

Climate change: science, responses and research needs

A Royal Society conference to reflect on the implications for the UK of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change and urgent policy and research needs.

11 – 12 April 2022

THE
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Cover image

Hurricane Brian, Porthcawl Wales.

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Welcome to the Royal Society conference on Climate Change: science, responses and research needs.

This conference brings together co-chairs from the three working groups of the Intergovernmental Panel on Climate Change (IPCC), leading climate scientists and IPCC authors, policy professionals, industry representatives and civil society to discuss the findings and implications of the IPCC's Sixth Assessment Report (AR6). The first day is focussed on the implications of AR6 for the UK. The second day is focussed on priority areas for future research to further advance climate science.

Information for in-person participants

Information about the speakers, chairpersons and the schedule for the event are available on our online conference platform, which can be accessed here: <https://ipcc-ar6-conference.royalsociety.org/> and from QR codes displayed at reception and in the Wellcome Trust Lecture Hall.

The conference sessions will be held in the Wellcome Trust Lecture Hall. Refreshments and lunch will be available in the City of London Rooms, which are adjacent to the Wellcome Trust Lecture Hall, as well as in the Dining Room on the basement level. If the City of London rooms are busy at lunchtime, please go down to the Dining Room. The evening reception on Monday will be held in the City of London Rooms, and the keynote talk will be in the Wellcome Trust Lecture Hall at 6pm.

Toilets are located on the basement level, next to the Dining Room, and can be reached using the main (red) staircase past the reception area, or using the lifts. There is also a cloakroom in the basement and we invite you to leave coats and bags there, at your own risk. The cloakroom is not staffed so you may wish to keep valuables with you.

We have a display of posters in City of London Room 3, which showcase new ideas and directions in climate change research. Please take time to view them – the researchers will be available to discuss their posters with you in-person during the afternoon break on Tuesday (3 to 3:30pm). Posters can also be viewed via the online conference platform and the authors will be giving short talks about their research in Session 3 on Tuesday afternoon.

You are welcome to use our wireless internet, the username is RS-Public and the password is Newton+apple. We encourage you to tweet about the meeting, using our handle @royalsociety, and the #RSClimate hashtag.

Please note that there will be a photographer present for some of the meeting. If you would prefer not to be photographed, please inform a member of staff at the registration desk. Please be aware that the presentations and discussions will be recorded and be available for catch-up on the online conference platform for one month after the event <https://ipcc-ar6-conference.royalsociety.org/>

We want all visitors to the Royal Society to feel as safe and secure as possible. We recognise that everyone has a part to play in tackling the pandemic, and we ask that you ensure that you do what you can to reduce the risk of spreading Covid-19, and that you have read and understood the latest government advice. Hand sanitation points can be found throughout the building.

Throughout the conference there will be a staff member at the registration desk, where you collect your badge, available to answer any questions you may have.

Information for online participants

Please join the conference using this link: <https://ipcc-ar6-conference.royalsociety.org/>

You will find a link on the conference page to Slido: please use this to sign up and submit your questions to speakers and panel members during the discussion sessions. Questions will appear on the platform once they have been moderated. Selected questions will be put to the session chairperson during the event.

If you have any questions about the event, please email resilient.futures@royalsociety.org and we will respond as soon as we can.

Recordings of the sessions will be available for catch up viewing here <https://ipcc-ar6-conference.royalsociety.org/> for one month after the event.

We hope you enjoy the conference and find it informative and stimulating for the urgent challenge we all face in tackling climate change.

Dr Marisa Goulden and Leo Marioni, Resilient Futures team



The Royal Society is committed to accessibility for our events. Our lecture hall is fitted with an induction loop for those who are hard of hearing.

If you hear the fire alarm at any time, it is not a test. Please calmly leave the lecture hall through your nearest fire exit.

Programme Day 1: Overview of IPCC findings and their implications for the UK

8.30am **Registration, refreshments and coffee**

9:00am **Welcome and opening remarks**

Professor Peter Bruce FRS, Vice President of the Royal Society

The Rt Hon Alok Sharma MP, COP26 President (video address)

Professor Eric Wolff FRS, University of Cambridge

9.30am **Session 1: Introduction to the Sixth Assessment Report from IPCC Working Group Co-Chairs**

Chair: Professor Joanna Haigh CBE FRS, Imperial College London

Speakers:

Dr Valérie Masson-Delmotte, Laboratoire des Sciences du Climat et de l'Environnement, Co-chair of Working Group I

Professor Hans-Otto Pörtner, Head of Integrative Ecophysiology, Alfred-Wegener Institute, Co-chair of Working Group II

Professor Jim Skea, Imperial College London, Co-chair Working Group III

Audience Q&A

10.45am **Break**

11.15am **Session 2: Reflections on COP 26 and how it may impact on future IPCC activity**

Chair: Professor Sir Brian Hoskins FRS, Imperial College London

Panel members:

Archie Young, UK Lead Climate Negotiator, Cabinet Office, and Lead Negotiator for the UK COP26 Presidency

Oluwadabira Abiola-Awe, Ventures and Solutions Movement Associate – Student Energy, COP26 Youth Speaker

Dr Sarah Honour, Head of Science and Innovation for Climate and Energy, Department for Business, Energy and Industrial Strategy

