

Kevin Trenberth Article on Wildfires

<https://theglobepost.com/2018/11/22/wildfires-climate-change/>.

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New Zealand weather and climate news

Provided courtesy of MetService Library

MetService

Emergency services respond to flash flooding as wet and wild weather lashes Auckland

MetService forecaster Cameron Coutts says these warnings will extend well into tomorrow.

"We are also watching remaining eastern parts of the South Island closely," said Mr Coutts.

<https://www.tvnz.co.nz/one-news/new-zealand/emergency-services-respond-flash-flooding-wet-and-wild-weather-lashes-auckland>

Otago's rivers on the rise as waterlogged farms brace for more rain

"There are currently severe weather warnings in place for heavy rain over Wairarapa and Marlborough, extending well into Monday, and we are watching remaining eastern parts of the South Island closely" said MetService forecaster Cameron Coutts.

<https://www.newshub.co.nz/home/rural/2018/11/otago-s-rivers-on-the-rise-as-waterlogged-farms-brace-for-more-rain.html>

Far North treated to dusty sunrise after Australian storm

MetService forecaster Cameron Coutts said the dust was about 4000m high, so would not cause Kiwis any health issues.

<https://www.stuff.co.nz/northland/108850265/far-north-treated-to-dusty-sunrise-after-nsw-storm>

Heavy rain brings in unsettled week of weather, with flooding in Auckland

Meanwhile, MetService forecaster Cameron Coutts said there would be "no sign of summer for a few days" for the South Island.

<https://www.stuff.co.nz/national/108849880/heavy-rain-brings-in-unsettled-week-of-south-island-weather>

Rivers rising, more rain on the way

MetService forecaster Ravi Kandula said that a heavy-rain "watch" was in place for North Otago from 9am to 6am tomorrow.

Further north, in Bay of Plenty and Rotorua there was the potential for "warning amounts" of rain - 50mm in the 12-hour period - to accumulate, Kandula said.

<https://www.odt.co.nz/news/national/rivers-rising-more-rain-way>

Wild weather: Flash flooding in Auckland as heavy rain starts to fall

Elsewhere, MetService forecaster Ravi Kandula said a heavy-rain "watch" was in place from 5am to 5pm today for the Bay of Plenty and Rotorua. A watch is a step short of a warning.

Kandula said that in Bay of Plenty and Rotorua there was the potential for "warning amounts" of rain - 50mm in the 12-hour period - to accumulate.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12165909

Weather: Rain could force Kaikōura's Coastal Pacific train to close again

MetService has issued severe rain and thunderstorm warnings across the country for the coming week.

Forecaster Andy Downs says the Kaikōura region could be hit hard.

<https://www.newshub.co.nz/home/new-zealand/2018/11/weather-rain-could-force-kaik-ura-s-coastal-pacific-train-to-close-again.html>

Heaviest rain to miss Clutha, Taieri

MetService communications meteorologist Lisa Murray said yesterday North Otago and South Canterbury were again expected to be soaked, starting tomorrow.

"In Dunedin you'll probably get some drizzle and light rain. The heaviest is expected north of there. It's also not expected to hit the flooded Clutha River."

<https://www.odt.co.nz/regions/south-otago/heaviest-rain-miss-clutha-taieri>

Lake levels above average after week of wild weather, more rain on the way

MetService meteorologist Robb Kerr says another complex low system was heading towards the country from the west.

<https://www.stuff.co.nz/timaru-herald/news/108789911/Lake-levels-above-average-after-week-of-wild-weather-more-rain-on-the-way>

Flooding and slips likely as several days of heavy rain predicted across most of the country

MetService said the active front was expected to move south over the North Island today and bringing a period of rain and heavy falls.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12165823

Cardrona Alpine Resort opening for skiing on first day of summer

A Central Otago skifield is planning to open for skiing on the first day of summer.

Cardrona Alpine Resort, near Wanaka, has enough snow to open the beginners' area for skiing, tubing and snow play following [last week's spring snow dump](#).

<https://www.stuff.co.nz/travel/snow/108823533/cardrona-opening-for-skiing-on-first-day-of-summer>

Volcano alert

Alaska Volcano Spews Ash Three Miles High, Prompting Aviation Warning

An aviation warning was issued Wednesday as Alaska's Mount Veniaminof spewed ash.

