

New Zealand weather and climate news

Courtesy of MetService Library (next edition 6 Jan 2020)

MetService mentions

Rain warnings for many as another thundery front sweeps in from the west

It's been a rough week of rain, but it's not quite over.

A nasty front is making its way over from near Tasmania and threatens to bring one last soaking.

Wet run into Christmas expected

Otago Daily Times

MetService meteorologist Tamara Vikas said the South Island would have dismal weather for the next few days. Heavy rain is expected on Thursday ...

Christmas is on the 10-day forecast, but MetService advises caution

Stuff.co.nz

Christmas has made it onto MetService's 10-day forecast, and for now it's looking like the weather might be OK, but the national weather agency is ...

Dump of rain brings short-term relief for struggling farmers in Hawke's Bay

New Zealand Herald

Farmers rejoiced, a little bit at least, as some much needed rain finally fell on a parched Hawke's Bay region on Tuesday. MetService meteorologist ...

Hawke's Bay weather: Early predictions suggest a cool Christmas

New Zealand Herald

MetService meteorologist Andy Best said the week would provide a taste of multiple seasons, ranging from sunny skies to possible hail. "The week ...

Heavy rain floods rivers, closes roads

Sightings of a tornado in East Waikato have been reported as a "wall of wind" hit the region, and monsoon-type rain has drenched the upper North Island.

Wet weather sticking around for now

Stuff.co.nz

The North Island and upper regions of the South Island were set to bear the brunt of the stormy weather, MetService meteorologist Tom Bell warned.

'Wall of wind' sweeps through Waikato farms

A major clean up job is under way on a group of Waikato farms after a tornado swept through their properties just after midday Tuesday.

People urged to avoid travelling as more heavy rain hits West Coast

RNZ

MetService said today streams and rivers on the West Coast may rise rapidly again and more slips and surface flooding are possible south of Otira.

Hayfever season nothing to sneeze about in Chch

Otago Daily Times

Metservice pollen forecaster Dr David Fountain said the city is now at the peak of the grass pollen season following a slow start due to the cold spring.

New swing bridge on Remutaka Incline hammered by wind at notorious gully

The sight of an unfinished swing bridge on the Remutaka Incline getting buffeted by the strong gusts generated a "giant nope" from mountain bikers.

Navy vessel HMNZS Wellington leaves White Island recovery to rescue injured seaman

New Zealand Herald

Navy vessel HMNZS Wellington leaves White Island recovery to rescue ... The weather around the island today has hampered search efforts for the ...

MetOcean

Warming seas: what would tip NZ into 'marine heatwave'?

New Zealand's waters have warmed dramatically over recent weeks – but a scientist says a key climate driver would need to "flip" to send seas into another mountain-melting "marine heatwave".

Ocean thermal energy conversion picks up momentum in Pacific

A renewable energy system that uses deep ocean water to generate power is scheduled to move from 45 years of experimentation to seeing the world's two largest ocean thermal facilities installed in islands in the Pacific and Caribbean next year

Seasonal forecasts challenged by Pacific Ocean warming

Phys.Org

The PDO also modulates climate variations such as El Niño, which causes warm and dry conditions north west and east of Australia and is associated ...

NIWA

The Week It Snowed Everywhere

NIWA and Microsoft Corp. are teaming up to make artificial intelligence handwriting recognition more accurate and efficient in a project that will support climate research.

The project aims to develop better training sets for handwriting recognition technology that will “read” old weather logs. The first step is to use weather information recorded during a week in July 1939 when it snowed all over New Zealand, including at Cape Reinga.

Volcano alert/watch

From nothing happening to Tarawera-type destruction - the volcanic alert levels

Stuff.co.nz

White Island is shown at alert level 2 in 2013, with volcanic activity ... GeoNet noted volcanoes such as White Island and Ruapehu frequently had ...

Extreme weather (and other news) – Antarctica and offshore

Antarctica New Zealand appoints ‘rock-star’ scientist

Migrating south to cooler climates would appear to be going against the flow of human nature.

Prof John Cottle cannot help it.

Barrels of ancient Antarctic air aim to track history of rare gas

An Antarctic field campaign last winter led by the US and Australia has successfully extracted some of the largest samples of air dating from the 1870s until today. Researchers will use the samples to look for changes in the molecules that scrub the atmosphere of methane and other gases.

Extreme weather (and other news) – Australia and Pacific

Australia has its hottest day on record

Asia Times

“This heat will only intensify further today,” meteorologist Diana Eadie said. The heatwave is another alarm bell about global warming in Australia, ...

How did the massive hailstones that fell over southern Queensland form?

Some of the largest hailstones ever seen in Australia are thought to have plummeted to Earth over southern Queensland on Friday afternoon.

