

**Appendix I. Model reliability assessment scores, percentage of range in the eastern United States, and the top two variables defining the model.**

Species	EastUS%	R2_RF	CVBag	Top5VI	FuzKap	ModRel	RF_vi1	RF_vi2
<i>Abies balsamea</i>	13.8	0.79	0.94	0.51	0.72	0.75	tmaysep	tjul
<i>Acer barbatum</i>	100.0	0.09	0.76	0.42	0.23	0.32	ppt	pptmaysep
<i>Acer negundo</i>	67.5	0.16	0.81	0.37	0.22	0.34	Eiv_mean	Eiv_min
<i>Acer nigrum</i>	91.9	-0.06	0.58	0.43	0.15	0.21	ppt	NO200
<i>Acer pensylvanicum</i>	59.8	0.5	0.91	0.56	0.63	0.62	Eiv_rang	tjul
<i>Acer rubrum</i>	81.3	0.61	0.96	0.64	0.49	0.66	MOLLISOL	tjul
<i>Acer saccharinum</i>	93.3	0.11	0.79	0.41	0.23	0.33	ppt	Eiv_mean
<i>Acer saccharum</i>	73.4	0.49	0.95	0.59	0.46	0.59	tjul	ORD
<i>Acer spicatum</i>	34.2	0.45	0.85	0.45	0.56	0.55	tmaysep	tjul
<i>Aesculus glabra</i>	100.0	-0.03	0.72	0.32	0.24	0.25	ppt	pptmaysep
<i>Aesculus octandra</i>	100.0	0.18	0.79	0.5	0.49	0.43	SLOPE	Eiv_mean
<i>Alnus glutinosa</i>	82.6	0.22	0.36	0.47	0.63	0.38	Eiv_rang	Eiv_Cv
<i>Asimina triloba</i>	99.3	0.03	0.47	0.31	0.37	0.24	Eiv_Cv	Eiv_min
<i>Betula alleghaniensis</i>	58.7	0.65	0.94	0.51	0.70	0.69	tjul	tmaysep
<i>Betula lenta</i>	99.3	0.52	0.89	0.57	0.60	0.62	Eiv_rang	INCEPTIS
<i>Betula nigra</i>	100.0	0.03	0.31	0.32	0.24	0.19	Eiv_mean	Eiv_max
<i>Betula papyrifera</i>	9.5	0.69	0.93	0.59	0.69	0.72	tmaysep	tavg
<i>Betula populifolia</i>	95.8	0.24	0.74	0.3	0.56	0.41	Eiv_mean	Eiv_min
<i>Bumelia lanuginosa</i>	95.6	-0.01	0.55	0.34	0.13	0.20	Eiv_Cv	AGRICULT
<i>Carpinus caroliniana</i>	93.5	0.18	0.85	0.41	0.39	0.40	ppt	ORD
<i>Carya aquatica</i>	100.0	0.18	0.53	0.36	0.36	0.32	MOLLISOL	ppt
<i>Carya cordiformis</i>	96.4	0.07	0.61	0.32	0.38	0.29	pptmaysep	ppt
<i>Carya glabra</i>	99.7	0.4	0.93	0.49	0.52	0.55	ppt	ULTISOL
<i>Carya illinoensis</i>	99.5	0.02	0.67	0.32	0.24	0.26	ppt	AGRICULT
<i>Carya laciniosa</i>	99.9	-0.01	0.59	0.36	0.12	0.21	AWC	ppt
<i>Carya ovata</i>	96.0	0.22	0.82	0.38	0.41	0.41	pptmaysep	ppt

<i>Carya texana</i>	100.0	0.49	0.88	0.49	0.59	0.59	NO10	ppt
<i>Carya tomentosa</i>	99.7	0.38	0.94	0.46	0.51	0.53	ppt	ULTISOL
<i>Castanea dentata</i>	97.1	0.15	0.78	0.43	0.30	0.36	Eiv_max	Eiv_rang
<i>Catalpa speciosa</i>	100.0	-0.01	0.36	0.28	0.04	0.13	Eiv_min	Eiv_mean
<i>Celtis laevigata</i>	97.6	0.32	0.77	0.49	0.38	0.46	INCEPTIS	ORD
<i>Celtis occidentalis</i>	94.4	0.27	0.87	0.46	0.37	0.45	pptmaysep	NO200
<i>Cercis canadensis</i>	98.6	0.14	0.57	0.55	0.48	0.37	pptmaysep	ppt
<i>Chamaecyparis thuyoides</i>	100.0	0.11	0.58	0.33	0.27	0.28	Eiv_Cv	AGRICULT
<i>Cornus florida</i>	98.8	0.5	0.95	0.47	0.53	0.59	ULTISOL	FOREST
<i>Diospyros virginiana</i>	100.0	0.12	0.74	0.41	0.48	0.37	ppt	pptmaysep
<i>Fagus grandifolia</i>	83.4	0.51	0.93	0.61	0.52	0.61	AGRICULT	tjul
<i>Fraxinus americana</i>	86.9	0.41	0.91	0.5	0.47	0.54	juljandiff	ppt
<i>Fraxinus nigra</i>	45.4	0.33	0.84	0.52	0.56	0.51	HISTOSOL	ppt
<i>Fraxinus pennsylvanica</i>	70.4	0.1	0.83	0.32	0.24	0.32	ppt	pptmaysep
<i>Fraxinus quadrangulata</i>	99.8	0.14	0.67	0.26	0.23	0.29	Eiv_rang	ALFISOL
<i>Gleditsia aquatica</i>	100.0	-0.06	0.40	0.37	0.17	0.16	Eiv_Cv	Eiv_min
<i>Gleditsia triacanthos</i>	99.9	0.04	0.65	0.3	0.32	0.27	pptmaysep	ppt
<i>Gordonia lasianthus</i>	100.0	0.24	0.77	0.39	0.48	0.42	pptmaysep	AGRICULT
<i>Gymnocladus dioicus</i>	99.8	0	0.62	0.39	0.32	0.27	NONFOR	AGRICULT
<i>Halesia spp.</i>	100.0	0.29	0.57	0.51	0.53	0.44	SLOPE	ppt
<i>Ilex opaca</i>	100.0	0.47	0.89	0.47	0.59	0.58	ULTISOL	Eiv_mean
<i>Juglans cinerea</i>	90.7	0.05	0.38	0.29	0.22	0.20	Eiv_Cv	AGRICULT
<i>Juglans nigra</i>	98.7	0.18	0.78	0.37	0.45	0.39	pptmaysep	Eiv_max
<i>Juniperus virginiana</i>	95.4	0.19	0.76	0.28	0.32	0.35	ppt	Eiv_rang
<i>Larix laricina</i>	12.2	0.39	0.85	0.4	0.59	0.52	HISTOSOL	tavg
<i>Liquidambar styraciflua</i>	100.0	0.68	0.97	0.53	0.62	0.70	ORD	ppt
<i>Liriodendron tulipifera</i>	98.6	0.6	0.96	0.73	0.62	0.70	ULTISOL	tjul
<i>Maclura pomifera</i>	98.1	0.2	0.77	0.41	0.31	0.38	pptmaysep	ppt
<i>Magnolia acuminata</i>	99.6	0.36	0.89	0.52	0.61	0.55	SLOPE	Eiv_rang

