New Zealand weather and climate news

Courtesy of MetService

MetService focus

More settled weather on the way after storms

MetService meteorologist Mark Bowe said the low pressure system that caused the rain on Tuesday had now moved away from Hawke's Bay, making way for better weather.

https://www.nzherald.co.nz/storms/news/article.cfm?c_id=328&objectid=12069989

Clean-up begins after power cuts and wild weather in Hawke's Bay

Residents and businesses in rural Hawke's Bay still without power after wild weather on Tuesday are hoping they will be up and running before long.

https://www.nzherald.co.nz/storms/news/article.cfm?c_id=328&objectid=12069730

Wild winds fling shipping containers into water at Napier Port

t's not every day the wind can throw a 3.8-tonne shipping container into the water, but yesterday's severe weather event was an exception.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12069221

Drier conditions expected to bring relief to sodden regions

A mainly dry Thursday will come as welcome relief to parts of the country still reeling from this week's deluge.

MetService says the next rain band approaching from Tasman Sea is low moving, keeping most parts of the country dry

https://www.stuff.co.nz/national/104701365/Drier-conditions-expected-to-bring-relief-to-sodden-regions

MetService keeps heavy rain warning in place for Tongariro, Wairarapa and Kaikōura

MetService Meteorologist Matthew Ford said heavy rain was still affecting parts of the country at 5.20am on Wednesday - the worst of it in Marlborough and Canterbury.

https://www.stuff.co.nz/national/104667425/metservice-keeps-heavy-rain-warning-in-place-for-tongariro-wairarapa-and-kaikura

Rain and winds cut power, close schools and roads in Hawke's Bay

MetService meteorologist John Law said Gisborne and Hawke's Bay bore the brunt of the rainfall yesterday.

https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=12069239

Highways blocked and schools closed as heavy rain, gales batter eastern North Island

A deep low that had come down from the tropics would be moving south southwest across the North Island during Tuesday, MetService meteorologist Matt Todd said.

https://www.stuff.co.nz/national/104634584/highways-blocked-and-schools-closed-as-heavy-rain-gales-batter-eastern-north-island

Rain, wind and thunder hit North Island

MetService meteorologist Andrew James said the rain will ease in Northland, Auckland and Coromandel later today, but remain pretty wet and windy for most other places.

https://www.odt.co.nz/news/national/rain-wind-and-thunder-hit-north-island

Tropical front brings heavy downpours over next 24 hours, strong winds

Metservice Meteorologist Tom Adams said the region would experience relatively warm temperatures over the next day, but heavy rain was a big concern.

https://www.nzherald.co.nz/weather/news/article.cfm?c_id=10&objectid=12068526

All Blacks get capital cable car tour with MetService analyst

After a comfortable victory over France on Saturday night three All Blacks were looking to relax with a tour of Wellington's famous cable car.

Joanne Turpie, a MetService business analyst and big All Blacks fan, won a competition to give a group of three unidentified All Blacks a tour of a capital highlight and ended up - to her delight - guiding winger Waisake Naholo and loose forwards Luke Whitelock and Jordan Taufua on their first ride on the famous funicular railway.

https://www.stuff.co.nz/sport/rugby/all-blacks/104629577/all-blacks-get-capital-cable-car-tour-with-metservice-analyst

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

Antarctica had lost three trillion tonnes of ice in less than three decades

What happens in only the next decade could determine the fate of Antarctica - and the melting continent's future impact on our coastal cities and communities.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12069988

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

China facing flood, landslide risks amid heavy rain - weather bureau

Large parts of China are expected to face torrential rain and thunderstorms until Thursday, with some regions at risk of flooding and landslides, the country's weather bureau said on Tuesday

http://www.macaubusiness.com/china-facing-flood-landslide-risks-amid-heavy-rain-weather-bureau/

Africa needs to invest in weather forecasting technologies

Africa needs to invest more in the installation of automated weather stations and radars across the entire continent to help improve the continent's seasonal and longer-term climatic predictions, a top Indian environmental expert has said.

https://southerntimesafrica.com/site/news/africa-needs-to-invest-in-weather-forecasting-technologies

Indian weather forecasters to focus on dust storms

Indian weather forecasting agencies will focus their energies on predicting dust storms, which have claimed more than 100 lives across north India this summer, a senior official said on Monday.

https://www.business-standard.com/article/news-ians/indian-weather-forecasters-to-focus-on-dust-storms-118061100762_1.html

International news and research

'Fog harp' increases collection capacity for clean water

The study demonstrates how a vertical array of parallel wires may change the forecast for fog harvesters. In a design the researchers have dubbed the 'fog harp,' these vertical wires shed tiny water droplets faster and more efficiently than the traditional mesh netting used in fog nets today.

