

New Zealand weather and climate news

These clips have been provided courtesy of MetService library

MetService

Wild weather calls Fire and Emergency to 40 jobs in one night in South Auckland

Fire and Emergency were kept busy on Friday night after wild thunderstorms and rain lashed parts of South Auckland.

<https://www.stuff.co.nz/auckland/109379999/wild-weather-calls-fire-and-emergency-to-40-jobs-in-one-night-in-south-auckland>

MetService stunned as 80 per cent of 33,200 lightning strikes recorded across NZ in past 24 hours occurred on land

The thunderstorms that swept across the North Island yesterday and overnight gave Kiwis plenty of chances to snap photos with thousands of lightning strikes recorded.

https://www.tvnz.co.nz/one-news/new-zealand/emergency-services-kept-busy-north-island-storms-27-000-lightning-strikes-recorded-in-24-hour-span?variant=tb_v_1

Sun to shine on Santa in central New Zealand, soggy elsewhere - latest from MetService

You'll need to head for central New Zealand on Christmas Day if you're keen on some festive sun.

The MetService forecast for December 25, published today, gives the first strong hint that Santa deliveries and Christmas picnics may need umbrella protection in the upper North Island and the lower and western South Island.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12177763

Spectacular storm lights up Bay of Plenty skies

MetService meteorologist Tui McInnes said significant thunderstorms had hit the length of the North Island in the last 24 hours and the activity had began yesterday morning.

https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=12177416

Stormy weather to continue in Auckland as clear skies blanket the south of the country

MetService forecaster Cameron Coutts told the Herald the cyclone would track down Queensland and weaken without impacting our shores.

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12177193

Surface flooding causes havoc in Palmerston North

Heavy rain caused surface flooding in Kelvin Grove, Palmerston North, leaving roads submerged.

<https://www.stuff.co.nz/manawatu-standard/news/109342333/surface-flooding-causes-havoc-in-kelvin-grove-palmerston-north>

Thunderstorms, hail, rain hammer South Taranaki

South Taranaki has been hammered by rain, hail and thunderstorms, while North Taranaki basks in sunshine.

<https://www.stuff.co.nz/national/109364862/thunderstorms-hail-rain-hammer-south-taranaki>

MetOcean

New Zealanders' 'she'll be 'right' attitude failing people on our waters

Man-made or crafted by nature, the majority of New Zealanders have a relationship with the water but we're too complacent, warns Water Safety New Zealand.

<https://www.stuff.co.nz/national/109102285/new-zealanders-shell-be-right-attitude-failing-people-on-our-waters>

Deadly waters: New Zealand's drowning problem more than a disturbing statistic

A dive into disturbing statistics can help us understand what New Zealanders can do better in and around our waters, Jessica Long reports.

<https://www.stuff.co.nz/national/108865126/deadly-waters-new-zealands-drowning-problem-more-than-a-disturbing-statistic>

A Look at NOAA's Ocean Prediction Center

[NOAA] We receive weather information every day in a variety of ways – through television, radio, on our smartphones and through conversations around the water cooler. But how do you get weather forecasts on the high seas where WiFi is rarely an option? Across our oceans, [NOAA's Ocean Prediction Center \(OPC\)](#) is delivering critical weather forecasts to keep you safe – at sea.

<http://www.weathernationtv.com/news/a-look-at-noaas-ocean-prediction-center/>

NIWA

NIWA's Sea Surface Temperature Update

A fortnightly report, updated over summer, covering sea surface temperatures and anomalies (differences from average) around New Zealand. Following the Tasman Sea marine heatwave event of 2017-18, this report will help users understand the latest conditions in the ocean and their expected changes over the upcoming weeks.

<http://www.scoop.co.nz/stories/SC1812/S00019/niwas-sea-surface-temperature-update.htm>

NIWA's Hotspot Watch

A weekly update describing soil moisture across the country to help assess whether severely to extremely dry conditions are occurring or imminent. Regions experiencing these soil moisture deficits are deemed "hotspots". Persistent hotspot regions have the potential to develop into drought.

