

Veerabhadran Ramanathan

Distinguished Professor of Atmospheric and Climate Sciences at the Scripps Institution of Oceanography, University of California, San Diego.

Ramanathan discovered the greenhouse effect of chlorofluorocarbons (CFCs) in 1975 and showed that a ton of CFC-11 and CFC-12 has greater global warming effect than 10000 tons of CO₂. This discovery established non-CO₂ gases as a major contributor to planet warming and also enabled the Montreal protocol to become the first successful climate mitigation policy. For this work, he was awarded the Tyler Prize in 2009. In 1980, he was one of the first to statistically predict that global warming would be detected above the background noise by 2000—later verified by the IPCC-UN in 2001. He led a NASA study with its climate satellite to show that clouds had a net cooling effect on the planet and quantified the radiation interactions with water vapor and its amplification of CO₂ warming. He led international field campaigns and developed unmanned aircraft platforms for tracking brown clouds pollution worldwide. His work has led to numerous policies including the formation of UN's Climate and Clean Air Coalition.

He founded and designed Project Surya with Nithya Ramanathan and Tara Ramanathan; an extended effort to characterize and mitigate climate and health impacts of cooking with solid biomass and to protect the poorest three billion from climate change. He is now leading a University of California climate solutions effort which launched a course on interdisciplinary climate solutions.

He was honored as Pope Francis' science advisor to the historic 2015 Paris climate summit and also advises California Governor Jerry Brown. He was named the UN Climate Champion in 2013 and elected to the US National Academy and the Royal Swedish Academy. Foreign Policy named him a thought leader in 2014; and in 2018, was named the Tang Laureate for sustainability science.