https://www.sciencedaily.com/releases/2018/03/180328083428.htm

How to couple the ocean, sea ice and the atmosphere in forecasts

Since 5 June 2018, rapid interactions between the ocean, sea ice and the atmosphere have been included in ECMWF's highest-resolution weather forecasts. ECMWF scientist Kristian Mogensen has helped to make this latest move towards seamless Earth system modelling.

https://www.ecmwf.int/en/about/media-centre/news/2018/how-couple-ocean-sea-ice-and-atmosphere-forecasts

OU meteorologists studying Arctic atmospheric barriers

A University of Oklahoma meteorology team, led by Steven Cavallo, is studying the role of tropopause polar vortices as a barrier in limiting predictability over the Arctic with three, five-year grants totaling $2.9 million from the U.S. Department of Defense, Office of Naval Research. TPVs occur in the upper troposphere of the Arctic, but the data doesn't exist from this barren region to improve prediction.

https://www.eurekalert.org/pub_releases/2018-06/uoo-oms061218.php

Reading University provides free rein to its meteorologists via hyper-convergence

Academics at any university usually play a two-handed game. They spend time teaching students of course, but they also spend a fair amount of time undertaking research work, sometimes under contract to major international research bodies, and some on behalf of commercial concerns of all colours.

https://diginomica.com/2018/06/12/reading-university-provides-free-rein-to-its-meteorologists-via-hyper-convergence/

The Eric Factor: Heat waves more dangerous thanks to 'Urban Heat Island'

Get ready for a heat wave! While we hit 99 degrees on May 28th, that heat came with relatively low levels of humidity. So, while hot, it wasn't oppressively humid. This weekend's air mass will be different.

http://wqad.com/2018/06/12/the-eric-factor-heat-waves-more-dangerous-thanks-to-urban-heat-island/

Clear evidence cyclones are more devastating - scientist

It is becoming increasingly clear that cyclones are becoming more devastating, and human activity is one of the main drivers, a cyclone scientist says.

https://www.radionz.co.nz/international/pacific-news/359425/clear-evidence-cyclones-are-more-devastating-scientist

How People Predicted the Weather Before Modern Technology

Today's meteorologists have more tools available to them than they could ever use at once, so much so that forecasting the weather is both an art and a science.

http://observer.com/2018/06/how-did-weather-forecasts-operate-before-modern-technology-computers/

WMO

The Japan Meteorological Agency begins operation of its 10th-generation supercomputer system

The Japan Meteorological Agency (JMA) began the operation of its new supercomputer system on 5 June 2018. The system has 10 times more capacity in terms of meteorological numerical calculation than its predecessor, and can also process larger amounts of data at higher speeds.

Read more here

Business development / commodities / infrastructure etc

April weather event caused $5 million damage to Rotorua infrastructure

The extreme weather event which saw more than 150mm of rain pummel the Rotorua District on April 29 caused an estimated $5 million of damage.

https://www.nzherald.co.nz/rotorua-daily-post/news/article.cfm?c_id=1503438&objectid=12069688

Ottawa-based Weather Telematics acquired in $2.5M deal

An Ottawa company that's using artificial intelligence to help autonomous vehicles predict and adapt to weather conditions has been acquired by a Toronto-based strategic investor focused on innovative technologies.

http://www.obj.ca/article/ottawa-based-weather-telematics-acquired-25m-deal

Advertising/promotion

How temperature affects our response to advertising

We often say that love "warms" our hearts, or fear "gives us the shivers", but the connection between emotions and physical temperature is closer than you might think.

New research by Professor Valentyna Melnyk from the Massey Business School shows that consumers respond more positively to emotionally warm messages (those that incorporate feelings of love, joy and happiness) if they are feeling physically cold.

https://www.massey.ac.nz/massey/about-massey/news/article.cfm?mnarticle_uuid=FA753EF5-A15D-44A4-82E8-61AF150750CE

Energy and Mining

UK GAS-Prices mixed on increased Norway flows, weather and storage injections

British wholesale gas prices were mixed on Monday morning with within-day falling on increased Norwegian flows and warmer-than-expected temperatures, while forecasts for colder weather from Tuesday and coming storage injections boosted the day-ahead.

https://www.hellenicshippingnews.com/uk-gas-prices-mixed-on-increased-norway-flows-weather-and-storage-injections/

Satellites and radar

China will share its orbiting eyes

President Xi offers meteorological services to all during SCO Summit

China will offer meteorological services to all parties through its Fengyun 2 weather satellites, President Xi Jinping said in a speech at the two-day Shanghai Cooperation Organization Summit on Sunday in Qingdao, Shandong Province.

http://www.ecns.cn/news/sci-tech/2018-06-12/detail-ifyuyvzv3228666.shtml

Innovation and technologies (inc data and new products)

When AI can help build intelligent weather models

What if we could predict natural disasters in advance and have suitable risk mitigation plans in place that could save lives of thousands? What if we are able to make policy level changes based on solid research for natural resource allocation?