<http://www.scoop.co.nz/stories/SC1812/S00015/niwas-hotspot-watch-121218.htm>

48 Hours: Something fishy in the weather

Irene Middleton is a marine ecologist working toward her PhD studying tropical and rare fishes in New Zealand. She has worked at Niwa and is a part-time marine biosecurity adviser for the Northland Regional Council. In her spare time Irene Middleton is an avid diver and a celebrated wildlife photographer. She wrote the following article, first published in NZ Fishing News, and she took the photographs.

https://www.nzherald.co.nz/the-country/news/article.cfm?c_id=16&objectid=12176311

Extreme weather (and other news) – Antarctica and offshore islands

Snow over Antarctica buffered sea level rise during last century

Date:December 13, 2018

Source:NASA/Goddard Space Flight Center

Summary:An increase in snowfall accumulation over Antarctica during the 20th century mitigated sea level rise by 0.4 inches. However, Antarctica's additional ice mass gained from snowfall makes up for just about a third of its current ice loss.

<https://www.sciencedaily.com/releases/2018/12/181213141527.htm>

Extreme weather (and other news) – Australia and Pacific

Vaisala Selected to Supply Urban Weather and Air Quality Solution to Schools in Sydney

Vaisala, the global leader in environmental and industrial measurements, will provide 20 Australian primary schools in the Sydney metropolitan area with Vaisala meteorological and air quality sensor network, mobile communications gateway, and cloud-based data acquisition platform (Beacon Cloud). The sensors and sensor data will be fundamental to a citizen science project funded by the Australian Department of Industry, Innovation and Science, with the objective of increasing students' scientific understanding of urban environments.

<https://globenewswire.com/news-release/2018/12/12/1665609/0/en/Vaisala-Selected-to-Supply-Urban-Weather-and-Air-Quality-Solution-to-Schools-in-Sydney.html>

Ex-Tropical Cyclone Owen dumps more than half a metre of rain in north Queensland

Ex-Tropical Cyclone Owen has dumped "incredible" and "very intense" rain over parts of Queensland's north tropical coast, the Bureau of Meteorology (BOM) says.

<https://www.abc.net.au/news/2018-12-16/heavy-rain-from-ex-tropical-cyclone-owen-northern-queensland/10624102>

Victoria's freak floods prompt 1,400 calls for help, more storms hit Melbourne suburbs

Authorities say Victoria's State Emergency Service received more than 1,400 calls for help during 48 hours of wild weather that damaged buildings, flooded streets and closed a stretch of the Hume Freeway, where stranded motorists were rescued by helicopter.

<https://www.abc.net.au/news/2018-12-15/melbourne-weather-rain-floods-prompt-ses-calls/10623420>

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

W4CCA: Building a Flood Early-Warning Network

Posted: 12 Oct 2018 04:56 PM PDT

The Asia Foundation's Paula Uniacke and Aditya Pillai participated in Global Climate Action Summit events across San Francisco in September. Among Foundation programs they discussed are ones that improve resilience to extreme weather events.

In two flood-prone regions along the India-Bangladesh border, The Asia Foundation is working with local women to build flood early warning networks in their communities. The Women for Climate Change Adaptation project (W4CCA), funded by the Foundation's Lotus Circle, trains them to develop local flood-response plans and helps them engage with local institutions to improve emergency decision-making and resilience. Currently, government flood warnings in the region are not location specific and can be difficult for communities to interpret. This makes it hard to respond quickly and effectively when floodwaters threaten, increasing flood damage and risking people's lives.

The W4CCA networks will use local data to establish village-specific flood thresholds in project locations. When these thresholds are breached, text messages will alert designated W4CCA leaders, who will activate the flood-response plan in the broader W4CCA network and members' personal networks in the community. By virtue of their social positions, women often have extensive social networks. With effective training and technical tools, they are well situated to broadly disseminate critical and time-sensitive information. The W4CCA early-warning networks will create important leadership roles for women while better protecting them and their communities from floods.

The post [W4CCA: Building a Flood Early-Warning Network](#) appeared first on [The Asia Foundation](#).

