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Subject: Zero-carbon for London | Wildfires continue | 2,100 fatal injuries | Clouds | Vegan and muslim | Satellites 'tragedy' ...
Weekly Update 15 January
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Grantham Institute Weekly Update 14 January 2020

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Imperial College
London

Grantham Institute
Climate Change and the Environment

Weekly Update | 14 January 2020

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News and comment



[New centre to put London at heart of zero-carbon revolution](#)

Imperial has outlined plans to transform the capital's global response to climate change through a new collaboration with the Mayor of London.

The College is to establish a world-leading centre for climate change innovation, driving the development of new technologies, businesses and jobs across London that will support a zero-carbon and climate resilient future.

The Mayor of London, Sadiq Khan said: "It is vital that we use new technology and innovation to tackle what is the greatest challenge of our time. London is a global hub for climate action and I'm proud to support this initiative with Imperial College London that will nurture talent and drive growth in the cleantech sector."

[The Centre for Climate Change Innovation](#) (CCCI), will fuel a new generation of climate change entrepreneurs in London and spur the translation of research discoveries into pioneering technological solutions and successful companies.

[Professor Richard Templer](#), Director of Innovation at the Grantham Institute, who will lead the initiative, said: "This Centre will give people the opportunity to start up a sustainable business or grow an existing one so that they can contribute to a cleaner, greener and fairer world for all."

Innovation: [ClimateLaunchpad 2020 open for entries](#)

Turn your green business idea into a successful start-up and help to tackle climate change. Applications are now open to join the UK (England) component of ClimateLaunchpad 2020 - the biggest global green business ideas competition. Following healthy competition in 2019, when one of the UK teams [Multus Media](#) reached the global top-16 and won the award for Best Female Founder, the Grantham Institute is delighted to once again be running the UK competition.



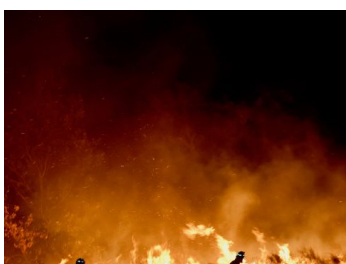
News: [Rising temperatures may cause over 2,000 fatal injuries per year in the US](#)

A 2°C rise in temperatures could result in around 2,100 additional deaths from injuries every year in the United States, according to new research. The three states with potentially the highest number of deaths would be California, Texas, and Florida. Imperial's [Professor Majid Ezzati](#) and [Dr Robbie Parks](#) were co-authors of the study with colleagues from [Columbia University](#) and [Harvard University](#).

This news was covered in [CNN](#), [Daily Mail](#), [The Guardian](#), [New Scientist](#), [UPI](#) and [U.S.News](#).

Podcast: [Cars, trains, buses, planes.....what's the right way to travel to achieve net zero?](#)

Planet Pod's fourth episode in collaboration with the Grantham Institute looks at the impact of travel and transport on climate change and our ability to achieve net zero carbon emissions by 2050. [Dr Audrey de Nazelle](#) and [Dr Marc Stettler](#) talk about the intersection between environmental sciences, health, behaviour, transportation, air quality and urban planning and consider what's the right route to get us to a zero-carbon future.



News: [Climate change increases the risk of wildfires, confirms new review](#)

Human-induced climate change promotes the conditions on which wildfires depend, increasing their likelihood. This is according to a review of research on global climate change and wildfire risk [published today](#) by experts including Imperial's [Professor Colin](#)



[Prentice](#).

This news was covered in [Thomson Reuters Foundation](#) and [WIRED](#).

In the media: [Vegan and Muslim: Why I kept my plant-based diet secret from my family](#)

In this *BBC Three* article, two women, Sumaya and Mara share their beliefs and experiences about being muslim and vegan. The article also mentions our [9 things you can do about climate change](#) document, which advises eating less meat and dairy in order to help reduce the global greenhouse gas emissions that cause climate change.

