

New Zealand weather and climate news

Thanks to MetService Library for these clips

(MetService focus)

Rain and gales for parts of Canterbury

Otago Daily Times

MetService said rain may reach warning levels or up to 90mm in some places on the West Coast, but there's warm temperatures in the east. Dunedin ...

Whanganui weather: September rainfall well up on average

New Zealand Herald

MetService meteorologist Lewis Ferris put the cause of the substantial rainfall down to large fronts. "The month of September was characterised by ...

Wet weekend with heavy rain forecast for parts of Nelson

Stuff.co.nz

Metservice forecaster Tuporo Marsters said a cold front moving across the West Coast and bringing heavy rain to Buller and Westland would be ...

Weather warning work under way

Otago Daily Times

During a weather event, **MetService** informs ES' hydrology and catchment teams and Emergency Management Southland about any potential events ...

Chilly southerly blast to sweep the country, bringing snow to low levels in South Island

Stuff.co.nz

Latest **MetService** National Forecast. Trustworthy, accurate and reliable news stories are more important now than ever. Support our newsrooms by ...

La Niña likely to bring rain for top of New Zealand this summer - Niwa

Stuff.co.nz

Today, **Fire and Emergency New Zealand** put the region in a restricted fire season – that's a month earlier than last year when the huge drought hit.

More wintry weather on way for South

Otago Daily Times

MetService says a southerly change could bring snow to 400 metres in Southland and inland Otago tomorrow. A spread of nine degrees between the ...

Temperatures and weather yo-yo through the week

SunLive

MetService is forecasting a week of fluctuating weather conditions, as brief but intense weather systems periodically move up New Zealand over the ..

Up and down week of weather ahead for Taranaki

Stuff.co.nz

MetService metrologist Angus Hines said there was still more rain to get through before any settled weather was on the horizon. "There's a fairly slow ...

World Weather with Erick Brenstrum

Erick Brenstum joins us once again. Tonight he's taking a look at the record breaking Atlantic Hurricane season and of course the wildfires in the USA.

WMO

50th Anniversary of Fengyun Satellite Program - China Meteorological Administration

Posted:

This year marks the 50th anniversary of China's Fengyun Satellite Program. Up to now, China has launched 17 Fengyun meteorological satellites in total, with 7 in orbit. The Chinese meteorological...

ECMWF moves towards a policy of open data

Posted:

The World Meteorological Organization has welcomed the announcement by the European Centre for Medium Range Weather Forecasts that hundreds of ECMWF forecast charts will become free and accessible to...

Deferral of Aeronautical Meteorological Service Charges Payment to Support Airlines amid COVID-19 Pandemic

Posted:

The Aviation Meteorological Office (AMO) of the Republic of Korea has implemented a payment deferral program for aeronautical meteorological service charges to support airlines in overcoming the...

State of Climate Services 2020 Report: Move from Early Warnings to Early Action

Posted:

Over the past 50 years, more than 11,000 disasters have been attributed to weather, climate and water-related hazards, involving 2 million deaths and US\$ 3.6 trillion in economic losses. While the...

Arctic research expedition ends

Posted:

The most ambitious Arctic research expedition ever undertaken has come to a successful end after spending more than a year researching climate change in the Arctic, Drifting with the ice,...

ECMWF

ECMWF moves towards a policy of open data

World Meteorological Organization

With **ECMWF's** focus on ensemble prediction, charts also cover probability-based information, which provides a guide to forecast confidence.

Volcano alert/watch

Iceland's most active volcano may soon erupt, throwing air travel into turmoil — again

ZME Science

... doesn't mean an eruption is imminent, but it does show that the Grímsvötn has reached a level of unrest, according to the Icelandic **Met Office** (IMO).

Extreme weather (and other news) – Antarctica and offshore

2020 Antarctic Ozone Hole is one of the largest in recent years

The Weather Network

Just one year after we saw the smallest ozone hole since its discovery, 2020's Antarctic ozone hole has grown into one of the largest in recent years.