Urban Governance and Transparency in Ulaanbaatar, Mongolia

The Foundation's "Urban Governance Project" works in close collaboration with the Municipality of Ulaanbaatar to strengthen sub-municipal governments' capacity for planning and delivering local public services, and respond to the priorities voiced by citizens in the city's vast, unplanned areas. Some of the ways this work has contributed to increasing citizen participation include: piloting a simplified, user-friendly citizen survey form for utilizing a Local Development Fund, and disseminating maps with detailed information on projects and services. These unique maps contain specific, visual information on Local Development Fund projects specific to each local administrative area, and have been distributed to 33-project areas, accounting for 330,000 citizens, for their use in public budget consultations.

https://asiafoundation.org/2017/12/04/urban-governance-transparency-ulaanbaatar-mongolia/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+TheAsiaFoundationNews+%28The+Asia+Foundation+News%29

ArabiaWeather and Raymetrics SA to Revolutionize Dust Forecasting in MENA

[ArabiaWeather Inc.](#) - the largest private weather company in the Arab World and a pioneer in weather technology - has signed a Memorandum of Understanding (MoU) with Raymetrics SA, a global leader and manufacturer of atmospheric Light Detection and Ranging (LIDAR) systems. Anchored in Athens and boasting global reach and ambition, Raymetrics SA - founded by scientists and engineers - has developed innovative remote sensing techniques for atmospheric

monitoring. Inked in October 2018, the MoU aims at revolutionizing dust forecasting in the Middle East and North Africa (MENA) region, thus enhancing the quality and accuracy of ArabiaWeather forecasts.

<https://www.benzinga.com/pressreleases/18/12/r12856393/arabiaweather-and-raymetrics-sa-to-revolutionize-dust-forecasting-in-m>

Extreme weather (and other news) – Americas and Europe

Sweden's Wildfires Highlight Cost of Rapidly Changing Climate in Europe

Hannele Arvonen, the owner of one of Sweden's largest lumber yards, is spending the winter months planning for a new and unexpected threat to her business: regular wildfires raging just south of the Arctic Circle.

<https://www.insurancejournal.com/news/international/2018/12/12/511690.htm>

UK weather: Storm Deirdre brings freezing rain and black ice as Met Office issues amber alert

Travellers heading out on Sunday morning have been warned of a risk of icy conditions in parts of the country after Storm Deidre swept through bringing heavy snow, freezing rain and gales.

<https://www.telegraph.co.uk/news/2018/12/14/uk-weatherfreezing-rain-black-ice-cause-travel-chaos-christmas/>

International news and research

ArabiaWeather Honored by Sheikh Mohammed bin Rashid Al Maktoum in the Presence of Her Majesty Queen Rania Al Abdullah

The Deputy Ruler of Dubai His Highness Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum has honored Mohammed Al Shaker, Founder and CEO of ArabiaWeather Inc. - the largest private weather company in the Arab World and a pioneer in weather technology - on behalf of the Ruler of Dubai His Highness Sheikh Mohammed bin Rashid Al Maktoum. Granted in the presence of Her Majesty Queen Rania Al Abdullah along the sidelines of the Arab Social Media Influencers Summit 2018, which was organized by the Dubai Press Club in Dubai, the accolade recognizes ArabiaWeather's significant impact within the weather and environmental fields - both online and via social media platforms - as well as for being the largest weather forecasting center in the Arab World.

<https://www.prnewswire.com/news-releases/arabiaweather-honored-by-sheikh-mohammed-bin-rashid-al-maktoum-in-the-presence-of-her-majesty-queen-rania-al-abdullah-852771038.html>

Artificial Intelligence and its Advantages in Weather Forecasting

The prediction of an accurate weather forecasting can yield massive improvements for businesses and governments. Weather forecasting allows farmers to plan their planting and harvesting and take critical decisions for maximum output. Airline and shipping companies use weather forecasting for a more comfortable and safer ride. Businesses and governments use weather forecasting to prepare a response to any natural disaster. In 2018 there were eleven climate disasters in the United States in which each of the disasters accounted for a loss of almost 1 Billion dollars.

