

# Package ‘pdxTrees’

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**Title** Data Package of Portland, Oregon Trees

**Version** 0.5.1

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**Description** An engaging collection of datasets from Portland Parks and Recreation. The city of Portland inventoried every tree in over 170 parks and along the streets in 96 neighborhoods.

**Depends** R (>= 3.1)

**License** GPL-3

**Encoding** UTF-8

**URL** <https://github.com/mcconvil/pdxTrees>

**BugReports** <https://github.com/mcconvil/pdxTrees/issues>

**RoxxygenNote** 7.3.3

**Suggests** knitr, rmarkdown, leaflet, infer, moderndive, readr, utils,  
ggplot2, forcats

**VignetteBuilder** knitr

**Imports** magrittr, rlang, dplyr

**NeedsCompilation** no

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**Repository** CRAN

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get\_pdxTrees\_parks      *Load the pdxTrees\_parks data*

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### Description

This function pulls the pdxTrees\_parks dataset from the GitHub repository: <https://github.com/mcconvil/pdxTrees>. pdxTrees\_parks is a data frame of all the trees in 174 parks in Portland, OR and was collected as part of the Urban Forestry Tree Inventory Project.

### Usage

```
get_pdxTrees_parks(park = NULL)
```

### Arguments

**park**                      A vector of park names for filtering the data. If NULL, all park trees will be returned.

### Value

Returns a data frame of 34 variables where each row is a tree:

**UserID** ID

**Inventory\_Date** Date of data collection

**Species** Species of the tree. All dead trees were listed as "unknown"

**Common\_Name** Common name of the tree

**DBH** Diameter at breast height (4.5' above ground)

**Condition** Trees were rated as good, fair, poor, or dead. These general ratings reflect whether or not a tree is likely to continue contributing to the urban forest (good and fair trees) or whether the tree is at or near the end of its life (poor and dead trees).

**Tree\_Height** Height from the ground to the live top of the tree. For dead trees, total height was measured.

**Crown\_Width\_NS** North to South canopy width

**Crown\_Width\_EW** East to West canopy width

**Crown\_Base\_Height** Height from the ground to the lowest live canopy.

**Collected\_By** Whether data were collect by staff or volunteer

**Park** Park where tree is located

**Scientific\_Name** Scientific name of the tree

**Family** Family of the tree

**Genus** Genus of the tree

**Functional\_Type** Categorical variable with groups: Broadleaf Deciduous (BD), Broadleaf Evergreen (BE), Coniferous Deciduous (CD), and Coniferous Evergreen (CE)

- Mature\_Size** Categorical variable with groups: Large (L), Medium (M), and Small (S). Categorization is based on the height, canopy width, and general form of the tree at maturity
- Native** Whether or not the tree is native
- Edible** Categorical variable of edible trees
- Nuisance** Categorical variable indicating if it is a nuisance species
- Structural\_Value** Monetary value of replacing the tree and the benefits that it provides, based on methods from the Council of Tree and Landscape Appraisers
- Carbon\_Storage\_lb** The amount of carbon (in lbs.) that is bound up in both the above-ground and below-ground parts of the tree
- Carbon\_Storage\_value** The monetary value associated with tree effects on atmospheric carbon, \$129.72/ton. This value is estimated based on the economic damages associated with increases in carbon or carbon dioxide emissions.
- Carbon\_Sequestration\_lb** The amount of carbon (in lbs.) removed from the atmosphere by the tree, annually.
- Carbon\_Sequestration\_value** The monetary value of carbon (\$129.72/ton), estimated based on the economic damages associated with increases in carbon or carbon dioxide emissions.
- Stormwater\_ft** The amount (cubic feet) of avoided stormwater runoff because of rainfall interception by the tree on its leaves and other surfaces.
- Stormwater\_value** The monetary value of stormwater runoff that is avoided annually because of the rainfall interception by the tree (\$0.008936/gallon), based on the economic damages associated with runoff and costs of stormwater control.
- Pollution\_Removal\_oz** The amount (oz.) of air pollution that is removed from the atmosphere by trees.
- Pollution\_Removal\_value** The monetary value associated with tree effects on atmospheric pollution, annually.
- Total\_Annual\_Services** Sum of the annual benefits
- Origin** Origin of the tree
- Species\_Factoid** Additional information about the tree
- Longitude** Longitude
- Latitude** Latitude

### Source

<https://www.portland.gov/trees/get-involved/tree-inventory#toc-street-tree-inventory>

### Examples

```
# To grab all trees
get_pdxTrees_parks()

# To grab trees from one park
get_pdxTrees_parks(park = "Berkeley Park")

# To grab trees from multiple parks
get_pdxTrees_parks(park = c("Berkeley Park", "East Delta Park"))
```

---

get\_pdxTrees\_streets *Load the pdxTrees\_streets data*

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### Description

This function pulls the pdxTrees\_streets dataset from the GitHub repository: <https://github.com/mcconvil/pdxTrees>. pdxTrees\_streets is a data frame of all the street trees in the 96 neighborhoods of Portland, OR and was collected as part of the Urban Forestry Tree Inventory Project.

### Usage

```
get_pdxTrees_streets(neighborhood = NULL)
```

### Arguments

**neighborhood** A vector of neighborhood names for filtering the data. If NULL, all street trees will be returned.

### Value

Returns a data frame with 218602 rows and 23 variables:

**UserID** ID

**Inventory\_Date** Date of data collection

**Species** Species of the tree. All dead trees were listed as "unknown"

**Common\_Name** Common name of the tree

**DBH** Diameter at breast height (4.5' above ground)

**Condition** Trees were rated as good, fair, poor, or dead. These general ratings reflect whether or not a tree is likely to continue contributing to the urban forest (good and fair trees) or whether the tree is at or near the end of its life (poor and dead trees).

**Site\_Type** Where along the street the tree was located. There are 8 different site types and more info can be found here: <https://gis-pdx.opendata.arcgis.com/datasets/PDX::street-tree-inventory-acti/about>

**Site\_Size** Categorical size of the site: Small, Medium, Large

**Site\_Width** How wide the site was in ft.

**Wires** Whether or not the site had wires: High voltage, No High voltage (No HV), other

**Site\_Development** The condition of the site either being improved (ex. along a side walk or paved roadway ) or unimproved (a gravel road))

**Address** The address where the tree is located

**Neighborhood** The Portland neighborhood in which the tree is located

**Collected\_By** Who collected the data on this tree: staff or volunteer

**Scientific** Scientific name of the tree

**Family** Family of the tree

**Genus** Genus of the tree

**Functional\_Type** Categorical variable with groups: Broadleaf Deciduous (BD), Broadleaf Evergreen (BE), Coniferous Deciduous (CD), and Coniferous Evergreen (CE)

**Mature\_Size** Categorical variable with groups: Large (L), Medium (M), and Small (S). Categorization is based on the height, canopy width, and general form of the tree at maturity

**Edible** Categorical variable of edible trees

**Notes** Note on the data collection

**Longitude** Longitude

**Latitude** Latitude

### Source

<https://www.portland.gov/trees/get-involved/tree-inventory#toc-street-tree-inventory>

### Examples

```
# To grab all trees  
get_pdxTrees_streets()
```

```
# To grab trees from one neighborhood  
get_pdxTrees_streets(neighborhood = "Concordia")
```

```
# To grab trees from multiple neighborhoods  
get_pdxTrees_streets(neighborhood = c("Concordia", "Eastmoreland", "Sunnyside"))
```

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