It is the second time in a month that parts of the Sunshine Coast have been hit by large hailstones.

Australia's capital cities are getting hotter — but there are ways to cool them down

High temperatures, increasing populations and reduced open spaces are just some of the factors behind rising urban heat in Australian cities, but experts believe there are several solutions to combat it.

New South Wales bushfires burn through record land area

Bushfires this season have officially burnt the most land on modern record across eastern New South Wales.

Weather records set to fall, BOM predicts, as heatwave continues to hit Australia

Three states in Australia reached maximum temperatures of more than 47 degrees Celsius yesterday, amid a massive heatwave the weather bureau says may peak today.

New tsunami warning system launched in Pacific

New Zealand's climate and ocean science agency (NIWA) has started deploying a new tsunami warning system around the Pacific.

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

Forest fires cost Indonesia \$5.2bn and counting: World Bank

Al Jazeera America

Officials said the spike was due to El Nino weather patterns lengthening the dry season. The World Bank also estimated an 0.09 and 0.05 ...

Wet weather in Singapore: Some businesses hit hard, others doing fine

The Straits Times

SINGAPORE - As heavy rain fell on Singapore these past weeks, some shops have seen sales dip as fewer customers venture outdoors, while other ...

Extreme weather (and other news) – Americas and Europe

Canada's deadliest kinds of weather might surprise you

The Weather Network

Sunday, December 15th 2019, 12:15 pm - From flooding, to fires, to fog, Canada's weather can have dangerous consequences, coast to coast.

El Nino-linked floods and mudslides kill dozens in Peru

Stock Daily Dish

At least 72 people have died in several days of floods and mudslides triggered by heavy rains in Peru, officials say. The floods – the worst in almost 30 ...

Heavy rain ahead of Christmas week

It's going to turn less cold and more unsettled this week as a low-pressure system moves across the UK, bringing spells of wet and windy weather to many.

UK weather forecast: Met Office expecting 'warmer than average' Christmas Day

Mirror.co.uk

The Met Office has forecast the average temperature across the UK on Christmas Day is likely to be 7C but parts of the country will be battered by gale ...

International news and research

IBM brings weather forecasting model for governments, industries, farmers

Economic Times

... a negative impact on business operations while around 72% believe they disrupt local economy, a study by IBM and The Weather Company shows.

Thunderquakes make underground fiber optic telecommunications cables hum

Telecommunications lines designed for carrying internet and phone service can pick up the rumble of thunder underground, potentially providing scientists with a new way of detecting environmental hazards and imaging deep inside the Earth.

November 2019 was 2nd hottest on record for the planet

November 2019 was the second-hottest November for the planet in the 140-year global climate record, according to scientists at NOAA.

In ancient Scottish tree rings, a cautionary tale on climate, politics and survival

Using old tree rings and archival documents, historians and climate scientists have detailed an extreme cold period in Scotland in the 1690s that caused immense suffering. It may have lessons for Brexit-era politics.

UW professor to fly into the heart of snowstorms -- all in the name of research

KOMO News (blog)

That plane will carry the same weather instruments featured on satellites, only the plane will allow them to criss-cross stormy areas multiple times to ...

Reading the skies: Weather forecasting goes high-tech

Financial Express

Reading the skies: Weather forecasting goes high-tech ... and accurate weather data to help stay prepared, said Cameron Clayton, general manager, ...

Weather companies

Pelmorex Corp. makes a majority investment in Weather Source, a leading provider of weather ...

Yahoo Finance

Weather Source will expand Pelmorex Corp's portfolio of trusted brands – The Weather Network, MétéoMédia, EITiempo.es, OTempo.pt and Clima.

Aviation

Government updates rules on what can be sent into space

New Zealand Herald

The updated rules have been developed to govern this country's rapidly growing space industry built around Rocket Lab, which has successfully ...

Hong Kong's flagship airline Cathay Pacific unveils energy-efficient digital flight and weather ...

South China Morning Post

Cathay Pacific has unveiled its new digital flight and weather application to ... As each of the airline's 525 daily flights used to carry up to 70kg (154 ...

The selection of Montréal, Canada as the permanent headquarters of ICAO

On 6 June 1946, toward the conclusion of the first PICAQ Interim Assembly, Montréal, Canada was selected as the permanent headquarters of the Organization, by 27 votes. The other candidate cities at the time obtained respectively:

Paris – 9 votes

Geneva – 4 votes

A to-be-named city in China – 1 vote

Energy and Mining

Extreme weather seen impacting oil prices in 2020 as well as geopolitics

MarketWatch

Extreme weather events may have as much impact on world oil supply, ... distillates and low-sulfur fuel oil to satisfy demand in the shipping sector.

