VanKIRAP

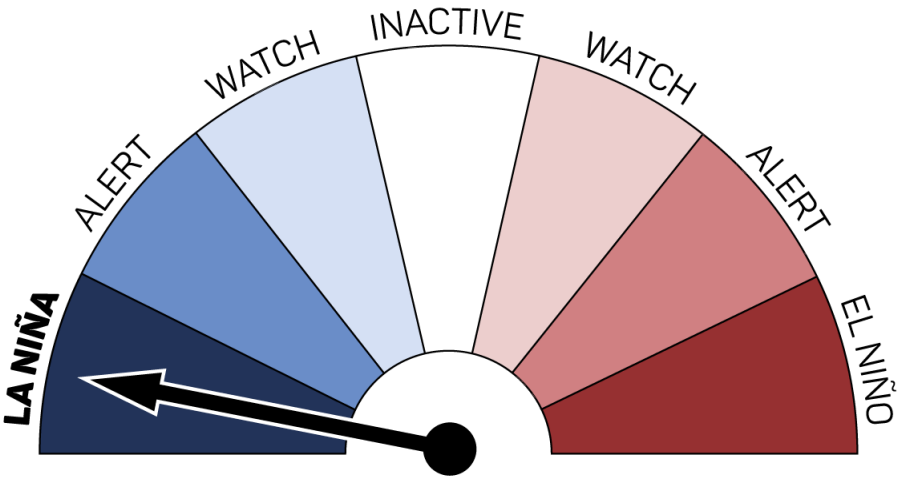
Vanuatu Klaemet Infomesen blong Redi, Adapt & Protekt

CLIMATE WATCH

BULLETIN

La Niña returns

What does this mean for Vanuatu?



Welcome to Vanuatu Climate Watch, a new climate information update from VanKIRAP!

VanKIRAP (Vanuatu Klaemet Infomesen blong Redi, Adapt mo Protekt) is a project based at the Vanuatu Meteorology and Geohazards Department (VMGD) working to make

climate information better, more relevant, and more accessible for people throughout Vanuatu.

Each month, this newsletter explores a different aspect of Vanuatu's climate. This month, we're talking about the recently announced return of La Niña and how this will affect Vanuatu.

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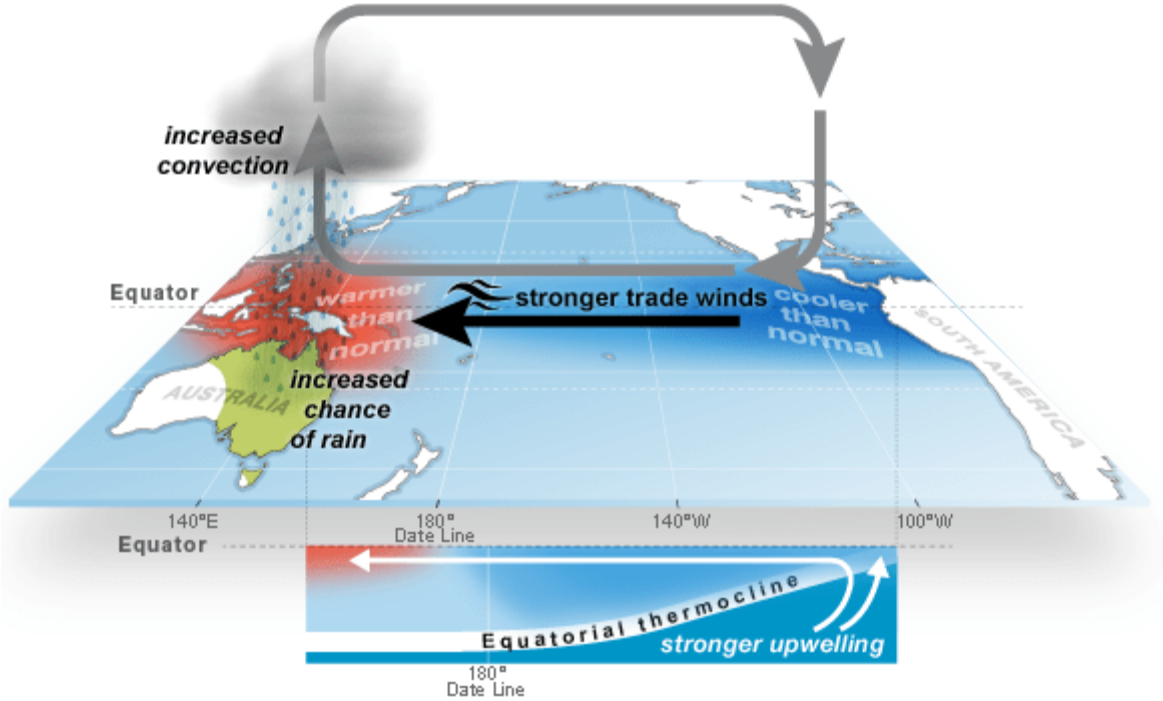
This month's big climate newsfor Vanuatu is that La Niña is back – again.