Magnolia grandiflora	100.0	0.15	0.83	0.37	0.43	0.39	pptmaysep	ppt
Magnolia macrophylla	100.0	0.09	0.55	0.46	0.20	0.28	ppt	pptmaysep
Magnolia virginiana	100.0	0.33	0.74	0.48	0.62	0.50	pptmaysep	ppt
Morus rubra	99.0	0.05	0.75	0.35	0.25	0.29	ppt	pptmaysep
Nyssa aquatica	100.0	0.13	0.57	0.43	0.32	0.32	Eiv_Cv	Eiv_mean
Nyssa ogechee	100.0	0.64	0.91	0.52	0.62	0.67	KFFACT	pptmaysep
Nyssa sylvatica	99.0	0.15	0.62	0.28	0.42	0.33	ppt	ORD
Nyssa sylvatica var. biflora	99.7	0.47	0.95	0.56	0.60	0.61	ULTISOL	ppt
Ostrya virginiana	85.7	0.09	0.72	0.34	0.33	0.31	ppt	pptmaysep
Oxydendrum arboreum	100.0	0.63	0.94	0.76	0.66	0.72	jujandiff	ULTISOL
Persea borbonia	100.0	0.37	0.89	0.5	0.61	0.55	pptmaysep	KFFACT
Picea glauca	4.7	0.23	0.81	0.4	0.63	0.46	tmaysep	tjul
Picea mariana	7.0	0.69	0.90	0.48	0.65	0.68	tmaysep	tavg
Picea rubens	47.2	0.65	0.91	0.61	0.67	0.70	tjul	tmaysep
Pinus banksiana	7.9	0.43	0.87	0.5	0.50	0.55	NO200	ENTISOL
Pinus clausa	100.0	0.26	0.60	0.44	0.31	0.38	pptmaysep	ppt
Pinus echinata	100.0	0.6	0.86	0.46	0.55	0.61	ULTISOL	ppt
Pinus elliottii	100.0	0.64	0.93	0.62	0.56	0.68	KFFACT	pptmaysep
Pinus glabra	100.0	0.3	0.75	0.44	0.49	0.46	ppt	FOREST
Pinus palustris	100.0	0.45	0.92	0.63	0.54	0.60	pptmaysep	ppt
Pinus pungens	100.0	0.2	0.69	0.38	0.46	0.38	Eiv_max	CLAY
Pinus resinosa	42.5	0.24	0.82	0.46	0.46	0.44	NO200	ppt
Pinus rigida	99.9	0.54	0.80	0.51	0.47	0.57	PERM	PH
Pinus serotina	100.0	0.43	0.80	0.45	0.52	0.53	pptmaysep	Eiv_mean
Pinus strobus	55.1	0.44	0.91	0.63	0.53	0.59	Eiv_min	CLAY
Pinus taeda	99.9	0.77	0.96	0.58	0.58	0.73	ORD	tjan
Pinus virginiana	100.0	0.54	0.92	0.53	0.54	0.61	ULTISOL	tjul
Planera aquatica	100.0	-0.06	0.55	0.35	0.15	0.19	Eiv_Cv	Eiv_rang
Platanus occidentalis	97.6	0.07	0.69	0.4	0.37	0.32	ppt	pptmaysep

