

## **New Zealand weather and climate news**

Courtesy of MetService

**(MetService focus)**

### **Wellington wakes to rain, hail and gusts up to 120kmh**

But MetService has said hail falling in the capital was not to be confused with snow - after some reported seeing "snow" fall in the capital.

MetService meteorologist John Law said while the morning hail showers were "fantastic", they were just hail.

<https://www.stuff.co.nz/dominion-post/news/wellington/104254359/wellington-wakes-to-rain-hail-and-gusts-up-to-120kmph>

### **After a horrible week of weather, sunny days and frosty mornings on the way**

Meteorologist Tom Bell said the strongest winds overnight were Wellington's Mt Kaukau at 120kmh. Wellington Airport experienced gusts of 100kmph, Kelburn 100kmh, and Remutaka Hill about 90kmh.

<https://www.stuff.co.nz/national/104253947/after-a-horrible-week-of-weather-sunny-days-and-frosty-mornings-on-the-way>

### **Clear skies and cool temperatures**

“A total of 9500 lightning strikes were detected by MetService radars during a 24-hour period starting 5am Tuesday” says MetService meteorologist April Clark. “A wild night was certainly had in the capital as thunderstorms dumped 16.4mm of rain over the airport between 9 and 10pm, and large hail was observed in the western suburbs.

<https://www.sunlive.co.nz/news/180579-clear-skies-and-cool-temperatures.html>

### **Cold southerly set to bite**

MetService meteorologist Brian Mercer said the entire country was experiencing a cold southerly airflow and gales were due to hit eastern coastal areas today and tomorrow.

<https://www.odt.co.nz/news/national/cold-southerly-set-bite>

### **Hundreds of lightning strikes hit Taranaki, again**

Metservice communications meteorologist Lisa Murray said there was a low risk that the wild weather, caused by unstable air, would continue into Saturday.

<https://www.stuff.co.nz/taranaki-daily-news/news/104212026/hundreds-of-lightning-strikes-hit-taranaki-again>

### **Early winter weather to chill Hawke's Bay over the weekend**

MetService meteorologist Larissa Marintchenko said the showers, which began yesterday, were expected to continue throughout the weekend and early into next week.

[https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c\\_id=1503462&objectid=12058647](https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=12058647)

### **Cold continues to bite and more on the way**

MetService meteorologist Mads Naeraa-Spiers said this morning that in the South Island the cold snap had deepened, as temperatures dropped to -6C in parts of inland Southland and Central Otago.

<https://www.odt.co.nz/regions/queenstown/cold-continues-bite-and-more-way>

### **Times Are a-Changin': The age of the 'weather bomb'**

Opinion - It's May and the start of winter (sort of) and this means that over the next few months there will be wet and cold spells. There may also be a spot of snow from time to time.

<https://www.radionz.co.nz/news/on-the-inside/358286/times-are-a-changin-the-age-of-the-weather-bomb>

### **\$72m insurance bill caused by April storm set to rise, Insurance Council says**

The final repair bill for damage caused by a fierce storm that lashed Auckland last month will not be known until August.

The Insurance Council of New Zealand said the storm resulted in more than 13,000 insurance claims costing more than \$72 million.

<https://www.stuff.co.nz/business/industries/104204085/aucklands-april-storm-damage-costs-insurers-72m-in-claims>

### **Volcano alert**

### **Volcano 'libraries' could help plan for future volcanic crises**

Crystals from the 2010 Eyjafjallajökull eruption have demonstrated a new way to recognize pre-eruption signals at Eyjafjallajökull and potentially other, similar volcanoes around the world.

<https://www.sciencedaily.com/releases/2018/05/180524112319.htm>

## **MetOcean**

### **La Niña-like ocean cooling patterns intensify northwestern Pacific tropical cyclones**

Atmospheric researchers report that a strong connection between sea surface temperature patterns is associated with the Global Warming Hiatus and changes in cyclone activity over the northwest Pacific Ocean, particularly increasing intensities in coastal regions of East Asia.

<https://www.sciencedaily.com/releases/2018/05/180501085555.htm>

### **Hotter, longer, more frequent -- marine heatwaves on the rise**

We know heatwaves over land have been increasing, but now new research reveals globally marine heatwaves have also been increasing in length, number and intensity over the past century. More intriguing still, this trend has accelerated markedly since 1982.

