

EDITORIAL

This special issue is an initial product of the American Meteorological Society's initiative to enhance and expand the scientific coverage of atmospheric chemistry within its publications and its conferences. Because of the Society's strong atmospheric dynamics tradition, many of its members contribute significantly in scientific areas where chemical interactions influence, and/or are influenced by, complex fluid dynamics interactions. Accordingly, this AMS initiative focuses especially on those topics where interactions between transport and chemistry preclude their fruitful examination as isolated phenomena, and composite analysis is required.

There are numerous circumstances under which this condition becomes an important consideration. Moreover, such interactive linkages occur on a variety of atmospheric scales, ranging from molecular, turbulent, and mesoscale phenomena up through those that are global in extent. On molecular scales, for example, microscopic mixing often is a strong determinant of chemical conversion rates that occur in heterogeneous, dispersed-phase systems such as clouds and aerosols. Turbulent phenomena are well known to play an important role affecting chemical conversion, especially in plume environments where concentration-gradient scales are similar to those of the local turbulent field. Key examples of mesoscale phenomena include chemical behavior in storm systems and in urban environments. Well-known examples of global-scale processes include ozone formation and destruction associated with polar-vortex breakup, and general transport-reaction relationships of halocarbons in the stratospheric ozone cycle.

The papers appearing in this issue were presented in Anaheim, California, at the January 1993 Conference on Atmospheric Chemistry. A second Conference on Atmospheric Chemistry was held in Nashville, Tennessee, at the January 1994 Annual Meeting. Articles from this second conference will be published in forthcoming issues of the *Journal of Applied Meteorology* and the *Journal of Atmospheric Chemistry*.

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