

## New Zealand weather and climate news

courtesy of MetService Library

### MetService mentions

#### Cold, wet weekend ahead for many as rugby resumes

RNZ

MetService said that was what one of their meteorologists had done, as chances were it could be raining on the night. MetService said it expected ...

#### Cold weather to hit from tomorrow

Otago Daily Times

MetService meteorologist Andrew James said the cold snap would be preceded by a strong west to northwest flow, which was expected to move north ...

#### Winter weather: Twizel sees coldest morning of year, temperature below -9C

MetService meteorologist Stephen Glassey warned last week a cold front was moving slowly up the country, bringing clear skies, light winds and cold overnight air temperatures.

#### Warning of icy Dunedin roads ahead of chilly weekend

Otago Daily Times

The MetService is forecasting frosty conditions across the South this weekend, including -5degC in Alexandra. On its Facebook page, the DCC

#### Winter weather: New Zealand has coldest June temperature in five years

New Zealand has recorded its coldest June temperature in five years, but some in the south should keep their shorts on hand for the next few days.

#### Dangerous avalanche warning for Aoraki Mt Cook today

An alert for dangerous avalanche conditions has been issued for alpine areas at Aoraki Mt Cook National Park.

#### High pressure system brings chill across South

Otago Daily Times

MetService meteorologist Andy Best said the big drop in temperatures was due to a large area of high pressure moving in from the Tasman Sea and ...

#### Much needed rain ahead for Hawke's Bay

New Zealand Herald

National weather agency MetService is forecasting rain on Thursday and Friday and showers on Saturday, welcome news for farmers but likely to offer ...

#### Weather: 'Two sides of winter' in two weeks as temperatures warm up ... slightly

New Zealand has seen two sides of winter in the first two weeks of the season.

"The first week was all about fronts and rain and strong winds ... this week we see the other side, which is the calm, still cold, high-pressure side of winter," MetService meteorologist Tom Adams explained.

#### Weather: Freezing conditions on the way for weekend

The South Island can expect temperatures as low as -15 this weekend.

#### Weather: Fine conditions, but sub-zero temperatures on the forecast

New Zealand Herald

MetService says this week will show winter's "calmer and cooler" side; as opposed to the flooding and thunderstorms that lashed some areas last ...

#### Coronavirus: Fewer planes means less weather forecast data

Stuff.co.nz

The Metservice and climate scientist NIWA both said while they are missing the data, there is no sign that forecasting is less accurate

#### Weather: Winter here to stay as temperatures reach freezing point

Stuff.co.nz

MetService forecast a "fine" day with settled skies on Wednesday, and rain building on the South Island's West Coast

## New Zealand weather: Record breaker? Monster high set to move over NZ

New Zealand Herald

Forecasts for the weekend still pointed to the possibility of rain for Auckland: Niwa was projecting around 4mm on Saturday, while MetService was also ...

## Picture-perfect hopes for Thursday rocket launch from Mahia

New Zealand Herald

National weather forecasters MetService agree, if a possible nor'westerly doesn't stop a Day 1 launch taking place. If it does intervene it could be ...

## Dramatic lightning strikes fill the Nelson sky

Stuff.co.nz

A further dozen or so strikes were registered just off the coastline, said MetService meteorologist Mmathapelo Makgabutlane. "The Tasman Bay area ...

## **MetOcean**

### Huge buoy moved to Port Taranaki, but where it goes next is a mystery

A huge buoy has taken up residence at Port Taranaki.

But how long the 187-tonne piece of engineering will be there, where it is going or what it will be used for, no one is saying.

### Underwater weather station nets €1.5m funding

The Fish Site

The French start-up's innovation allows water quality to be measured 24/7 and provides water quality forecasts several days in advance.

## Ocean data need a sea change to help navigate the warming world

Nature.com

It is now under threat from climate change, overfishing and pollution. ... Data from satellites, autonomous underwater vehicles and other platforms have ...

## WMO

[300 trainees from over 70 countries joined online course of climate monitoring and forecasting technique - China Meteorological Administration](#)

Posted:

From May 18 to 31, 300 trainees from over 70 countries have joined online short-term climate monitoring and forecasting technique training held by China Meteorological Administration Training Centre...