Veniaminof is sending ash emissions nearly three miles high.

<https://weather.com/news/news/2018-11-21-alaska-volcano-aviation-warning/>

Others

Predictwind launches new Weather Boat

PredictWind have launched their Weather Boat.

Custom Built by Bladerunner Boats in Auckland, the foil assisted catamaran will be a valuable asset to the weather company over the coming years.

<https://www.sail-world.com/news/212460/New-boat-launched-for-weather-testing>

Sea temperature rises more than 2 degrees in one week

Seawater temperature is rising and off Gisborne it has risen by more than two degrees in the past week, satellite data has revealed.

<http://gisborneherald.co.nz/localnews/3792461-135/sea-temperature-rises-more-than-2>

WeatherWatch gains investment to fight weather duopoly following Government review - NBR

By Fiona Rotherham, NBR --- Philip Duncan's big passion in life is, to quote a well-known Dave Dobbyn song, "bringing you the weather from the satellite jigsaw."

The 40-year-old former radio ad man's own outlook is sunnier due to an influx of new investment and partnerships with IBM and Amazon that will see him able to provide more accurate, detailed weather forecasts across New Zealand by setting up an alternative network.

<https://www.weatherwatch.co.nz/content/weatherwatch-gains-investment-fight-weather-duopoly-following-government-review-nbr>

Extreme weather (and other news) – Australia and Pacific

Raining mud: NSW dust storm expected to continue east after blanketing Broken Hill

A dust storm in far west New South Wales is expected to spread to the state's east within days, according to the Bureau of Meteorology.

[Read more here](#)

Welcome to Giles, the loneliest weather station in mainland Australia

Over the past two years, the Bureau of Meteorology has been automating its network of regional weather stations, all but ending a 100-year tradition of field officers observing weather in the bush.

There is, however, one remarkable exception.

<https://www.abc.net.au/news/2018-11-24/giles-weather-station:-the-loneliest-in-mainland-australia/10544488>

Rainbow's weather radar to fill a hole in the network

Farmers say a new weather radar planned for north-west Victoria will fill a gaping hole in the country's network.

<https://www.abc.net.au/news/2018-11-23/rainbow-weather-radar-to-fill-a-hole-in-the-network/10496574>

Newcastle dust storm unlikely to reach 2009 levels: Bureau of Meteorology

A DUSTY, gusty day in the Hunter is unlikely to hit the eerie red heights of the 2009 dust storm, meteorologists advise.

The horizon took on a new hue around mid-morning on Thursday as a dust cloud that has floated in from the state's west made its mark in the Hunter.

<https://www.theherald.com.au/story/5770769/dusty-haze-arrives-over-the-hunter-after-sweeping-through-the-west/>

'Thundersnow', dust storms and gale force winds: What is going on with Australia's weather?

Every Australian state and territory has been impacted by wild weather over the past few days.

In South Australia, 40,000 properties were left without power and several homes were damaged as wind gusts of over 100 kilometres per hour hit on Wednesday night.

<https://www.abc.net.au/news/2018-11-22/dust-storm-thundersnow-what-is-going-on-with-the-weather/10538450>

Sydney Airport delays after wild winds force two runways to close

Thousands of passengers have been left stranded at Sydney Airport after dangerous winds sparked widespread flight delays and cancellations that continued into Friday night.

<https://www.abc.net.au/news/2018-11-23/sydney-airport-delays-after-wild-wind-closes-two-runways/10547576>

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

Tonight, typhoon Usagi to make landfall in southeastern provinces

The National Hydrology Meteorology Forecast Center of Vietnam and Hydro-meteorological stations in Asia-Pacific warned that yesterday typhoon Usagi changed its direction and moved towards the southward, being capable of causing flooding downpours in both south- central and southeastern provinces and cities as it will make landfall tonight.

<http://sggpnews.org.vn/nature/weather/tonight-typhoon-usagi-to-make-landfall-in-southeastern-provinces-78855.html>

Heavy rainfall in Iraq kills at least 21, displaces thousands

Nineveh and Salahaddin are the most affected regions, with multiple reports of villages being inundated, the UN says.

