

## Arctic science cannot afford a new cold war

**As Russia prepares to take the helm of the Arctic Council, polar communities need regional powers to forge warmer ties.**

**R**ecords are being broken in the Arctic, but not the kinds to celebrate. Last summer, Greenland lost more than twice as much ice as the yearly average since 2003. And in this century, the rate of ice loss from Greenland will exceed anything seen in the past 12,000 years, researchers report in this issue (J. P. Briner *et al. Nature* 586, 70–74; 2020).

Such changes are drastically altering the lives of the region's four million people. Vanishing sea ice has fundamentally changed or even destroyed Indigenous Arctic communities' subsistence hunting. As permafrost thaws and wave heights rise, whole villages are moving inland to escape coastal erosion.

But the Arctic is not just a landscape of nature and change. It is also the arena in which Canada, the northern European nations, Russia, the United States and now China compete with each other for regional influence, trade routes and the search for hydrocarbons.

Unlike Antarctica, the Arctic has no international treaty through which nations commit to peace, and to cooperation in science. Instead, most Arctic nations have a military presence in the region and they jostle for oil, gas and mineral resources, as well as newly opened shipping routes. But the eight Arctic states, along with six Indigenous peoples' organizations, do have something else. All are members of the Arctic Council – an international forum that exists to facilitate science-based cooperation on issues including environmental protection and marine sustainability. Members share research expertise and communicate findings to policymakers, including the member countries' foreign ministers, who attend biennial meetings.

Every two years, a different member country takes over the role of council chair. And, in 2021, it will be the turn of Russia, which will succeed Iceland. Relations between East and West are at their lowest point since the cold war, and most high-level dialogue between the United States and Russia has been suspended. Experts in Arctic policy are waiting to see whether this will affect how the council works once Russia takes the lead. The Arctic Council might be among the last of the major international forums still functioning in which Russia remains a crucial partner.

This is why it is imperative that both the incoming chair and the representatives of the Arctic Council's member countries oversee a smooth handover, and ensure that the council's vital scientific work isn't disrupted by a

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potentially deteriorating situation between Russia, China and their Western neighbours.

In 2017, the Arctic countries inked a scientific cooperation agreement that has already paid dividends. Scientists from the member countries have established a number of expert working groups, including the Arctic Monitoring and Assessment Programme. This produces timely reports for decision-makers, such as one on the extent of ocean acidification and another on the risks of environmental pollution. There is also a project studying emissions from biomass burning across the Arctic – during each of the past two summers, Arctic wildfires have released more carbon dioxide than in any previous year since 2003.

Arguably, one of the council's greatest strengths can also be interpreted as a weakness. Its decisions – including proposals for research projects – require unanimous agreement from members. It takes just one country to disagree for a carefully crafted agreement to come to nothing, as happened last year, when the council failed to produce the customary joint declaration at the end of a meeting of ministers in Rovaniemi, Finland. This was because the United States was unwilling to agree to language highlighting the threat of climate change.

Depending on the outcome of the US presidential elections in November, the United States could choose to engage less – or even obstruct the council's work – once Russia takes over the chair. And that will put pressure on Russia to respond in kind.

At the same time, the role of Arctic Council chair is important to Russia because it allows the country to showcase itself as a constructive and influential regional partner, says Arctic policy analyst Heather Exner-Pirot. Moreover, Russia's powerful foreign minister, Sergey Lavrov, now 16 years in the post, is among the council's more experienced senior ministerial representatives. Lavrov will know that any nation that chairs a multilateral organization needs to act in a strictly neutral way, using its convening power to reach a consensus and help resolve disputes. The other Arctic nations, too, need to commit to working constructively with Russia. And it is crucial that Indigenous groups continue to have an influential seat at the table.

Friends of Europe, a Brussels-based think tank, argues in a report ([go.nature.com/33hgvgp](https://go.nature.com/33hgvgp)) that individual nations have little to gain from engaging in competitive behaviour in the Arctic. The region is unlikely to become a leading source of oil, nor is it likely to replace the world's main shipping routes. Even as it warms, much of the Arctic remains difficult to access.

The COVID-19 pandemic has also thrown Arctic issues into a new light. Nations have fewer resources with which to pursue their ambitions in energy and trade, including exploitation of this fragile region. And the virus has highlighted the need for countries to work better together to prepare for international disasters – oil spills in the Arctic being one example.

