



Comparison of UTH measurements from satellite-borne IR and MW sensors

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Water vapour is the most relevant greenhouse gas. Especially in the upper troposphere water vapour has a dominating role in the radiative budget as well as its link to the formation of clouds. The water vapour content in the upper troposphere is described by the upper tropospheric humidity (UTH). Satellite borne instruments offer the opportunity to measure UTH with global coverage both with good horizontal and temporal resolution and offer a good base to validate climate models which show large discrepancies in their UTH products. However, instrumental peculiarities and the spectral regions used for the measurements lead to certain differences in the results. Measurements of UTH from the infrared sensor AIRS are compared with UTH results obtained from the microwave instruments HSB and AMSU-B. The differences are assessed and analyzed. Goal is a consistent and well described timeseries of UTH datasets from complementary satellite-borne instruments which help to validate and improve UTH represented by different climate models and understand differences.