<https://www.aljazeera.com/news/2018/11/heavy-rainfall-iraq-kills-21-displaces-thousands-181125141854257.html>

India to buy aircraft to carry out studies in air pollution, boost weather forecasting capacity

NEW DELHI: India will procure a dedicated aircraft for carrying out all airborne atmospheric research which will help it not only in strengthening and improving the country's weather forecast capabilities but also in assessing air pollution and its associated impacts on health, visibility, climate and water resources.

<https://timesofindia.indiatimes.com/india/india-to-buy-plane-to-study-impact-of-air-pollution/articleshow/66758621.cms>

Cabinet approves continuation of scheme to improve weather forecast

The Cabinet on Thursday approved continuation of nine sub-schemes under the ACROSS programme, aimed at providing improved weather, climate and ocean forecast and services, during 2017-2020 at an estimated cost of Rs 1,450 crore, a statement said.

https://www.business-standard.com/article/pti-stories/cabinet-approves-continuation-of-scheme-to-improve-weather-forecast-118112200720_1.html

Extreme weather (and other news) – Americas and Europe

Russian farmers suffer \$111 mln damages due to bad weather in 2018 — agriculture ministry
The agriculture ministry said farmers sustained losses as a result of a nature-made state of emergency in 27 Russian regions

More: <http://tass.com/economy/1031931>

International news and research

An evaluation of NDFD weather forecasts for wildland fire behavior prediction

Posted date: October 05, 2018

Publication Year: 2018

Authors: Page, Wesley; Wagenbrenner, Natalie S.; Butler, Bret W.; Forthofer, Jason M.; Gibson, Chris

Publication Series: Scientific Journal (JRNL)

Source: Weather and Forecasting. 33: 301-315.

Wildland fire managers in the United States currently utilize the gridded forecasts from the National Digital Forecast Database (NDFD) to make fire behavior predictions across complex landscapes during large wildfires. However, little is known about the NDFDs performance in remote locations with complex topography for weather variables important for fire behavior prediction, including air temperature, relative humidity, and wind speed. In this study NDFD forecasts for calendar year 2015 were evaluated in fire-prone locations across the conterminous United States during periods with the potential for active fire spread using the model performance statistics of root-mean-square error (RMSE), mean fractional bias (MFB), and mean bias error (MBE). Results indicated that NDFD forecasts of air temperature and relative humidity performed well with RMSEs of about 2°C and 10%-11%, respectively. However, wind speed was increasingly under-predicted when observed wind speeds exceeded about 4ms⁻¹, with MFB and MBE values of approximately -15% and -0.5ms⁻¹, respectively. The importance of accurate wind speed forecasts in terms of fire behavior prediction was confirmed, and the forecast accuracies needed to achieve “good” surface head fire rate-of-spread predictions were estimated as +/-20%-30% of the observed wind speed. Weather station location, the specific forecast office, and terrain complexity had the largest impacts on wind speed forecast error, although the relatively low variance explained by the model (~37%) suggests that other variables are likely to be important. Based on these results it is suggested that wildland fire managers should use caution when utilizing the NDFD wind speed forecasts if high wind speed events are anticipated.

<https://www.fs.fed.us/rmrs/publications/evaluation-ndfd-weather-forecasts-wildland-fire-behavior-prediction>

WeatheX app launches to help scientists better understand wild weather

Are you fascinated by storms, cyclones and gale force winds?

Macarthur weather enthusiasts can now track severe extreme climate activities and help scientists obtain accurate data.

<https://www.wollondillyadvertiser.com.au/story/5771120/macarthur-to-play-role-in-recording-extreme-weather/>

Aviation

Fleet of new surveillance planes at Ōhakea forecasts boon for Manawatū

An influx of people and money is expected in Manawatū when a new fleet of surveillance planes arrive at Ōhakea.

Several hundred service personnel are likely to move into the region, as well as their families, according to a brief provided to Defence Minister Ron Mark, and released under the Official Information Act.

<https://www.stuff.co.nz/national/108554492/fleet-of-new-surveillance-planes-at-hakea-forecasts-boon-for-manawat>

Air New Zealand's first A321neo to take flight

It's the dawn of a new era for Air New Zealand as the first of its A321neo aircraft will start operating later on Friday: flight NZ739 from Auckland to Brisbane.