La Niña is the name given to a climate pattern that occurs when the equatorial trade winds blow warm water on the ocean's surface from the eastern Pacific towards the western Pacific. This pulls cool water up from the depths of the eastern Pacific, cooling the centre and the eastern parts of the tropical Pacific Ocean.

The warmer sea surface temperatures of the western Pacific Ocean, including around Vanuatu, helps clouds to form. These clouds bring more rainfall. The stronger tradewinds during a La Niña also push up the sea levels in the western Pacific Ocean.



El Niño–Southern Oscillation (ENSO): **La Niña**

La Niña is a phase of the ENSO climate cycle (El Niño-Southern Oscillation). The ENSO climate cycle is the interaction between the circulation of air in the atmosphere and the circulation of water in the Pacific Ocean. The ENSO climate cycle moves between El Niño, which brings drier than normal weather such as drought to our part of the Pacific, neutral conditions, and La Niña conditions, which are wetter.

VMGD announced in its **ENSO Outlook** on 13 September that the ENSO climate cycle has moved into a La Niña phase.

This is the third year in a row that the ENSO climate cycle has been in a La Niña phase – making this La Niña a ‘triple dip’ event.

What does a La Niña mean for Vanuatu?

For Vanuatu, a La Niña means higher than normal rainfall. This higher rainfall in turn can trigger flash flooding, flooding along rivers and coasts, and landslides.

The chance of extreme rainfall in Vanuatu between October and December 2022 is high to very high (or 70–100% likely).

Climate models used by VMGD show that the La Niña will probably peak in October and November, and that the ENSO climate cycle will return to neutral status in early 2023.

Everyone should get up-to-date weather information from VMGD and look out for any local conditions that might indicate extreme rainfall is on its way. It's important to prepare now for any extreme rainfall events before they happen.

Aside from heavier than normal rainfall, sea levels around Vanuatu get higher during a La Niña, as the stronger trade winds push sea water higher in equatorial regions of the Western Pacific ocean.

What are some traditional indicators that a La Niña has arrived?

Changes in livestock behaviour and vegetation are two indicators of a La Niña that communities have observed for thousands of years, says Albert Willy, VanKIRAP's Traditional Knowledge Coordinator.

Livestock animals such as pigs, bullocks and horses tend to get livelier when a La Niña is approaching, he says, together with more easily apparent indicators such as vegetation getting greener and lusher due to higher rainfall.

Communities should **listen to VMGD's weather forecast** daily and should also monitor carefully how high and how quickly water levels are rising in nearby creeks and rivers during any rainfall events. This kind of careful observation and local knowledge can save lives.

La Niña and Agriculture

Communities need to prepare for extreme rainfall events to protect crops and food supplies, says Pakoa Leo, VanKIRAP's Agriculture Sector Coordinator.