The day from hell: why the grid melts down in hot weather

Brisbane Times

Hot temperatures don't just affect the demand for power. They also have a very significant effect on supply. Almost every piece of electrical equipment ...

Government (regional and national)

Councillors delay decision on old dump at risk from climate change

Work is needed to shore up three historic Canterbury dumps at risk of spilling their rubbish into the sea.

One, the former Bexley landfill site, is at risk of leaking waste into the Avon-Heathcote Estuary in a storm but Christchurch City councillors cannot agree how to secure it.

Health

Climate change could make RSV respiratory infection outbreaks less severe, more common

Researchers studied annual outbreaks of respiratory syncytial virus (RSV) in one of the first examinations of how climate change could affect diseases transmitted directly from person to person. They found that while outbreaks of RSV could become generally less severe, infections may become more common, which could leave people more vulnerable to the virus over the long term, particularly children.

Hydrology / Flooding

Climate Change: 20,000 Aucklanders exposed to flood risk this century

Nearly 20,000 Aucklanders living in eight harbour-edge communities face a future flood risk under projected sea level rises due to climate change, according to a new report.

DOC braces itself for more flood events, damage to native bird life

The flooding of the Rangitata River and other parts of Canterbury is causing headaches for the Department of Conservation (DOC) as it wrestles with the damage to native birdlife.

Lightning

WATCH: Tracking Lightning Strikes, From Space

Livingston Ledger

A new weather satellite parked 22,300 miles above Earth has sent back its first images of lightning storms on our planet, and they are, well, pretty ...

Satellites and radar

53 years ago, scientists tested a new orbit for weather satellites. It revolutionized meteorology.

kwwl.com

Friday marked the 53rd anniversary of the first weather satellite put into space with a geostationary orbit, therefore providing us with a fixed image of ...

Transport/roading/shipping/freight

How Spire is boosting maritime safety through predictive analysis

Ship Technology

Varsha Saraogi dives deeper into Spire's weather forecasting technology, which uses radio wavelengths to predict sea climate, and finds out what ...

Hyperlocal weather and traffic insights partnership to enhance commutes

Traffic Technology Today

Mobility data and analytics provider Arity is partnering with the WeatherBug weather forecasting app to design a new feature that will make commuters' ...

Innovation and technologies and AI

New fleet of robotic vessels off West Coast will improve weather monitoring

CBC.ca

Far off B.C.'s South Coast, a fleet of red ships with wing-like sails is hard at work in the Pacific Ocean. The wind-driven robotic vessels are not pleasure ...

Snowflake Weather is a gorgeous new weather app for iPhone and iPad

iMore (press release) (blog)

We use the world's best weather data from The Weather Company, AccuWeather, Dark Sky, and the Australian Bureau of Meteorology. We have

Weather in pictures

How cloud-surfing 3,000 feet in the air helped Mike Zupanc capture the perfect photo

Like a surfer on a wave, Mike Zupanc balances high in the sky on a glider while taking photos of cloud formations that many of us can only ever imagine seeing.

Climate change / global warming / sea level rise

Climate Change Commission: How it will work and the initial plans

The Climate Change Commission head says everyone will have to change, both on a broad and individual scale, if the country wants to achieve climate targets.

Extreme heat hitting rich and poor harder, global climate index shows

Heatwaves put Japan and Germany high up the list of countries suffering the worst losses from extreme weather

[Winds of hunger: Simultaneous heatwaves could batter food-growing countries](#)

Waves in the planet's jet stream, combined with hotter climate-driven temperatures, could threaten crops in multiple regions at once, researchers warn

From the Council for the EU library

The Council Library has compiled a reading list relating to climate change and the EU. It contains reading suggestions on a broad spectrum of climate change-related topics and issues, such as agriculture, biodiversity, circular economy, and foreign affairs.

[Download 'Climate change' - reading suggestions](#)

[How to argue with your climate denier relatives this Christmas](#)

It's a time for festive cheer, good kai, and family.

But it's also the time when relatives with questionable stances on certain matters come out of the woodwork.

And with 2019 looking to be one of the hottest years on record, don't be surprised if the small matter of climate change comes up.

[New study: changes in climate since 2000 have cut Australian farm profits 22%](#)

For crop farmers, the risk of low profit years has doubled.

Journal and articles online

[A dialogue-based weather forecast: adapting language to end-users to improve communication](#)

Anders D. Sivle, Thomas Aamodt

Pages: 436-441 | First Published: 30 January 2019

Is fine weather actually fine weather to everyone? Professional end-users are likely to benefit from the use of technical language when discussing meteorology, whereas non-experts are likely to find everyday language more suited to their needs. To reduce the number of possible interpretations of everyday language when used to describe weather, its usage should be co-developed with end-users and combined with graphical/numerical information.