<https://www.sciencedaily.com/releases/2018/04/180410164134.htm>

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

#### **Massive Ice Highways Found Hiding Under Antarctica**

Scientists have found huge valleys linking the smaller West Antarctic Ice Sheet to the massive East Antarctic Ice Sheet, hidden deep under the ice.

<https://www.livescience.com/62665-ice-highways-under-antarctica.html>

### **Extreme weather (and other news) – Australia and Pacific**

#### **Focus on adaptation at Fiji climate meeting**

The United Nations is holding a Pacific wide climate change conference in Fiji next week to enhance resilience in the region through better adaptation.

<https://www.radionz.co.nz/international/pacific-news/358192/focus-on-adaptation-at-fiji-climate-meeting>

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

#### **Death toll from bad weather rises to 20 in Sri Lanka**

Colombo [Sri Lanka], May 27 (ANI): Nearly 20 people have lost their lives and over 150,000 have been affected from the floods and landslides caused due to heavy rains in Sri Lanka.

<https://www.aninews.in/news/world/asia/death-toll-from-bad-weather-rises-to-20-in-sri-lanka201805270955110001/>

### **Record-breaking heatwave hits 10th day in Hong Kong as new photos show barren reservoir where scenic hiking spot was**

Lau Shui Heung Reservoir now so dried-up it can be walked across

<http://www.scmp.com/news/hong-kong/health-environment/article/2147940/record-breaking-heatwave-hits-10th-day-hong-kong>

### **Deadly Tropical Cyclone Mekunu brings up to 8 years worth of rainfall to parts of Oman**

Former Tropical Cyclone Mekunu left a path of destruction from Socotra to Oman and Yemen.

As of Sunday, 40 people still remained missing on Socotra Island and at least 10 people have been killed in the path of the storm.

<https://www.accuweather.com/en/weather-blogs/international/deadly-tropical-cyclone-mekunu-brings-up-to-eight-years-worth-of-rainfall-to-parts-of-oman/70005057>

### **Meteorological department teams up with BSNL to send extreme weather warnings**

The move comes after the India Meteorological Department came under criticism from several quarters, including some state governments for not sending out specific alerts, a charge denied by the weather body.

<https://www.hindustantimes.com/india-news/meteorological-department-teams-up-with-bsnl-to-send-extreme-weather-warnings/story-71ruauGSnAgCBy8IOLwS6O.html>

### **India's New Reality: More Frequent and Severe Dust Storms**

Scientists point to rising global temperatures as the cause of more intense weather across the region.

<https://psmag.com/environment/the-dust-storms-are-becoming-more-severe>

### **Extreme weather (and other news) – Americas and Europe**

**Floridians could face far more frequent, intense heatwaves**

By the late 21st century, if atmospheric greenhouse gas concentrations reach worst-case projections, Floridians could experience summer heatwaves three times more frequently, and each heatwave could last six times longer than at present, according to Meteorology Professor Shawn M. Milrad of Embry-Riddle Aeronautical University.

<http://en.brinkwire.com/348585/floridians-could-face-far-more-frequent-intense-heatwaves/>

### **'Mother of all thunderstorms' hits Britain as lightning strikes '15,000 to 20,000 times'**

Lightning lit up the night sky across large parts of Britain in a weather phenomenon dubbed the 'mother of all thunderstorms' by meteorologists.

<https://metro.co.uk/2018/05/27/mother-thunderstorms-hits-britain-lightning-strikes-15000-20000-times-7581008/>

### **International news and research**

#### **Scientists project a drier Amazon and wetter Indonesia in the future**

Climate models predict that an increase in greenhouse gases will dry out the Amazon rainforest in the future while causing wetter conditions in the woodlands of Africa and Indonesia. Researchers have identified an unexpected but major factor in this worldwide precipitation shift: the direct response of the forests themselves to higher levels of carbon dioxide.

<https://www.sciencedaily.com/releases/2018/04/180427155657.htm>

#### **Clear signs of global warming will hit poorer countries first**

New climate-inequality tool quantifies how quickly the weather will veer beyond normal in different regions.