[Financing increased for early warning systems in Small Island Developing States](#)

Posted:

Key nations have announced US\$ 4.8 million in funding for the delivery of early warning systems and services to reduce loss of life from severe weather events in the Pacific region. The announcement...

[World Oceans Day highlights innovation](#)

Posted:

The World Meteorological Organization (WMO) joins the global community in marking World Oceans Day on 8 June, with the theme: Innovation for a Sustainable Ocean. This is more necessary than ever...

[GK-2A's AMV and CSR Data Release on GTS - Korea Meteorological Administration](#)

Posted:

The Korea Meteorological Administration (KMA) has announced that Atmospheric Motion Vector (AMV) and Clear Sky Radiance (CSR) products from the Geostationary Earth Orbit–Korea Multi-Purpose...

[WMO informs on impact of COVID-19 on science](#)

Posted:

Experts from the World Meteorological Organization and the scientific community have provided extensive information to UN climate change negotiators on the impacts that the COVID-19 pandemic has on...

### WMO Updates Guidelines on Multi-Hazard Impact-Based Forecast and Warning Services

Posted:

The World Meteorological Organization is updating its 2015 Guidelines on Multi-Hazard Impact-Based Forecast and Warning Services (IBFWS), which promote best practice in development of effective...

International news and research

### Environmental damage from fog reduction is observable from outer space, find hydrologists

Posted: 04 Jun 2020 12:20 PM PDT

A study led by ecohydrologists at IUPUI is the first to show it's possible to use satellite data to understand how fog reduction from climate change is harming vegetation in ecologically rare regions.

### Why Cloud Systems Near California Sometimes Have An Eye But Aren't Hurricanes?

Forbes

After attaining three degrees in meteorology, one of the most essential ... Whew, there is a lot of meteorological jargon to chew on there so let me ...

### Behind the Front: What is Forensic Meteorology?

WBRC

WBRC FOX6 News Chief Meteorologist talks to Dr. Tim Coleman about forensic meteorology. Dr. Coleman works with companies and attorneys ...

### **Volcano alert/watch**

### Six months on, White Island could erupt again with little warning

New Zealand Herald

Six months on from Whakaari/White Island's deadly eruption, a fresh batch of magma is believed to have risen up through the volcano and scientists ...

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

### Voices from Antarctica 3: Flags to physics

Small coloured flags fluttering atop bamboo poles are a familiar sight in Antarctica, marking safe routes for travel on the sea ice, where cracks and thin ice can pose a danger.

### Antarctic sea-ice models improve for the next IPCC report

Posted: 10 Jun 2020 07:27 AM PDT

All the new coupled climate models project that the area of sea ice around Antarctica will decline by 2100, but the amount of loss varies considerably between the emissions scenarios.

International news and research

The National Weather Service issues highly accurate thunderstorm forecasts. The public doesn't ...

Washington Post

The broadcast meteorologist is the “best resource for understanding exactly what his/her audience is going to digest best,” wrote Snitil. [Weather ..

Internet of Things subsidiary Weather Telematics inks seven-figure licensing deal for its ...

Proactive Investors USA & Canada

... real-time and predictive road weather conditions, the company said. Synoptic Data PBC performs technical aggregation and quality control services, ...

From Clouds to Cloud: Weather Forecasting for Long-Range Prediction

Now. Powered by Northrop Grumman. (blog)

Benefits of Accurate Prediction. Humans have always wanted to push the range of long-term and accurate weather forecasting. Knowing what the ...

Patterns in permafrost soils could help climate change models

Posted: 09 Jun 2020 06:51 AM PDT

A team of scientists spent the past four summers measuring permafrost soils across a 5,000 square-mile swath of Alaska's North Slope. While working to buildup a much-needed soil dataset, their measurements revealed an important pattern: The hydrologic properties of different permafrost soil types are very consistent, and can be predicted based on the surrounding landscape.

