

# Global tropopause height variabilities derived from FormoSat-3/COSMIC GPS occultation data

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## Abstract

The FormoSat-3/COSMIC satellite mission has been providing about 2000 GPS radio occultations per day over the globe for the past few years. This study discusses global tropopause height variabilities derived from the FormoSat-3/COSMIC data for the period September 2006–November 2009. We use the atmospheric temperature profiles (compiled by and courtesy of Dr. C. C. Hsiao), and determine the tropopause height field (THF) directly from these profiles, with reasonably high vertical resolution after trade-off with horizontal and temporal resolutions (by season or by month). Seasonal THF variabilities are calculated, and the non-seasonal THF variabilities analyzed by means of the empirical orthogonal function (EOF) technique both on global and regional scales. We will examine the spatial-temporal behavior of the dynamic THF, and more importantly identify its changes that may be related to the global climatic change.