Extreme weather (and other news) – Australia and the Pacific

Central Coast named NSW's third highest storm hotspot as La Nina threatens wet summer

Daily Telegraph

La Niña is the cool phase of the **El Nino** Southern Oscillation. It is associated with cooler than average sea surface temperatures in the central and ...

Weather forecast Australia: Darwin has wettest October day since 1941 as more than 100mm of ...

9News

Weatherzone meteorologists says it is wettest October day since records ... The Bureau of Meteorology predicted maximum temperatures to stay up ...

Budget 2020: Keeping Australia at the forefront of **weather** and climate modelling

ZDNet

ACCESS is Australia's climate and **weather** model and as Professor Andy Hogg from the Australian National University College of Science explained, ...

BOM to dump local radio **weather** forecasts in Gippsland and Newcastle after 40 years

ABC Local

"Their job is to provide specialised **aviation** forecasts that support complex **aviation** movements that protect air crew. "Our forecasters based at our ...

La Niña to impact Pacific - SPREP

RNZ

La Niña is part of the **El Nino** Southern Oscillation, which is a major climate driver that influences normal rainfall, temperature, and sea level patterns ...

Volunteers are vital to our climate records — some have been recording rainfall for more than 100 years

When rainfall strikes, the first question many people ask is 'how many millimetres did you get?'

And for thousands of volunteer rainfall recorders across the country, it is their job to measure and record the rainfall for their region and report it back to the Bureau of Meteorology.

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

Flood-hit Vietnam warned another storm looms

At least 17 people have been killed by floods in Vietnam's central provinces in the past week and 13 are still missing, state media said, as the country braced for another tropical storm.

MMEA: More mishaps at sea due to monsoon transition period

The Star Online

According to the **Malaysian Meteorological Department** (MetMalaysia), the monsoon transition phase, which started on Sept 24, will bring along .

Alliance formed to build 'weather market' in Taiwan

Focus Taiwan News Channel

... said Taiwan is capable of developing services similar to those provided by IBM-owned The **Weather Company**, which combines weather data and ...

Government releases app that gives precise hourly rain forecasts

Focus Taiwan News Channel

... Taiwan's FormoSat-7 weather research satellites and 11 Central Weather Bureau **weather radar** stations and incorporating a 60-minute rain forecast ...

Iran Could Well Face a Severe Winter With Heavy Snowfall - Met Office

Al-Bawaba

Iran Could Well Face a Severe Winter With Heavy Snowfall - **Met Office**. Published October 12th, 2020 - 07:19 GMT. Highlights. This is what the maps ...

Extreme weather (and other news) – Americas and Europe

California records first million-acre wildfire

This week, a giant fire in northern California reached ‘gigafire’ status. It burnt more than one million acres over weeks — the largest wildfire the state has ever seen. “It makes up more than all of the fires that occurred between 1932 and 1999,” said Gavin Newsom, the state’s governor. “If that’s not proof-point testament to climate change, I don’t know what is.” California experienced its hottest August on record this year, after years of below-average rainfall. These factors contributed to ideal conditions for the worst fire season the state has ever recorded; 4 million acres have burnt so far.

A Running List of Record-Breaking Natural Disasters in 2020

The year has already seen many extremes, from California’s and Colorado’s largest wildfires to a tropical cyclone boom

International news and research

Met Office climate scientist awarded an OBE

Professor Jason Lowe, Head of Climate Services at the Met Office, is a world-leading expert in climate science. His work has been recognised in the Queen’s Birthday Honours list 2020, where he was awarded an OBE.

'Ciara caused a lot of hassle': Irish pronunciation leaves Dutch tongue-tied in naming of 2020-21 ...

thejournal.ie

Irish, UK and Dutch **meteorologists** recently collaborated on the winter storm names. By Stephen McDermott Thursday 8 Oct 2020, 6:15 AM. 12 hours .

4-Week Forecast? NOAA Makes Another Computer Model Upgrade

Spectrum News

NOAA Makes Another Computer Model Upgrade. By **Meteorologist** John Davitt Nationwide.
PUBLISHED 11:58 AM ET Oct. 08, ...