### Predictive Weather and Climate Analytics

Planning, BIM & Construction Today

Everybody knows the British like to talk about the weather but when it comes to construction, meteorological conditions are more than just a topic of ...

### **Weather companies**

Weather Company lays off dozens, shuts popular Weather Underground 'Category 6' blog

Washington Post

... which operates the popular websites Weather.com and Weather Underground, and offers forecast and weather graphics services to many industries ...

NCDEX, Skymet join hands to launch two weather-sensitive indices on Tuesday

Business Standard

The exchange has tied up with private weather forecasting company Skymet to source data points and analyse them to put out a composite value.

### **America's Cup (and sailing)**

American and British America's Cup challengers could be in NZ as soon as next week

TVNZ

... as well," Transport Minister Phil Twyford said. Sailing is now set to be a breeze after the challenges these syndicates have faced. "You have no idea.

Aviation

IATA: 2020 to be worst year in the history of aviation

### **Breaking Travel News**

The International Air Transport Association (IATA) has released a new financial outlook for the global aviation sector, showing heavy weather ahead.

New Zealand rocket launch postponed due to wind gusts

UPI.com

Private aerospace company Rocket Lab grounded the launch due to high winds and rescheduled for this weekend. "We have several days left in the ..

### **Business/Insurance**

Managing extreme weather events with forensic data

Insurance Business Canada

... understand what the exposure is to their book of business," said Curtis McDonald, senior product manager, weather verification services, CoreLogic.

### **Climate change / global warming**

Island 'drowning' is not inevitable as sea levels rise

Posted: 10 Jun 2020 12:20 PM PDT

An international study suggests islands composed of gravel material can evolve in the face of overtopping waves, with sediment from the beach face being transferred to the island's surface

### **Communications/social media**

Welcome to #wxtwitter, a confrontational yet productive weather workspace

Washington Post

Many are experts, holding degrees in meteorology, and include leading ... professional forecasters, storm chasers and broadcast meteorologists.

Covid-19 / Business

'Brain drain' could follow border re-opening

Stuff.co.nz

... to the sector when travel restrictions between Australia and New Zealand are ... Infrastructure and home building sectors vye for "shovel ready" cash.

## **Infrastructure**

Road safety in Taranaki boosted by \$1.1m thanks to PGF

Road safety in Taranaki is set to get a \$1.1 million boost thanks to money from the Provincial Growth Fund.

Coronavirus: \$92.6m to future-proof NZ health system if Covid-19 returns

The Government is pumping \$92.6m of into a suite of measures to support Covid-19 health services.

Coronavirus: Covid-19 taking the sparkle from Wellington's Golden Mile

It's long been trumpeted as Wellington's most high profile shopping area, with stores jostling for space on the coveted Lambton Quay.

But take a stroll down this part of the Golden Mile and at least half a dozen shops sit empty. Others remain closed.

## **Outdoor recreation**

2020 ski season kicks off as first field opens for the winter

The ski season kicks off from today as Canterbury's Mt Hutt welcomes people back to the slopes under the new normal.

## **Satellites and radar**

### China plans to launch meteorological satellite to dawn-dusk orbit

Xinhua

China plans to send a meteorological weather satellite into a dawn-dusk orbit. According to its developer, the satellite is undergoing final tests and is ...

### Meet the first all-female Air Force launch weather team who will work SpaceX Starlink launch

Florida Today

45th Space Wing Radar Launch Weather Officer Jessica Williams tells reporters at the Cape's Morrell Operations Center June 11, 2020 the role of the ...

## **Space weather**

### New 'sun clock' quantifies extreme space weather switch on/off

Posted: 10 Jun 2020 08:20 AM PDT

Extreme space weather events can significantly impact systems such as satellites, communications systems, power distribution and aviation. They are driven by solar activity which is known to have an irregular but roughly 11 year cycle. By devising a new, regular 'sun clock', researchers have found that the switch on and off of periods of high solar activity is quite sharp, and are able to determine the switch on/off times.