In the media: [See a show and help save the planet as the West End turns green](#)

Artists join forces with experts for two-month climate change festival in a London theatre, reports *The Guardian*. Performers including Alistair McGowan, Rob Brydon, Gaby Roslin and Jason Manford are to join experts in the field at the Charing Cross theatre, alongside the double Olivier award-winner and West End leading lady, Janie Dee, for the inaugural [London Climate Change Festival](#) in 2020. It is to be staged with the support of the Grantham Institute and the Victoria & Albert Museum.

[Business Green](#) also reported this story. *[Full article available by subscription only]*

In the media: [Puerto Rico earthquake: One dead as tremor collapses homes and triggers tsunami](#)

One person is dead after a 6.5 magnitude earthquake collapsed homes, knocked out power and triggered a small tsunami, reports the *Daily Mirror*. The article quotes Imperial's [Dr Stephen Hicks](#), who tweeted: "The ongoing earthquake sequence along the south coast of Puerto Rico continues today with a M6.6 earthquake just now. Yesterday's M5.8 earthquake (now can be called a "foreshock") caused some damage to buildings, so further damage can be expected with today's quake."

The *Washington Post* also quotes Dr Hicks in a recent news story [How a mysterious seismic hum led scientists to the birth of an enormous undersea volcano](#) *[Full article available by subscription only]*



News: [Thanks to clouds, new climate simulations predict more warming than predecessors](#)

The most up-to-date computer simulations suggest that greenhouse gases emitted by human activity will leave the planet hotter than previously thought, researchers have found. New information about clouds - which act as a 'sunscreen' for the planet – is assumed to be behind the change. "The results reported in our paper are potentially concerning, but it is still too early to say that climate sensitivity is higher than we thought," said Grantham Lecturer [Dr Paulo Ceppi](#) (pictured), co-author of the study.

This news was covered in [Ars Technica](#).

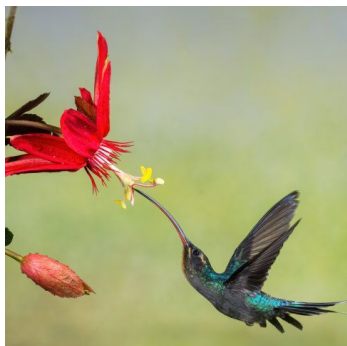
Blog: [Are new roads worth the money?](#)

Highways England [...] claims in its [economic growth plan](#) that road network improvements will "increase productivity, reduce costs, improve access to job opportunities and improve access to suppliers", among other benefits. Finding evidence to support these assumptions, however, is another matter. The environmental impact of new roads is relatively clear, both in terms of construction impacts and in terms of an [ongoing increase](#) in the number of polluting vehicles [using those roads](#). Economic impact, on the other hand, is less tangible.

Investment in new road infrastructure is abundant, but the economic benefits remain undefined, writes Rosa Sanchis-Guarner, British Academy Postdoctoral Fellow, on [Imperial College Business School's](#) blog. "This line of research will be vital in determining which investments generate the best return," she concludes.

In the media: [What the rest of the world can teach us about decarbonisation](#)

[Dr Jeffrey Hardy](#), Senior Research Fellow at the Grantham Institute, spoke to *Utility Week* about lessons the UK can learn from around the world to help decarbonise its economy: "Beyond 2021 [when the Renewable Heat Incentive expires] the UK doesn't have a single incentive in place for homes or businesses to install zero-carbon heating technologies ... an important question is how we help homeowners with the upfront capital costs. Countries in Scandinavia and elsewhere have introduced schemes that help with some of that capital. In addition, the UK lacks regulations that set standards for heat pumps and centres of excellence where engineers can be trained and devices tested to prove they will work in particular circumstances and climates." [Full article available by subscription only]



News: [Global database of all bird species shows how body shape predicts lifestyle](#)

A database of 10,000 bird species shows how measurements of wings, beaks and tails can predict a species' role in an ecosystem. The senior author, Imperial's [Dr Joseph Tobias](#), said: "To compile measurements for all bird species has been a massive undertaking. That's particularly the case considering the hundreds of explorers and biologists over the last 150 years who collected and curated the 60,000 museum specimens on which this work is based."

