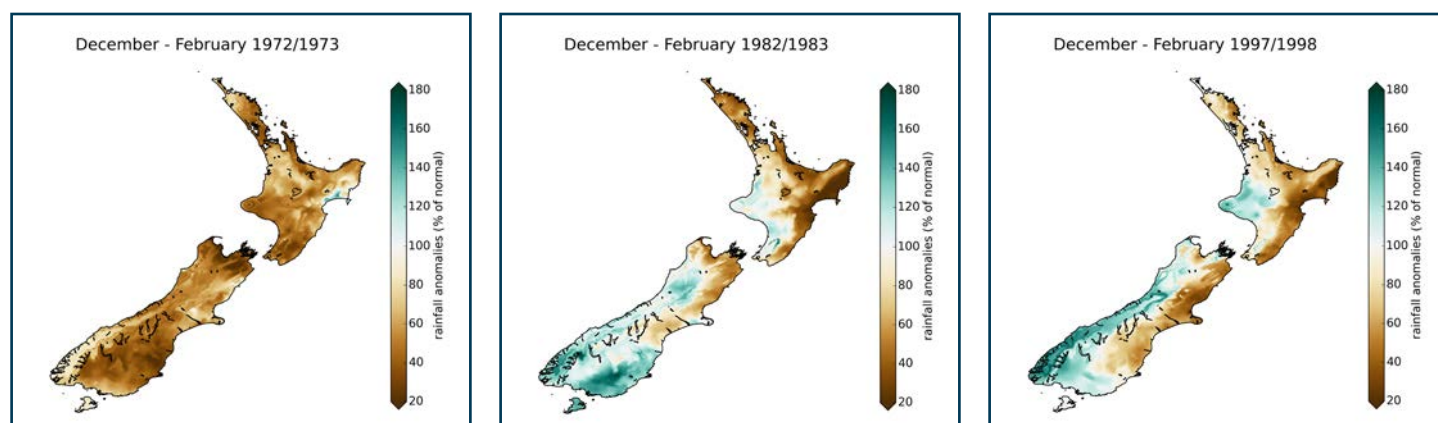
1972-73, 1977-78, 1982-83, 1986-87, 1991-92, 1992-93, 1994-95, 1997-98, 2004-05, 2009-10, 2015-16

Autumn El Niño years:

1983, 1987, 1992, 1993, 2005, 2016

Data: NIWA Virtual Climate Station Network (VCSN). Anomalies are calculated with reference to a 1991-2020 climatology. Seasons refer to the meteorological seasons (spring September to November, summer December to February, autumn March to May).

Summer rainfall as a percentage of normal during three strong El Niño summers



Source: niwa.co.nz/gallery/el-ni%C3%B1o-summer-rainfall-anomalies

Preparing for El Niño – what you can do

- Set your own outcomes and a plan. Set dates for key decisions depending on financial, climate, soil moisture, and feed conditions. Discuss your plan with trusted advisers and keep it up-to-date.
- Monitor seasonal forecasts, and extreme weather and fire warnings.
- Make decisions early and act.
- Use irrigation water efficiently and plan for water restrictions, and the need for water reserves including for fire fighting.
- Think of the fire risk – use low flammability plants near buildings and for shade, clear flammable plants (particularly grass fuels) away from buildings and other infrastructure and maintain fire breaks.
- Have a robust and realistic financial budget, and keep it updated. Your levy organisation has resources available if you need them.
- Talk to experts, such as your bank, accountant, vets, professional advisers, and peers who have been through this before.
- Make time for yourself, your staff and your family. Sometimes a few hours away from the business can make a huge difference.
- Check in and connect with your neighbours and whānau. Peer support and sharing knowledge of previous El Niño events in your area can help.
- Ask for help if you need it.
- If you are unsure where to go for advice or assistance, you can contact MPI's On Farm Support Team at 0800 707 133 or email onfarmsupport@mpi.govt.nz.

For those with animals

- Look after your animals – regularly monitor stock condition and any signs of heat stress.
- Animals must have access to enough clean water daily. In hot and dry conditions your animals might drink three times more water than usual, especially if they are eating dry feed like hay or pellets. They also need more water if they are working, pregnant or lactating.
- Having a reticulated water supply offers the most control over providing water to your animals. Plan for an alternative water supply if you start to run low, or if the water for your animals becomes contaminated.
- Extend your rotation length well before the dry slows pasture growth. Consider the best stock policy and/or milking frequency.
- Ensure animals have access to shade. If your property does not have natural shade (like trees), create shade using buildings or shade sails.
- Plan to shear your animals before the summer heat to keep them naturally cooler.
- For pastoral farmers, feed is key. Based on your up to date feed budget, conserve your true feed surplus and assess the potential for summer feed crops. Consider deferring some grazing as a cheaper alternative to making silage.
- Implement and monitor a feed budget to meet your planned livestock numbers, and act on forecast deficits early. Prioritise livestock classes for destocking early and feed the remainder as well as possible.
- Keep in touch with your livestock agent or meat processor. Book livestock into the meatworks well in advance.