<https://www.cioreview.com/news/artificial-intelligence-and-its-advantages-in-weather-forecasting-nid-27638-cid-207.html>

Storm clouds continue to cast shadows over China's Sky River rain-making project

Head of research team invites scientists to his laboratory to see for themselves how scheme will work

Opponents describe plan to produce more rain to feed Yellow River as waste of taxpayers' money

<https://www.scmp.com/news/china/science/article/2177636/storm-clouds-continue-cast-shadows-over-chinas-sky-river-rain>

How IBM is helping Farmers Deal with Weather Challenges?

Unpredictable weather is one of the most restrictive factors in the agriculture industry. Droughts, irregular or unseasonal rain and vagaries of nature create big challenges for the farmers all over the world.

<https://krishijagran.com/industry-news/how-ibm-is-helping-farmers-deal-with-weather-challenges/>

How deep learning is bringing automatic cloud detection to new heights

Can deep learning -- a distinct subset of machine learning -- do a better job at identifying clouds in lidar data than the current physics-based algorithms? The answer: A clear 'yes.' A new model is much closer to the answers scientists arrive at but in just a fraction of the time.

<https://www.sciencedaily.com/releases/2018/12/181212160116.htm>

Record-wet and record-dry months increased in regions worldwide

More and more rainfall extremes are observed in regions around the globe -- triggering both wet and dry records, a new study shows. Yet there are big differences between regions: The central and Eastern US, northern Europe and northern Asia have experienced heavy rainfall events that have led to severe floods in recent past. In contrast, most African regions have seen an increased frequency of months with a lack of rain.

<https://www.sciencedaily.com/releases/2018/12/181212121857.htm>

Tornadoes Don't Form Like Meteorologists Thought They Did

Picture a tornado forming. Does the funnel cloud in your mind's eye reach down from the sky like a malicious, spindly finger?

<https://www.livescience.com/64309-weird-way-tornadoes-form.html>

WMO

World Adaptation Science Programme launched

The World Adaptation Science Programme was officially launched at COP24 at an event sponsored by UN Environment, WMO, the UN Framework Convention on Climate Change secretariat, Intergovernmental Panel on Climate Change and Green Climate Fund.

[Read more here](#)

The role of water in achieving climate neutrality

As a result of climate change, water availability is becoming less predictable, with floods and droughts exacerbating water challenges and impacting health and economies. It is estimated that a 2°C increase in average global temperature may result in 1 to 2 billion people lacking an adequate supply of water.

[Read more here](#)

COP24 action on Climate and Health

Meeting the goals of the Paris Agreement could save about a million lives a year worldwide by 2050 through reductions in air pollution alone, and the value of health gains from climate action would be approximately double the cost of mitigation policies at global level, according to [a new report from the World Health Organization](#).

[Read more here](#)

WMO and Green Climate Fund join to support low carbon, climate resilient development

Katowice, 10 December 2018 - The World Meteorological Organization (WMO) and the Green Climate Fund (GCF) have signed a formal agreement to work together to leverage WMO expertise on weather, climate and water to increase effectiveness of GCF funded activities and support low carbon and climate resilient development.

[Read more here](#)

Science takes centre-stage at COP24

Climate science took centre stage as the annual United Nations climate change negotiations, which heard repeated calls for action to rein in global temperature increases or risk irreversible impacts.

“To waste this opportunity in Katowice would compromise our last best chance to stop runaway climate change,” said UN Secretary-General António Guterres, “It would not only be immoral, it would be suicidal. This may sound like a dramatic appeal, but it is exactly this: a dramatic appeal,” he told delegates.

[Read more here](#)

Support grows for early warning systems initiative

Switzerland has announced a major contribution to an international initiative to strengthen early warning systems in vulnerable low-income countries to support climate change adaptation, disaster risk reduction and sustainable development. The announcement of 9 million Swiss francs in new funding came at the United Nations climate change conference in Katowice, Poland (COP24).

[Read more here](#)

Others

Weather monitoring from the ground up

Many startups tailor their first product or service to a specific market segment in order to validate their ideas and get some early traction. Far fewer develop a solution to such a fundamental problem that they explore several markets simultaneously, but ClimaCell has done just that.

Read more at: <https://phys.org/news/2018-12-weather-ground.html#jCp>

Aviation

IATA Launches Platform Enabling Airlines to Share Turbulence Data

Geneva – The International Air Transport Association (IATA) launched its Turbulence Aware data resource to help airlines avoid turbulence when planning routes tactically in flight.

