

New Zealand weather and climate news

MetService mentions

Record temperatures possible as heatwave hits New Zealand

WHAT YOU NEED TO KNOW

- * Scorching temperatures are forecast to hit New Zealand this week
- * Many parts of the country could see days where the mercury hits at least 30 degrees Celsius
- * There could be some record temperatures, says forecasting agency Niwa
- * The hot weather is being sparked by heat from Australia being blown over the country
- * Blenheim hit 35C and is forecast to hit 35C again today

Hot weather brings forestry freeze on recreational trail users

As heatwave conditions push the mercury past 30 degrees, Nelson's forest owners have decided to stop public access to their trails due to the high fire risk.

Temperatures to soar as heatwave hits

MetService meteorologist Ravi Kandula said: "Essentially, a lot of the heat is going to be confined to the South Island, central parts of Otago - high 20s to the low 30s - Blenheim and Kaikōura

Wellington forecast for week of temperatures in the mid to high 20s

Meteorologist Tui McInnes said the technical definition of a heatwave was a consecutive, five-day run of temperatures five degrees above the average, which Wellington may possibly achieve.

The Country - Heatwave edition

Today on The Country, Jamie has a chat to Met Service weather forecaster Lisa Murray to find out about some hot weather heading New Zealand's way.

Auckland's carbon sink may be bigger than first thought

More carbon dioxide might be getting pulled from Auckland's atmosphere than first thought, a world-leading study has so far found.

Record-hot summer a taste of climate change

A paper just published in scientific journal Environmental Research Letters found last summer - which broke an 84-year-old record for warmth - could also offer a good analogue for possible mean conditions in the late 21st century.

Its authors – including prominent scientists Professor Jim Salinger, Professor James Renwick, Dr Erik Behrens and Dr Brett Mullan – said the extreme summer could be typical of an average New Zealand summer climate for 2081-2100, under mid-range projections.

NIWA

Scientists confirm warming seas around New Zealand

The water in the New Zealand region is significantly warmer than it was 30 years ago, and all indications are the warming trend will continue, says a NIWA scientist.

Sir Ed's temperature legacy

Temperature records that began with Sir Edmund Hilary in 1957 are still being collected and used by scientists, and operational staff at Scott Base.

NIWA's Hotspot Watch 23/1/19

A weekly update describing soil moisture across the country to help assess whether severely to extremely dry conditions are occurring or imminent. Regions experiencing these soil moisture deficits are deemed “hotspots”. Persistent hotspot regions have the potential to develop into drought.

Extreme weather (and other news) – Antarctica and offshore islands

Million-dollar study: When will Antarctica's marine ice sheets melt?

New Zealand scientists are looking to the planet's past to solve a question vital to its future: how warm would ocean waters have to get to melt Antarctica's marine ice sheets?

Extreme weather (and other news) – Australia and Pacific

Temperature records tumble as Adelaide reaches 46.6C

Adelaide has set a new heat record, surpassing the previous one reached in 1939, hitting 46.6C this afternoon

The stubborn high-pressure system behind Australia's record heatwaves

If you think the weather this month has been like Groundhog Day (albeit much hotter), you'd probably be right! Much like a stuck record, weather systems seem to have stalled over most of the country.

35 degree days make blackouts more likely, but new power stations won't help

Summer is here with a vengeance. On hot days it's very likely something in the power system will break and cause someone to lose power. And the weather bureau expects this summer to be hotter and drier than average – so your chances of losing power will be higher than normal.

What caused the blackouts in Melbourne, and do Victorians need to get used to power cuts?

More than 200,000 Victorians lost power on Friday as the state's electricity supply buckled under extreme heat.

So what happened, and do we need to get used to this kind of thing?

BOM forecaster Mike Bergin retires after 49 'magnificent' years

Mike Bergin "stumbled" into a career with the Bureau of Meteorology (BOM) at the age of 18 and is retiring after five decades, having witnessed firsthand the monumental changes not only in forecasting technology, but also Australia's climate.