Populus balsamifera	8.4	0.61	0.83	0.51	0.60	0.63	tjan	ppt
Populus deltoides	70.5	0.04	0.80	0.27	0.20	0.27	ppt	Eiv_mean
Populus grandidentata	60.5	0.39	0.91	0.49	0.58	0.55	tjul	ppt
Populus tremuloides	15.6	0.74	0.92	0.53	0.61	0.71	tavg	tjan
Prunus americana	85.5	-0.03	0.44	0.29	0.11	0.16	Eiv_mean	ppt
Prunus pensylvanica	20.3	0.13	0.69	0.44	0.39	0.36	pptmaysep	tmaysep
Prunus serotina	81.3	0.41	0.92	0.57	0.45	0.55	ppt	tjan
Prunus virginiana	28.7	-0.03	0.47	0.26	0.34	0.20	Eiv_rang	ppt
Quercus alba	97.3	0.41	0.93	0.54	0.44	0.55	SLOPE	ppt
Quercus bicolor	97.1	0.05	0.75	0.25	0.23	0.27	Eiv_mean	Eiv_Cv
Quercus coccinea	99.8	0.39	0.89	0.48	0.62	0.55	ULTISOL	PERM
Quercus durandii	92.9	-0.1	0.41	0.35	0.02	0.12	ppt	pptmaysep
Quercus ellipsoidalis	99.2	0.34	0.75	0.44	0.44	0.46	pptmaysep	ENTISOL
Quercus falcata var. falcata	99.8	0.47	0.95	0.46	0.63	0.60	ORD	ppt
Q. falcata var. pagodifolia	100.0	0.24	0.74	0.47	0.56	0.45	ppt	Eiv_max
Quercus ilicifolia	99.3	0.02	0.54	0.27	0.22	0.21	PERM	AWC
Quercus imbricaria	100.0	0.27	0.84	0.3	0.49	0.43	ALFISOL	pptmaysep
Quercus laevis	99.5	0.23	0.79	0.43	0.43	0.42	ppt	pptmaysep
Quercus laurifolia	99.5	0.47	0.77	0.42	0.48	0.52	AGRICULT	ppt
Quercus lyrata	99.9	0.44	0.92	0.51	0.62	0.58	KFFACT	pptmaysep
Quercus macrocarpa	76.9	0.2	0.50	0.39	0.37	0.33	pptmaysep	Eiv_Cv
Quercus marilandica	99.9	0.18	0.87	0.53	0.37	0.43	Juljandiff	ppt
Quercus michauxii	99.8	0.38	0.72	0.41	0.44	0.47	ppt	NO10
Quercus muehlenbergii	97.9	0.15	0.78	0.43	0.41	0.38	Eiv_mean	Eiv_max
Quercus nigra	99.8	0.25	0.78	0.42	0.47	0.43	NONFOR	pptmaysep
Quercus nuttallii	100.0	0.53	0.95	0.61	0.61	0.65	ORD	tjan
Quercus palustris	99.3	0.1	0.59	0.3	0.35	0.29	Eiv_max	ppt
Quercus phellos	100.0	0.1	0.68	0.33	0.32	0.31	pptmaysep	Eiv_mean
Quercus prinus	97.6	0.22	0.81	0.38	0.54	0.43	Eiv_max	Eiv_mean

Quercus rubra	82.0	0.61	0.93	0.6	0.59	0.67	Elv_rang	SLOPE
Quercus shumardii	99.9	0.38	0.91	0.52	0.48	0.53	tmaysep	ppt
Quercus stellata	98.2	-0.01	0.63	0.33	0.16	0.22	ppt	pptmaysep
Q. stellata var. margaretta	99.7	0.56	0.91	0.47	0.57	0.61	ppt	NO10
Quercus velutina	98.7	0.49	0.90	0.56	0.48	0.58	NO10	CLAY
Quercus virginiana	88.1	0.24	0.82	0.5	0.56	0.47	juljandiff	pptmaysep
Robinia pseudoacacia	100.0	0.04	0.56	0.22	0.34	0.24	Elv_mean	Elv_max
Salix amygdaloides	32.1	-0.06	0.08	0.38	0.01	0.07	ppt	pptmaysep
Salix nigra	99.8	-0.01	0.68	0.28	0.20	0.23	pptmaysep	ppt
Sassafras albidum	98.8	0.34	0.85	0.66	0.48	0.53	tjan	ppt
Sorbus americana	20.5	0.16	0.77	0.4	0.26	0.35	tmaysep	tjul
Taxodium distichum	100.0	0.17	0.65	0.42	0.42	0.37	VERITSOL	Eiv_Cv
T. distichum var. nutans	100.0	0.4	0.80	0.41	0.53	0.51	pptmaysep	juljandiff
Thuja occidentalis	30.4	0.62	0.91	0.59	0.62	0.67	tmaysep	Elv_max
Tilia americana	84.5	0.2	0.84	0.36	0.44	0.41	ppt	pptmaysep
Tsuga canadensis	71.5	0.51	0.91	0.63	0.62	0.64	AGRICULT	tjul
Ulmus alata	100.0	0.34	0.78	0.56	0.54	0.51	ppt	pptmaysep
Ulmus americana	72.4	0.28	0.93	0.44	0.35	0.46	pptmaysep	ppt
Ulmus crassifolia	98.7	0.01	0.32	0.26	0.27	0.17	Eiv_Cv	pptmaysep
Ulmus rubra	92.7	0.08	0.67	0.36	0.34	0.30	ppt	pptmaysep
Ulmus thomasii	87.0	-0.01	0.49	0.36	0.18	0.20	Elv_mean	Elv_min

**Appendix II. Percent occupancy of suitable habitat in the northeastern USA for 134 species. Decreasing species in red (>10% loss) or orange (2-10%), increasing species in light green (2-10% gain) or dark green (>10%)**

