New Zealand weather and climate news

MetService mentions

Hot weather set to return this weekend

Meteorologist Lisa Murray said southwest winds were having a cooling effect around the region this week, dropping temperatures to as low as 4degC.

Wild weather: Power crews on stand-by as upper North Island braces for soaking

MetService Communications Meteorologist Lisa Murray said this was the first rain event like it for the year and warned the drier ground could create some water run off.

"It's been quite a dry year so far."

MetService say we're not clear of Cyclone Oma's path

Warnings are being issued with heavy rain and winds expected to hit some parts of the North Island over the weekend. MetService predict Cyclone Oma will move past the country but we're not out of the firing line. (Video Lisa)

Parts of UK warmer than parts of NZ as Britain measures warmest-ever February day

MetService meteorologist Tui McInnes said that overnight Monday there was comparatively little wind and cloud over the central North Island. In comparison, cloud cover in the lower South Island would have helped prevent temperatures in those areas dropping as low as those further north.

The cold snap: What's behind NZ's plummeting temperatures?

MetService meteorologist Mark Bowe said Monday's cold southerlies weren't expected to last long.

Cool start to week but more fine weather to come

MetService meteorologist Karl Loots said the coldest spots were in the central South Island, with Tekapo as low as 0C, while Pukaki and Manapouri dropped to 2C.

Oma gone: Cold snap coming

MetService meteorologist Rob Kerr said Oma had diminished to the point where all of the characteristics that classified it as a tropical cyclone had passed except for gale force winds. (Video Georgina)

NIWA

Niwa boss tells MPs of 'agitator' trying to get free weather data

The boss of one of New Zealand's largest science agencies has taken a swipe in Parliament at an "agitator" wanting to have access to more weather data.

Cold snap: Why Zealand's weather is so changeable

A southerly outbreak across the country that brought sub-zero temperatures to some inland areas this week is a reminder of the changeable nature of New Zealand's weather.

Extreme weather (and other news) – Australia and Pacific

Government-invests-896k-for-weather-data-storage/ (Fiji)

Wutip generally 'well-behaved,' meteorologist says

This story was last updated at 9:05 p.m. Feb. 22. For the latest storm updates, refer here.

Storms generally like to take the path of least resistance, according to Ken Kleeschulte, lead meteorologist with the National Weather Service. For Typhoon Wutip, as of Friday afternoon, that path took it west through islands of Chuuk and Yap and it was expected to track northwest toward the Marianas.

Typhoon Wutip upgraded to category 5 in Northern Hemisphere first

Typhoon Wutip, which passed close to the Northern Marianas and Guam this weekend, has been upgraded to a category five storm.

Possible cyclone developing west of Samoas

The Fiji Meteorological Service says a tropical depression to the west of the Samoas could develop into a cyclone within the next six to 12 hours.

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

Adverse weather conditions lead to millions of losses in Tanzania

According to a study revealed by the Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (Simlesa), climate change is costing Tanzania some $96.6million every year in crop losses.

Extreme weather (and other news) – Americas and Europe

Storms batter coastal cities of Croatia

Gale-force winds topple trees, cause power cuts and damage buildings along the Adriatic coastline.

International news and research

Efforts to Modernize Forecasting Career Path Spark Debate at Weather Service

The National Weather Service is attempting to establish a cadre of meteorologists capable of performing a number of different tasks, making employees more agile and useful to leaders in local government relying upon their joint expertise.

Climate change makes summer weather stormier yet more stagnant

Climate change is shifting the energy in the atmosphere that fuels summertime weather, which may lead to stronger thunderstorms and more stagnant conditions for midlatitude regions of the Northern Hemisphere, including North America, Europe, and Asia, a new study finds.

What rising seas mean for local economies

Posted: 15 Feb 2019 11:13 AM PST

High-tide flooding resulting from climate change is already disrupting the economy of Annapolis, Md. As sea levels rise, the impacts are expected to get worse for coastal communities.

Preserved leaves reveal 7000 years of rainfall and drought

Posted: 15 Feb 2019 06:29 AM PST

A study has revealed what south-east Queensland's rainfall was like over the last 7000 years -- including several severe droughts worse and longer lasting than the 12-year Millennium Drought.

