

SPARC WAVAS-II Overview

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The goals of SPARC WAVAS-II are to 1) provide quality assessment of upper tropospheric to lower mesospheric satellite records since the early 1990s, 2) provide validation against ground-truth instruments, 3) assess inter-instrument biases, depending on altitude, location, and season, 4) assess representation of temporal variations on various scales, 5) include data records on isotopologues, and 6) provide recommendations for usage of available data records and for future observation systems. To achieve these goals, many intercomparisons between satellite profiles and comparisons with ground-based measurements have been undertaken. Upper tropospheric comparisons have also been done, as well as comparisons between derived quantities (such as H₂O tape recorder speed and seasonal cycles). The systematic comparisons between satellite profiles and all the available frost point balloon-borne hygrometers and ground-based microwave radiometers have never been done before. An overview of the assessment process and key results will be presented.