Species	Current		Current		pcmlo	gcm3lo	gcm3hi	hadhi
	fia	modeled	modeled	hadhi				
Abies balsamea	34.6	43.6	33.8	33.3	33.8	33.3	32.8	32.9
Acer barbatum	0	0	0	0	0	0	0	0.2
Acer negundo	8.6	22.9	24.7	30.3	24.7	30.3	44.3	64.1
Acer nigrum	0.8	1.1	0.6	0.2	0.6	0.2	0.1	0.1
Acer pensylvanicum	53	72.1	61.5	57.4	61.5	57.4	42.9	38.8
Acer rubrum	97	100	100	100	100	100	100	100
Acer saccharinum	8	31.1	44.4	63.6	44.4	63.6	97.5	98.8
Acer saccharum	84.8	98.7	100	99.9	100	99.9	91.2	83.4
Acer spicatum	16.4	19.5	10.2	6.8	10.2	6.8	1.4	1.3
Aesculus glabra	0.1	0	3.9	5	3.9	5	0.7	1.7
Aesculus octandra	0.3	0.9	0.6	0.4	0.6	0.4	0.6	0.6
Alnus glutinosa	43.1	58.3	59.3	59.5	59.3	59.5	57	57.8
Asimina triloba	0.7	2.8	13.4	16.3	13.4	16.3	19.6	19.7
Betula alleghaniensis	68.6	80.7	69.9	62.4	69.9	62.4	53.1	52.1
Betula lenta	48.5	68	78.9	77.4	78.9	77.4	78.6	72.4
Betula nigra	0.9	1.3	1.4	1.8	1.4	1.8	7.2	23.9
Betula papyrifera	45.3	56.5	39.4	34.3	39.4	34.3	18.5	15
Betula populifolia	31.1	45.8	45	44	45	44	37.3	37.7
Bumelia lanuginosa	0	0	0	0	0	0	0.2	0.4
Carpinus caroliniana	36.6	63.7	70	77.7	70	77.7	94.5	99.3
Carya aquatica	0	1.1	0.5	0.6	0.5	0.6	1.2	2.5
Carya cordiformis	9.5	7.1	26.3	46.7	26.3	46.7	93.7	99.4
Carya glabra	29.7	56.1	78.9	84.5	78.9	84.5	99.4	100
Carya illinoensis	0	0.3	0.8	4	0.8	4	34.8	64.1
Carya laciniosa	0.9	0.2	1	5.8	1	5.8	23.3	26.4
Carya ovata	17.9	29.1	53.6	68.3	53.6	68.3	94.7	99.1
Carya texana	0	0.3	12.3	28.5	12.3	28.5	80.4	98
Carya tomentosa	22.7	48	65.5	71.8	65.5	71.8	92.7	99.4

Castanea dentata	9.9	4.2	6.6	5.1	3.2	2.8
Catalpa speciosa	0.5	0.7	0.4	0.4	7	20
Celtis laevigata	0	1.5	3.8	10.1	60.2	82.8
Celtis occidentalis	3.2	9.1	31.3	52.8	96	98.5
Cercis canadensis	1.5	5.2	32.7	49.6	81.6	88.9
Chamaecyparis thyoides	2.2	5.7	4.1	4.1	3.8	3.6
Cornus florida	24.5	40.7	76.5	85.6	99.8	99.9
Diospyros virginiana	0.7	2	20.2	36.3	87.1	99.5
Fagus grandifolia	79.6	99.6	99.8	99.1	91.4	88.3
Fraxinus americana	84.9	97.1	100	100	100	99.9
Fraxinus nigra	19.9	37.4	24.3	25.7	15.8	16.3
Fraxinus pennsylvanica	12.2	24.5	26.3	29.9	50	78.5
Fraxinus quadrangulata	0.1	0.2	0	0.1	0	0
Gleditsia aquatica	0	0	0	0	4.4	10.4
Gleditsia triacanthos	0.9	2.8	16.1	28.1	80.5	95.6
Gordonia lasianthus	0	0.4	0.3	0.2	0.2	0.5
Gymnocladus dioicus	0	0	0	0	0.3	5.2
Halesia spp.	0	0.1	0	0	0	0.1
Ilex opaca	0.8	3.2	5.8	7.9	12.1	14.3
Juglans cinerea	9.8	8.6	5.6	4.4	0.7	0.5
Juglans nigra	14.4	27.7	64.4	79.2	87.8	79.4
Juniperus virginiana	10.1	26.2	67.1	82.3	99.8	100
Larix laricina	12.3	18.9	13.5	13.8	10.7	10.6
Liquidambar styraciflua	2.3	9.6	24.5	38.6	77.5	93.4
Liriodendron tulipifera	24.5	39.9	70.5	78.3	97.2	97.2
Maclura pomifera	0.9	4	8.3	15.1	52.8	82.7
Magnolia acuminata	10.8	8.4	10.8	8.9	4.8	2.9
Magnolia grandiflora	0	0	0	0	0	0.1
Magnolia macrophylla	0	0	0	0	0	0
Magnolia virginiana	0.7	2.9	4.8	4.3	3.5	9
Morus rubra	0.9	1.8	21.3	46.8	95.7	98.3
Nyssa aquatica	0.1	1	2.5	3.6	5.5	9.1
Nyssa ogechee	0	0	0	0	0	0