https://www.thehindubusinessline.com/news/science/when-ai-can-help-build-intelligent-weather-models/article24143238.ece

Optus ups SMB collaboration focus with Sydney innovation hub launch

The Optus Innovation Hub is aimed at hooking up SMBs and start-ups with technology to drive innovation

https://www.arnnet.com.au/article/642260/optus-ups-smb-collaboration-focus-sydney-innovation-hub-launch/

Journals online

Weather

Volume 73, Issue 6 Pages E1 - E4, 170 - 204, i - iv, June 2018

Cover Information
Version of Record online: 11 JUN 2018 | DOI: 10.1002/wea.3285

In this issue of Weather

In this issue of Weather (page E1)
Jim Galvin
Version of Record online: 11 JUN 2018 | DOI: 10.1002/wea.3293

Weather news

Version of Record online: 11 JUN 2018 | DOI: 10.1002/wea.3126

Research Articles

Version of Record online: 5 JAN 2018 | DOI: 10.1002/wea.3077

New estimates of lightning counts from the Met Office ATDnet system are obtained for the ‘UK land area’ and compared with those currently available for the ‘UK service area’ (which includes the Republic of Ireland and surrounding seas). Annual counts average 38% of those in the ‘UK service area’. Case studies of thundery periods highlight daily differences. The new annual counts offer a more accurate estimate of the lightning risk facing the UK population.

Version of Record online: 25 SEP 2017 | DOI: 10.1002/wea.3029

A historical weather diary kept in Dublin between 1716 and 1734 has been analysed, and the numbers of days of several weather types have been calculated.
Many of the aspects of the historical climate are similar to those of the present day.
The diarist experienced a wide range of different types of climate, from cool, wet summers to long periods of warm, dry weather.

Meeting report

Version of Record online: 30 APR 2018 | DOI: 10.1002/wea.3223

Book review

Version of Record online: 18 JAN 2018 | DOI: 10.1002/wea.3094

Photographs

Version of Record online: 11 JUN 2018 | DOI: 10.1002/wea.3284

Weather images

Version of Record online: 11 JUN 2018 | DOI: 10.1002/wea.3129

Weather log

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NATURE CLIMATE CHANGE MAGAZINE

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Perspectives

Climate change poses a financial risk but it is unclear what management role there is for central banks and financial regulators. This Perspective outlines research and policy directions needed for financial sector engagement.

Compound events, events of significant impact that are caused by a combination of processes, are difficult to predict. This Perspective discusses the need for a systematic approach to improve risk assessment of these events.

Climate memory is anticipated to increase in the future, a process known as reddening. This Perspective examines how a change in the temporal autocorrelation of climate variables may impact the likelihood of critical transitions, using examples from forests, coral reefs, poverty traps and ice sheets.

Letters

Analysis of longitudinal survey data shows that interest in science at age 12–14 years is associated with increased trust in climate scientists in adulthood (mid thirties) in the United States, irrespective of political ideology.

Meeting emissions targets requires limiting use of fossil fuel reserves. For the largest investor- and state-owned producers allowable extraction varies dependent on the approach to calculate burnable fossil fuel allowance.

Simulation of observed Pacific wind trends is hampered by model limitations in representing variability or the forced response. Improved mean-state climatologies, including the recent Atlantic warming trend, should improve capture of Pacific trends.

Marine protected areas aim to conserve biodiversity and habitat. However continued high emissions causing changes in sea-surface temperatures and oxygen levels are likely to disrupt many ecosystems protected by MPAs.

Transgenerational acclimation to warmer oceans has been seen for some marine species. This study shows that the coral reef fish has 193 genes correlated to such acclimation traits, suggesting an epigenetic basis of acclimation.

Based on an analysis of the distribution of antibiotic resistance across the United States, research shows that increasing local temperatures as well as population density across regions are associated with increasing antibiotic resistance in common bacterial pathogens.

Articles

Editorials in multi-disciplinary journals can influence professional scientists and wider public discourse. This study compares how editorials on climate change in Nature and Science have changed over time and in response to wider political events

Tourism is a significant contributor to the global economy, with potentially large environmental impacts. Origin and destination accounting perspectives are used to provide a comprehensive assessment of global tourism's carbon footprint.

The effects of projected ocean acidification on primary productivity of the Arctic and subarctic shelf seas are found to be minimal, with the phytoplankton communities showing a high capacity to compensate for environmental change.

A global model that incorporates information about coastal environmental settings indicates that mangrove soil organic carbon stocks have been significantly underestimated in carbonate settings, and overestimated in deltaic coastlines.

Tree transpiration in the Amazon enhances downwind rainfall. Research now shows that approximately one-third of Amazon rainfall originates within its own basin, with the southern half of the basin contributing most to this effect.

Amendments & Corrections

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Thanks to our regular contributors.