

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

These clips come courtesy of MetService New Zealand

### ***MetService focus***

#### **A calmer week ahead**

“A ridge of high-pressure extends across the North Island throughout the week,” says MetService Meteorologist Tui McInnes, “which subsides the weather, calming things down. The placement of the high does mean that the upper North Island will see the greatest improvement in the weather. This will be welcome to those in the areas that took the brunt of the weekend’s weather, allowing for a period of recovery.”

<https://www.newsie.co.nz/news/105648-a-calmer-week-ahead.html>

#### **July brings warmer temperatures to Hawke's Bay**

MetService meteorologist Lisa Murray said a ridge of high-pressure extends across the North Island throughout the week.

[https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c\\_id=1503462&objectid=12089835](https://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=12089835)

### ***MetOcean***

#### **Surf's up!**

MetService issues warning for rips and unusual currents as powerful waves expected to hit New Zealand coastline tomorrow

Powerful long-period swells set to hit the country's coast tomorrow has led to warnings from the MetService.

<https://www.tvnz.co.nz/one-news/new-zealand/surfs-up-metservice-issues-warning-rips-and-unusual-currents-powerful-waves-expected-hit-new-zealand-coastline-tomorrow>

#### **The Biggest Waves in the World, Explained**

Forecasting technology and surfer experience create record rides on the planet’s biggest breakers

[Read more here](#)

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

### **Awe-inspiring weather with Nate Byrne**

When Nate Byrne was growing up he wanted to be a wizard.

But, upon discovering that wasn't a viable career path, he settled on the next best thing — being a weather presenter.

[Download audio and video here](#)

### **NZ's increased Pacific aid given focus**

Papua New Guinea, Solomon Islands and Timor Leste are the countries in the Pacific region most in need of aid funding, New Zealand's foreign ministry says.

<https://www.radionz.co.nz/international/pacific-news/361906/nz-s-increased-pacific-aid-given-focus>

### **Rooftop solar may overtake coal by 2040, and save billions**

The amount of electricity from rooftop solar on Australian homes and businesses could reach 50,000 GWh by 2040, meaning it would account for 22 per cent of national demand and overtake the combined output of black and brown coal at that time.

<https://reneweconomy.com.au/rooftop-solar-may-overtake-coal-by-2040-and-save-billions-20657/>

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

### **India accounts for 1/5th of global deaths from floods**

India accounts for one-fifth of global deaths due to floods, according to government data that lends perspective to a new World Bank study that says climate change will lower the standards of living of nearly half of the countrys population by 2050.

Read more at:

[//economictimes.indiatimes.com/articleshow/65020398.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/articleshow/65020398.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

### **Tropical Storm Son-tinh to lash Vietnam, Laos after flooding China and Philippines**

After passing over Hainan, Tropical Storm Son-tinh has its sights set on northern parts of Vietnam and Laos in the coming days.

[Read more here](#)

### **Heaven to hell: Inside Japan's worst flood-hit towns**

In just a matter of hours, towns were swept away. Now residents in western Japan are contemplating how to rebuild their lives.

<http://www.abc.net.au/news/2018-07-16/japan-floods-inside-one-of-the-worst-hit-towns/9997888>

### **China builds unmanned weather station near border with India**

[China](#) has installed an unmanned automatic weather observation station near its border with [India](#) in [Tibet](#) to support its [Army](#) in the event of a live fire conflict with New [Delhi](#).

[https://www.business-standard.com/article/news-ians/china-builds-unmanned-weather-station-near-border-with-india-118071700700\\_1.html](https://www.business-standard.com/article/news-ians/china-builds-unmanned-weather-station-near-border-with-india-118071700700_1.html)

### **Heatwave blankets Japan, kills 14 people over long weekend**

Temperatures of 35 or above - known in Japanese as "intensely hot days" - were recorded at 200 locations around Japan on Sunday

<http://news.trust.org/item/20180717040755-zdt00/>

### **Weather becoming more extreme, unpredictable: expert**

VietNamNet Bridge - Just days after a deadly torrential rain, a terrible spell of hot weather appeared in many localities with the temperature exceeding 40°C.

<http://english.vietnamnet.vn/fms/environment/203978/weather-becoming-more-extreme--unpredictable--expert.html>

### **Floods to hit provinces**

The Ministry of Water Resources yesterday announced that floods will hit several provincial areas due to strong weather and water flow from Thailand.