<i>Nyssa sylvatica</i>	26.6	38.3	66.1	72.7	93.6	99.3
<i>Nyssa sylvatica</i> var. <i>biflora</i>	0	1.2	4.7	4.6	5.3	8.6
<i>Ostrya virginiana</i>	60.4	90.4	96	98.2	99.2	99.8
<i>Oxydendrum arboreum</i>	0.3	2.1	7.8	7.6	10	20.1
<i>Persea borbonia</i>	0	0.2	0.6	0.3	0.1	3.2
<i>Picea glauca</i>	21.3	32.2	25.2	28.4	17.6	14.4
<i>Picea mariana</i>	11.8	23.4	8.5	6.3	0.3	0.2
<i>Picea rubens</i>	38	42.7	37.6	37.9	36.7	38.8
<i>Pinus banksiana</i>	0.9	9.1	5.3	6.9	5.1	12.4
<i>Pinus clausa</i>	0	0.6	1.8	2.5	2.4	2.6
<i>Pinus echinata</i>	1.1	4	17.8	30.1	77.6	97.4
<i>Pinus elliotii</i>	0	0.7	1.9	1.6	4.4	12.2
<i>Pinus glabra</i>	0	0	0	0	0	0.1
<i>Pinus palustris</i>	0	1	5	3.9	4.2	12.6
<i>Pinus pungens</i>	0.7	0.2	0.2	0.4	0.8	0.9
<i>Pinus resinosa</i>	16.9	41.2	30.9	30.9	31	25.4
<i>Pinus rigida</i>	14.7	18.8	21.4	21.6	20.4	19.1
<i>Pinus serotina</i>	0	0.4	1.8	3.1	3.6	4.3
<i>Pinus strobus</i>	67	95.5	90.6	87	73.4	71.6
<i>Pinus taeda</i>	0.1	6.3	14.1	20.9	54.6	85.6
<i>Pinus virginiana</i>	5.6	18.7	30.3	37.5	66.7	74.4
<i>Planera aquatica</i>	0	0.5	0.3	0.4	0.4	0.4
<i>Platanus occidentalis</i>	6.6	13.4	36.1	52.2	90.5	98
<i>Populus balsamifera</i>	7.1	10.8	3.1	2.9	2.4	1.7
<i>Populus deltoides</i>	6.5	14.6	27.1	39.7	83.8	97
<i>Populus grandidentata</i>	50.1	84.9	71.3	60.6	27.6	15.7
<i>Populus tremuloides</i>	60.6	80.3	57.1	44.4	26.6	20.9
<i>Prunus americana</i>	0	0	0	0	0.7	11
<i>Prunus pennsylvanica</i>	33.1	45.9	30.6	28.3	13.8	8.8
<i>Prunus serotina</i>	79.6	94.6	100	100	100	99.8
<i>Prunus virginiana</i>	20	32.4	18.7	13.9	6.5	3.7
<i>Quercus alba</i>	49.4	70.8	91.2	97	100	100
<i>Quercus bicolor</i>	4.3	7.4	8.5	8.2	7.3	9.1

Quercus coccinea	27.7	40.7	74.4	80.2	86.3	87
Quercus durandii	0	0	0	0	0	0
Quercus ellipsoidalis	0.3	1.3	1.1	2.2	3.1	13
Quercus falcata var. falcata	1.1	2.2	11.8	19.7	60.8	83.1
Q. falcata var. pagodifolia	0	0.9	2.9	3.7	14.2	20.8
Quercus ilicifolia	5.5	9.1	12.7	13.8	12.9	13.7
Quercus imbricaria	1.7	1.3	8.3	17.2	39.3	42.2
Quercus laevis	0	0.7	2.2	1.9	2.2	4.9
Quercus laurifolia	0	0.2	0.5	0.5	3.2	6.6
Quercus lyrata	0	2.1	0.9	1.4	5.6	7.4
Quercus macrocarpa	2.2	3.6	4.6	10.5	53.2	83.8
Quercus marilandica	0.4	1.6	15.6	29.6	79.5	97.7
Quercus michauxii	0.1	0	0.3	0.5	3.2	5.9
Quercus muehlenbergii	0.8	1.1	16.2	31.9	75	86.4
Quercus nigra	0	0.5	3.2	4.6	20.1	42.7
Quercus nuttallii	0	0.6	0.2	0.2	1.1	4.9
Quercus palustris	4.4	11.7	27.6	30.8	45.9	53.5
Quercus phellos	0.2	1.7	5.1	7.3	17.7	34.7
Quercus prinus	32.3	56	75.5	79.8	88.3	86.2
Quercus rubra	69.9	86.2	98.9	99.9	98.5	97.3
Quercus shumardii	0	0	0.1	0.3	27.7	57.2
Quercus stellata	1	3.4	21.6	36.6	85.7	99.6
Q. stellata var. margaretta	0	0.2	0.2	0.2	0.7	2.3
Quercus velutina	39.6	58.2	86	93.4	100	100
Quercus virginiana	0	0.1	0.3	0.3	0.3	0.4
Robinia pseudoacacia	18.1	41.8	73.5	81.7	89.9	86
Salix amygdaloides	0	0	0	0	0	0
Salix nigra	10.7	28.5	38.4	50.5	82.2	89.4
Sassafras albidum	29	45.7	75.6	81.3	99.4	99.9
Sorbus americana	6.8	3.2	1.1	0.8	0.3	0.3
Taxodium distichum	0	3.3	8.8	10.9	12.6	15.5
T. distichum var. nutans	0	0.3	0.2	0.2	0.2	1.3
Thuja occidentalis	22	42.9	33	32.7	31.9	32.3

Tilia americana	42.9	63.1	68.4	70.5	70.2	71.8
Tsuga canadensis	69.9	89.1	85.2	82	78.2	77.7
Ulmus alata	0.2	0.3	14.9	27	78.6	95.1
Ulmus americana	46.8	75.8	88.9	95.6	100	100
Ulmus crassifolia	0	0.1	0	1	37.2	66.5
Ulmus rubra	16	30.3	55.9	73.2	96.3	97
Ulmus thomasii	0.7	0.7	2	2.7	3.3	3

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**Appendix III. Importance value\*area scores and their potential gains (light green: 1.1-2.0, dark green: >2.0 fold increase) or losses (orange: 0.5-0.9, red: <0.5 times decrease) under four scenarios of climate change. TNRatio = “then:now ratio” for the scenario.**