Turbulence Aware augments an airline's ability to forecast and avoid turbulence by pooling and sharing (in real time) turbulence data generated by participating airlines.

https://www.aviationpros.com/press_release/12438967/iata-launches-platform-enabling-airlines-to-share-turbulence-data

AirAsia boss considers next move in NZ as it prepares to wind up its only service here

Just two months before winding up its only route to New Zealand budget airline AirAsia is already considering its next move here.

<https://www.stuff.co.nz/business/industries/109380690/airasia-boss-considers-next-move-in-nz-as-it-prepares-to-wind-up-its-only-service-here>

Lift off for second Rocket Lab commercial rocket

Rocket Lab has launched its second commercial rocket carrying 13 NASA satellites into orbit.

Watch the launch here:

<https://www.radionz.co.nz/news/national/378398/lift-off-for-second-rocket-lab-commercial-rocket>

Rocket Lab set to put NASA satellites in orbit

A window of opportunity has opened up for Rocket Lab's next launch.

The space company says the weather could clear after 5pm Sunday for the launch of the Elana 19.

<https://www.newshub.co.nz/home/new-zealand/2018/12/rocket-lab-set-to-put-nasa-satellites-in-orbit.html>

TSB investigation finds planes 'frequently aren't de-iced'

Friday, December 14, 2018, 2:29 PM - The Transportation Safety Board (TSB) is recommending that Transport Canada work with airlines to improve de-icing procedures in remote airports across the country after a crash near Fond-du-Lac, Sask. last year.

<https://www.theweathernetwork.com/news/articles/tsb-investigation-plane-crash-fond-du-lac-saskatchewan-transport-canada-de-icing-procedure-remote-area-take-offs-northern-routes-inadequate-equipment/119785>

IATA reveals solution for airlines to share turbulence data

The International Air Transport Association (IATA) has unveiled its Turbulence Aware data resource that will enable airlines to avoid sudden airflow changes while planning routes during flights.

<https://www.airport-technology.com/news/iata-turbulence-aware-airlines/>

Business/Insurance

Insurance payouts for extreme weather events hit \$226m for 2018

Insurers have paid out \$226 million this year to help customers recover from extreme weather events.

<https://www.radionz.co.nz/news/national/378165/insurance-payouts-for-extreme-weather-events-hit-226m-for-2018>

Financial sector worth more than agriculture, report shows

The financial sector is growing in economic importance and is now worth more than agriculture, a report shows.

<https://www.radionz.co.nz/news/business/378169/financial-sector-worth-more-than-agriculture-report-shows>

Energy and Mining

Extreme Weather an Area to Watch for U.S. Energy Infrastructure

U.S. energy infrastructure heads into next year on generally solid footing, though increasingly common extreme weather throughout the country merits some caution according to Fitch Ratings in its 2019 outlook report

<https://www.ajot.com/news/extreme-weather-an-area-to-watch-for-u.s.-energy-infrastructure>

Farming/horticulture/Aquaculture

Growers will be able to cherry pick their price after unseasonable deluge of rain across New Zealand

You want a bite of the cherry this Christmas? It's going to cost you.

The rain drenching the country during the late spring and early summer period has caused crops of the stone fruit to split and rot, meaning there is lower supply at New Zealand's fruit stalls and supermarkets.

<https://www.stuff.co.nz/national/109286666/growers-will-be-able-to-cherry-pick-their-price-after-unseasonable-deluge-of-rain-across-new-zealand>

Government (regional and national)

'Too many people left behind': How the 'Wellbeing' Budget will work

The Government's books are still in good shape and it's time for New Zealand to get into shape too, according to the Finance Minister.

<https://www.newshub.co.nz/home/politics/2018/12/too-many-people-left-behind-how-the-wellbeing-budget-will-work.html>

Transport/roading/shipping/freight

\$1.4 billion safety upgrades for roads in 'desperate need' of repair

New Zealand's most high-risk roads - "in desperate need" of work - are set to receive a \$1.4 billion safety upgrade.

