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SYSTEMATIC STRATOSPHERIC-TROPOSPHERIC EXCHANGE
VIEWED FROM ISENTROPIC COORDINATESDonald Johnson
University of Wisconsin

Within the atmosphere's stratification, stratospheric-tropospheric exchange of mass and other properties occurs primarily through quasi-horizontal transport processes within baroclinic wave regimes and through diabatic processes either in the form of deep convection or through systematic meridional variation of incoming and outgoing radiation. These exchange processes include both extrusions of stratospheric air into the troposphere and intrusions of tropospheric air into the stratosphere. The physical processes that govern both meridional and vertical exchange processes within isentropic coordinates are summarized for the global circulation.