Species	cur_ivsum	TNRatio pcmlo	TNRatio gcm3lo	TNRatio gcm3hi	TNRatio hadhi
Abies balsamea	5307	0.454	0.330	0.196	0.189
Acer barbatum	0	0	0	0	0
Acer negundo	386	1.150	1.358	1.995	3.658
Acer nigrum	11	0.545	0.182	0.091	0.091
Acer pensylvanicum	1652	0.723	0.593	0.353	0.298
Acer rubrum	15097	0.960	0.845	0.517	0.407
Acer saccharinum	467	1.593	2.602	4.450	5.266
Acer saccharum	8986	0.872	0.816	0.528	0.373
Acer spicatum	285	0.382	0.249	0.053	0.049
Aesculus glabra	0	0	0	0	0
Aesculus octandra	9	1	0.667	0.889	0.889
Alnus glutinosa	858	1.054	0.984	0.815	0.818
Asimina triloba	38	4.368	5	5.947	5.684
Betula alleghaniensis	2846	0.710	0.562	0.324	0.326
Betula lenta	2198	1.148	1.002	0.721	0.615
Betula nigra	18	0.889	1.111	4.278	14
Betula papyrifera	2053	0.545	0.466	0.128	0.078
Betula populifolia	733	0.823	0.772	0.638	0.637
Bumelia lanuginosa	0	0	0	0	0
Carpinus caroliniana	951	1.082	1.179	1.220	1.266
Carya aquatica	13	0.385	0.462	1	2
Carya cordiformis	77	3.688	6.506	14.649	18.935
Carya glabra	908	1.790	2.019	2.175	2.051
Carya illinoensis	3	2.667	14.333	122.333	227.667
Carya laciniosa	2	5	31	122.0	138
Carya ovata	345	1.904	2.638	3.577	3.713
Carya texana	4	43.750	149	688.500	920.750
Carya tomentosa	662	1.675	2.0	2.790	3.077

Castanea dentata	46	1.609	1.239	0.804	0.696
Catalpa speciosa	9	0.889	0.889	8.556	23.778
Celtis laevigata	18	2.333	6.556	57.778	96.778
Celtis occidentalis	114	3.684	7.114	16.939	20.202
Cercis canadensis	54	7.278	11.944	21.759	22.278
Chamaecyparis thyoides	94	0.745	0.713	0.649	0.596
Cornus florida	882	2.507	3.126	3.786	3.779
Diospyros virginiana	28	11.500	25.714	87.571	103.750
Fagus grandifolia	6535	0.750	0.652	0.399	0.330
Fraxinus americana	6477	0.962	0.867	0.582	0.512
Fraxinus nigra	548	0.518	0.542	0.352	0.343
Fraxinus pennsylvanica	402	0.995	1.157	2.007	2.873
Fraxinus quadrangulata	2	0	0.500	0	0
Gleditsia aquatica	0	0	0	0	0
Gleditsia triacanthos	31	7	12.548	51	72.129
Gordonia lasianthus	4	0.750	0.500	0.500	1.250
Gymnocladus dioicus	0	0	0	0	0
Halesia spp.	1	0	0	0	1.000
Ilex opaca	60	2.117	2.233	2.500	2.833
Juglans cinerea	95	0.779	0.589	0.116	0.074
Juglans nigra	401	2.534	3.142	3.613	3.494
Juniperus virginiana	488	3.508	5.408	9.852	10.832
Larix laricina	277	0.596	0.581	0.408	0.401
Liquidambar styraciflua	313	2.751	3.872	7.805	10.885
Liriodendron tulipifera	1018	1.699	1.607	1.593	1.560
Maclura pomifera	51	1.980	3.431	11.725	18.549
Magnolia acuminata	88	1.307	1.080	0.580	0.352
Magnolia grandiflora	0	0	0	0	0
Magnolia macrophylla	0	0	0	0	0
Magnolia virginiana	35	1.571	1.400	1.171	3.686
Morus rubra	20	14.100	32.450	110.850	159.750
Nyssa aquatica	11	2.636	3.636	5.455	8.818
Nyssa ogechee	0	0	0	0	0

Nyssa sylvatica	849	1.667	1.744	2.133	2.325
Nyssa sylvatica var. biflora	18	3.667	3.500	3.722	8.444
Ostrya virginiana	1639	0.919	0.976	1.167	1.442
Oxydendrum arboreum	24	3.500	3.583	4.458	8.833
Persea borbonia	2	3	1.500	0.500	18.500
Picea glauca	570	0.540	0.540	0.330	0.267
Picea mariana	545	0.226	0.138	0.006	0.004
Picea rubens	2702	0.476	0.402	0.345	0.359
Pinus banksiana	121	0.479	0.645	0.496	1.256
Pinus clausa	11	2.091	2.909	2.727	2.818
Pinus echinata	53	4.057	10.434	53.170	78.358
Pinus elliotii	12	1.833	1.583	5.583	20.667
Pinus glabra	0	0	0	0	0
Pinus palustris	15	4.133	3.133	3.867	14.133
Pinus pungens	2	1	2.000	4	4.500
Pinus resinosa	532	0.806	0.936	1.053	0.731
Pinus rigida	646	0.955	0.943	0.907	0.881
Pinus serotina	4	5.500	9.250	10.500	13.250
Pinus strobus	4773	0.800	0.739	0.530	0.383
Pinus taeda	97	4.371	6.773	20.144	38.876
Pinus virginiana	301	1.339	1.498	2.661	3.083
Planera aquatica	7	0.429	0.571	0.571	0.571
Platanus occidentalis	154	2.727	3.909	6.649	7.214
Populus balsamifera	131	0.282	0.229	0.191	0.137
Populus deltoides	222	1.689	2.685	7.536	10.360
Populus grandidentata	1175	0.849	0.703	0.278	0.140
Populus tremuloides	2231	0.569	0.487	0.191	0.119
Prunus americana	0	0	0	0	0
Prunus pennsylvanica	517	0.660	0.602	0.279	0.178
Prunus serotina	6050	0.909	0.762	0.476	0.395
Prunus virginiana	420	0.529	0.362	0.162	0.093
Quercus alba	2276	1.652	2.036	2.688	2.585
Quercus bicolor	80	1.238	1.175	0.988	1.200