Transport/roading/shipping/freight

### Ore Carrier Owari Maru Recognized for Contribution to Marine Weather Forecasts

Hellenic Shipping News Worldwide

NYK will continue to provide information on marine weather conditions to help ensure ship safety. –Vessel Particulars. Length Overall: 319.58 meters

300 Maersk vessels will be equipped to measure and report meteorological data to international

...

Hellenic Shipping News Worldwide

Helping weather forecasting and climate science advance makes great sense to us, since both of these areas affect our operations in various ways,” ...

### **Innovation and technologies and AI**

Here's how Microsoft Flight Simulator creates its realistic weather

PC Gamer

... Flight Simulator, and in the latest video it's weather forecasting that's in the ... With that data, Microsoft Flight Simulator can have different weather in every ... Initially Meteoblue was just going to provide data on airport weather ...

### **Journal and articles online**

Seasonal and diurnal variation of marine wind characteristics based on lidar measurements

Z. R. Shu, Q. S. Li, P. W. Chan, Y. C. He

e1918 | First Published: 08 June 2020

Site location of the offshore platform (highlighted by the solid circle) and a photo of the main equipped measurement instruments.

### **Aviation**

Air New Zealand resuming flights to Japan

Air New Zealand says it will resume passenger flights to Japan later this month.

The airline will operate a once-a-week return service on its Auckland-Narita route. The first flight departs Auckland on June 25.

## Coronavirus: Asia-Pacific aviation sector forecast to be worst hit from Covid-19

The coronavirus pandemic will hit aviation in the Asia-Pacific region harder than anywhere else in the world, with losses of US\$29 billion (NZ\$45b) forecast in 2020, an international transport association says.

## **Business/Insurance**

### Claims for flood damage mounting

A large portion of more than \$16 million in insurance claims for storm damage so far this year is related to February's floods in Southland, the insurance council says.

## **History**

### 6.30PM News - Raoul People

#### Television(Excerpts) – 1988

Raoul Island is nearly 1000 kilometres northeast of New Zealand. For this Christmas Day 1988 report, TV One's Kurt Sanders paid a visit to the four-person NZ meteorological team serving there (plus Smelly the dog — “the unchallenged King of the Kermadecs”). Sanders follows future One News weather presenter Karen Olsen (then Karen Fisher) as she milks the cow, and heads through the nikau to take readings in the crater of Raoul's active volcano. The uniquely-evolved island is now the Department of Conservation's most remote reserve.

### Looking at New Zealand - Campbell Island

#### Television(Full Length) – 1967

This episode from the 1960s Sunday night magazine series travels to New Zealand's southernmost subantarctic island to observe scientists, meteorologists and post office staff. The world's largest seabird, the royal albatross, is banded and monitored at remote Campbell Island, while gangs of cantankerous elephant seals make their presence felt. Meteorologists at Beeman Cove are seen tinkering with equipment, and writing weather reports. Weather reporting was a major activity on the wind-battered island, which lies 660km south of New Zealand.

### Pictorial Parade No. 181 - Christchurch: Weathermen Look Up

#### Short Film(Full Length) – 1966

This 1966 edition of National Film Unit's magazine slot heads to Christchurch International Airport to explore weather measuring devices being launched there. Helium 'Ghost Balloons' are sent into the sky by an outpost of the United States' National Center for Atmospheric Research. Meanwhile Christchurch weathermen send up hydrogen balloons, read satellite data, and provide a flight plan for a U2 reconnaissance plane from the US Air Force. The pilot's preflight routine involves breathing pure oxygen to prepare him for the ultrahigh altitude plane's steep ascent into the sky.

## **Infrastructure**

### Government announces \$20m funding for Sugarloaf Wharf expansion

Almost \$20 million is being invested in the expansion of Sugarloaf Wharf in the latest round of Provincial Growth Funding.