WATCH: IBM Says Partners Will Play A Big Role In Bringing Power Outage Prevention Tech To Market

The Weather Company Vegetation Management—Predict uses data collected by satellites, drones, aerial flights, sensors and weather models to help prevent power outages, an issue that impacted over 36 million Americans in 2017.

ECMWF

Upgrade of ECMWF's forecasting system planned for June

Example of extra observations assimilated in a single data assimilation cycle as a result of changes in ECMWF's Integrated Forecasting System planned for June.

ECMWF upgrades its forecasting system on a regular basis, and one such upgrade is currently planned for June 2019. These upgrades enable the Centre to integrate the latest scientific advances into its Integrated Forecasting System (IFS).

History

The 1st black meteorologists: WWII's Tuskegee Weather Detachment made notable strides in opening meteorology field to African Americans

During World War II, at a time when people of color were breaking into military areas and roles previously denied to them, a group of African-American United States Army Air Corps servicemen became what were likely the first black meteorologists.

The untold story of June Bacon-Bercey, the 1st American woman to become a TV meteorologist

On Nov. 9, 1965, a massive power outage struck the Northeast in the heart of the evening rush hour, leaving more than 30 million people without electricity for up to 13 hours. June Bacon-Bercey was commuting home from her meteorology job at the U.S. Atomic Energy Commission, where she studied the fallout patterns caused by nuclear detonation.

Satellites and radar

NOAA declares GOES-17 operational

The geostationary weather satellite with the latest primary payload developed and built in Fort Wayne for NOAA has become operational, and local engineers are modifying future versions of the Advanced Baseline Imager so they will deliver all the data they are designed to provide.

Transport/roading/shipping/freight

Vaisala to Provide Swedish Transport Administration with New Road Weather Station Network

Vaisala, a global leader in environmental and industrial measurements, has signed a five-year frame agreement with the Swedish Transport Administration (Trafikverket) for a minimum of 600 road weather stations throughout Sweden. The value of the deal at signing phase is approximately EUR 7 million with deliveries scheduled for 2020–2024.

Climate change / global warming / sea level rise

Feeding 10 billion people by 2050 in a warming world

Researchers look for ways to meet rising global food demand. The challenge: produce 50 percent more food while reducing GHG emissions by one-third.

Odd spot

Forecaster wanted his ashes released into a hurricane. His family found the perfect storm.

Michael Black, in his 32 years with the Hurricane Research Division of the National Weather Service, pioneered the use of airborne radar data and sensors to measure the strength of hurricanes.

These are the wind-, temperature-, and moisture-measuring devices, called GPS dropsondes, which are dropped from hurricane hunter planes to sample the eyewall of hurricanes. Black helped revolutionize how meteorologists estimate the intensity of tropical storms.

When Black died in July 2017 at 62, his family told the Miami Herald in his obituary that they'd like to scatter his ashes via a NOAA hurricane hunter plane into the eye of a hurricane.

Journal and articles online

Australian Journal of Emergency Management | AJEM

January 2019

Volume 34, Issue 1

Fulltext online

Meteorological Applications

Accepted Articles

Accepted, unedited articles published online and citable. The final edited and typeset Version of Record will appear in the future.

Objective verification of global in-flight icing forecasts using satellite observations

Rebecca L. Bowyer, Philip G. Gill

First Published: 22 February 2019

Quarterly Journal of the Royal Meteorological Society

Accepted Articles

Accepted, unedited articles published online and citable. The final edited and typeset Version of Record will appear in the future.

Numerical investigation of Rossby waves for nonlinear Shallow-Water equations on the sphere

P. Bénard

First Published: 12 February 2019

Bulk and structural convergence at convection-resolving scales in real-case simulations of summertime moist convection over land

D. Panosetti, L. Schlemmer, C. Schär

First Published: 10 February 2019

A mixed finite-element, finite-volume, semi-implicit discretisation for atmospheric dynamics: Cartesian geometry

Thomas Melvin, Tommaso Benacchio, Ben Shipway, Nigel Wood, John Thuburn, Colin Cotter

First Published: 10 February 2019

Development Mechanisms for Mediterranean Tropical-Like Cyclones (Medicanes)

Mario Marcello Miglietta, Richard Rotunno

First Published: 10 February 2019

Weather

Early View

Online Version of Record before inclusion in an issue

Brewster's dark patch: a neglected optical phenomenon in the landscape

G. P. Können

Version of Record online: 14 February 2019

Under clear skies and a low Sun, a dark patch appears on a surface of water at 90° from the Sun. The phenomenon is a naked-eye manifestation of the polarisation of the blue sky. Although this everyday-occuring phenomenon is very conspicuous, it is only since 1980 that it has been discussed in the literature.

