National Environmental Public Health Tracking Network
Ozone Monitoring Instrument (OMI) Ultraviolet (UV) Irradiance Metadata

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Background	The data are compiled to show the temporal and spatial trends of population-weighted ultraviolet (UV) irradiance levels throughout the continental U.S. from October 2004 to December 2015. The county-level population weighted irradiance data are provided by the Environmental Remote Sensing group at the Rollins School of Public Health at Emory University, led by Prof. Yang Liu. The original irradiance data are from Ozone Monitoring Instrument (OMI) Level 2 Surface UV Irradiance Product from October 2004 to the end of 2015 provided by University of Iowa.
Data Values	The following columns are included in the dataset: STATEFIPS: Codes for states COUNTYFIPS: Codes for counties YEAR: Year, from 2004 to 2015 MONTH: Month of the year, from 1-12 DAY: Day of the month, from 1-31 EDD: Daily county-level population weighted erythemally weighted daily dose, with the unit of J/m^2 EDR: Daily county-level population weighted erythemally weighted irradiance at local solar noon time, with the unit of Mw/m^2 I305: Daily county-level population weighted spectral irradiance at local solar noon time at 305 nm, with the unit of $mW/m^2/nm$ I310: Daily county-level population weighted spectral irradiance at local solar noon time at 310 nm, with the unit of $mW/m^2/nm$ I324: Daily county-level population weighted spectral irradiance at local solar noon time at 324 nm, with the unit of $mW/m^2/nm$ I380: Daily county-level population weighted spectral irradiance at local solar noon time at 380 nm, with the unit of $mW/m^2/nm$ NAs in the dataset appear as missing values; these refer to no valid data and are caused by invalid retrievals from OMI. We suggest to treat NAs as missing.
Geographic Scale & Scope	All states in the contiguous United States by county
Time Period	October 1, 2004 to December 31, 2015
Raw Data Processing	Original OMUVB HDF files were obtained from University of Iowa. EDD, EDR, I305, I310, I324 and I380 values, date and location parameters were extracted from HDF to CSV files. Values of irradiance parameters with XTractQualityFlags equal to 0 were kept in CSV files. Daily irradiance values were assigned to centers of U.S. census tracts by finding the nearest centers of OMI grid cells with a search radius of 1 degree. NAs were marked for the census tract when no centers of OMI grid cells with valid irradiance values were

	found within the search radius. Finally, population-weighted daily EDD, EDR, I305, I310, I324, and I380 values were calculated at the county level. No values were omitted from the original dataset. All missing data were caused by failed or invalid retrievals in the original dataset.
Additional Information	McKenzie, R.; Smale, D.; Koktkamp, M. Relationship between UVB and erythemally weighted radiation. *Photochem. Photobiol. Sci.* 2004, *3*, 252-256.