Journal and articles online

### Addressing the causes of large-scale circulation error in the Met Office Unified Model

K. D. Williams, A. van Niekerk, M. J. Best, A. P. Lock, J. K. Brooke, M. J. Carvalho, S. H. Derbyshire, T. D. Dunstan, H. S. Rumbold, I. Sandu, D. M. H. Sexton

Version of Record online: 16 May 2020

The Met Office Unified model develops a large high surface pressure bias and associated geopotential height error over the Arctic (figure shows the climatological bias against ERA-Interim for a) PMSL, b) geopotential height (m)). The cause of the error is investigated and a redistribution of near-surface drag between parametrization schemes is found to be required

### Recalibrating wind-speed forecasts using regime-dependent ensemble model output statistics

S. Allen, C. A. T. Ferro, F. Kwasniok

Version of Record online: 13 May 2020

Surface winds are closely related to the prevailing atmospheric circulation and hence recently developed statistical post-processing methods that utilise weather regimes are applied here to wind-speed forecasts. Regime-dependent post-processing approaches are compared with standard methods of calibrating wind-speed ensembles in a quasigeostrophic simulation study and using reforecast data. If an accurate prediction of the regime is available, then noticeable improvements over current post-processing methods are observed at locations where wind speed is heavily affected by the underlying regime.

The role of cross-domain error correlations in strongly coupled 4D-Var atmosphere–ocean data assimilation

Polly J. Smith, Amos S. Lawless, Nancy K. Nichols

Version of Record online: 11 May 2020

Strongly coupled atmosphere-ocean data assimilation offers the ability to improve information exchange across the modelled air-sea interface by enabling observations in one domain to have a direct influence on the analysis in the other. We show via a set of 4D-Var single observation experiments that when only one domain is observed, including explicit cross-domain forecast error covariances allows more consistent adjustment of the unobserved domain, which has important consequences for the balance of the coupled analysis state.

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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.

How two storm complexes kissed over Kansas City on Wednesday night

The Washington Post - June 4, 2020

The GOES East weather satellite captured the unusual scene. As a band of prolific lightning-producing storms barreled in from the west, an atypical complex of thunderstorms backed in from the east over Missouri.

Maxar studies Legion spacecraft for NOAA weather mission

SpaceNews - June 5, 2020

Under a new National Oceanic and Atmospheric Administration six-month study contract, Maxar Technologies will explore the application of its Legion-class satellite to weather observation from low Earth orbit.

Combining Satellite Data for Tropics Forecasts

WeatherNation - June 3, 2020

Last June, a group of six small satellites were put into orbit to gather information on our atmosphere and weather. The Constellation Observing System for Meteorology, Ionosphere and Climate, or simply COSMIC-2, gathers data which we as meteorologists can use to help aid in our forecasting.

### Derecho blasts Philadelphia region with 80 mph winds, damaging supercell storm follows

The Washington Post - June 4, 2020

Storm complex triggered more than a half-million power outages in Southeast Pennsylvania and New Jersey.

### Cloud Changes in Busy Ship Corridors

NASA - June 9, 2020

Ship emissions in the southeast Atlantic help create more reflective clouds that produce a local cooling effect.

### Environmental damage from fog reduction is observable from outer space, find hydrologists

ScienceDaily - June 4, 2020

A study led by ecohydrologists at IUPUI is the first to show it's possible to use satellite data to understand how fog reduction from climate change is harming vegetation in ecologically rare regions.

### Why Cloud Systems Near California Sometimes Have An Eye But Aren't Hurricanes?

Forbes - June 8, 2020

They aren't hurricanes, but cloud systems with an "eye" appeared near California around Memorial Day. Here's why.

### Satellite images help assess effective use of cover crops in the Netherlands

Phys.org - June 5, 2020

Researchers from the University of Twente's Faculty of Geo-Information Science and Earth Observation (ITC) have used satellite images to assess the effective use of cover crops in the Dutch province of Overijssel.

NASA analyzes Cristobal, the big rainmaker

EurekAlert! - June 5, 2020

NASA's Aqua satellite gathered infrared imagery and cloud top temperature data on Tropical Depression Cristobal, and it revealed the heavy rainmaking capability of the storm.

New research deepens understanding of Earth's interaction with the solar wind

ScienceDaily - June 2, 2020

Scientists have reproduced a process that occurs in space to deepen understanding of what happens when the Earth encounters the solar wind.

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thanks to our regular contributors,