i-Tree Canopy

# i-Tree Canopy v7.0

**Cover Assessment and Tree Benefits Report** 

Estimated using random sampling statistics on 4/29/2020











Cover Class

i-Tree Canopy

Abbr.	Cover Class	Description	Points	% Cover ± SE	Area (ac) ± SE
IB	Impervious Buildings	Concrete and local building	57	26.89 ± 3.05	108.59 ± 12.30
IO	Impervious Other	others	17	8.02 ± 1.87	32.39 ± 7.53
IR	Impervious Road	Pavement and trail road	24	11.32 ± 2.18	45.72 ± 8.79
Т	Tree/Shrub	Trees, Shrub, Grass	96	45.28 ± 3.42	182.88 ± 13.81
W	Water	Open water	18	8.49 ± 1.91	34.29 ± 7.73
Total			212	100.00	403.86

#### Tree Benefit Estimates: Carbon (English units)

Description	Carbon (T)	±SE	CO <sub>2</sub> Equiv. (T)	±SE	Value (USD)	±SE
Sequestered annually in trees	249.64	±18.85	915.34	±69.11	\$42,576	±3,214
Stored in trees (Note: this benefit is not an annual rate)	6,269.38	±473.32	22,987.74	±1,735.49	\$1,069,248	±80,724

Currency is in USD. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Carbon sequestered is based on 1.365 T/ac/yr. Carbon stored is based on 34.281 T/ac. Carbon is valued at \$46.51/T. (English units: T = tons (2,000 pounds), ac = acres)

## Tree Benefit Estimates: Air Pollution (English units)

Abbr.	Description	Amount (lb)	±SE	Value (USD)	±SE
СО	Carbon Monoxide removed annually	164.90	±12.45	\$7	±1
NO2	Nitrogen Dioxide removed annually	899.18	±67.88	\$12	±1
O3	Ozone removed annually	8,955.40	±676.10	\$629	±47
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	2,999.73	±226.47	\$457	±34
PM2.5	Particulate Matter less than 2.5 microns removed annually	435.16	±32.85	\$1,300	±98
SO2	Sulfur Dioxide removed annually	566.64	±42.78	\$2	±0
Total		14,021.00	±1,058.53	\$2,407	±182

Currency is in USD. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in Ib/ac/yr @ \$/Ib/yr:

CO 0.902 @ \$0.04 | NO2 4.917 @ \$0.01 | O3 48.968 @ \$0.07 | PM10\* 16.403 @ \$0.15 | PM2.5 2.379 @ \$2.99 | SO2 3.098 @ \$0.00 (English units: lb = pounds, ac = acres)

### Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (gal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	94.57	±7.14	\$1	±0
E	Evaporation	7,807.89	±589.47	N/A	N/A
I	Interception	7,851.58	±592.77	N/A	N/A
Т	Transpiration	10,565.28	±797.64	N/A	N/A
PE	Potential Evaporation	59,163.80	±4,466.65	N/A	N/A
PET	Potential Evapotranspiration	48,272.71	±3,644.41	N/A	N/A

Currency is in USD. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in gal/ac/yr @ \$/gal/yr:

AVRO 0.517 @ \$0.01 | E 42.694 @ N/A | I 42.933 @ N/A | T 57.771 @ N/A | PE 323.509 @ N/A | PET 263.956 @ N/A (English units: gal = gallons, ac = acres)

#### About i-Tree Canopy

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program

was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

#### Limitations of i-Tree Canopy

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.







Use of this tool indicates acceptance of the <u>EULA</u>.





