

Abstract: I will discuss the development of our understanding of the chemical perturbation of stratospheric ozone. I first became involved in stratospheric research 40 years ago during a postdoctoral appointment at the University of Michigan. At the time, the primary issue with stratospheric ozone was the potential impact of nitrogen oxides from proposed supersonic aircraft. We found an interesting side issue, chlorine. When Molina and Rowland proposed the chlorofluorocarbon-ozone theory of ozone depletion (in 1974), chlorine suddenly became the main issue. Barely over a decade later (1987) the nations of the world had negotiated the Montreal Protocol. The Protocol is designed to reduce and eventually eliminate a wide variety of ozone-depleting substances. The rapid progress in understanding the CFC-ozone issue was facilitated by decades of research in laboratory chemistry, in stratospheric meteorology, and in field measurement capability. I will describe some of this history and how it fed into the rapid scientific development of the understanding of ozone depletion. I will briefly review our current understanding of the projected future for stratospheric ozone.