<https://www.stuff.co.nz/national/109395878/14-billion-safety-upgrades-for-roads-in-desperate-need-of-repair>

Vision Zero: Life-saving median barriers coming to a road near you

"You could actually reduce the road toll by about 90 per cent by doing nothing more than putting in roundabouts, median barriers and roadside fencing."

<https://www.stuff.co.nz/national/108872292/vision-zero-lifesaving-median-barriers-coming-to-a-road-near-you>

Innovation and technologies (inc data and new products)

Dialog and ideamart introduce weather app

Dialog Axiata PLC and Ideamart, launched an aggregated weather solution, 'WeatherGuru', in partnership with Earth Networks, a global hyperlocal weather network, providing weather intelligence data to organisations and governments worldwide.

<http://www.sundayobserver.lk/2018/12/16/business/dialog-and-ideamart-introduce-weather-app>

Journal and articles online

Bulletin of the American Meteorological Society - Volume: 99, Number: 11 (November 2018)

LETTER TO THE EDITOR

THREAT TO DATA INTEGRITY AND INTERNATIONAL EXCHANGE

Don Gunasekera, Michael Manton, and John Zillman

COMMENT ON SERRA ET AL. (2018)

Alan Thorpe and David Rogers

NOWCAST

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Kevin Micke

IN BOX

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ESSAY

Have We Reached the Limits of Predictability for Tropical Cyclone Track Forecasting?

Christopher W. Landsea and John P. Cangialosi

ARTICLES

Weather on the Go: An Assessment of Smartphone Mobile Weather Application Use among College Students

Minh D. Phan, Burrell E. Montz, Scott Curtis, and Thomas M. Rickenbach

Chilean Wildfires: Probabilistic Prediction, Emergency Response, and Public Communication

H. F. Dacre, B. R. Crawford, A. J. Charlton-Perez, G. Lopez-Saldana, G. H. Griffiths, and J. Vicencio Veloso

Wind Hazard and Turbulence Monitoring at Airports with Lidar, Radar, and Mode-S Downlinks:
The UFO Project

A. C. P. Oude Nijhuis, L. P. Thobois, F. Barbaresco, S. De Haan, A. Dolfi-Bouteyre, D. Kovalev, O. A. Krasnov, D. Vanhoenacker-Janvier, R. Wilson, and A. G. Yarovoy

Improvements in Nonconvective Aviation Turbulence Prediction for the World Area Forecast System

Jung-Hoon Kim, Robert Sharman, Matt Strahan, Joshua W. Scheck, Claire Bartholomew, Jacob C. H. Cheung, Piers Buchanan, and Nigel Gait

The Coldest Places in Hawaii: The Ice-Preserving Microclimates of High-Altitude Craters and Caves on Tropical Island Volcanoes

Norbert Schörghofer, Steven Businger, and Matthias Leopold

CO₂ and Carbon Emissions from Cities: Linkages to Air Quality, Socioeconomic Activity, and Stakeholders in the Salt Lake City Urban Area

John C. Lin, Logan Mitchell, Erik Crosman, Daniel L. Mendoza, Martin Buchert, Ryan Bares, Ben Fasoli, David R. Bowling, Diane Pataki, Douglas Catharine, Courtenay Strong, Kevin R. Gurney, Risa Patarasuk, Munkhbayar Baasandorj, Alexander Jacques, Sebastian Hoch, John Horel, and Jim Ehleringer

The Benefits of Global High Resolution for Climate Simulation: Process Understanding and the Enabling of Stakeholder Decisions at the Regional Scale

M. J. Roberts, P. L. Vidale, C. Senior, H. T. Hewitt, C. Bates, S. Berthou, P. Chang, H. M. Christensen, S. Danilov, M.-E. Demory, S. M. Griffies, R. Haarsma, T. Jung, G. Martin, S. Minobe, T. Ringler, M. Satoh, R. Schiemann, E. Scoccimarro, G. Stephens, and M. F. Wehner

CESM1(WACCM) Stratospheric Aerosol Geoengineering Large Ensemble Project

Simone Tilmes, Jadwiga H. Richter, Ben Kravitz, Douglas G. MacMartin, Michael J. Mills, Isla R. Simpson, Anne S. Glanville, John T. Fasullo, Adam S. Phillips, Jean-Francois Lamarque, Joseph Tribbia, Jim Edwards, Sheri Mickelson, and Siddhartha Ghosh