Professor Corinne Le Quéré FRS, University of East Anglia

Audience Q&A

12.30pm **Lunch Break**

1.30pm **Session 3: What do the IPCC findings mean for UK policy?**

Chair: Professor Corinne Le Quéré FRS, University of East Anglia

Panel members:

Professor Paul Monks FRMetS FRSC, Chief Scientific Adviser, Department for Business, Energy and Industrial Strategy

Professor Gideon Henderson FRS, Chief Scientific Adviser, Department for Environment, Food & Rural Affairs

The Baroness Brown of Cambridge DBE FREng FRS, Crossbench Member of the House of Lords and Chair of the Adaptation Committee of the Climate Change Committee

Professor Andrew Jordan, University of East Anglia

Audience Q&A

2.45pm Break

3.15pm Keynote Address: Climate and Justice

Chair: Professor Gabi Hegerl FRS, University of Edinburgh

Speaker: Dr Debra Roberts, co-chair WGII and Sustainable and Resilient City Initiatives Unit in eThekweni Municipality, South Africa

Audience Q&A

3.45pm Session 4: Implications of IPCC findings for the energy and land-use sectors

Part a) Energy sector

Chair: The Baroness Brown of Cambridge DBE FREng FRS, Crossbench Member of the House of Lords and Chair of the Adaptation Committee of the Climate Change Committee

Panel members:

Benj Sykes, Vice President, UK Offshore and Head of Market Development, Consenting & External Affairs, Ørsted

Emma Pinchbeck, Chief Executive, Energy UK

Toby Park, Head of Energy and Sustainability, The Behavioural Insights Team

Audience Q&A

Part b) Agriculture, forestry and land-use sectors

Chair: Professor Pete Smith FRS, University of Aberdeen

Panel members:

Minette Batters, President, NFU

Dr Stephen Cornelius, Chief Adviser on Climate Change, WWF-UK

Dr Helen McKay OBE, Chief Forester for Scotland, Scottish Forestry

Audience Q&A

5.15pm Closing remarks

Professor Eric Wolff FRS, University of Cambridge

5.30pm

Evening reception

Refreshments will be served in the City of London Rooms and the keynote address will be in the Wellcome Trust Lecture Hall at 6pm

Keynote address: An economic perspective on the implications of AR6

Chair: Professor Peter Bruce FRS

Speaker: Professor Lord Nicholas Stern CH Kt FBA FRS

7:00pm

Evening reception ends

Programme Day 2: Research needs to advance understanding of climate change

- 9:00am** **Session 1: New scientific challenges**
Chair: Professor Keith Shine FRS, University of Reading
Speakers:
Dr Valérie Masson-Delmotte, Laboratoire des Sciences du Climat et de l'Environnement, Co-chair of Working Group I
Professor Hans-Otto Pörtner, Head of Integrative Ecophysiology, Alfred-Wegener-Institute, Co-chair of Working Group II
Professor Jim Skea, Imperial College London, Co-chair Working Group III
Audience Q&A
- 10.30am** **Break**
- 11:00am** **Session 2: Reflection on scientific open questions and opportunities by IPCC authors**
Chair: Professor Richard Betts MBE, Head of Climate Impacts Research, Met Office Hadley Centre, and Chair in Climate Impacts, University of Exeter
Speakers:
Extreme events and Reasons For Concern
Dr Friederike Otto, Imperial College London
Professor Rachel Warren, University of East Anglia
Water and food security
Professor Richard Allan, University of Reading
Professor Andy Challinor, University of Leeds
The carbon cycle and decarbonisation
Dr Joeri Rogelj, Imperial College London
Professor Pierre Friedlingstein, University of Exeter
Land use change and the Sustainable Development Goals
Dr Joanna House, University of Bristol
Professor Lindsay Stringer, University of York
Audience Q&A
- 1:00pm** **Lunch Break**
- 2:00pm** **Session 3: Showcase of new ideas and directions in climate change research**
Chair: Dr Rachel Lowe, London School of Hygiene and Tropical Medicine
Speakers:
Dr Thomas Bauska, British Antarctic Survey

Dr Celia Martin Puertas, Royal Holloway, University of London
Dr Christopher O'Reilly, University of Reading
Dr Corwin Wright, University of Bath

Dr Martin Wearing, University of Edinburgh
Dr Mélanie Roffet-Salque, University of Bristol
Dr Philip Mannion, University College London
Dr Edward Gryspeerdt, Imperial College London

Dr Carly Reddington, University of Leeds
Rupert Stuart-Smith, University of Oxford
Dr Simon Dikau, London School of Economics
Dr Katharine Steentjes, Cardiff University

3:00pm **Break and Poster Exhibition in City of London Room 3**
Meet the researchers and view their posters

3.30pm **Keynote Address: Links between intergovernmental science assessments of climate change and biodiversity and how to best collaborate in the future**
Chair: Professor Eric Wolff FRS

Speaker: Dr Anne Larigauderie, Executive Secretary of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

Audience Q&A

4:00pm **Session 4: What are the research needs to support global climate policy and serve future IPCC assessments?**
Chair: Professor Ted Shepherd FRS, University of Reading.
Panel members:
Professor Piers Forster, University of Leeds
Professor Camille Parmesan, University of Plymouth
Professor Pete Smith FRS, University of Aberdeen
Professor Gabi Hegerl FRS, University of Edinburgh
Audience Q&A

4.45pm **Closing Remarks**
Professor Eric Wolff FRS, University of Cambridge

5:00pm **CLOSE**