As the framework through which many Arctic governance issues are worked out, the Arctic Council needs to maintain its strength and integrity as Russia takes the reins – and the focus on climate change must not be dimmed.

The Antarctic Treaty was agreed in 1959 during the cold war, an earlier period of severe international tensions. But it happened, in part, because countries chose to pull back on their competitive ambitions as scientific research on the continent began to accelerate. It shows the importance of research to peace-building, and provides hope – even in the current dark times – that the Arctic's peoples could secure a more sustainable future.

## Vaccine confidence needs radical transparency

**Public trust in a potential COVID-19 vaccine is low. Drug companies and their academic partners must disclose protocols and results.**

**A**s clinical trials get under way for COVID-19 vaccines, a worryingly high number of people around the world are saying they don't plan to get inoculated – an act that could put them in harm's way and delay the end of the pandemic.

Concerns about approvals being rushed, suspicion of the pharmaceutical industry and a pandemic of vaccine misinformation are combining to erode the public's trust in the process by which vaccines are approved for use.

And fears of political interference are not helping. In the United States, President Donald Trump has repeatedly contradicted public-health experts by saying that a vaccine could be available by the November presidential election – prompting concerns that his administration could put pressure on regulators to approve a vaccine before data show that it is effective and safe. Similar concerns have dogged the rapid approval of vaccines for clinical use in China and Russia.

The pharmaceutical industry in particular must do more to build and maintain vaccine confidence. As we report in a News story on page 16, companies are in talks on this very question. They, and their academic partners, must agree to a higher standard of transparency in their communication of the process and reporting of clinical trials.

In early September, a multi-country clinical trial of a leading vaccine candidate that is being developed by AstraZeneca and the University of Oxford, UK, was paused while researchers evaluated a possible safety risk affecting one of its participants. Pauses are not uncommon in such trials; it's a sign that investigators are following safety protocols strictly. That's reassuring, considering the pressure scientists are under to test this vaccine rapidly.

But the fact that the trial's leaders chose not to engage with questions from researchers, reporters and members of the public is adding to safety concerns. Although the trial

has been restarted in Brazil, South Africa and the United Kingdom, it remains on hold in the United States.

Confidentiality is important in a trial. Participants' privacy needs to be respected, and prematurely releasing some information could bias investigators while a trial is ongoing.

But there are fewer good reasons to keep other information secret. For example, pharmaceutical companies tend not to publish the details – known as protocols – of how a trial is to be conducted and assessed. And in some cases, they do not release actual clinical trial results.

Making protocols and results public allows researchers independent of the trial to assess the data, and verify reported results and claims. It also enables researchers to use the data in new ways, which could prompt further studies. This maximizes the benefits of a clinical trial for society, not only resulting in a more transparent evaluation of the therapy being tested, but potentially leading to better vaccines in the long run.

Companies counter that such details can reveal crucial information to their competitors. But they must find a way to balance this with their responsibility to study participants, without whom there would be no trials. Participants might hope to benefit from a trial themselves, but they also put their health at risk to help further research that can benefit society at large. The best way to maximize the chances of achieving this objective is to open the trial protocol and results to scrutiny.

In response to these arguments and pressure from researchers, the drug companies seem to be listening. First Moderna, Pfizer and AstraZeneca, and then, last week, Johnson & Johnson and its partners, have made public clinical-trial protocols for vaccine candidates that are in phase III clinical trials – each involving tens of thousands of participants. The details in these protocols show how the effectiveness of these vaccines will be evaluated; the possible timing of results; and what criteria could be used to halt a trial early, if a vaccine clearly works.

Such openness is likely to continue for COVID-19 vaccines during the pandemic. But it cannot end with this virus. Future trials need transparency, too.

Those running vaccine trials and studies of potential COVID-19 treatments must consider how to change. It should be possible for clinical-trial sponsors to be more transparent, not only with protocols, but also with data gleaned from trials. The question is how to do this.

History has shown that once public trust in vaccines has been compromised it is difficult to win back – and that distrust in one vaccine can fuel concerns about others. People wary of a COVID-19 vaccine might be less likely to get vaccinated against other ailments, fuelling the vaccine-hesitancy movement that has already led to dangerous resurgences of diseases such as measles that were once largely contained. The causes of vaccine hesitancy are complex. But delays and reluctance in communicating results, or outright secrecy, do not help. Researchers, publishers, regulators, policymakers – and especially pharmaceutical companies – need to accept this if we are to succeed in quickly disrupting the path of the pandemic.

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