New Zealand weather and climate news

These clips come courtesy of MetService

MetService mentions

Large gum tree falls over in Wellington storm

The large gum tree in Anderson Park in the Botanic Gardens fell over during the severe gales which battered the capital overnight.

Metservice said gusts of up to 87 kms an hour were felt in Kelburn, while there were gusts of up to 100 kms an hour in the Cook Strait.

https://www.radionz.co.nz/news/national/370180/large-gum-tree-falls-over-in-wellington-storm

Waikanae outdoor pool opens for summer tomorrow

"MetService will be establishing another weather station – a small pole used for measuring atmospheric temperatures – in the pool's court yard."

https://www.newsie.co.nz/news/124609-waikanae-outdoor-pool-opens-summer-tomorrow.html

Windy weekend then a hot week for the Bay

MetService's communications meteorologist Lisa Murray said today would be cloudy, and there is the chance of patchy rain in the morning.

https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=12153398

More storm weather hitting the South Island before moving up the country

MetService meteorologist James Millward said it's fairly usual for spring to show large swings in both rainfall and temperature, with large week-to-week variations expected.

https://www.stuff.co.nz/national/108330608/more-storm-weather-hitting-the-south-island-before-moving-up-the-country

Weather: New Zealand in for sweltering start to summer

"Week one looks very cold and wet but week two looks warm and dry. Nothing lasts forever, even cold November rain," MetService forecaster James Millward said.

https://www.newshub.co.nz/home/new-zealand/2018/11/weather-new-zealand-in-for-sweltering-start-to-summer.html

Next week's weather to be warmer and drier in Bay

In Rotorua and Tauranga it has been colder than average this week but it is expected to warm up in the week to come, meteorologist Tui McInnes said.

https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=12153160

Severe weather pummels parts of North Island - and it's set to get worse

MetService meteorologist Tui McInness said: "This will be a significant wind and rain event, contrasting greatly with the calmer weather experienced over the past few weeks.

https://www.stuff.co.nz/national/108293502/strong-gusts-hit-auckland-city-keeping-emergency-services-busy

Emergency services at Avondale building site wall collapse

A concrete structure on a construction site has collapsed in West Auckland.

The site at 38 Patiki Rd, Avondale, is a new industrial development set to have five warehouses and offices.

https://www.stuff.co.nz/auckland/local-news/western-leader/108254605/emergency-services-at-avondale-concrete-structure-collapse

Strong gusts batter Auckland: Hundreds still without power

About 200 homes in Auckland are still without power after winds battered the city on Thursday night.

https://www.radionz.co.nz/news/national/370013/strong-gusts-batter-auckland-hundreds-still-without-power

Heavy rain and strong wind warnings as cold front moves north

A cold front moving up the country is bringing with it lightning, heavy rain and strong wind, prompting severe weather warnings.

Warnings are in force for many parts of the country this weekend as a cold front is moving up the South Island on Saturday and then over the North Island on Sunday, MetService says. Gusts

of 87kmh were recorded in Kelburn, Wellington at midday on Saturday, and in the Cook Strait gusts were up to 100km/h.

https://www.stuff.co.nz/national/108331741/heavy-wind-and-strong-wind-warnings-as-cold-front-moves-north

Balmy weather with a weird El Nino expected for summer

Climate scientists are picking a summer on the balmier side, with an El Nino turning up late to the party. Science reporter Jamie Morton explains the big picture.

As anyone who caught snapper as far south as Doubtful Sound would have surely told you, last summer was incredibly strange.

https://www.odt.co.nz/news/national/balmy-weather-weird-el-nino-expected-summer

MetOcean

Ocean study's climate change warning

The world's oceans have been soaking up far more excess heat in recent decades than scientists realised, suggesting that Earth could be set to warm even faster than predicted in the years ahead, according to new research published yesterday.

https://www.nzherald.co.nz/climate-change/news/article.cfm?c_id=26&objectid=12152988&ref=rss

NIWA

Whanganui could be drier and hotter than usual as Niwa releases three monthly Seasonal Climate Outlook

It could be drier and hotter than usual in Whanganui this summer.

