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**Cover**

Sulfur dioxide cloud from eruption of El Chichón appears as a yellow patch across southern Mexico in a false color total ozone map produced with the Nimbus 7 total ozone mapping spectrometer, 5 April 1982. The eruption on 4 April resulted in the 1-kilometer-wide crater shown in the insert photograph. The sulfur dioxide cloud was detected by its ultraviolet absorption at wavelengths used to measure total ozone. The blue area surrounding the volcanic cloud portrays the normal low total ozone found in the tropics. The ozone generally increases at higher latitudes as shown with red and brown colors. See page 1377. [Cover photo designed by Ronald J. Molter; insert photo, Robert M. Taylor; false color image, James A. Gatlin—all at NASA/Goddard Space Flight Center, Greenbelt, Maryland 20771]