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Suomi NPP OMPS Limb Profiler Data Products

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The Ozone Mapping and Profiler Suite (OMPS) Limb Profiler (LP) instrument is currently flying on the Suomi NPP satellite, and has collected almost 4.5 years of regular data since its launch in October 2011. LP hyperspectral measurements simultaneously cover a spectral range between 290 nm and 1015 nm with variable spectral resolution (0.8-30 nm), and an altitude range between 0 km and 80 km with 1 km sampling. The OMPS LP radiance data provide the basis for numerous scientific products. Ozone profiles covering the altitude range 10-55 km with $\sim$1.8 km vertical resolution are created by combining independent UV and visible retrievals. A reprocessed LP Version 2.5 (V2.5) ozone product will be released in summer 2016. This release will incorporate improved altitude registration information and stray light correction in the Level 1 data set, and a simplified aerosol correction in the Level 2 retrieval. Evaluation of previous LP ozone data showed general agreement with MLS data to within $\pm$5% in the stratosphere. We have also developed an aerosol product, based on Chahine's non-linear relaxation retrieval method applied to 675 nm radiance data, to create extinction coefficient profiles from cloud top to 30-35 km. Both retrieval algorithms require knowledge about the height of cloud tops to determine the lower boundary of the retrieval. We have developed a cloud height product, based on the spectral dependence of vertical gradients in radiance at visible and near-IR wavelengths, that compares well with CALIOP observations. In the future, we plan to develop an algorithm to simultaneously retrieve temperature and ozone profiles from LP data in the upper stratosphere and lower mesosphere.