The National Institute of Water and Atmospheric Research (Niwa) has released its three-month seasonal climate outlook for November 2018 to January 2019.

https://www.nzherald.co.nz/wanganui-chronicle/news/article.cfm?c_id=1503426&objectid=12153359

Dry and windy conditions in store for November as El Nino approaches

North Islanders will have to brace for a windy November as we move into a dry El Nino weather pattern.

https://www.stuff.co.nz/business/farming/108244919/how-will-el-nino-affect-fruitvegesweather-in-the-coming-months-in-nz

Summer weather forecast: nice

Warm, dry weather: check. Barbecue: check. Sunscreen and togs: check.

It appears the South is shaping up to be warmer and drier than average again over the next three months, making for another great summer.

https://www.odt.co.nz/news/dunedin/summer-weather-forecast-nice

Grab your jandals and get set for a scorching November

The next three months are likely to be warmer than average, and it'll kick off with temperatures next week that could hit 30 degrees Celsius or higher.

https://www.stuff.co.nz/national/108281711/grab-your-jandals-and-get-set-for-a-scorching-november

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

New Antarctic Frontiers

It's not quite "To infinity and beyond" but when you're 850 km away from Scott Base in Antarctica, it sure does feel like it!

http://www.scoop.co.nz/stories/SC1811/S00007/new-antarctic-frontiers.htm

Extreme weather (and other news) – Australia and Pacific

RNZ Pacific's CYCLONE WATCH service: how to listen

RNZ Pacific's CYCLONE WATCH service is now in operation.

The 2018-2019 Pacific Cyclone season has started, and officially runs from November 1 to April 30, 2019.

If Cyclone Alerts are issued for South Pacific countries, RNZ Pacific will broadcast hourly updates of these bulletins if necessary, and whenever the situation changes. These will be heard either just before the top of each hour or following news bulletins at the top of each hour.

https://www.radionz.co.nz/international/pacific-news/369995/rnz-pacific-s-cyclone-watch-service-how-to-listen

Extreme weather (and other news) – Asia and the Middle East, Africa

New weather stations start operation on China's Nansha Islands

BEIJING, Oct. 31 (Xinhua) -- China said Wednesday that its meteorological observation stations on three reefs on the Nansha Islands have started operation.

http://www.xinhuanet.com/english/2018-10/31/c_137572255.htm

Extreme weather (and other news) – Americas and Europe

Death toll in Italy storms rises to 11, as tourists are barred from flooded St. Mark's Square in Venice

The death toll from fierce storms battering Italy has risen to 11, civil protection authorities said on Tuesday, as wild weather caused schools to close and trapped dozens of tourists in the north of the country.

https://www.telegraph.co.uk/news/2018/10/30/death-toll-italy-storms-rises-nine-tourists-barred-flooded-st/

Extreme weather reveals changing climate

A new report by the Met Office, published today, reveals further details about changes in the UK's climate since the 1960s. By documenting temperature and rainfall climate extremes, including periods of warmth, cold and spells of wet or dry weather, the report reveals changes in some types of extreme weather.

https://www.metoffice.gov.uk/news/releases/2018/climate-extremes-report-supplement

New Zealand research

An Enhanced Research Focus

Ngā Pae o te Māramatanga (NPM) - New Zealand's Māori Centre of Research Excellence has announced a comprehensive suite of nine new research platforms, which are contributing to an enhanced research focus for NPM and designed to deliver innovation in areas of significant research challenge for Aotearoa New Zealand.

http://www.scoop.co.nz/stories/SC1811/S00005/an-enhanced-research-focus.htm

International news and research

Five Category 4+ tropical cyclones have struck U.S. soil in 14 months. This is probably without precedent.

Category 5 Super Typhoon Yutu, which decimated the Northern Marianas, is the latest in a string of behemoth storms to directly strike U.S. soil since August 2017. The United States or U.S. territories have been hit by five Category 4 or stronger tropical cyclones in the past 14 months. This is probably without precedent.

https://www.msn.com/en-us/weather/topstories/five-category-4plus-tropical-cyclones-have-struck-us-soil-in-14-months-this-is-probably-without-precedent/ar-BBOUcrj

Tropical Storm Xavier makes eastern Pacific Ocean most active season since 1992

The eastern Pacific hurricane season hasn't been this active since 1992 with Tropical Storm Xavier churning offshore of Mexico.

