UC SANTA BARBARA

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After Paris

The impacts of climate change are evident: extreme weather, diminishing snow and ice and rising sea levels.

The Paris Agreement in December 2015 marked a turning point in climate negotiations, with 195 governments agreeing to take global action to tackle climate change. As a result, the focus of climate science research shifted to reflect those changing drivers and focus on understanding the nature of the change.

No one knows this better than Stephen Belcher, chief scientist of the United Kingdom's Met Office, an organization akin to the National Weather Service in the United States. He will discuss the challenges facing climate scientists at UC Santa Barbara's Kavli Institute for Theoretical Physics at 7 p.m. Wednesday, May 30.

"Paris set a really aggressive target in terms of the amount of carbon that we can emit into the atmosphere," Belcher explained. "Understanding that carbon budget and becoming more accurate and precise in our understanding of that is a key challenge."

With a doctorate in fluid dynamics from the University of Cambridge, Belcher has studied atmospheric and oceanic turbulence in depth. He noted that the atmosphere delivers our weather systems and, ultimately, the extremes of climate change. What's more, he added, the ocean absorbs 97 percent of the extra heat in the climate system — and how that additional heat is distributed in the ocean has important implications for future weather systems.

In his current position, Belcher has taken that knowledge to a practical level at the Met Office. “It is time for climate science to move out of the seminar room of academic science and into a practicable service realm, motivated by the need to provide governments, industry and society with actionable advice,” Belcher said. “Robust, impartial and targeted climate science is needed to manage the risks of climate change, including developing strategies for lowering greenhouse gas emissions and preparing for the changes to our climate that are unavoidable.”

As leader of the Met Office Science Programme, which has earned a worldwide reputation for excellence both in weather and climate science, Belcher directs a team of more than 500 researchers who translate that science into weather and climate services. In addition, he represents the Met Office on science and research technology to the U.K. government, guiding the position of Met Office science in the country’s wider environmental science landscape.

He has published more than 100 peer-reviewed papers on the fluid dynamics of atmospheric and oceanic turbulence. After completing his doctorate, Belcher became a research fellow at Stanford and Cambridge universities. In 1994, he moved to the Department of Meteorology at the University of Reading, where he served as head of the School of Mathematical and Physical Sciences between 2007 and 2010. He joined the Met Office in 2012.

The lecture is open to the public. However, reservations are required and can be made at https://www.kitp.ucsb.edu/public-lecture-rsvp or by calling (805) 893-6324 by May 25. Reserved seats will be held until 6:50 p.m. The lecture is sponsored by Friends of KITP.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.