Arctic weather observations can improve hurricane track forecast accuracy

Posted: 08 Oct 2020 07:43 AM PDT

Comparison of mid-range forecast model accuracy of Atlantic hurricane tracks from 2007 to 2019 revealed that when strong winds associated with upper-level troughs caused hurricanes to move northward, track forecast accuracy was lower. The accuracy of track forecasts in such cases was improved by including data collected over the Arctic Ocean in 2017, by reducing the error in forecasting upper-level troughs. Therefore, additional data collection at high latitudes can improve mid-latitude hurricane track forecasting.

Climate Change May Cause More Storms to Rapidly Intensify as Delta Did

A warming climate is not expected to have much effect on the number of storms, but those that do form may be stronger

New global temperature data will inform study of climate impacts on health, agriculture

Posted: 13 Oct 2020 10:43 AM PDT

A new data set provides high-resolution, daily temperatures from around the globe that could prove valuable in studying human health impacts from heat waves, risks to agriculture, droughts, potential crop failures, and food insecurity.

Heat has stronger effect on health in less developed cities, study finds

Posted: 08 Oct 2020 11:21 AM PDT

Compared to high income cities, less developed cities in Brazil have a higher hospitalization rate associated with increased heat exposure, according to a new study.

5G network

Rutgers researchers find increased use of 5G networks may create inaccurate weather forecasts

RU Daily Targum

In order to meet the demand for high **data** rate applications, 5G networks must use higher (mmWave) frequencies, he said. ... of water vapor in the atmosphere and therefore affect **weather forecasting** and predictions,” Wu said.

Spark Turns On 5G In Auckland And Offers A Glimpse Into The Future Of Smart Cities

Spark turned on 5G in downtown Auckland today and has partnered with Auckland Transport (AT) to showcase some of the latest in IoT (Internet of Things) technology and demonstrate what the future could look like for Auckland's CBD with the power of 5G

Aviation

Flight in the US turns around after barrage of hail cracks windshield

A United Airlines flight had to make an emergency landing after its windshield was cracked by hail, according to a passenger and the US airline.

The future of Australia's aviation sector: issues paper

Government of Australia

30 Sep 2020 | Discussion paper | Economics

The Australian government is examining options to further support and strengthen the aviation industry, both to manage the current impacts of the COVID-19 downturn, support the recovery and look at pathways for longer-term reform. This issues paper has been released to generate public feedback.

Business/Insurance

La Niña weather pattern to create havoc in commodity markets – ANZ

FXStreet

Strategists at ANZ Bank expect the major impact of La Niña to be on winter space heating and **electricity demand**, with harsher than average **weather** ...

China's economy expected to grow 1.6% in 2020 – World Bank

The Thaiger

In reality, **Macquarie Bank's** China office predicts it will take decades for trade partners to unravel from the intricate supply chains, even if the anti ...

Climate change / global warming

13 major climate change reports released so far in 2020

These free studies and reports contain the latest authoritative information about food security, U.S. flood risks, renewable energy, and much more.

Covid-19 / Business

New Zealand businesses prepared to innovate because of Covid-19 - survey

The adoption of digital technology has accelerated in the wake of the Covid-19 pandemic, with a 40 percent increase in the number of businesses giving priority to innovation.

Energy and Mining

Climate change could mean fewer sunny days for hot regions banking on solar power

Changes to regional climates brought on by global warming could make it so that areas such as the American Southwest that are currently considered ideal for solar power would be less viable in the future, a new study suggests. Higher surface temperatures will lead to more moisture, aerosols and particulates in the atmosphere, which may result in less solar radiation and more cloudy days. The study is the first to assess the day-to-day reliability of solar energy under climate change.

History

Weatherwatch: Hitler's plan for intuitive meteorologists

The Guardian

Weatherwatch: Hitler's plan for intuitive **meteorologists**. Nazi leader wanted to recruit corps who would call in forecasts based on emotions and natural .