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Journal of Applied Meteorology and Climatology - Volume: 58, Number: 2 (February 2019)

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Gaussian Copula Method for Bias Correction of Daily Precipitation Generated by a Dynamical Model

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Evaluation of Reanalyses over British Columbia. Part II: Daily and Extreme Precipitation

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Dissipation Characteristics of Tornadic Vortex Signatures Associated with Long-Duration Tornadoes

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The Empirical Dependence of Tornadogenesis on Elevation Roughness: Historical Record Analysis Using Bayes's Law in Arkansas

Zhanxiang Hua and Daniel R. Chavas

An Analysis of the Reliability of a New Dataset of Transmission Line Icing Thickness in Southern China

Jiazheng Lu, Li Li, Xunjian Xu, and Tao Feng

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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.

February 26, 2019

News

Sea Creatures Still Arriving in the U.S. on Plastic Debris From the Japanese Tsunami Eight Years Ago

February 26, 2019 - Smithsonian.com

Marine biologists don’t know how long different species can survive adrift in the open ocean, and some may become invasive when they reach new shores.

Read MORE

Tornadoes in February: Yes, They Happen. Don't Underestimate the Threat

February 26, 2019 - Weather Underground

In the winter months, when a vigorous jet-stream disturbance swings across the nation's South, Ohio Valley, or East, with cold air near the surface either in retreat or absent, severe thunderstorms and tornadoes can flare up.

Read MORE

Mount Washington Experiences Wind as Powerful as a Category 5 Hurricane

February 26, 2019 - WCVB

Mount Washington has always experienced windy days, but even longtime observers will tell you Monday's winds were extra wicked.

Read MORE

Wutip Becomes Strongest Typhoon in February as It Impacts Guam with Rain, Wind

February 26, 2019 - AccuWeather

Wutip, the strongest ever typhoon to churn in the western Pacific Ocean during February, is impacting Guam with flooding rain, strong winds and pounding seas.

Read MORE

How the Surprise President's Day Snowstorm of 1979 Advanced Forecasting

February 26, 2019 - The Washington Post

While it wasn't the first surprise storm for forecasters—nor would it be the last—these surprises are far less frequent thanks to hard-won advances in meteorology that were indisputably stimulated by the storm, and the development of operational weather prediction models and strategies that came after it.

Read MORE

Rare Southwest Snowfall Bewilders California and Closes Schools in Las Vegas

February 26, 2019 - Forbes

Wintry precipitation is so uncommon at lower elevations in southern California that the National Weather Service in Los Angeles had to explain the difference between different types of icy precipitation.

Read MORE

If toxic air was not enough, India's capital city is now running out of water

February 25, 2019 - Quartz

India's capital is running out of water at the rate of over 3 centimetres of reserves from the earth's surface and under the ground every year.

Read MORE

Antarctica is about to lose an iceberg 30 times the size of Manhattan as two cracks converge — and it could cripple a British research station

February 25, 2019 - Markets Insider- Business Insider

Two enormous cracks in Antarctica's Brunt Ice Shelf — located on the continent's northern rim, some 3,000 miles from the southernmost tip of South America — are accelerating toward each other.

Read MORE

The untold story of June Bacon-Bercey, the 1st American woman to become a TV meteorologist

February 25, 2019 - AccuWeather.com

In 1955, June Bacon-Bercey became the first African-American woman to receive a degree in meteorology; she went on to become America's first female TV meteorologist and the first woman and African-American to be awarded the American Meteorological Society's (AMS) Seal of Approval for excellence in television weathercasting.

Read MORE

US climate and oceans agency hit by leadership shake-up

February 25, 2019 - Nature

Former industry scientist Neil Jacobs takes over as acting chief of the National Oceanic and Atmospheric Administration in a sudden switch.

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Ancient wetlands provide new insight into global carbon cycle

February 25, 2019 - EurekAlert!

Scientists have unearthed and pieced together evidence on more than 1,000 ancient wetland sites from across the globe, that are presently covered by fields, forests and lakes. Although vanished from the Earth's surface, these buried sites could explain some of the differences between global carbon cycle models and real-life observations.