Quercus coccinea	731	1.766	1.948	2.181	1.796
Quercus durandii	0	0	0	0	0
Quercus ellipsoidalis	14	0.786	1.643	2.286	10.714
Quercus falcata var. falcata	32	5.906	10.281	36.250	52.063
Quercus falcata var. pagodifolia	9	3.333	4.333	16.889	24.889
Quercus ilicifolia	122	1.623	1.713	1.623	1.713
Quercus imbricaria	14	6.357	14.929	31.071	33.214
Quercus laevis	10	2.900	2.400	2.700	6.500
Quercus laurifolia	2	2.500	2.500	16.500	41
Quercus lyrata	27	0.333	0.556	2.222	2.963
Quercus macrocarpa	45	1.222	2.644	13.667	27.356
Quercus marilandica	19	10.421	27.158	128.895	178.105
Quercus michauxii	0	0	0	0	0
Quercus muehlenbergii	12	15.083	29.833	70.917	84.917
Quercus nigra	7	7.857	13.571	72.571	143.857
Quercus nuttallii	6	0.333	0.333	1.833	8.500
Quercus palustris	147	2.388	2.646	3.558	4.156
Quercus phellos	20	2.750	4.350	12.350	21.950
Quercus prinus	2002	1.363	1.301	1.181	1.119
Quercus rubra	4091	1.176	1.168	1.044	0.914
Quercus shumardii	0	0	0	0	0
Quercus stellata	53	14.453	37.321	153.132	205.868
Quercus stellata var. margaretta	2	1	1	3.500	12
Quercus velutina	1664	1.677	2.159	3.327	3.377
Quercus virginiana	2	1.500	1.500	1.500	3
Robinia pseudoacacia	720	1.490	1.675	2.174	2.336
Salix amygdaloides	0	0	0	0	0
Salix nigra	435	1.244	1.605	2.609	3.110
Sassafras albidum	1105	1.655	1.709	1.966	1.939
Sorbus americana	33	0.333	0.242	0.091	0.091
Taxodium distichum	42	2.333	3.000	4.119	5.571
Taxodium distichum var. nutans	3	0.667	0.667	0.667	4.667
Thuja occidentalis	1767	0.398	0.356	0.269	0.252

Tilia americana	830	0.966	0.980	0.976	1.127
Tsuga canadensis	4345	0.903	0.802	0.536	0.485
Ulmus alata	3	85.667	201	986.333	1516.333
Ulmus americana	1718	1.203	1.467	1.991	2.178
Ulmus crassifolia	1	0	10	428	761
Ulmus rubra	484	1.655	2.035	2.523	2.614
Ulmus thomasii	7	3.429	4.286	5.143	4.571

**Appendix IV. Latitude and longitude of mean centers of current distribution and potential direction and distance changes (km) in mean centers of suitable habitat under several scenarios of climate change.**

Species	Latitude	Longitude	PCM lo	Ave lo	Ave hi	Had hi
<i>Abies balsamea</i>	46.2	-78.8	151 E	255 E	295 E	279 E
<i>Acer barbatum</i>	42.2	-92.3	25 SE	56 SW	108 W	113 W
<i>Acer negundo</i>	40.7	-85.5	25 S	57 W	78 SW	8 SE
<i>Acer nigrum</i>	42.6	-75.4	87 NW	10 W	32 S	39 S
<i>Acer pensylvanicum</i>	39.5	-81.4	34 N	46 N	52 W	61 W
<i>Acer rubrum</i>	40.8	-89.9	47 NW	54 NW	154 W	211 SW
<i>Acer saccharinum</i>	45.9	-79.9	92 N	139 NE	112 E	204 E
<i>Acer saccharum</i>	39.8	-87.3	79 N	145 NE	210 NE	251 N
<i>Acer spicatum</i>	37.5	-82.9	381 E	500 E	531 SE	548 SE
<i>Aesculus glabra</i>	40.0	-79.5	210 N	307 N	485 N	462 N
<i>Aesculus octandra</i>	38.7	-85.7	21 E	23 E	33 E	24 E
<i>Alnus glutinosa</i>	44.2	-77.0	101 NE	112 NE	79 NE	78 NE
<i>Asimina triloba</i>	39.6	-77.9	231 NW	296 NE	502 NE	638 NE
<i>Betula alleghaniensis</i>	37.8	-89.7	47 NE	77 NE	42 SE	57 SE
<i>Betula lenta</i>	45.9	-84.9	162 NE	202 NE	210 NE	164 N
<i>Betula nigra</i>	43.5	-72.6	94 N	137 N	93 N	162 NE
<i>Betula papyrifera</i>	36.6	-85.3	58 N	65 N	99 NW	246 W
<i>Betula populifolia</i>	32.6	-91.4	36 NW	58 NW	78 NW	78 W
<i>Bumelia lanuginosa</i>	39.9	-90.5	36 N	51 NE	122 E	160 E
<i>Carpinus caroliniana</i>	37.0	-85.3	3 E	18 NE	40 N	25 N
<i>Carya aquatica</i>	34.6	-92.7	24 SE	26 E	41 NE	80 E
<i>Carya cordiformis</i>	38.1	-89.6	31 NE	112 E	334 E	382 E
<i>Carya glabra</i>	39.8	-89.7	155 NE	174 NE	165 N	176 NE
<i>Carya illinoensis</i>	35.9	-93.2	287 NE	334 NE	554 NE	621 NE
<i>Carya laciniosa</i>	36.6	-86.5	218 N	390 NE	542 NE	681 NE
<i>Carya ovata</i>	39.1	-79.2	152 NE	220 NE	252 NE	313 NE
<i>Carya texana</i>	38.2	-95.5	396 E	571 E	770 E	846 E
<i>Carya tomentosa</i>	33.4	-91.5	75 NE	104 NE	154 NE	186 NE
<i>Castanea dentata</i>	39.6	-93.2	12 SE	40 SW	101 SW	125 SW