Innovation and technologies and AI

AMSim's teen founders predict weather with machine learning

Siliconrepublic.com

“Weather agencies take reams of raw **data**, feed it into supercomputers and just number crunch and number crunch. **Weather forecasting** has become

Transport/roading/shipping/freight

Boosting rail's resilience to extreme weather

International Railway Journal

Naoyuki Ota, director of the Disaster Prevention **Technology** Division of Japan's Railway **Technical** Research Institute, explains how systems are being ...

Location-Specific Weather Forecasts Boost Efficiency at LNG Terminals

The Maritime Executive

How **weather** conditions impact LNG **port** and terminal operations. The specific impact ...
Location-specific forecasts matter for LNG **ports** and terminals.

The five essentials of weather optimised routing

Digital Ship

It enables vessels to take the most efficient route, by combining the latest **weather** data, with information on **sea** conditions and the **ship's** profile. It's not ...

Journal and articles online

A modelling synthesis of the volume flux through Cook Strait,

Mark G. Hadfield & Craig L. Stevens (2020)

New Zealand Journal of Marine and Freshwater Research, DOI:
[10.1080/00288330.2020.1784963](https://doi.org/10.1080/00288330.2020.1784963)

We present hindcasts of currents in Cook Strait from a baroclinic, tide-resolving ocean model. Three hindcasts are run, forced respectively at the lateral boundaries with data from the Bluelink Reanalysis (BRAN), the global Hybrid Coordinate Ocean Model (HYCOM) and a New Zealand Shelf Seas baroclinic hindcast (NZROMS). The hindcast forced by BRAN is evaluated against measured currents at locations in the Cook Strait Narrows and South Taranaki Bight. The model reproduces the observed tidal, subtidal and mean currents well. The three hindcasts produce a 3-year-mean volume flux southward through the Narrows of 0.360, 0.734 and 0.230 Sv, respectively. When corrected for the observed discrepancies between model and measurements in the Narrows, the estimates are 0.430, 0.498 and 0.337 Sv. We conclude that true 3-year mean volume flux through Cook Strait is 0.42 ± 0.08 Sv. The tidal volume flux amplitude is 4.68 Sv (M2). The subtidal fluctuations in volume flux have a standard deviation of 0.62 Sv. The effect of wind is investigated with a wind-forced barotropic model, which produces volume flux

fluctuations that are highly correlated ($r = 0.93$) with the subtidal fluctuations from the baroclinic model, implying that the latter are largely wind-generated.

Measurement of snowfall: preliminary tests at the British Antarctic Survey Rothera Research Station, Antarctica

Ian Strangeways, Steve Colwell

Pages: 300-305 | First Published: 07 April 2020

A heated snowgauge was installed at Rothera in 2008 and continues to be in operation at the present time. Its measurements have been used to estimate annual snowfall at Rothera, and this was found to be, on average, about 550mm of water equivalent. Such measurements are still very rare in Antarctica, but are vital to help our understanding of climate change.

Meteorology and the Second World War

Jim Galvin

Pages: 325-328 | First Published: 25 February 2020

The Second World War brought large-scale significant changes to the demands on meteorologists and the types of service they needed to provide. Although the technological developments between the two World Wars set the scene for many of these new requirements, there were few weather forecasters until the last few months before the Second War, so demands for training were significant. Many developments led into the services that would be required when peace returned and a description of these is given in this article.

Influence of tilting effect on charge structure and lightning flash density in two different convective environments

Maryam Gharaylou, Nafiseh Pegahfar, Majid M. Farahani

e1957 | First Published: 08 October 2020

Time series of the simulated lightning flash density of (a) the real case study and (b) an idealized sounding for no shear and with shear simulations.

No Shear (NS) and With Shear (WS) simulations have been conducted using the idealized WRF-ELEC simulations for two thunderclouds based on different values of wind velocity components in input sounding. Results show that considering the tilting effect results in the increase of the

total non-inductive charging, especially in the severe thundercloud. Moreover, the tilting effect does not lead to the same results for the polarity and intensity of charge density in the two studied cases. Also, considering the tilting effect leads to the increase of the number of lightning occurrences of the two case studies.