Read MORE

NOAA Researcher's Ashes Were Dropped Into the Eye Of Hurricane Michael

February 22, 2019 - National Public Radio

Last fall, as Hurricane Michael was swirling toward the Florida panhandle, NOAA officials say it was carrying something in addition to rain and wind — the ashes of long-time hurricane researcher, Michael Black.

Read MORE

Rosalind, a New Mars Rover, Is in Rare Company

February 21, 2019 - The Atlantic

The cosmos is crowded with the names of men, but a 2020 mission will make the balance a little less lopsided.

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Here's what weather satellites and superheroes have in common

February 21, 2019 - Click Orlando

The satellites do more than help people stay safe during inclement weather; they also aid in search-and-rescue missions.

Read MORE

What's the weather on Mars? InSight can tell you every day

February 20, 2019 - FOX 14 TV

If daily weather forecasts for your part of the world weren't enough, now you can get the weather report from Mars, thanks to NASA's InSight stationary lander.

Read MORE

Flooding on sunny days is already cutting into income in coastal towns. One small town alone lost $172,000 in a year.

February 20, 2019 - Markets Insider- Business Insider

This sunny-day flooding, also called high-tide flooding, occurs because sea-level rise is pushing high-tide levels past the point our coastal infrastructure was designed for. So when ocean tides reach their highest level, water fills streets and parking lots.

Read MORE

In Sierra Nevada, some ski resorts report record February snowfall

February 19, 2019 - The Mercury News

Fueled by a parade of storms in recent weeks that have blanketed the Sierra Nevada with several feet of snow, at least two ski resorts are reporting a record amount of snowfall this month — with more storms possible in the coming days.

Read MORE

This Is The First Mammal That Climate Change Has Officially Driven To Extinction

February 22, 2019 - Forbes

A tiny island rodent, the Bramble Cay melomy, is considered the first mammal to be officially driven extinct as a result of human-driven climate change.

Read MORE

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NATURE Climate change magazine March 2019 Volume 9, Issue 3

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Perspectives

This Perspective synthesizes research on the origins and impacts of scientific misinformation campaigns, pointing to public inoculation, legal, political and financial strategies for countering climate change misinformation and limiting its dissemination.

Big data is increasingly popular in many research domains. This Perspective discusses where elements of big data approaches have been employed in climate research and where combining big data with theory-driven research can be most fruitful.

The Paris Agreement requires substantial changes in the land system. However, national implementation plans are vague, largely insufficient and unlikely to be fully achieved. Realistic policies require proper consideration of land-system lags.

Matters Arising

al.
doi:10.1038/s41558-019-0423-y

Letters

Between 2005 and 2015, several developed economies experienced decreases in CO2 emissions. In this study, emissions in 18 countries are broken down and the potential effects of energy and climate policies on emission declines are explored.

Aviation's contribution to global emissions is increasing and requires action. This paper shows that the International Civil Aviation Organization plan to offset increasing emissions will not be realized unless robust criteria for the eligibility of offset credits are adopted.

The compensation between atmospheric and oceanic heat transports under anthropogenic warming can be linked to the combined impact of Atlantic Meridional Overturning Circulation weakening, perturbations to Southern Ocean heat storage, and coupled responses of the Hadley and Subtropical cells.

Up to 35,000 lakes in the Northern Hemisphere may be at risk of intermittent winter ice cover at 2 °C warming, reveals an observation-based study. This would affect 394 million people reliant on lake ice for ecosystem services.

Warming is altering subtropical precipitation; however, it is not clear whether this will continue in an equilibrium climate. Using projections to 2300, Southern Hemisphere drying is shown to be a transient response to the meridional temperature gradient changes.

Abrupt community shifts, for marine species from zooplankton to fish, are shown to occur with local climate changes in which warming pushes species beyond their thermal niche. This modelling approach suggests future events will be larger and have more broad-reaching impacts.

Crop models suggest that early sowing and slower-developing cultivars could maintain Australian wheat yields despite less-favourable climatic conditions. Field trials now confirm the potential of this adaptation for wheat production across Australia.

Articles

Climate change mitigation requires cooperation among nations, which could be undermined if a major emitter defects from international agreements. This study shows that public support for global climate policies is unaffected by information on other countries failing to reduce their emissions.

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Thanks to all our regular contributors

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