By 2050, just 40 years from now, there will be an estimated nine billion humans on the planet. It is broadly thought that a larger population leads to greater greenhouse emissions. So on the face of it, having fewer people might look like one reasonable approach to mitigating climate change. But is it? How much slower might population grow? Would slower population growth really affect emissions very much? And what role might policies play in bringing about these changes? In addition, it's not just the sheer size of populations that matters to emissions levels. Other aspects, such as rates of ageing and urbanization, can be critical and are poorly accounted for in many climate change models.

When Brian O'Neill turned his attention to the connection between climate and population research eight years ago, he was surprised to find it a rather sparsely populated intersection. Looking for a sociologically more inclusive approach to the work he did in climate modeling, he decided to incorporate the one important factor that he felt was being left out of emissions projections: people -- how many there are, how old they are and where they live. His 50th anniversary lecture will share the critical, and sometimes startling, results of his work.

Brian leads the Integrated Assessment Modeling Group at the National Center for Atmospheric Research (NCAR). Last year he was named the first ever John W. Firor and Judith E. Jacobsen Fellow for population and climate change. Until recently, he led the Population and Climate Change Program at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. Brian is the lead author of the 2001 book, *Population and Climate Change*. He served as a lead author for the Intergovernmental Panel on Climate Change’s Fourth Assessment Report on the subject of impacts, adaptation and vulnerability. Brian holds a Ph.D. in Earth Systems Science and an M.S. in Applied Science, both from New York University. His research interests are in the field of integrated assessment modeling of climate change, which links socio-economic and natural science elements of the climate change issue in order to address practical, policy-relevant questions. Particular areas of focus include the relationship between demographic change and greenhouse gas emissions, the characterization of uncertainty and its role in decision analysis, and the link between long-term climate change goals to shorter-term actions.

This talk is sponsored by the University Corporation for Atmospheric Research (UCAR). This year, UCAR and the National Center for Atmospheric Research (NCAR) celebrate 50 years of discovery and the application of scientific research to serve society.

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