Michael MacCracken

USA

Dr. Michael MacCracken is Chief Scientist for Climate Change Programs with the Climate Institute in Washington DC. After graduating from Princeton University with a B.S. in Engineering in 1964 and from the University of California with a Ph.D. in Applied Science in 1968, he joined the University of California's Lawrence Livermore National Laboratory (LLNL) as an atmospheric physicist. Building on his Ph.D. research, which involved constructing one of the world's first global climate models and using it to evaluate suggested hypotheses of the causes of Pleistocene glacial cycling, his LLNL research focused on seeking to quantify the climatic effects of various natural and human-affected factors, including the rising concentrations of greenhouse gases, injections of volcanic aerosols, albedo changes due to land-cover change, and possible dust and smoke injection in the event of a global nuclear war. In addition, he led construction of the first regional air pollution model for the San Francisco Bay Area in the early 1970s and an early inter-laboratory program researching sulfate pollution and acid precipitation in the northeastern United States in the mid 1970s.

From 1993-2002, Dr. MacCracken was on assignment from LLNL as senior global change scientist for the interagency Office of the U.S. Global Change Research Program (USGCRP) in Washington DC. He served as the Office's first executive director from 1993-97 and then as the first executive director of USGCRP's coordination office for the first national assessment of the potential consequences of climate variability and change from 1997-2001. This assessment described impacts for regions across the country and for the health, agriculture, forest, water resource, and coastal sectors of the economy. Dr. MacCracken also coordinated preparation of the official U.S. Government reviews of IPCC's second and third assessment reports, while also serving as a contributing author on several IPCC chapters and as review editor for the North America chapter of IPCC's fourth assessment report.

Dr. MacCracken joined the Climate Institute in 2002 following his retirement from LLNL. His attention and contributions since then have focused on the potential beneficial climatic effects of sharply limiting emissions of non-CO_2 greenhouse gases (i.e., methane, precursors of tropospheric ozone, and hydrofluorocarbons) and aerosols (particularly black carbon), and of exploring the potential, if needed, for climate engineering to counterbalance the warming influences of greenhouse gas emissions, particularly to alleviate specific regional impacts of global warming. From 2002-04, he served as a member of the Assessment Integration Team for the Arctic Climate Impact Assessment. From 2005-07, he served as a co-lead author for the report *Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable* that was prepared by an international panel for the United Nations Commission on Sustainable Development that was sponsored by Sigma Xi and the UN Foundation.

In addition to his research and program leadership activities, Dr. MacCracken participated in and led a number of international activities. From 1981-90, he participated as a member of the US-USSR Project on Climate Change, serving from 1984-90 as the US co-chair. He became a member of the International Commission on Climate (ICCL) of the International Association of Meteorology and Atmospheric Sciences (IAMAS) in 1987, serving as president from 1995-2003. He was elected president of IAMAS in 2003, serving to 2007, and also served as a member of the

executive committee of the International Union of Geodesy and Geophysics (IUGG) during this time. He is currently a member of IUGG's Union Commission on Climatic and Environmental Change (CCEC) From 2003-11, on behalf of IUGG, he served as the international atmospheric representative to the executive committee of Scientific Committee on Oceanic Research (SCOR). Dr. MacCracken has also submitted seven legal declarations in support of US national efforts to limit climate change. His affidavit on standing relating to global climate change and impacts on particular regions of the US was cited favorably by Justice Stevens in his landmark opinion in the April 2007 decision by the US Supreme Court allowing Environmental Protection Agency (EPA) regulation of CO_2 emissions.