The 22nd named tropical storm of the 2018 eastern Pacific hurricane season formed on Friday night. On average, 15 tropical storms form in the eastern Pacific each year.

https://www.accuweather.com/en/weather-news/tropical-storm-xavier-makes-eastern-pacific-ocean-most-active-since-1992/70006532

In the US, meteorologists have built a machine-hurricane, simulating a natural disaster (video)

“Wall of wind” can simulate a category five storm. Periodically, the meteorologists added to the system water, because hurricanes are often accompanied by heavy rains.

https://stopru.com/in-the-us-meteorologists-have-built-a-machine-hurricane-simulating-a-natural-disaster-video/15770/

A Weather Forecast Issued This Week Goes Shakespeare And It Was Brilliant

Weather is a part of our day. We are aware of it. We plan for it. We are affected by it. Many people take weather information for granted. Its on our phones, television screens, Internet pages, or radios. The "weather fairy" does not produce those forecast numbers, emojis, and warnings. Meteorologists, using various tools, do. I often say we are living in a golden age of weather forecasts.

https://www.forbes.com/sites/marshallshepherd/2018/10/31/a-weather-forecast-issued-this-week-goes-shakespeare-and-it-was-brilliant/#367fd48b35d1

Controlling future summer weather extremes still within our grasp

Continued burning of fossil fuels is likely to fuel even more extreme summers than that of 2018 because of its impact on the jet stream. The rapid disappearance of aerosols produced by pollution may, however, mitigate the impact until mid-century if countries like China phase out these fuels, according to scientists using climate models to predict changes in the occurrence of

so-called Quasi-Resonant Amplification (QRA) events associated with persistent weather extremes.

https://www.sciencedaily.com/releases/2018/10/181031141603.htm

Aviation

Enriching Weather Information and Situational Awareness for Pilots via Camera Sensors

Editor's Note: This piece was originally penned by John Croft, FAA NextGen Outreach Writer and Editor. In this article, Croft explains the steps being taken to maximize the power of cameras on the ground to help the flight deck and how they are becoming invaluable weather sensing tools. By further automating the process by which weather patterns and hazards are relayed to pilots, accuracy of weather information can be increased and the overhead cost for analyzing thousands of weather images can be minimized. Here's his full article about how the FAA is tackling this approach:

https://connectedaviationtoday.com/enriching-weather-information-situational-awareness-pilots-camera-sensors/#.W9on5RBoSpo

Rocket Lab looks to high-frequency launch operations

US orbital launch provider Rocket Lab has today confirmed the launch window for the upcoming ''It's Business Time'' mission from its Mahia base.

http://gisborneherald.co.nz/localnews/3736391-135/rocket-lab-looks-to-high-frequency-launch

Business development (Intnl)

Better data would help crack the drought insurance problem

While drought policy raises many complex emotional, political and policy issues, it can be helpful to think of it as an insurance problem: how can we best help farmers manage climate risk?

https://theconversation.com/better-data-would-help-crack-the-drought-insurance-problem-106154

Communications/social media

We need a new kind of weather forecast

More regular reporting on extreme weather patterns would help Canadians understand the real threat of climate change

The tornadoes that recently hit the Ottawa area cannot be blamed specifically on global climate change. But they are consistent with the long-predicted pattern of increasingly frequent and severe extreme weather events, highlighted in the most recent report of the International Panel on Climate Change.

http://evidencenetwork.ca/we-need-a-new-kind-of-weather-forecast/

Energy and Mining

What's gone wrong with New Zealand's electricity market?

New Zealand's electricity industry is reeling as it adjusts to "unprecedented market conditions" – but retailers cannot agree on who is to blame.

https://www.stuff.co.nz/business/108312588/whats-gone-wrong-with-new-zealands-electricity-market

Government (regional and national)

Shane 'the Provincial Champion' Jones is hinting of an investment of 'some millions' into flood-prevention infrastructure

Regional Economic Development Minister Shane Jones says he is exploring the option of earmarking "some millions" of Provincial Growth Fund (PGF) funding towards fixing the country's flood-prevention infrastructure.