MEETING SUMMARIES

Building the Next Generation of Climate Modelers: Scale-Aware Physics Parameterization and the “Grey Zone” Challenge

Ariane Frassoni, Dayana Castilho, Michel Rixen, Enver Ramirez, João Gerd Z. de Mattos, Paulo Kubota, Alan James Peixoto Calheiros, Kevin A. Reed, Maria Assunção F. da Silva Dias, Pedro

L. da Silva Dias, Haroldo Fraga de Campos Velho, Stephan R. de Roode, Francisco Doblas-Reyes, Denis Eiras, Michael Ek, Silvio N. Figueroa, Richard Forbes, Saulo R. Freitas, Georg A. Grell, Dirceu L. Herdies, Peter H. Lauritzen, Luiz Augusto T. Machado, Antonio O. Manzi, Guilherme Martins, Gilvan S. Oliveira, Nilton E. Rosário, Domingo C. Sales, Nils Wedi, and Bárbara Yamada

Bridging the Gap between Climate and Weather

Scott Sandgathe, Jessie Carman, Bradford Johnson, and Eileen McIlvain

Weather

Volume 73, Issue 12

Pages: E1, 374-392, i-iv, 393-412, E2-E4

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Cover Information

First Published: 06 December 2018

In this issue of Weather

In this issue of Weather

Jim Galvin

Pages: E1 | First Published: 06 December 2018

Weather news

Pages: 374 | First Published: 06 December 2018

Research Articles

The December 2014 glaze event in the Czech Republic: predictability and impacts

P. Zahradníček, P. Münster, M. Bíl, P. Skalák, P. Štěpánek, A. Farda, M. Panský, J. Brzezina, M. Bílová, J. Kubeček

Pages: 375-382 | First Published: 23 February 2018

Locations of traffic accidents and fallen trees on roads related to the glaze occurrence (1–3 December 2014).

Global and regional climate in 2017

John J. Kennedy, Robert J. H. Dunn, Holly A. Titchner, Colin P. Morice, Rachel E. Killick, Mark P. McCarthy

Pages: 382-390 | First Published: 06 December 2018

We summarise aspects of global and regional climate in 2017.

Meeting report

Space, satellite and solutions: essential climate variables and the future of climate monitoring from space

Kelvin Tsz Hei Choi

Pages: 390-391 | First Published: 10 July 2018

Book review

Martin Hutchins

Pages: 391 | First Published: 17 October 2018

Weather images

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Weather log

October 2018 Another dry and sunny month for many. Markedly variable temperatures.

Pages: i-iv | First Published: 06 December 2018

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Snow, frost and ice

Pages: 393 | First Published: 06 December 2018

Research Articles

William Henry Dines – a blue plaque commemoration

Ian Strangeways

Pages: 394-396 | First Published: 13 September 2018

Adverse impacts of fog events during winter on fine particulate matter, CO and VOCs: a case study of a highway near Dhanbad, India

Sunil K. Gupta, Suresh P. Elumalai

Pages: 396-402 | First Published: 21 September 2017

Creation of additional fine particulates due to adverse meteorological conditions.

Short Article

Hurricane Maria: 12 hours that changed the history of a country

Rafael Méndez Tejada

Pages: 402-405 | First Published: 06 December 2018

The well-defined eye of Hurricane Maria skirting the island of St Croix at 0215 ast on 20 September 2017.

Meeting report

Energetic Particle Effects in the Lower Atmosphere

E. Henley

Pages: 406-407 | First Published: 13 June 2018

Book review

Graham Denyer

Pages: 407 | First Published: 13 September 2018

Society news

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Inside Cover Photographs

A prominent fogbow photographed at Rannoch Moor, Scotland

Pages: E2 | First Published: 06 December 2018

A frosted leaf and shells on the beach at Hythe, Hampshire

Pages: E3 | First Published: 06 December 2018

Deep snow surrounds the Flatiron Building, New York

Pages: E4 | First Published: 06 December 2018

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Thanks to MetService for these clips