Effects of terrain-following vertical coordinates on simulation of stratus clouds in numerical weather prediction models

Stephanie Westerhuis, Oliver Fuhrer, Ritthik Bhattacharya, Jürg Schmidli, Christopher Bretherton

Version of Record online: 02 October 2020

In regions with complex orography, terrain-following vertical coordinates exhibit strongly sloping coordinate surfaces aloft. Sloping coordinate surfaces typically lead to spurious numerical diffusion from the horizontal advection scheme if significant wind is present. Using idealised simulations of a stratus cloud we show how the evolution of the cloud is affected significantly by the amplitude and wavelength of the features in the vertical coordinates.

A non-spectral Helmholtz solver for numerical weather prediction models with a mass-based vertical coordinate

Daan Degrauwe, Fabrice Voitus, Piet Termonia

Version of Record online: 30 September 2020

Semi-implicit atmospheric models with a mass-based vertical coordinate typically rely on spectral techniques to solve the Helmholtz problem appearing inside their dynamical core. This manuscript investigates the viability of a non-spectral iterative Helmholtz solver, to overcome the problematic scalability of spectral transforms on massively parallel machines. It is shown how such an iterative solver can be very robust and efficient, by making use of specific properties of the mass-based vertical coordinate and a constant-coefficient reference state for the semi-implicit timestepping. The figure shows the superior performance of the iterative solver (red and green lines) w.r.t. the existing spectral solver (blue line).

Structure and evolution of intense austral cut-off lows

Henri Pinheiro, Manoel Gan, Kevin Hodges

Version of Record online: 30 September 2020

The understanding of the structure and life cycle of Cut-off Lows is one of the keys to understand their associated cloud and precipitation features. Motivated by the limited number of studies on the structure of Cut-off Lows, this study provides the first robust view of the structure, evolution and properties of intense austral Cut-off Lows including how their precipitation depends on their structure. This study may serve as a reference guide for the diagnosis of Cut-off Lows, helping meteorologists to better understand weather patterns and produce better forecasts.

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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.

[Tropical storms can sometimes ‘supercharge’ the storms that follow](#)

National Geographic - October 9, 2020

In 2018, a tropical storm teamed up with a heat wave to strengthen a hurricane—a storm-fueling scenario that might happen more often as the planet warms.

[An Ode to the Moon: How Weather Satellites Capture Earth’s Satellite](#)

WeatherNation - October 7, 2020

This month offers a rare celestial treat—a full Harvest Moon back on October 1st to begin the month and a second full “Blue Moon” on Halloween night.

[Wildfire smoke travels far but never really disappears](#)

Popular Science - October 7, 2020

Even after the densest clouds disperse, the effects from smoke last longer and travel farther than you might think.

[NASA shows heaviest rainfall displaced in Typhoon Chan-hom](#)

EurekAlert! - October 9, 2020

Typhoon Chan-hom was still moving parallel to Japan's east coast as NASA's satellite rainfall product, that incorporates data from satellites and observations, showed its heaviest rainfall was pushed northeast of center.

'Staggering' rise in climate emergencies in last 20 years, new disaster research shows

UN News - October 12, 2020

The first 20 years of this century have seen a “staggering” rise in climate disasters, UN researchers said on Monday, while also maintaining that “almost all nations” have failed to prevent a “wave of death and illness” caused by the COVID-19 pandemic.

Polar ice, atmospheric water vapor biggest drivers of variation among climate models

ScienceDaily - October 7, 2020

Researchers have found varying projections on global warming trends put forth by climate change scientists can be explained by differing models' predictions regarding ice loss and atmospheric water vapor.

Hurricanes can be vicious and destructive. But their rainfall is often essential.

The Washington Post - October 7, 2020

The storms make up a significant portion of the South's average annual rainfall.

WeatherEye with John Maunder

<https://www.sunlive.co.nz/blogs/15067-tauranga-september-average-afternoon-temperatures-19132020.html>

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