[https://www.nature.com/articles/d41586-018-04854-2?utm\\_source=briefing-wk&utm\\_medium=email&utm\\_campaign=briefing&utm\\_content=20180427](https://www.nature.com/articles/d41586-018-04854-2?utm_source=briefing-wk&utm_medium=email&utm_campaign=briefing&utm_content=20180427)

#### **Winter wave heights and extreme storms on the rise in Western Europe**

Study reveals average winter wave heights along the Atlantic coast of Western Europe have been rising for almost seven decades.

<https://www.sciencedaily.com/releases/2018/04/180424083901.htm>

#### **Atlantic Ocean circulation at weakest point in more than 1,500 years**

New research provides evidence that a key cog in the global ocean circulation system hasn't been running at peak strength since the mid-1800s and is currently at its weakest point in the past

1,600 years. If the system continues to weaken, it could disrupt weather patterns from the United States and Europe to the African Sahel, and cause more rapid increase in sea level on the US East Coast.

<https://www.sciencedaily.com/releases/2018/04/180411131642.htm>

### **3 to 6 Pacific hurricanes possible this year**

It could be an above-average hurricane season this year. Or maybe not.

The National Weather Service today predicted an 80 percent chance of near- or above-normal tropical cyclone activity during the Central Pacific hurricane season from June to November.

<http://www.staradvertiser.com/2018/05/23/breaking-news/3-to-6-pacific-hurricanes-possible-this-year/>

### **How to predict a good sunrise or sunset so you can brag about it on social media**

It is nature's nightly show — the first hints of pink that creep across the sky and develop into a riot of deepest oranges and reds if you are lucky.

You are even luckier if you have your camera out and can brag about it on social media.

<http://www.abc.net.au/news/2018-05-11/how-to-predict-good-sunrise-and-sunset/9737446>

### **'Fire rainbow' lights up skies over California national park**

A colourful splash in the sky known as a "fire rainbow" has been spotted in the United States, raising the question of whether the phenomenon could occur in our own backyard.

<http://www.abc.net.au/news/2018-05-01/fire-rainbows-lighting-up-social-media/9713878>

### **How the weather affects your commute — whether it's hot, cold or wet**

What sorts of weather lead us to change our daily travel behaviour? How do we respond to scorching heatwaves, sapping humidity, snow and frost, strong winds, or torrential rain?

<http://www.abc.net.au/news/2018-04-09/cities-weather-proofing-transport-for-commuters/9633488>

### **Historical weather records collected by NSW farmer to be used in new climate modelling**

Meticulous weather records taken by a NSW man between 1877 and 1922 have been digitised thanks to the efforts of people around the world, and will be used to help fill a gap in weather knowledge.

[www.abc.net.au/news/2018-04-12/rare-weather-records-digitised-fill-gap-weather-knowledge/9591768](http://www.abc.net.au/news/2018-04-12/rare-weather-records-digitised-fill-gap-weather-knowledge/9591768)

### **Dusty rainfall records reveal new understanding of Earth's long-term climate**

Ancient rainfall records stretching 550,000 years into the past may upend scientists' understanding of what controls the Asian summer monsoon and other aspects of the Earth's long-term climate. Milankovitch theory says solar heating of the northernmost part of the globe drives the world's climate swings between ice ages and warmer periods. The new work turns Milankovitch in its head by suggesting climate is driven by differential heating of the Earth's tropical and subtropical regions.

<https://www.sciencedaily.com/releases/2018/05/180524174551.htm>

### **Supercomputers are driving a revolution in hurricane forecasting**

Five-day forecasts are as good now as two-day forecasts were in 1998.

<https://arstechnica.com/science/2018/05/hurricane-forecasts-have-gotten-insanely-better-over-the-last-20-years/>

### **Public Private Partnership success for a start-up**

The start-up enterprise Severe Weather Consult in Rwanda succeeded in receiving support to develop a business model and is now involved in a public private partnership that allows them to make use of weather data for an alert advisory service to farmers.

<http://ictupdate.cta.int/2018/05/24/public-private-partnership-success-for-a-start-up/>

### **How to Prepare Weather and Climate Models for Future HPC Hardware**

In this video from the NVIDIA GPU Technology Conference, [Peter Dueben](#) from ECMWF presents: How to Prepare Weather and Climate Models for Future HPC Hardware.

