**Thirty years of total ozone measurements with a Brewer spectrophotometer at Thessaloniki: climatology, comparison with SBUV 8.6 and extreme events**

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**Abstract** A single monochromator Brewer MKII spectrophotometer operates in Thessaloniki, (40.5ºN, 22.9ºE), continuously since March 1982 measuring the Total Ozone Colum (TOC) from direct solar radiation measurements. The data availability of the Brewer at Thessaloniki is fairly good for the entire period, exceeding 70% for the majority of the years. In this study we present a comparison of thirty years of TOC measurements derived from the Brewer with Version 8.6 of the dataset derived from the satellite instrument SBUV. Moreover, we examine the whole dataset for the frequency of extreme (high and low) values, based on elements of the extreme value theory and we present preliminary results from the ground-based data. The agreement of daily mean TOC between ground-based and satellite overpass data is within ±5%, while the agreement becomes better (±2%) for monthly mean values. From a total of 7971 daily mean TOC measurements, 961 (~12%) extreme-low and 1199 (~15%) extreme-high events have been identified. Removing those extreme events from the time series results in smoother year to year variability.