<https://www.khmertimeskh.com/50512115/floods-to-hit-provinces/>

### **International news and research**

### **Medal for Met mathematician**

A leading Met Office climate scientist has been awarded the Copernicus Medal, a prestigious international award for pioneering research.

<https://blog.metoffice.gov.uk/2018/07/18/medal-for-met-mathematician/>

### **New computer architectures and next-generation numerical weather forecasting**

Following Peter Bauer's [blog on scalability in this series](#) on high-performance computing (HPC), here I discuss the emerging challenge of greater diversity in computer architectures – set to be another key topic at [ECMWF's HPC Workshop in September](#).

<https://www.ecmwf.int/en/about/media-centre/science-blog/2018/new-computer-architectures-and-next-generation-numerical>

### **Sunny outlook for UK science as new radar promises improved weather forecasting**

7 cutting-edge science projects receive a share of £4.7 million government funding.

<https://www.gov.uk/government/news/sunny-outlook-for-uk-science-as-new-radar-promises-improved-weather-forecasting>

### **Lightning, flood alert systems in TS soon**

Command centre established and system is being tested on a pilot basis

<https://telanganatoday.com/lightning-flood-alert-systems-in-ts-soon>

### **Weather forecasts to become more advanced as UK develops technology to profile CLOUDS**

UK weather forecasts are set to get more accurate after seven pioneering projects were awarded grants of £4.7million from the UK Space Agency.

<https://www.express.co.uk/news/science/990073/weather-forecast-uk-space-agency-satellites-met-office>

### **PG&E Adds Over 50 New Weather Stations to Advance Forecasting Abilities, Better Predict Extreme Weather and Wildfire Potential**

SAN FRANCISCO--(BUSINESS WIRE)--As part of its [Community Wildfire Safety Program](#), Pacific Gas and Electric Company (PG&E) is building a network of weather stations to monitor and

further advance its weather forecasting abilities to better predict where a wildfire could occur so it can respond quickly and appropriately to help keep customers and communities safe.

<https://www.businesswire.com/news/home/20180716005729/en/PGE-Adds-50-New-Weather-Stations-Advance>

### **Six women recognised for leadership and sustained contributions to science and the humanities in Aotearoa**

Six women who have worked tirelessly in the areas of nutrition, science education, science communication and the history of science, social sciences, dementia research and New Zealand history have been made Companions by Royal Society Te Apārangi.

<https://royalsociety.org.nz/news/six-women-recognised-for-leadership-and-sustained-contributions-to-science-and-the-humanities-in-aotearoa/>

### **Deadly Watford City, North Dakota, Tornado Reveals Holes in U.S. Doppler Radar Coverage**

There are several locations in the United States where Doppler Radar coverage is poor.

Last week's deadly North Dakota tornado struck where radar beams sample only higher altitudes of thunderstorms.

<https://weather.com/storms/tornado/news/2018-07-17-watford-city-tornado-radar-coverage-poor>

### **WMO**

#### **WMO highlights action on sand and dust storms**

More than 150 countries are directly or indirectly affected by sand and dust storms, which adversely impact human health, the environment, agriculture and transport.

[Read more here](#)

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

#### **Red Bull partners with The Weather Company**

Being able to see into the future is an invaluable skill for a Formula One team - which is why [Red Bull](#) is pleased to announce an extension of its Innovation Partnership with IBM to include services from The Weather Company, an IBM Business. This builds upon its long-term

partnership with IBM, which continues to accelerate our race scenario planning and design processes.

<https://www.pitpass.com/62385/Red-Bull-partners-with-The-Weather-Company>

## **Energy and Mining**

### **Integrated system plan for the National Electricity Market**

AEMO has prepared this inaugural Integrated System Plan (ISP) for the National Electricity Market (NEM). The ISP was recommended by the Independent Review into the Future Security of the NEM (Finkel Review).

AEMO has called this an Integrated System Plan (ISP), rather than an integrated grid plan, to reflect that over time, the ISP will by necessity consider a wide spectrum of interconnected infrastructure and energy developments including transmission, generation, gas pipelines, and distributed energy resources. The 2018 ISP is not the end of the process, but rather the first of many steps, with updates in future years to reflect the dynamically changing nature of the power system and the need to continually innovate and evolve strategies for the future.

The first ISP delivers a strategic infrastructure development plan, based on sound engineering and economics, which can facilitate an orderly energy system transition under a range of scenarios.

