

Project narrative: Translating climate science for international law

The aim of this project is to enhance our understanding of how (climate) science has been used, and can be used, in the development, interpretation and application of international legal rights, obligations and procedures, including litigation, that are relevant to climate change. It examines how scientific knowledge related to climate change – including its causes, impacts, future risks and mitigation – can be incorporated into, or used by, international law.

We use ‘climate science’ as an umbrella term that encompasses scientific disciplines that study the structure and dynamics of the Earth’s climate system, including atmospheric science, physics, chemistry, oceanography, glaciology, meteorology, and more.¹ Climate science includes the study of anthropogenic climate change, and includes research on the detection and attribution of causes and impacts of climate change as well as the projection of future climate change.²

The use of scientific findings and arguments into international law on climate change is necessary and inevitable. A wealth of scientific evidence is available on the causes, impacts, adaptation to and mitigation of climate change. Such scientific findings are needed to better grasp the (causes and extent of the) problem as well as possible solutions, and also can give concrete substance to legal norms and concepts. Knowledge stemming from (climate) science is vital to understand, interpret and apply fundamental legal notions such as causation, risk, precaution, proof, highest possible ambition and significant or irreversible harm. As such, (climate) science can have a key role to play in giving concrete content to international obligations and establishing causal links between the (in)action of actors contributing to climate change and climate impacts.

The translation of complex scientific information from climate science to international law is not an easy feat. It has been said that legal scholars and practitioners tend to treat science and international law as “virtual strangers”.³ Lawyers and judges often will lack the necessary training to interpret and evaluate arguments based on scientific evidence, leaving them poorly positioned to analyse scientific information for legal purposes; particularly since such output is often expressed probabilistically, through cascading levels of likelihood and degrees of confidence.⁴ While the scientific uncertainty that is inherent in climate science,⁵ is not entirely unfamiliar to the discipline of law (e.g. risk regulation, precautionary principle), assessing the

¹ Wendy Parker, "Climate Science", *The Stanford Encyclopedia of Philosophy* (Fall 2023 Edition), Edward N. Zalta & Uri Nodelman (eds.) <https://plato.stanford.edu/archives/fall2023/entries/climate-science/>; Richard Bradley et al, “The Philosophy of Climate Science”, *The Internet Encyclopedia of Philosophy*, ISSN 2161-0002, <https://iep.utm.edu/philosophy-of-climate-science/>.

² Wendy Parker, "Climate Science", *The Stanford Encyclopedia of Philosophy* (Fall 2023 Edition), Edward N. Zalta & Uri Nodelman (eds.)

³ Katalin Sulyok, *Science and Judicial Reasoning: The Legitimacy of International Environmental Adjudication* (Cambridge University Press 2020) 4.

⁴ Michael D Mastrandrea and others, ‘Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties’ (2010), esp. 3.

⁵ ‘Scientific Uncertainty’ (2019) 9 *Nature Climate Change* 797.

legal implications of the uncertainties of climate science in legal terms is a major challenge in international environmental law and adjudication.⁶

In turn, climate scientists may not always ask the questions relevant to international legal argument, since they may generally not be aware of the specific requirements of international court processes, legal argumentation and evidentiary standards. Scientists may even frame or communicate their findings in a manner that can inadvertently lead to misinterpretation by those that have been socialized in a legal epistemological frame. One can hardly expect otherwise, as climate scientists will operate within the standards and practices of their own disciplines. Yet, if their findings are to be made relevant for development and application of international law, some process of interaction needs to take place.

There is thus an urgent need to bridge this gap between disciplines; to engage in collaboration and communication that transcends disciplinary boundaries in order for insights from climate science to be given proper weight in international law on climate change and climate litigation.

This will allow international lawyers to increase their familiarity with contemporary scientific research on climate change and with what climate science has to offer for legal purposes. This would allow for a proper framing and evaluation of international legal arguments based on climate science; both in legal scholarship and in legal practice.

For their part, climate scientists would become familiar with the limits and opportunities of law and legal evidentiary procedures, so as better to identify topics of scientific enquiry, or develop methodologies (or research outputs) of relevance to international law and litigation. This would enable climate scientists to collaborate better with lawyers, and frame research so as to maximise its potential real-world impacts.

⁶ Katalin Sulyok, *Science and Judicial Reasoning: The Legitimacy of International Environmental Adjudication* (Cambridge University Press 2020) 37; and further Jean d'Aspremont and Makane Moïse Mbengue, 'Strategies of Engagement with Scientific Fact-Finding in International Adjudication' (2014) 5 *Journal of International Dispute Settlement* 240, 240; Jorge E Viñales, 'Legal Techniques for Dealing with Scientific Uncertainty in Environmental Law' (2010) 43 *Vanderbilt Journal of Transnational Law* 437, 439; Tracey Kanhanga, 'Scientific Uncertainties: A Nightmare for Environmental Adjudicators' in Christina Voigt (ed), *International Judicial Practice on the Environment: Questions of Legitimacy* (Cambridge University Press 2019).