Publications:

- [Causes of higher climate sensitivity in CMIP6 models](#); Zelinka, MD; Myers, TA; McCoy, DT; Po-Chedley, S; Caldwell, PM; Ceppi, P; et al.
 - [Anomalously warm temperatures are associated with increased injury deaths](#); Parks, RM; Bennett, JE; Tamura-Wicks, H; Kontis, V; Toumi, R; Danaei, G; Ezzati, M
 - [Global levelised cost of electricity from offshore wind](#); Bosch, J; Staffell, I; Hawkes, AD
 - [Predicting Shallow Groundwater Tables for Sloping Highland Aquifers](#); Alemie, TC; Tilahun, SA; Ochoa-Tocachi, BF; et al.
 - [Multihole water oxidation catalysis on haematite photoanodes revealed by operando spectroelectrochemistry and DFT](#); Mesa, CA; Francas, L; Yang, KR; et al
-



[Climate change FAQs: Causes, impacts and action](#)

Acting on climate change with the urgency we need starts with access to clear information on the causes and impacts of climate change and what solutions exist to avert it. We have created a new resource of evidence from science and economics to answer key questions on climate change. Explore our Frequently Asked Questions (FAQs) for accessible answers to questions such as how we know climate change is happening and why it is necessary to act now; what it will mean for the economy; and what a 'just transition' is. [Browse the FAQs.](#)

Do you have a question?

Is there a topic or question you think the FAQs should cover? If so, make your suggestion [here](#).

Grantham Institute
Climate Change and the Environment
An institute of Imperial College London



**Grantham
Research Institute**
on Climate Change
and the Environment

This FAQ is a joint project between the [Grantham Institute](#) at Imperial College London and the [Grantham Research Institute](#) at the London School of Economics.

Vacancies

Imperial College London and the Grantham Institute strive to be open and welcoming [working environments for all](#). We actively encourage applicants from [under-represented or minoritised groups in science](#).

[Media and Events Officer](#)

Can you help us build a cleaner, greener, fairer future? The Grantham Institute is looking for a dedicated person to engage with the media and deliver a targeted events programme that fulfill our goals.

You will join the Grantham Institute's [Policy and Communication team](#) to be the first point of call for journalists' enquiries and enthusiastically find opportunities to engage the media, influencing debate and helping to communicate helpful narratives around climate change understanding and action. You will help to craft and own events that engage well-defined and diverse audiences with our campaign objectives, working with the Communications Manager and Director of Policy and Translation.

Deadline: 27 January

Climate Action



Feature: [9 things you can do about climate change](#)

Our world is warming, but taking action on climate change can make all our lives better. We have recently re-vamped our digital feature to showcase the most achievable ways you personally can make a difference on climate change. While individuals alone cannot make all the drastic emissions cuts needed to limit climate change to acceptable levels, personal action is essential to raise the importance of issues to policymakers and businesses. [Check it out here](#).

We have also produced a pocket-sized print version of the feature, which [you can download here](#).

Grantham Institute events



Seminar: [Why I broke the law for climate change](#) | Farhana Yamin

5 February, 16:00-17:00, Grantham Institute Boardroom

A Changing Planet seminar delivered by Farhana Yamin, an internationally recognised environmental lawyer, climate change policy expert and activist. Farhana will discuss the reasons she decided to get involved with climate activism.



Seminar: [Angry weather: How climate change is affecting extreme weather events around the world? | Fredi Otto](#)

19 February, 16:00-17:00, Grantham Institute Boardroom

A Changing Planet seminar delivered by Friederike (Fredi) Otto, Acting Director of the Environmental Change Institute - University of Oxford. In this seminar, Fredi will discuss the science behind the attribution of extreme weather events to climate change.