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12153506

Health

Top weather phobias explored: Millions of Americans experience these weather fears

As thunder rolls and lightning sparks the sky, some might find themselves in a state of panic. If the weather forecast calls for snow and ice, would you rush to buy bread and milk, then hunker down at home? When a tropical storm or hurricane is barreling toward your community, there may be no choice but to seek shelter or leave the area entirely.

https://www.msn.com/en-us/weather/topstories/top-weather-phobias-explored-millions-of-americans-experience-these-weather-fears/ar-BBP3v0y

Satellites and radar

A New European Satellite Launching This Week Is Important For Weather Forecasts

I often refer to geosynchronous weather satellites as the "lead singers" of the weather satellite rock band. They get much of the attention and produce stunning views of hurricanes, tornadic storms, and other real-time weather events.

https://www.forbes.com/sites/marshallshepherd/2018/11/03/a-new-european-satellite-launching-this-week-is-important-for-weather-forecasts/#685f28a64c57

Climate change / global warming / sea level rise

Model reveals islands under threat from climate change

Wave-driven flooding is soon expected to make many of the world's coral-fringed coastlines uninhabitable – and now Kiwi scientists have found a way to reveal which are most at risk.

https://www.nzherald.co.nz/environment/news/article.cfm?c_id=39&objectid=12154388&ref=rss

Journal and articles online

Quarterly Journal of the Royal Meteorological Society

Accepted Articles

Accepted, unedited articles published online and citable. The final edited and typeset Version of Record will appear in the future.

Multiscale characteristics of an extreme precipitation event over Nepal

Patrik Bohlinger, Asgeir Sorteberg, Changhai Liu, Roy Rasmussen, Harald Sodemann, Fumiaki Ogawa

First Published: 21 October 2018

Weather

Volume 73, Issue 11

Pages: E1, 338-354, i-iv, 355-372, E2-E4

November 2018

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Cover Information

First Published: 02 November 2018

In this issue of Weather

In this issue of Weather

Jim Galvin

Pages: E1 | First Published: 02 November 2018

Weather news

Weather news

Pages: 338 | First Published: 02 November 2018

Research Articles

The meteorological legacy of the First World War

Jim Galvin

Pages: 339-341 | First Published: 02 November 2018

International cooperation in meteorology, part 2: the golden years and their legacy

John W. Zillman

Pages: 341-347 | First Published: 04 May 2018

The iconic photo of Dr Harry Wexler (left) and Academician Victor Bugaev discussing the concept for the World Weather Watch in Geneva in early 1962 (Davies, 1990).

Short Article

The Delhi ‘gas chamber’: smog, air pollution and the health emergency of November 2017

James P. Terry, Gensuo Jia, Robert Boldi, Sarah Khan

Pages: 348-352 | First Published: 18 May 2018

View of Delhi's Red Fort, a UNESCO World Heritage Site, partially obscured by smog on 9 November 2017. (© J. Terry.)

The Genoa Metropolitan Area has exhibited an increase in flooding in recent years. This study analyses the pluviometric statistics collected by four weather stations based on annual, seasonal and monthly rainfall amounts and number of rainy days data; hourly rainfall data were also analysed. Monthly analysis highlights a decrease in rainfall amounts and the number of rainy days and a secular increase in the average daily rainfall rate, particularly in autumn. Also, the graphs of hourly rainfall show positive trend lines, and climate data more generally confirm the occurrence of increasingly intense rainfall over the last 50 years. This is consistent with the recently recorded increase in the number of flash floods.

Skills for forecasting space weather

H. J. Austin, N. P. Savani

Pages: 362-366 | First Published: 02 January 2018

In this paper, we have broadened the statistical verification of the Bz4Cast tool, the first empirically-driven model to forecast solar wind magnetic vectors inside a CME prior to their Earth arrival. Twenty-five CME events (between 2012 and 2016) have been tested with the Bz4Cast model, and the skill scores have been compared to the heuristic approach of NOAA's Space Weather Prediction Center G-scale for 3-day geomagnetic storm forecasts. For a broad range of scores, and within uncertainty, the Bz4Cast architecture provided the same Skill Score as the experienced on-duty forecasters at SWPC.

