

Climate applications of ground-based GPS measurements of water vapor

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A NCAR global, 2-hourly ground-based GPS precipitable water (PW) dataset (1995-present) is created and is updated annually. The dataset has been proven very useful for various climate applications. Given its high accuracy, the GPS PW is used to validate operational radiosonde and satellite data, and global reanalysis products. The dataset is also used to document the PW variations from diurnal to long-term time scales.