<https://www.stuff.co.nz/travel/news/108815257/Air-New-Zealands-first-A321neo-to-take-flight?cid=edm:businessday:dailybrief&bid=849062709>

Air turbulence forecasting: A safer way to fly?

Predicting air turbulence

An air turbulence forecasting algorithm co-developed by British researchers has helped make flying safer and smoother for up to 2.5 billion passenger journeys.

<https://www.eturbonews.com/238513/air-turbulence-forecasting-a-safer-way-to-fly>

Energy and Mining

Hastings Church hatches solar plan to reduce energy poverty

A Hawkes Bay church wants to build a mega solar farm to help to reduce energy poverty in the region.

<https://www.radionz.co.nz/national/programmes/ninetoon/audio/2018672495/hastings-church-hatches-solar-plan-to-reduce-energy-poverty>

\$1 billion plans for Taranaki clean energy plant announced

Plans for a billion-dollar clean energy production site have been unveiled for Taranaki, potentially bringing thousands of jobs.

<https://www.stuff.co.nz/taranaki-daily-news/news/108851097/1-billion-plans-for-Taranaki-clean-energy-plant-announced>

Health

Explainer: how a dust storm, and hazardous air quality, can harm your health

A major dust storm swept through Sydney and regional New South Wales this week. Red skies over Broken Hill on Wednesday night and Sydney on Thursday resembled those seen during intense bushfire activity and the massive 2009 dust storm.

[Read more here](#)

Transport/roading/shipping/freight

KiwiRail gets \$40 mln for Coastal Pacific upgrade

Nov. 23 (BusinessDesk) - KiwiRail has received \$40 million of Crown funding to increase patronage on the Coastal Pacific passenger service on the South Island.

The funds will be used to operate the Picton to Christchurch service year-round, add an additional 63-seat carriage for peak seasonal traffic, and add a new premium luxury carriage.

<http://www.scoop.co.nz/stories/BU1811/S00763/kiwirail-gets-40-mln-for-coastal-pacific-upgrade.htm>

Fate of NZTA hangs in the balance as Govt launches wide ranging investigation

The future of the New Zealand Transport agency and senior executives hangs in the balance as the Government brings in a sweeping review.

<https://www.stuff.co.nz/the-press/business/108842353/Fate-of-NZTA-hangs-in-the-balance-as-Govt-launches-wide-ranging-investigation>

Strategic shipping routes at growing risk from extreme weather events: UK military

Panama canal likely to be disrupted by extreme weather events

Human influence on the climate system will have far-reaching consequences over the next 30 years with floods, droughts, storms, heatwaves and heavy rainfall all expected to become more intense and possibly more frequent. Transport and trade routes, including chokepoints such as

the Panama Canal, are likely to be disrupted, affecting global markets and supply chains. The demand for food and water will increase, but some crops will fail and water shortages are likely to become more prevalent. Such shortages, along with the destruction of homes and livelihoods as a result of natural disasters, could also lead to increasing migration and conflict.

<https://www.hellenicshippingnews.com/strategic-shipping-routes-at-growing-risk-from-extreme-weather-events-uk-military/>

Innovation and technologies (inc data and new products)

Virtual safety on the water

The creator of the America's Cup virtual boundary is deep into a project building the next generation of the technology.

[Read more here](#)

New Weather Timeline developers detail future plans, including re-release and pricing model

During its heyday, Weather Timeline was a phenomenal, highly customizable weather client for Android. It closely followed the first iteration of Material Design, but earlier this year was pulled by the developer for new customers. The app now has a new owner that's laid out future plans for Weather Timeline this week.

<https://9to5google.com/2018/11/23/weather-timeline-new-developer-plans/>

Climate change / global warming / sea level rise

Climate Change and National Security, Part I: What is the Threat, When's It Coming, and How Bad Will It Be?

For more than a decade, the national security agencies of the federal government have repeatedly recognized climate change as a national security threat. Since 2010, the Department of Defense has published at least 35 products explicitly addressing the threat of climate change. The intelligence community has produced at least a dozen more. These national security reports, and related comments by prominent military officials, reflect a consensus among national security stakeholders that climate change is a critical national security issue. The consensus continues in the Trump administration even though the president himself remains skeptical of climate change. Since January 2017, 18 senior Defense Department officials (including Secretary Jim Mattis) have acknowledged that climate change is a national security issue. In the National Defense Authorization Act for fiscal 2018, Congress also expressed its sense that "climate change is a direct threat to the national security of the United States."

