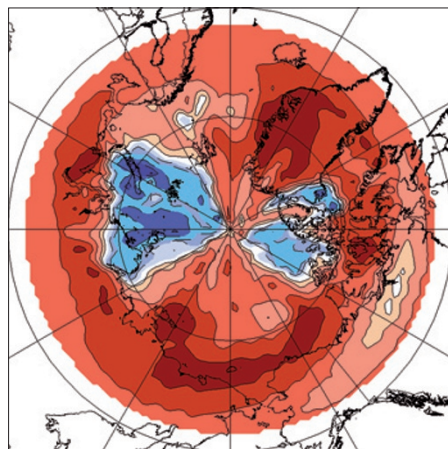


Pollutants from the past

The abundance of many persistent organic pollutants (POPs) has decreased in the Arctic atmosphere over recent years owing to regulation of their production and use. However, many POPs are resistant to degradation and remain stored in reservoirs such as sea water and ice. Climate change could remobilize POPs in the Arctic, but observational evidence for this effect is limited. An analysis by Jianmin Ma and colleagues — based on 20-year-long records of POP concentrations in the Arctic atmosphere and modelling evidence — shows that warming is releasing POPs trapped in snow and ice and remobilizing them into the atmosphere, increasing the risk of environmental and human exposure to these toxic chemicals.

[Letter p255; News & Views p247]



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An energetic approach

The hydrological cycle is ultimately driven by solar energy, so it is not surprising that energy constraints affect the response of rainfall to climate change at a global level. Local precipitation changes have conventionally been analysed using the water vapour budget. An analysis by Caroline Muller and Paul O’Gorman shows that by including changes in horizontal energy transport the energetic approach can be extended to understand how regional rainfall responds to greenhouse-gas-driven warming. This finding could help to bridge the gap between global and regional precipitation changes.

[Letter p266]

A time to move

Managed relocation is a controversial climate adaptation strategy that involves moving species to more suitable habitat. Although the scientific community has

debated the merits of such a scheme, species are already being moved to new areas that are predicted to be more suitable under climate change. Now Eve McDonald-Madden and her team construct a new quantitative decision framework that provides a way of determining the optimal timing for relocating species. They find that in some cases — such as when a small population would benefit from time to grow — hasty relocation efforts are ill-advised.

[Letter p261]

Green lifestyle choices

In many cases, the ‘green’ behaviour of individuals in one area is off-set by their behaviour in other areas. Researchers are concerned about these so-called off-setting behaviours, mainly because governments tend to overlook them when assessing environmental policies. In the case of climate change, policymakers usually focus on the potential impacts of energy-efficiency measures without accounting for the ways in which they can affect people’s behaviour. Klaus Hubacek and Dabo Guan discuss the findings of a new analysis by Angela Druckman and colleagues, which investigates the net environmental impact of UK households adopting energy-efficiency measures, including reducing household temperatures, eliminating food waste, and walking or cycling for short trips.

[News & Views p250]



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Smart energy

One of the key challenges for renewable energy generation is intermittent supply. As a result, existing power grids frequently need to rely on baseload power from conventional power-generating sources when the wind is not blowing or the Sun is not shining. At the Equinox Summit in June, experts met to discuss the potential for alternative-energy technologies in 2030. Hannah Hoag reports from the

summit and highlights some of the approaches and technologies to improve storage and distribution, including the genius grid and flow batteries.

[News Feature p233]



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Same difference

The extraction of oil from Canada’s tar sands has become an increasingly controversial issue, in part because of potential damage to pristine wilderness and not least because the resulting fuel is responsible for 23% more ‘well-to-wheel’ emissions than conventional oils. Now, the issue of whether oil from oil sands should be treated separately from regular crude oil at a policy level is heating up, as European policymakers attempt to regulate the higher greenhouse-gas emissions associated with its extraction from sites in Canada. Sonja van Renssen investigates whether proposals to regulate oil from oil sands independently of crude oil are legitimate, given the variation in emissions from crude varieties.

[Policy Watch p241]

Conflicting interests

Following the release of its latest report on renewable energy — the *Special Report on Renewable Energy Sources and Climate Change Mitigation* (SRREN) — the Intergovernmental Panel on Climate Change (IPCC) again stands accused of potential misconduct. But is this another cheap shot at the body that is responsible for the consensus on climate change, or does the IPCC need to be more disciplined in upholding its own neutrality standards? And what does all this mean for the IPCC’s new conflict-of-interest policy? Commentaries by environmental writer Mark Lynas and co-chair of the IPCC’s Working Group III Ottmar Edenhofer provide their perspectives on the controversy.

[Commentaries p228 and p229; Editorial p227]