<https://insidehpc.com/2018/05/prepare-weather-climate-models-future-hpc-hardware/>

### **Implications of targeted observation for ENSO prediction**

Scientists from the Institute of Oceanology, Chinese Academy of Sciences (IOCAS) have made observations with respect to ENSO (El Niño-Southern Oscillation) events using an intermediate coupled model developed by IOCAS. They found that observing the central equatorial Pacific favors an improvement in prediction. When removing the initial condition errors in the central equatorial Pacific, ENSO prediction errors can be reduced by 25 percent.

Read more at: <https://phys.org/news/2018-05-implications-enso.html#jCp>

## **Understanding Long Range Forecasting: The Fast and Slow**

First, confession time: my expertise is in forecasting ENSO (La Nina and El Nino conditions), but luckily, my colleagues at the NOAA Climate Prediction Center (CPC) are the world-class forecasters who provide climate outlooks, including the seasonal monthly and 90 day outlooks.

<http://www.weathernationtv.com/news/understanding-long-range-forecasting-fast-slow/>

## **WMO**

### **New Coalition on health, environment and climate Change is launched**

The heads of the World Health Organization (WHO), UN Environment and World Meteorological Organization (WMO) have launched a new global coalition on health, environment and climate change. One of its overall goals is to reduce the annual 12.6 million deaths caused by environmental risks, and especially air pollution.

[Read more here](#)

## **Business development / commodities / infrastructure etc**

### **The Key To Successful Marketing? Investing In Loyal Consumers, Time After Time**

Many retailers and brands celebrate the loyal followings they have created. However, some have made the mistake of assuming their consumers' feelings toward a brand are static and can be taken for granted. In reality, the needs and beliefs of these consumers change daily as they are constantly impacted by changes in their lives and the evolving trends in their environments.

<https://www.forbes.com/sites/forbescommunicationscouncil/2018/05/24/the-key-to-successful-marketing-investing-in-loyal-consumers-time-after-time/#64808ec919f9>

### **Weather & Climate Risk Innovation Network launched by Aon**

Sector knowledge, experience and expertise from across Aon has been galvanised to create its new Weather & Climate Risk Innovation network, after the firm's Impact Forecasting unit estimated losses from weather events in 2017 topped out at approximately \$344 billion.

<https://www.reinsurancene.ws/weather-climate-risk-innovation-network-launched-by-aon/>

### **Hazardous chemical guidance for extreme weather falls short**

More robust guidance is needed to help hazardous chemical facilities prepare for extreme weather events, according to the U.S. Chemical Safety and Hazard Investigation Board.

<http://www.businessinsurance.com/article/20180524/NEWS06/912321517/Hazardous-chemical-guidance-for-extreme-weather-falls-short-says-Arkema-report>

## **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.

<http://www.scoop.co.nz/stories/SC1805/S00067/how-temperature-affects-our-response-to-advertising.htm>

## **Aviation**

### **Rocket Lab to launch satellite-destruct system**

A space sail designed to quickly destroy old satellites and reduce the build-up of man-made junk orbiting the planet will be launched from New Zealand in the next couple of months.

US company Rocket Lab, founded by Kiwi Peter Beck, hopes to launch its next Electron rocket from the Māhia Peninsula near Gisborne between June 23 and July 6.

<https://www.stuff.co.nz/business/104204894/rocket-lab-to-launch-satellitedestruct-system>

## **Communications/social media**

### **Weather associated with sentiments expressed on social media**

Sentiments expressed on Facebook and Twitter may be associated with certain weather patterns.

<https://www.sciencedaily.com/releases/2018/04/180425162031.htm>

### **‘A fun adventure, not a business’: The Weather Channel stopped publishing video on Facebook**

The Weather Channel is no longer publishing videos to Facebook.

“[Facebook video] hasn’t been beneficial,” said Neil Katz, global head of content and engagement at The Weather Channel, during a speech at the Digiday Video Summit in Scottsdale, Arizona. “It has been good for Facebook, but it hasn’t been good for us.”

<https://digiday.com/media/the-weather-channel-has-walked-away-from-facebook-video/>

## **Farming/horticulture**

ICT Update #87

Themed issue – full text online

## **Resources weather data for agriculture**

<http://ictupdate.cta.int/2018/05/24/resources-weather-data-for-agriculture/>

## **Lightning**

### **Lightning kills 18 people in 7-week period**

Eighteen people were killed by lightning in a little over a month, from April 1 to May 17, according to the Department of Disaster Management (DDM).