Extreme temperatures burn stone fruit from inside out, causing severe loss

Extreme heat in South Australia is leading to heavy losses for stone fruit growers, with their produce burning from the inside out.

Dried Tree Fruits Australia chairman Kris Werner, who grows stone fruit at his property in Waikerie, between Adelaide and Mildura, said many growers were losing their fruit to 'stone burn' due to the heat.

Extreme weather (and other news) – Americas and Europe

Coldest air in years advances on US and Canada

The polar vortex is expected to sink across much of North America in coming days.

International news and research

Faster CO₂ rise expected in 2019

With emissions already at a record high, the build-up of carbon-dioxide in the atmosphere will be larger than last year due to a slower removal by natural carbon sinks.

Near-term climate prediction 'coming of age'

Bridging the gap between shorter-term seasonal forecasts and long-term climate projections has long been a dream of climate scientists.

Growing reliance on air conditioning could be hindering our quest to beat the heat, study finds

It's the middle of summer, the sun is stinging and you can feel your pits succumbing to the sweat.

You're stropo, tired, and the prospect of anything that doesn't involve air conditioning has you just about ready to throw punches.

Sound familiar? Turns out, you're not alone.

A new report by researchers at Western Sydney University has found urban heat isn't just a pain — it's actually affecting our quality of life.

Weather scientists discover one of the world's largest hail stones

A crack team of the world's best weather scientists, including a researcher from Australia, has travelled to South America to study extreme thunderstorms and in the process has recorded one of the largest hailstones ever found.

Carbon dioxide levels will soar past the 410 ppm milestone in 2019

We will pass yet another unwelcome milestone this year. The average concentration of carbon dioxide in the atmosphere is likely to rise by 2.8 parts per million to 411 ppm in 2019 – passing 410 ppm just a few years after first passing the 400 ppm mark.

ECMWF -• Newsletter No. 158 - Winter 2018/19

Title, Newsletter No. 158 - Winter 2018/19. Publication Type, Newsletter. Date Published, 01/2019. Name of the publication, ECMWF Newsletter.

- Twelve challenges for ECMWF's second Summer of Weather Code

ECMWF has launched its second Summer of Weather Code (ESoWC) programme open to anybody keen to develop innovative weather-related ...

Scientists say 2018 continues temperature trend

The year 2018 is likely to have been the fourth warmest year on record, a scientific group said yesterday - and joins a quartet of extra-hot years since 2015 that suggest a leap upward in warmth that the Earth may never return from in our lifetimes.

WMO

WMO addresses UN Security Council for first time

For the first time in its history, the World Meteorological Organization has addressed the UN Security Council on the risks to international peace and security posed by climate change and...

Aviation

Direct Invercargill-Auckland flights set to launch

Direct flights between Invercargill and Auckland are planned to begin in August.

Innovation and technologies (inc data and new products)

Internet of Things rain gauge sends climate data to the cloud

A rain gauge that sends rainfall data to 'the cloud' in real time could transform the way climate data is collected.

That is according to James Cook University (JCU) professor Wei Xiang who has been working in conjunction with CSIRO to develop the gauge.

Weather App Reversal Won't Stop LA Lawsuit Over User Data Sold to Advertisers

Los Angeles City Attorney Mike Feuer announced Friday that the Weather Channel's mobile app has changed its public disclosure policy in the wake of a recently filed lawsuit accusing it of using illegal tactics to secretly profit from the precise geolocation data of users by selling it to advertisers and marketing companies.

Climate change / global warming / sea level rise

Māori burial grounds under threat from rising seas increasing storm events

A Māori burial site atop a cliff in the Bay of Plenty has collapsed onto the beach below, scattering human remains into the sand and the sea.

The coastal erosion that tore the sacred site off Ōkurei Point in Maketū this month is not an isolated incident, with hundreds of coastal urupā across the country threatened by rising seas and increasing storm events.