[View all upcoming Grantham Institute events](#)

Other events you may be interested in

Seminar: [Deep Learning for Estimating Air Quality](#)

23 January, 12:30-13:30, Sir Roger Bannister Lecture Theatre, St Mary's Campus, London, W2 1PG

The [Pathways to equitable healthy cities](#) study is hosting a seminar by colleagues from NASA Ames Research Center on using deep learning for estimating air quality in urban environments using high-resolution satellite imagery.

Lecture: [On coin tosses, atoms and forest fires](#)

4 February, 17:30-18:30, Great Hall, Sherfield Building, South Kensington Campus

The Schrödinger Lecture 2020: Fields Medalist [Professor Sir Martin Hairer](#) will explore some of the mathematical objects arising naturally in probability theory, as well as some of their surprising properties. In particular, he will show us how one of these objects was involved in the confirmation of the existence of atoms over 100 years ago and how new properties of related objects are still being discovered today.

Conference: [Studying the climate: A challenge of complexity](#)

6 February, Institute of Physics, 37 Caledonian Road, London N1 9BU

A day of talks and discussion around questions at the core of how we study one of our most important, complex systems - the climate - jointly organised with IOP Conferences by students from the [Science and Solutions for a Changing Planet DTP](#). Submit an abstract to present by 17 January and register to attend by 30 January.

Lecture: [45th Annual Worshipful Company of Paviers Lecture](#)

11 February, 17:15-18:30, Lecture Theatre 164, Skempton Building, South Kensington Campus

Andy Mitchell will outline the background to the [Thames Tideway Tunnel project](#). Building on the legacy of the original Victorian sewer network created by Sir Joseph Bazalgette over 150 years ago, Andy will chart the course of the project and explain how the delivery of this vital piece of new infrastructure will help prepare London for the 22nd Century.

Imperial Lates: [Future Commuter](#)

13 February, 18:00-21:00, Main Reception, Exhibition Road, South Kensington Campus

If you've ever experienced the joys of the London commute or worried about the carbon footprint of a summer getaway, you may have wondered what the future of transport might deliver. Well now is your chance. Travel over to Imperial in February to meet the scientists and engineers exploring the probabilities of our future mobility, at our latest [Imperial Lates](#).

Lecture: [Business School Annual Conference I Sustainable business](#)

26 March, 09:00-17:00, Imperial College Business School, South Kensington Campus

How can businesses continue to drive competitive advantage, as the pressure increases to fundamentally re-evaluate their purpose for the common good? [Imperial College Business School's](#) fifth annual conference will explain why and how to experiment and innovate towards a new way of doing business centred around stakeholders.

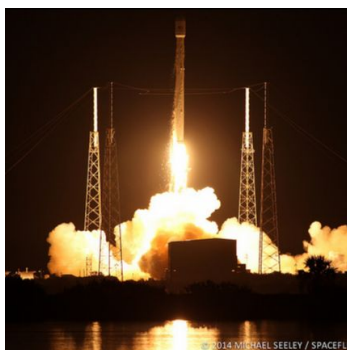
In case you missed it...

Seminar: [Climate change and the people puzzle](#)

30 January, 18:00-20:00, Room 408, Department of Electrical and Electronic Engineering, South Kensington Campus

Imperial's [Energy Futures Lab](#) hosts [Richard Poole](#), founding partner of [Fluxx](#), who will discuss how understanding people is at the heart of the fight against climate change.

And finally...



In the media: [SpaceX plan for space internet threatens view of universe, astronomers warn](#)

Thousands of micro satellites are set to launch in 2020 as part of plans to deliver universal internet access via constellations of low Earth orbit satellites, reports *The Independent*. Their presence could interrupt radio frequencies used for observing the universe, while also disrupting images from optical telescopes. [Dr Dave Clements](#), an astrophysicist from Imperial, described the constellations as a "tragedy" that could prove dangerous if they block observations of Earth-bound asteroids.

Grantham Institute
Climate Change and the Environment

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