Open Access

Human perception of climate change

Sejabaledi A. Rankoana

Pages: 367-370 | First Published: 14 April 2018

Letters

Letters

Sean Elvidge

Pages: 370-371 | First Published: 12 June 2018

Letters

Mike Hatch

Pages: 371 | First Published: 16 July 2018

Society news

Society news

Pages: 372 | First Published: 02 November 2018

Inside Cover Photographs

A spectacular display of altocumulus lenticularis at sunset

Pages: E2 | First Published: 02 November 2018

A well-developed cumulonimbus capillatus over the English Channel

Pages: E3 | First Published: 02 November 2018

A spectacular display of crepuscular rays bursting through a field of altocumulus clouds over Romsey

Pages: E4 | First Published: 02 November 2018

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Perspectives

This Perspective provides an overview of the snow–sea ice systems in the Arctic and Antarctic, offering insight on how current uncertainties can be reduced, and future challenges met, to improve understanding of polar climate change.

Review Articles

Using the ‘Can it? Has it? Will it?’ framework, this Review synthesizes current understanding on Eurasian snow–atmosphere coupling, outlining observational and modelling evidence for their dynamical connection and discussing possible changes in the future.

Snow albedo is impacted by the presence of light-absorbing particles, including black carbon and dust. This Review collates knowledge on the associated radiative forcing, discussing geographic variability, future impacts and challenges for reducing uncertainty.

Climate change, in combination with existing environmental issues, threatens the Mediterranean region. This Review highlights how climate change will interact with other factors to exacerbate five areas of risk unless there is mitigation and adaptation.

Letters

Coastal climate change, soil salinity and human migration in Bangladesh pp981 - 985
J. Chen & V. Mueller
doi:10.1038/s41558-018-0313-8

Projected sea-level rise and increased flooding threaten coastal agriculture. Gradual increases in soil salinity, but not inundation alone, are shown to correspond to increasing diversification into aquaculture and higher levels of internal migration.

Synchronous behavioural shifts in reef fishes linked to mass coral bleaching pp986 - 991
Sally A. Keith, Andrew H. Baird, Jean-Paul A. Hobbs, Erika S. Woolsey, Andrew S. Hoey et al.
doi:10.1038/s41558-018-0314-7

The impact of coral bleaching and mortality is found to reduce aggression in resident butterflyfish. This is linked to the lower dietary percentage of preferred food, nutritionally rich Acropora coral, with a less nutritious diet influencing aggressive behaviour.

Long-distance migratory birds threatened by multiple independent risks from global change pp992 - 996
Damaris Zurell, Catherine H. Graham, Laure Gallien, Wilfried Thuiller & Niklaus E. Zimmermann
doi:10.1038/s41558-018-0312-9

Climate and land-cover change can affect the summer and winter ranges and migration distances of migratory birds. Accounting for all of these factors, rather than just summer range as is typical, significantly increases the number of species under threat.

Snow cover is a neglected driver of Arctic biodiversity loss pp997 - 1001
Pekka Niittynen, Risto K. Heikkinen & Miska Luoto
doi:10.1038/s41558-018-0311-x

Arctic biodiversity patterns will be highly dependent on the evolution of snow conditions, according to simulation results that integrate observations of vascular plants, mosses and lichens over a range of Arctic landscapes.

Weaker land–climate feedbacks from nutrient uptake during photosynthesis-inactive periods pp1002 - 1006
W. J. Riley, Q. Zhu & J. Y. Tang
doi:10.1038/s41558-018-0325-4

During periods of photosynthetic inactivity, roots compete for nutrients with microbes and abiotic processes. Most ESMs neglect this competition, leading to large positive biases in annual N leaching and N2O emissions estimates.

Articles

Public acceptance of resource-efficiency strategies to mitigate climate change pp1007 - 1012
Catherine Cherry, Kate Scott, John Barrett & Nick Pidgeon
doi:10.1038/s41558-018-0298-3

A combination of consumption-based emissions modelling and deliberative public workshops suggests that developing resource-efficient products will be an effective climate change mitigation strategy because it has both high emissions-reduction potential and wide-scale public approval.

Latitudinal shift of the Atlantic Meridional Overturning Circulation source regions under a warming climate pp1013 - 1020
Camille Lique & Matthew D. Thomas
doi:10.1038/s41558-018-0316-5

The sinking of dense waters drives the Atlantic Meridional Overturning Circulation. As the climate warms, changes in ocean circulation, stratification and mixed-layer depth alter the regions in which this sinking occurs, with implications for global climate.

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Thanks to MetService and NATURE for these clips