<http://apo.org.au/node/182811>

### **Mercury's Waikato hydro scheme pumps out most power since 1996**

July 18 (BusinessDesk) - Production from the Waikato hydro scheme reached a 22-year high in the June year just ended.

<http://www.scoop.co.nz/stories/BU1807/S00462/mercurys-waikato-hydro-pumps-out-most-power-since-1996.htm>

### **Transpower tests robots as 'eyes on the ground' in remote sites**

The robots can be remotely controlled by an operator or engineer anywhere in New Zealand

[Read more here](#)

## **Farming/horticulture**

### **Europe's Blistering Heatwave Is Ruining This Year's Harvest**

Looking out over his parched fields south of Berlin, dairy and grains farmer Thomas Gaebert is wishing for rains to save his crops after relentless hot weather.

<https://www.hellenicshippingnews.com/europes-blistering-heatwave-is-ruining-this-years-harvest/>

## **Lightning**

### **How does the sun's rotational cycle influence lightning activity on earth?**

A collaborative research team has taken the first steps to understanding how the sun's rotational cycle influences lightning activity. They found answers in an unusual source -- diaries dating back to the 1700s.

<https://www.sciencedaily.com/releases/2018/07/180717094705.htm>

## **Marketing**

### **Part 7 - Happy Customers**

A lot of what it takes to build a successful business comes down to common sense and hard-won experience. There are certain truisms that we need to remind ourselves of as we battle through the day-to-day challenges of building a start-up business.

<https://nzbusiness.co.nz/article/part-7-happy-customers>

## **Satellites and radar**

### **New NASA satellites will better forecast hurricanes**

As hurricanes continue to cause greater impact due to factors such as [climate change](#), NASA is working to have new hurricane-tracking satellites up and running by early 2019.

<http://www.foxnews.com/science/2018/07/17/new-nasa-satellites-will-better-forecast-hurricanes.html>

### **Raytheon gets \$59 mil for new work on polar satellite ground system**

NASA contract supports NOAA's 2021 launch of JPSS-2

<https://www.prnewswire.com/news-releases/raytheon-gets-59-mil-for-new-work-on-polar-satellite-ground-system-300681129.html>

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

#### **Michael Lewis releasing audio book on weather forecasting**

NEW YORK (AP) — Michael Lewis' next work of reporting focuses on one of the lesser known parts of the federal government: the Department of Commerce.

And it will be available only on audio.

<http://uk.businessinsider.com/ap-michael-lewis-releasing-audio-book-on-weather-forecasting-2018-7/?r=AU&IR=T>

#### **How to get a personalized weather radar page on ClickOnDetroit**

You can get a personalized weather radar page on ClickOnDetroit for your home, place of work, school or anywhere you find yourself frequenting.

<https://www.clickondetroit.com/weather-center/how-to-get-a-personalized-weather-radar-page-on-clickondetroit>

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

#### **Councils unsure where to start on climate threat - scientist**

Councils are struggling with planning for future sea level rise - and their biggest hurdle seems to simply be deciding where to start.

That's according to a top Niwa scientist, now holding nationwide workshops with several other experts, and who wants to see communities acting as soon as possible.

[https://www.nzherald.co.nz/climate-change/news/article.cfm?c\\_id=26&objectid=12091189&ref=rss](https://www.nzherald.co.nz/climate-change/news/article.cfm?c_id=26&objectid=12091189&ref=rss)

#### **India helping Pacific Islands fight climate change**

India is conducting climate change resilience training for seven Pacific Island countries.

<https://www.radionz.co.nz/international/pacific-news/362001/india-helping-pacific-islands-fight-climate-change>

## Journals online

### **Quarterly Journal of the Royal Meteorological Society**

© Royal Meteorological Society

These Accepted Articles are now available on [Wiley Online Library](#)

#### RESEARCH ARTICLES

##### Assimilation of semi-qualitative observations with a stochastic Ensemble Kalman Filter

Abhishek Shah, Mohamad El Gharamti and Laurent Bertino

Accepted manuscript online: 16 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3381

##### Investigating the predictability of a Mediterranean Tropical-like Cyclone using a non-hydrostatic high-resolution model

G. Cioni, D. Cerrai and D. Klocke

Accepted manuscript online: 16 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3322