Characterizing the winter meteorological drivers of the European electricity system using targeted circulation types

Hannah C. Bloomfield, David J. Brayshaw, Andrew J. Charlton-Perez

Version of Record online: 08 December 2019

Despite widespread interest, the meteorological drivers of highly renewable European power systems remain poorly understood. A new technique, targeted circulation types (TCTs), provides much greater explanatory and predictive power for power system variability and extremes compared with standard meteorological “weather regimes”. The atmospheric patterns revealed highlight the importance of a meridional surface pressure dipole with similarities to the North Atlantic Oscillation (NAO), but shifted eastward and noticeably strengthened, leading to more marked and extensive weather impacts across the European power system.

Droplet size distributions in turbulent clouds: experimental evaluation of theoretical distributions

Kamal Kant Chandrakar, Izumi Saito, Fan Yang, Will Cantrell, Toshiyuki Gotoh, Raymond A. Shaw

Version of Record online: 06 December 2019

Precipitation efficiency and optical properties of clouds, both central to determining Earth's weather and climate, depend on the size distribution of cloud particles. Atmospheric clouds are inherently turbulent like the image of a turbulent laboratory cloud shown here. In this work theoretical expressions for droplet size distribution shape are evaluated using measurements from steady-state experiments in a convective-cloud chamber. Expressions derived for stochastic condensation give the best fit to the data.

=====

Welcome to AMS News You Can Use.

Each week, we send out a sampling of recent news and items of interest in meteorology and related fields, as covered by various media outlets.

December 17, 2019

News

Eighteen Things We've Learned About the Oceans in the Last Decade

December 17, 2019 - [Smithsonian.com](http://www.smithsonian.com)

In the past 10 years, the world's oceans have faced new challenges, revealed new wonders, and provided a roadmap for future conservation.

[Read MORE](#)

[Supertrees: Meet Indonesia's carbon guardian](#)

December 12, 2019 - Vox

Indonesia's mangroves are an incredibly effective tool against climate change — but they're being cut down to grow shrimp and palm oil for you.

[Read MORE](#)

[Would you believe lightning can help us know if a storm will intensify?](#)

December 16, 2019 - Miami Herald

Rapid intensifiers, storms that grow by 35 mph or more in a 24-hour period, are still the most challenging to predict, and a threat that some believe will increase in a warming world.

[Read MORE](#)

[New NASA mission will allow scientists to track rising seas from space](#)

December 14, 2019 - Los Angeles Times

Scientists at NASA's Jet Propulsion Laboratory are teaming up with European researchers to launch a mission that will probe the oceans' depths over the next decade — and chart their inexorable rise.

[Read MORE](#)

[Fiber-optic cables and lasers can predict invisible thunderquakes](#)

December 12, 2019 - Inverse

Researchers at Penn State published Tuesday in the Journal of Geophysical Research: Atmospheres their research detailing a system that could detect when an earthquake is coming.

[Read MORE](#)

[Microsatellites will capture GPS reflections to sharpen weather forecasts](#)

December 11, 2019 - Science

Reflected GPS signals can probe winds deep inside storms like 2017's Hurricane Harvey, improving forecasts.

[Read MORE](#)

[Incredible Images From the Royal Society's Scientific Phenomena Competition](#)

December 11, 2019 - Fstoppers

If you like photography and science then this competition is for you, and 2019's results are simply magnificent.

[Read MORE](#)

[Reducing wildfire risks for better management and resource allocation](#)

December 11, 2019 - [Phys.org](#)

As wildfires become deadlier, larger and more expensive, there is strong interest in better risk governance.

[Read MORE](#)

[Should Scientists Be Considered "Celebrities" To Inspire Kids?](#)

December 11, 2019 - Forbes

With U.S. students lagging in science, should scientists be elevated to celebrity status (or does it matter)?

[Read MORE](#)

Record low level of Bering Sea ice causes profound, widespread impacts

December 11, 2019 - [Phys.org](#)

Sea ice in the Bering Sea shrank to its lowest levels in recorded history in 2018, profoundly affecting northwest Alaska residents who depend on marine resources for food, cash and culture, according to a new peer-reviewed study.

[Read MORE](#)

Meteorologists Can't Keep Up With Climate Change In Mozambique

December 11, 2019 - National Public Radio

Mozambique is one of many countries around the world where weather forecasting is lagging behind even as climate change drives more extreme and variable weather.

[Read MORE](#)

=====

WeatherEye with John Maunder

<https://www.sunlive.co.nz/blogs/14184-in-bleak-midwinter.html>

Yule tide greeting to our readers and, along with Thanks, to our regular contributors.

Bob McDavitt for NZ Met Society