Additional advice on feed during drought can be found in MPI's fact sheet 'Feed in dry times – Get prepared early': mpi.govt.nz/dmsdocument/40409

Normal water consumption

Class of Stock	Water (liters/head/day)
Cattle	45
Sheep and goats	4
Deer (Red)	5
Horses	30
Alpacas	7
Pigs	20
Poultry	0.2

Managing drought

Ministry for Primary Industries

Drought resources – mpi.govt.nz/drought

On Farm Support – mpi.govt.nz/on-farm-support

0800 008 333

Beef+Lamb New Zealand

beeflambnz.com/knowledge-hub/adverse-events/drought-resources

0800 233 352

DairyNZ

dairynz.co.nz/business/adverse-events/drought

dairynz.co.nz/feed/feed-management/deferred-grazing

0800 4 DAIRY NZ (0800 4 324 7969)

Irrigation NZ

irrigationnz.co.nz/PracticalResources/RiskAdvice/Drought

Foundation for Arable Research

far.org.nz/resources/no-100-feeding-grain-to-sheep

far.org.nz/resources/far-focus-10-crops-for-cows

Information and advice for growers

Horticulture New Zealand

hortnz.co.nz

0508 467 869

Foundation for Arable Research

far.org.nz/resources/far-focus-4-irrigation-management-for-cropping-a-growers-guide

Fire safety

FENZ information on wildfire

fireandemergency.nz/fire-safety-campaign-resources/wildfire-readiness-and-prevention/

FENZ fire safety checklist

fireandemergency.nz/farms-rural-properties-and-rural-businesses/farm-rural-business-fire-safety-checklist

FENZ lighting fires safety

checkitsalright.nz

MPI information on wildfire

mpi.govt.nz/forestry/protecting-forests-from-summer-wildfires/

Water conservation

DairyNZ

dairynz.co.nz/environment/on-farm-actions/water-use

Irrigation NZ

irrigationnz.co.nz/PracticalResources/GMP/Overview

Taumata Arowai

taumataarowai.govt.nz/for-communities/emergencies

Foundation for Arable Research

far.org.nz/resources/irrigation-planning-for-a-dry-season

Regional and local council websites

Heat stress in stock

Ministry for Primary Industries

mpi.govt.nz/dmsdocument/30777-Animals-affected-by-a-heat-wave

DairyNZ

dairynz.co.nz/animal/animal-health/heat-stress/

Beef+Lamb New Zealand

beeflambnz.com/knowledge-hub/PDF/shelter-maintaining-welfare-and-productivity-sheep-and-cattle-drystock-farms.pdf

Health and wellbeing

Te Whatu Ora

tewhatuora.govt.nz/our-health-system/environmental-health/heat

tewhatuora.govt.nz/our-health-system/environmental-health/

Support networks

Farmstrong

farmstrong.co.nz

Rural Support Trusts

rural-support.org.nz

0800 787 254

Federated Farmers

fedfarm.org.nz

0800 Farming (0800 327 646)

Rural Women New Zealand

ruralwomen.nz

04 473 5524

Dairy Women's Network

dwn.co.nz

0800 396 748

Financial assistance

Inland Revenue

ird.govt.nz/topics/tax-relief-for-emergency-events

0800 473 566

Work and Income

Emergency Benefit – workandincome.govt.nz/products/a-z-benefits/emergency-benefit.html

Special Needs Grant – workandincome.govt.nz/products/a-z-benefits/special-needs-grant.html

Rural Assistance Payment – workandincome.govt.nz/products/a-z-benefits/rural-assistance.html

0800 559 009



Needing extra support?

If you could use some extra support right now, or know someone who you think is struggling, it's okay, there is help available – no one should go through a tough time alone.

If you're not sure where to start, you should talk to your GP. They're trained to assess and provide support and know what other services are available in your area.

To help you prevent problems from building up, there are new mental health and addiction services being developed across the country as part of the Access and Choice programme. Visit wellbeingsupport.health.nz to see if there is a service near you.

There are a number of free helplines available:

Need to talk?

Call or text 1737 any time for support from a trained counsellor.

The Depression Helpline: **Call 0800 111 757** or **text 4202** to talk through issues with a trained counsellor.

Youthline: **Text 234**, **call 0800 37 66 33**, email talk@youthline.co.nz, or go to youthline.co.nz for an online chat.

Alcohol Drug Helpline: **Call 0800 787 797** or **text 8681** for confidential advice, information or support about drinking or other drug use.

In case of an emergency, **call 111**.

For more wellbeing tips, resources, and tools, go to allsorts.org.nz