##### Block Krylov methods for accelerating ensembles of variational data assimilations

François Mercier, Selime Gürol, Pierre Jolivet, Yann Michel and Thibaut Montmerle

Accepted manuscript online: 16 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3329

##### Rainfall types over southern West Africa: Objective identification, climatology and synoptic environment

M. Maranan, A. H. Fink and P. Knippertz

Accepted manuscript online: 15 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3345

##### Towards more realistic hypotheses for the information content analysis of cloudy/precipitating situations - Application to an hyper-spectral instrument in the microwaves

Filipe Aires, Catherine Prigent, Stefan A. Buehler, Patrick Eriksson, Mathias Milz and Susanne Crewell

Accepted manuscript online: 15 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3315

##### A 10-year radar-based analysis of orographic precipitation growth and decay patterns over the Swiss Alpine region

L. Foresti, I.V. Sideris, L. Panziera, D. Nerini and U. Germann

Accepted manuscript online: 15 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3364

##### Effects of Solid Aerosols on Partially Glaciated Clouds

Innocent Kudzotsa, Vaughan. T. J Phillips and Steven Dobbie

Accepted manuscript online: 13 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3376

Assessing the reliability of ensemble forecasting systems under serial dependence

Jochen Bröcker

Accepted manuscript online: 12 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3379

Time-correlated model error in the (ensemble) Kalman smoother

Javier Amezcua and Peter Jan van Leeuwen

Accepted manuscript online: 12 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3378

Analysis of observed rapid increases in surface wind speed

Florian Ruff and Haraldur Ólafsson

Accepted manuscript online: 10 JUL 2018 12:00AM EST | DOI: 10.1002/qj.3377

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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. Searchable archives are available online.

Carbon program is a winner

Las Vegas Sun - 07/16/2018

effects worldwide of droughts, fires, storms, floods, hurricanes, tornadoes, etc. The costs of dealing with these disasters is huge and not

Massive 11-million-ton iceberg towers over little village in Greenland

Yahoo! Travel - 07/15/2018

causing large waves. According to the Danish Meteorological Institute, reported by The New York Times, satellite data puts the iceberg at

Scientists peer into heart of hurricanes to improve intensity forecasting

Raw Story - 07/15/2018

Scientists peer into heart of hurricanes to improve intensity forecasting

Technology behind hurricane forecasts starts with a drop from a plane

Houston Chronicle - 07/14/2018

Technology behind hurricane forecasts starts with a drop from a plane

Epic Time-Lapse of a Monster Dust Storm

Fstoppers - 07/14/2018

an Arabic word for "blasting or drifting," is an intense dust storm often created as a thunderstorm weakens, when a downdraft blows dust

Acid Rain: Causes, Effects and Solutions

LiveScience - 07/14/2018

their customers that require no installation and low costs. Additional resources You'd Also Like  
Hurricane Season 2018: How Long It Lasts

Why understanding oceans is vital to economy, security

The San Diego Union-Tribune - 07/13/2018

At the very least, the United States needs to match the ocean and weather research output of the European Union and China. We are falling

Comfortable Front Early Next Week - Being "Weather Aware" at Outdoor Venues

StarTribune.com - 07/13/2018

flooding. Here's an excerpt of an important post at The American Meteorological Society:  
"...Although many fatalities and injuries have

Madden-Julian Oscillation: A Factor in Hurricane Season Forecasting You May Not Have Heard of Before

Weather Underground - 07/13/2018

Madden-Julian Oscillation: A Factor in Hurricane Season Forecasting You May Not Have Heard of Before

EPA Prepares for 2018 Hurricane Season, Building on Lessons Learned from Sustained Emergency Responses in 2017

United States Environmental Protection Agency - 07/13/2018

from June 1 until November 30. What We Do EPA supports hurricane preparedness and response in many ways, including: Mobilizing Emergency

### Trump Just Remade Ocean Policy—Here's What That Means

National Geographic - 07/13/2018

Among other things, the new order erases requirements to include indigenous voices in decision making. Where Did the National Ocean Policy Come From?