<https://www.lawfareblog.com/climate-change-and-national-security-part-i-what-threat-whens-it-coming-and-how-bad-will-it-be>

US experts conclude climate change picking up pace

A new United States federal assessment on climate change shows that the economic, social and environmental effects in the US affiliated-islands of the Pacific could be catastrophic.

<https://www.radionz.co.nz/international/pacific-news/376704/us-experts-conclude-climate-change-picking-up-pace>

Diana Ürge-Vorsatz: how buildings contribute to climate change

Professor Diana Ürge-Vorsatz is the director of the Centre of Climate Change and Sustainable Energy Policy at the Central European University in Budapest. She is also Vice Chair of the IPCC. She's in New Zealand to speak at the International Conference on Energy and Environment of Residential Buildings. The professor says buildings, both residential and commercial, contribute to climate change through their carbon emissions which are generated through electricity use. She explains how to turn this around through deep retro-fitting.

<https://www.radionz.co.nz/national/programmes/sunday/audio/2018672728/diana-urge-vorsatz-how-buildings-contribute-to-climate-change>

CNN Meteorologist Schools Trump On The Meaning Of The Word 'Climate'

"Climate isn't a day, climate is long-term," Chad Myers explains as he gives a global perspective.

https://www.huffingtonpost.com/entry/cnn-meteorologist-trump-climate-change_us_5bf80c2de4b0771fb6b8523f

\$320 billion lost to climate change events in 2017, says UN report

NEW DELHI: A UN body on [climate change](#) has indicated that emission of greenhouse gases and [global warming](#) are still on the rise despite current efforts and the world had lost an estimated \$ 320 billion due to extreme weather events in a single year in 2017.

<https://timesofindia.indiatimes.com/india/320-billion-lost-to-climate-change-events-in-2017-says-un-report/articleshow/66743467.cms>

Emergency preparedness / disaster planning / resilience

Auckland authorities criticised over devastating April storm response

Auckland's emergency management agencies are being criticised for their response to the city's worst storm in more than a decade.

Devastating cyclone-force winds howled over Auckland in April, catching an unprepared public by surprise. A quarter of the city was plunged into darkness, leaving the elderly and vulnerable without power.

<https://www.newshub.co.nz/home/new-zealand/2018/11/auckland-authorities-criticised-over-devastating-april-storm-response.html>

Emergency response to major Auckland storm results in 'ongoing relationship tensions' with those in charge

The emergency response to a major storm in Auckland has resulted in "ongoing relationship tensions" with those in charge.

Auckland Civil Defence and Emergency Management Group commissioned an independent review into the April storm, which saw power cut to some households for up to two weeks.

<https://www.tvnz.co.nz/one-news/new-zealand/emergency-response-major-auckland-storm-results-in-ongoing-relationship-tensions-those-charge>

Didn't get the Civil Defence alert? Here's why

Civil Defence sent out a test emergency alert to every cellphone in New Zealand on Sunday night. But not everyone got it.

<https://www.newshub.co.nz/home/new-zealand/2017/11/didn-t-get-the-civil-defence-alert-here-s-why.html>

Websites of interest

Rocky Mountain Research Station

Published by: [U.S. Forest Service ; United States Department of Agriculture \(Colorado :\)](#)

Description: v.

Online resources:

<https://www.fs.fed.us/rmrs/>

OPAC view: [Open in new window](#)

MARC Preview: [Show](#)

Website - no push technology.

Publishes on fire, climate change, forest management etc

Journal and articles online

ECMFW newsletter – copy on display in tearoom and may also be downloaded via link below

Newsletter No. 157 - Autumn 2018

Forecasting the 2018 European heatwave

Roberto Buizza talks about probabilistic forecasting and life after ECMWF

Addressing biases in near-surface forecasts

Progress in using single precision in the IFS

Major upgrade for European flood forecasts

<https://www.ecmwf.int/en/newsletter/157>

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