

Pollination Example



Parameter	Code	Variable	Source	Description
<i>d</i>	<i>d</i>	Euclidean distance	UTM coordinates	Distance between sampling locations in metres
<i>m</i>	<i>dbh</i>	Diameter at breast height	Field measurements	Diameter of maternal tree trunk at breast height in centimetres
	<i>pctsky</i>	Canopy openness	Canopy photographs	Per cent of open sky above the maternal tree
	<i>clump</i>	Canopy clumping	Canopy photographs	Degree of clumping of canopy above maternal tree
	<i>flor</i>	Floral output	Field measurements	Total number of inflorescences per maternal tree
<i>e</i>	<i>open</i>	Open fields	Hyperspectral imagery	Variance of probability of open canopy occurrence due to fields along transect between maternal trees
	<i>decid</i>	Deciduous primary canopy	Hyperspectral imagery	Mean probability of mixed hardwood canopy occurrence in the forest overstory along transects between maternal trees
	<i>pine</i>	Pine primary canopy	Hyperspectral imagery	Variance of probability of conifer canopy occurrence in overstory along transects between maternal trees
	<i>roads</i>	Roads	LIDAR	Mean probability of open corridor occurrence due to roads along transects between maternal trees
	<i>cornus</i>	Cornus canopy	Field locations of dogwoods	Mean occurrence of <i>Cornus florida</i> canopy in understory along transects between maternal trees

Parameter: indicates whether the parameter in the gravity model (eqn 1) represents spatial distance between sites (*d*), at-site variables (*m*) or between-site ecological variables (*e*).

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Model parameters	R^2	AIC	Δ AIC	w_i
$d + m(\text{clump}) + m(\text{flor}) + m(\text{dbh}) + m(\text{pctsky}) + e(\text{open}) + e(\text{roads}) + e(\text{cornus}) + e(\text{decid}) + e(\text{pine})$	0.57	71.60	23.51	$4.0e^{-6}$
$d + m(\text{clump}) + m(\text{flor}) + m(\text{pctsky}) + e(\text{open}) + e(\text{roads}) + e(\text{cornus}) + e(\text{decid}) + e(\text{pine})$	0.57	68.11	20.01	$2.0e^{-5}$
$d + m(\text{clump}) + m(\text{flor}) + e(\text{open}) + e(\text{roads}) + e(\text{cornus}) + e(\text{decid}) + e(\text{pine})$	0.56	67.14	19.04	$3.3e^{-5}$
$m(\text{clump}) + m(\text{flor}) + e(\text{open}) + e(\text{roads}) + e(\text{cornus}) + e(\text{decid}) + e(\text{pine})$	0.56	61.90	13.81	$4.5e^{-4}$
$m(\text{clump}) + m(\text{flor}) + e(\text{open}) + e(\text{roads}) + e(\text{decid}) + e(\text{pine})$	0.55	58.14	10.04	0.003
$m(\text{clump}) + m(\text{flor}) + e(\text{open}) + e(\text{roads}) + e(\text{decid})$	0.54	53.08	4.99	0.037
$m(\text{clump}) + m(\text{flor}) + e(\text{open}) + e(\text{decid})$	0.56	48.09	0	0.450
$m(\text{clump}) + m(\text{flor}) + e(\text{open})$	0.57	49.00	0.91	0.292
$m(\text{flor}) + e(\text{open})$	0.58	49.52	1.43	0.222
d	0.50	61.37	13.27	$5.9e^{-4}$

Parameter prefixes indicate predictor variable as Euclidean distance (d), variable measured at the location of the individual tree (m) or features of the intervening landscape (e).