Cloud seeding / Geoengineering

Geoscientists insist weather forecasting is more accurate than ever and could get even better

A trio of geoscientists with Pennsylvania State University and the Massachusetts Institute of Technology has published an update in the journal Science on the state of weather forecasting. In their paper, Richard Alley, Kerry Emanuel and Fuqing Zhang report statistics demonstrating the increased accuracy of weather forecasting, and their views on where the field is headed.

Journal and articles online

Table of Contents Alert

Journal of Applied Meteorology and Climatology - Volume: 58, Number: 1 (January 2019)

ARTICLES

A Modified Dual-Wavelength Technique for Ku- and Ka-Band Radar Rain Retrieval

Liang Liao and Robert Meneghini

Future Changes in Incident Surface Solar Radiation and Contributing Factors in India in CMIP5 Climate Model Simulations

Kimmo Ruosteenoja, Petri Räisänen, Sarvesh Devraj, Shirish S Garud, and Anders V. Lindfors

Origins of Heavy Precipitation Biases in the TRMM PR and TMI Products Assessed with CloudSat and Reanalysis Data

Andung Bayu Sekaranom and Hirohiko Masunaga

The RheaG Weather Generator Algorithm: Evaluation in Four Contrasting Climates from the Iberian Peninsula

Daniel Nadal-Sala, Carlos A. Gracia, and Santiago Sabaté

North American Supercell Environments in Atmospheric Reanalyses and RUC-2

Austin T. King and Aaron D. Kennedy

Comparisons of Electromagnetic Scattering Properties of Real Hailstones and Spheroids

Zhiyuan Jiang, Matthew R. Kumjian, Robert S. Schrom, Ian Giammanco, Tanya Brown-Giammanco, Heather Estes, Ross Maiden, and Andrew J. Heymsfield

A Moment-Based Polarimetric Radar Forward Operator for Rain Microphysics

Matthew R. Kumjian, Charlotte P. Martinkus, Olivier P. Prat, Scott Collis, Marcus van Lier-Walqui, and Hugh C. Morrison

A New Method to Characterize Changes in the Seasonal Cycle of Snowpack

Amato T. Evan

Reconstructing the Drizzle Mode of the Raindrop Size Distribution Using Double-Moment Normalization

Timothy H. Raupach, Merhala Thurai, V. N. Bringi, and Alexis Berne

Dual-Polarized Radar Coverage in Terminal Airspaces and Its Effect on Interpretation of Winter Weather Signatures: Current Capabilities and Future Recommendations

Heather Dawn Reeves and Jacqueline Waters

Meteorological Applications

Towards operational use of aircraft-derived observations: a case study at London Heathrow airport.

Andrew K. Mirza, Susan P. Ballard, Sarah L. Dance, Gabriel G. Rooney, Edmund K. Stone

First Published: 25 January 2019

The December 2018 edition of the CMOS Bulletin is available / L'édition décembre 2018 Bulletin SCMO est disponible

<http://bulletin.cmos.ca/cmos-bulletin-scmo-vol-46-no-6-december-2018/>

=====

John Maunder – My weather Eye , recent posts :

<https://www.sunlive.co.nz/blogs/12894-auranga-annual-average-afternoon-temperatures-19142018.html>

<https://www.sunlive.co.nz/blogs/12879-auranga-december-rainfalls-18982018.html>

<https://www.sunlive.co.nz/blogs/12873-auranga-november-average-afternoon-temperatures-19132018.html>

<https://www.sunlive.co.nz/blogs/12861-auranga-november-rainfalls-18982018.html>

<https://www.sunlive.co.nz/blogs/12822-in-bleak-midwinter.html>

<https://www.sunlive.co.nz/blogs/12813-climate-change-and-villach-is-there-connection.html>

<https://www.sunlive.co.nz/blogs/12795-the-southern-oscillation-index.html>

<https://www.sunlive.co.nz/blogs/12771-sunspots-and-sun.html>

<https://www.sunlive.co.nz/blogs/12731-tropospheric-temperatures-1979-to-october-2018.html>

=====

Thanks to our regular users from your Newsletter editor