Pakoa advises farmers to follow these five steps in their gardens:

1. **Harvest ripe root crops** (manioc, kumala etc.) before any forecasted heavy rain events so they don't rot in the waterlogged ground.
2. **Don't plant crops on hillsides** that might wash away in a landslide.
3. **Don't plant crops in low lying areas** in case they get washed away by flooding.
4. **Don't transplant vegetable seedlings in heavy rain. Follow VMGD's weather updates** and transplant seedlings only on days with light rainfall or on sunny days (in the late afternoon only).
5. **Check your crops regularly for insect infestation** and disease and apply management techniques to stop them spreading if conditions are wet.

What does La Niña mean for Vanuatu's fisheries?

Higher rainfall means higher soil erosion and nutrient runoff, says Nastasia Shing, VanKIRAP's Fisheries Sector Coordinator.

"This will increase nutrient levels in coastal areas, which will definitely increase occurrences of ciguatera fish poisoning and red tides which smother corals and some invertebrate species like giant clams", Nastasia says.

"Red tides may lead to fish kills, especially in shallow areas, as they will reduce the amount of dissolved oxygen in the water which will cause the fish to suffocate".

Communities are advised to relocate moveable invertebrate species such as giant clams, trochus, and green snails from areas with lots of runoff from heavy rainfall to areas with less runoff pollution, so that they can survive.

People should also avoid eating reef fish following extreme rainfall events, due to the increased risk of ciguatera poisoning**.**

La Niña and Infrastructure

When Vanuatu experiences heavier than normal rainfall, PWD infrastructure project activities get delayed, says VanKIRAP's Infrastructure Sector Coordinator, Raviky Talae.

He says heavy rainfall events also have "huge cost implications" for PWD, "and lots of effort must then go into reprioritising projects".

"La Niña extreme rainfall events affect accessibility, as they can cause landslides and temporary relocations of infrastructure".

"Infrastructure projects need favourable weather to meet their deadlines and stay within budget. Because this is the third La Niña in a row, the higher than average rainfall it will bring may reduce the design life of infrastructure and make roads and bridges even more vulnerable to damage", says Raviky.

"Vanuatu's road infrastructure has already been pushed beyond the normal maintenance cycle and budget by the previous two La Niñas, says Raviky.

But regardless of the conditions, "PWD will continue to adapt, plan and implement infrastructure projects according to the climatic conditions", he says.

La Niña and Water Supplies

Times of heavier than normal rainfall create two main problems — "too much water, and contamination of water ", says VanKIRAP's Water Sector Coordinator, Jonah Taviti.

Extreme rainfall events can damage water distribution infrastructure like pipes and tanks, which can very costly for communities and government to repair.

Flood waters wash contaminants such as soil sediment and animal and human waste into supplies of drinking water. This pollution can sometimes stay around for many weeks after an extreme rainfall event.

Bacteria and viruses breed in this contaminated water, and people and animals who drink it can get very sick.

Communities can prepare for heavy rainfall events by **following VMGD's weather updates** and **VMGD's Early Action Rainfall Watch**.

If VMGD predicts heavy rainfall, communities should take action to protect and cover wells, and make sure that everyone in the community has sufficient supplies of safely stored clean drinking water in case of contamination.

If your community's water supply gets contaminated by flooding, contact NDMO immediately so they can organise an emergency water supply.

More information about La Niña

VMGD ENSO Update >>

ENSO Outlook (Australian Bureau of Meteorology) >>

Understanding La Niña (NOAA YouTube video) >>

The World Has a $1 Trillion La Niña Problem >>

How to pronounce 'La Niña' >>

About VanKIRAP

VanKIRAP (Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt) is a project based at the Vanuatu Meteorology and Geohazards Department (VMGD) that is making climate information better, more relevant, and more accessible for people across Vanuatu.

VanKIRAP's goal is to support Vanuatu's resilient development by increasing the ability of decision-makers, communities and individuals to plan for and respond to the impacts of climate variability and change, using climate information services (CIS).

VanKIRAP is the Bislama name for the Vanuatu Climate Information Services for Resilient Development Project (CISRDP) project, which is funded by the Green Climate Fund (GCF) and jointly implemented by VMGD and the Secretariat of the Pacific Regional Environment Programme (SPREP).

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Vanuatu Klaemet blong Redy, Adapt mo Protekt (Van-KIRAP) Project

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