



UV Effects of Trees by Stratum

Location: Grand Rapids, Kent, Michigan, United States of America

Project: Grand Rapids, Series: Grand Rapids, Year: 2011

Generated: 12/13/2018

Stratum	UV Effects in Tree Shade			UV Effects Overall		
	Protection factor	Reduction in UV Index	Percent reduction (%)	Protection factor	Reduction in UV Index	Percent reduction (%)
Commercial	1.788	1.668	34.97	1.123	0.417	10.21
Government	2.169	1.929	45.63	1.387	0.932	27.28
Industrial	1.766	1.650	34.37	1.108	0.384	9.40
Other	2.457	2.076	52.48	1.590	1.212	36.54
Residential	2.641	2.154	56.05	1.722	1.358	41.37
Study Area	2.343	2.023	49.98	1.510	1.110	33.16

Protection factor is a unitless value meant to capture the UV radiation-blocking capacity of trees. It is comparable to the SPF rating in sunscreen.

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Eco report help text: This table provides estimates of the effects that trees have on the ultraviolet (UV) radiation received in your study area. UV radiation is emitted by the sun and while beneficial to humans in small doses, can have negative health effects when people are overexposed. The UV index scale was developed by the World Health Organization to more easily communicate daily levels of UV radiation and alert people to when protection from overexposure is needed most. UV index values are estimated from UV radiation and adjusted based on local elevation and cloud cover.

Tree canopies help to reduce the amount of UV radiation that reaches the ground thus providing people with additional protection from the sun's harmful rays. UV effects are reported in this table for each stratum and the study area as a whole and broken into the following results:

- UV Effects in Tree Shade – changes in UV for a person who is always shaded by tree canopy. For example, someone who is sitting under a tree.



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- UV Effects Overall – changes in UV for a person who is in both areas that are shaded by tree canopy and areas that are not. For example, someone who is walking down a street may find themselves under tree canopy at some times and exposed to full UV radiation at others.

Results are additionally reported for the following:

- Protection factor – a unitless value meant to capture the UV radiation-blocking capacity of trees. It is comparable to the SPF rating in sunscreen and calculated as unshaded UV index divided by shaded or overall UV index.
- Reduction in UV Index – the change in UV index as the result of trees and calculated as unshaded UV index minus shaded or overall UV index.
- Percent reduction – the reduction in UV index expressed as a percent change and calculated as the reduction in UV index divided by unshaded UV index.

Notes:

- For more information on the UV index scale, visit http://www.who.int/uv/intersunprogramme/activities/uv_index/en/
- If you have not stratified your project, results will be presented for a single stratum.
- If you make changes to your project settings or add or edit your field data, you will need to send your data to the server and load your results again to ensure that your changes are reflected in your reports.
- Use the toolbar at the top of the action panel to zoom in and out and save or print the report you have open.
- You can change how units (English or metric) and species names (common or scientific) are displayed in your reports by clicking on the appropriate button in the ribbon above.