<https://www.mmtimes.com/news/lightning-kills-18-people-7-week-period.html>

### **Lightning carries potential danger to people with deep brain stimulators**

Patients receiving deep brain stimulation are warned that their neurostimulators may dysfunction when confronted by electromagnetic fields generated by particular electrical devices found at work, home, and in the hospital. A new and potentially dangerous source of dysfunction has been identified: nearby lightning.

<https://www.sciencedaily.com/releases/2018/05/180501085539.htm>

## **Satellites and radar**

### **New NOAA Weather Satellite Suffers Cooling System Malfunction: How Will This Affect GOES-17?**

GOES-17, the newest weather satellite of the National Oceanic and Atmospheric Administration, is suffering from a critical malfunction with its cooling system, placing its future in question.

<http://www.techtimes.com/articles/228438/20180524/new-noaa-weather-satellite-suffers-cooling-system-malfunction-how-will-this-affect-goes-17.htm>

### **Orbital ATK to Build Two Additional U.S. Weather Satellites for NOAA**

DULLES, Va.--(BUSINESS WIRE)--May 25, 2018--Orbital ATK (NYSE: OA), a global leader in aerospace and defense technologies, today announced that NASA has exercised options for two additional Joint Polar Satellite System (JPSS) spacecraft to be built by the company. Orbital ATK is currently producing the JPSS-2 spacecraft, which is scheduled to be launched in 2021. All three satellites are to be operated by the National Oceanic and Atmospheric Administration (NOAA) to provide critical weather forecasting data and to advance environmental and

oceanographic science. The total contract amount for all three spacecraft is valued at approximately \$460 million.

[https://www.wvnews.com/newsfeed/business/orbital-atk-to-build-two-additional-u-s-weather-satellites/article\\_690aa8ec-9cb6-5fd4-9fbb-05fd0664d294.html](https://www.wvnews.com/newsfeed/business/orbital-atk-to-build-two-additional-u-s-weather-satellites/article_690aa8ec-9cb6-5fd4-9fbb-05fd0664d294.html)

### **IMD buries the hatchet with BMC, starts installing 2nd weather radar**

After a delay of two years during which BMC and IMD were locked in a dispute over a sum of money, the weather forecaster finally started work on installing a second Doppler weather radar, this one near Veravali water reservoir in Andheri East, which used to house BMC's hydraulic engineering office.

<http://www.dnaindia.com/mumbai/report-imd-buries-the-hatchet-with-bmc-starts-installing-2nd-weather-radar-2618548>

### **Innovation and technologies (inc data and new products)**

#### **Free Version of Wx24 Pilot Aviation Weather App Now Available**

The free version offers many of the features that make Wx24 Pilot one of the most popular aviation weather apps for the iPhone and iPad.

<https://www.prnewswire.com/news-releases/free-version-of-wx24-pilot-aviation-weather-app-now-available-300654687.html>

### **Climate change / global warming / sea level rise**

#### **Collapse of the Atlantic Ocean heat transport might lead to hot European summers**

Severe winters combined with heat waves and droughts during summer in Europe. Those were the consequences as the Atlantic Ocean heat transport nearly collapsed 12,000 years ago. The same situation might occur today.

<https://www.sciencedaily.com/releases/2018/04/180424112906.htm>

#### **Expert panel critical of government's climate change planning**

Funding for climate change adaptation is largely non-existent, government planning is ad hoc, and the data to inform decisions is often inaccessible.

These are just a few of the criticisms provided by an independent panel of experts today.

<https://www.stuff.co.nz/environment/climate-news/104159379/Expert-panel-critical-of-governments-climate-change-planning>

## **Reindeer herders and lavender farmers launch legal case against EU climate efforts**

Lawyers acting for a group including a French lavender farmer and members of the indigenous Sami community in Sweden have launched legal action against the EU's institutions for failing to adequately protect them against climate change. EURACTIV's partner The Guardian reports.

<https://www.euractiv.com/section/climate-environment/news/reindeer-herders-and-lavender-farmers-launch-legal-case-against-eu-climate-efforts/>

*Thanks to MetService for these clips*