### Study sheds new light on forests' response to atmospheric pollution

Phys.org - 07/13/2018

How forests respond to elevated nitrogen levels from atmospheric pollution is not always the same. While a forest is filtering nitrogen as expected,

### Air Force Reserve Hurricane Hunters assist with monsoon research

GlobalSecurity.org - 07/12/2018

Defense unit that flies into storms to gather weather data for National Hurricane Center forecasts. However, this time they flew missions in

### FEMA admits shortcomings in hurricane Irma, Maria response

TCPalm.com - 07/12/2018

Hurricane Center to receive operational briefings regarding the 2018 hurricane season and provided messages of preparedness. (May 30) AP

### Americans Increasingly Aware of Climate Change, Media Clueless

Earther - 07/12/2018

reports. This is consistent with a growing body of research that suggests that weather experiences can shape our views on global warming.

### Hydrogen-Powered Ship on the Drawing Board

Machine Design - 07/12/2018

as marine ecosystem studies, physical oceanography, and tsunami risk and ocean chemistry research. Mapping or installing equipment on the

We can't control where storms hit, but we can harness nature to better protect us

The Hill - 07/12/2018

sea temperatures continue their long-term upward trend, intense and destructive storms like Harvey increasingly may become the "new normal."

Not Spared From Heat Wave Effects: College Students

Voice of America - 07/12/2018

killing 7,000 people between 1999 and 2010. Previous research focused on how hot weather affects at-risk populations like the elderly and

Alaska Wants to Fight Warming While Still Drilling for Oil

Scientific American - 07/12/2018

anywhere, and Palin sharply changed her tune on mainstream climate change science when she became the GOP vice presidential candidate in

Explainer: Drought creates a perfect storm for wildfires in U.S. West

Reuters US News - 07/12/2018

TAOS, New Mexico (Reuters) - Bigger and more "explosive" wildfires are raging across the U.S. West, with the area burned in Colorado already four times the size of last year's total

Ireland Expected To Become World's First Country To Divest From Fossil Fuels

National Public Radio - 07/12/2018

Using green infrastructure to reduce flooding

Michigan Radio - 07/12/2018

How can cities reduce flooding caused by increasingly intense rain storms? More often, it's flooding in areas not known for a lot of

Why this tiny Michigan island was picked by NASA to measure Earth's radiation

MLive.com - 07/12/2018

the last nine years, it has been a home base for meteorological research equipment donated by Holman to NMU. That setup measures evaporation

Thinking skills may suffer on hot days

Reuters US News - 07/11/2018

in dorms with air conditioning. Much previous research on the effects of extremely hot weather has been in vulnerable populations that are

These living solar cells make energy, even in bad weather

WFSB Channel 3 - 07/11/2018

solar panels, providing an energy source despite bad weather. A paper detailing the research was published this month in the journal Small.

Scientists study connection between Great Plains precipitation and agricultural irrigation

EurekAlert! - 07/11/2018

at Boulder (CU), National Center for Atmospheric Research (NCAR) and the Center for Severe Weather Research -- began collecting data in late

On the Ground in Puerto Rico

Center for American Progress - 07/11/2018

to outages. The National Oceanic and Atmospheric Administration (NOAA) forecasts that this year's hurricane season is likely to be "near- or

In wildfire prone areas, grasslands better than trees for carbon storage

UPI.com - 07/11/2018

(UPI) -- In places like California, increasingly prone to drought and wildfire, new research suggests grasslands --not trees -- provide the

This Glacier Just Spit Out An Iceberg the Size Of Lower Manhattan

National Geographic - 07/11/2018

The Helheim Glacier in Greenland just lost 10 billion tons of ice--and scientists captured it on camera. The Helheim Glacier in Greenland just lost 10 billion tons of ice

Scorching Heat Wave Reveals Signs of Ancient Civilization in the UK

MSN.com - 07/11/2018

While no analysis has been done of the current heat wave racking the U.K., research has shown that climate change is almost certainly

Soon every weather event could become a state of emergency

The Outline - 07/11/2018

to a report published last year in the the Bulletin of the American Meteorological Society, climate change can take bad but otherwise normal

Climate change is making it harder for couples to conceive

University of California - 07/10/2018

It's not that people have less sex in hot weather. (In fact, unpublished research by Barreca indicates people actually have more sex when

Only 63 Tornado Watches Have Been Issued So Far in 2018, the Fewest in More Than 12 Years

Weather Underground - 07/10/2018

Storm Prediction Center, which posts tornado and severe thunderstorm watches in the U.S., has issued only 63 tornado watches through July 9,

Finding the pulse of the polar vortex

Phys.org - 07/10/2018

If you can predict the path of the jet stream, the upper atmosphere's undulating river of wind, then you can predict weather – not just for a week or two, but for an entire season.

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