<i>Catalpa speciosa</i>	37.7	-88.3	128	W	241	NW	350	N	436	NE
<i>Celtis laevigata</i>	36.3	-85.3	233	NE	341	NE	507	NE	576	NE
<i>Celtis occidentalis</i>	35.1	-88.3	166	NE	242	NE	323	NE	377	NE
<i>Cercis canadensis</i>	40.7	-79.1	218	N	308	NE	419	NE	498	NE
<i>Chamaecyparis thyoides</i>	37.4	-77.9	261	SW	213	SW	194	NE	294	SW
<i>Cornus florida</i>	45.6	-88.8	133	NE	165	NE	222	NE	208	NE
<i>Diospyros virginiana</i>	40.7	-93.0	173	NE	250	NE	428	NE	478	NE
<i>Fagus grandifolia</i>	37.8	-86.9	68	N	61	NW	134	W	225	W
<i>Fraxinus americana</i>	32.9	-93.1	83	NW	77	NW	144	W	164	W
<i>Fraxinus nigra</i>	39.1	-92.5	70	N	57	N	54	SW	31	NW
<i>Fraxinus pennsylvanica</i>	30.8	-81.2	17	E	36	NE	65	SE	107	E
<i>Fraxinus quadrangulata</i>	39.6	-94.6	33	E	50	SE	50	SE	56	SE
<i>Gleditsia aquatica</i>	35.5	-83.1	329	E	457	E	706	NE	830	NE
<i>Gleditsia triacanthos</i>	34.8	-83.1	187	N	228	NE	303	NE	395	NE
<i>Gordonia lasianthus</i>	42.1	-84.8	20	NW	20	NW	20	NW	26	W
<i>Gymnocladus dioicus</i>	39.4	-89.9	71	NW	147	N	294	N	353	N
<i>Halesia</i> spp.	33.8	-86.5	9	W	5	NW	8	N	20	NE
<i>Ilex opaca</i>	36.6	-82.6	112	W	107	SW	102	SW	115	W
<i>Juglans cinerea</i>	38.8	-92.9	232	N	271	N	255	NE	264	NE
<i>Juglans nigra</i>	32.4	-85.8	189	N	279	N	434	N	515	NE
<i>Juniperus virginiana</i>	38.1	-90.2	200	NE	298	NE	376	NE	425	NE
<i>Larix laricina</i>	46.3	-88.8	49	NW	32	NW	64	W	60	W
<i>Liquidambar styraciflua</i>	38.8	-92.9	81	NE	99	NE	162	NE	204	NE
<i>Liriodendron tuliperfia</i>	32.8	-87.5	105	N	84	N	167	N	129	N
<i>Maclura pomifera</i>	31.4	-82.8	113	N	156	NE	254	NE	309	NE
<i>Magnolia acuminata</i>	32.4	-82.3	97	NE	80	NE	57	E	39	SE
<i>Magnolia grandiflora</i>	40.2	-87.5	67	SW	56	SW	158	E	72	NE
<i>Magnolia macrophylla</i>	31.6	-82.6	33	E	23	NW	159	NE	38	SW
<i>Magnolia virginiana</i>	35.6	-83.3	31	NW	39	NE	146	E	138	NE
<i>Morus rubra</i>	37.4	-87.5	200	N	276	NE	399	NE	505	NE
<i>Nyssa aquatica</i>	47.0	-91.4	11	E	38	NE	69	NE	85	NE
<i>Nyssa ogechee</i>	46.2	-89.9	34	NW	29	NW	30	N	63	NW
<i>Nyssa sylvatica</i>	40.8	-94.4	6	NW	10	NW	9	W	15	NW

<i>Nyssa sylvatica</i> var. <i>biflora</i>	44.0	-84.0	33	NE	34	NE	105	NE	89	NE
<i>Ostrya virginiana</i>	43.9	-79.6	38	NW	7	N	86	SE	136	SE
<i>Oxydendrum arboreum</i>	40.2	-83.6	56	N	51	NW	55	NW	85	W
<i>Persea borbonia</i>	44.3	-85.9	61	W	31	W	30	E	53	NE
<i>Picea glauca</i>	46.1	-82.9	18	E	11	SW	455	W	338	W
<i>Picea mariana</i>	47.1	-87.7	111	E	135	E	265	W	268	W
<i>Picea rubens</i>	44.7	-71.1	94	W	102	W	114	W	131	W
<i>Pinus banksiana</i>	45.6	-89.6	77	NW	74	NW	101	SW	24	N
<i>Pinus clausa</i>	29.4	-82.7	57	NW	156	NW	261	W	393	W
<i>Pinus echinata</i>	34.4	-89.3	163	NE	231	NE	366	NE	437	NE
<i>Pinus elliotii</i>	30.3	-83.8	53	N	84	N	148	N	194	N
<i>Pinus glabra</i>	31.4	-85.0	44	W	52	N	186	NE	215	N
<i>Pinus palustris</i>	37.5	-80.7	45	N	60	N	214	NE	206	NE
<i>Pinus pungens</i>	44.6	-86.6	29	SW	31	SW	16	SW	15	SW
<i>Pinus resinosa</i>	39.3	-77.1	104	N	128	N	150	N	140	N
<i>Pinus rigida</i>	33.1	-79.8	4	N	8	NE	52	W	51	SW
<i>Pinus serotina</i>	42.5	-78.5	18	W	26	NW	67	SW	48	W
<i>Pinus strobus</i>	33.3	-86.7	113	NW	249	NW	203	NW	193	W
<i>Pinus taeda</i>	36.6	-82.0	69	NE	86	N	159	NE	211	NE
<i>Pinus virginiana</i>	31.9	-88.1	67	NW	73	NW	132	N	130	SW
<i>Planera aquatica</i>	33.3	-90.9	17	NW	28	N	22	NW	20	NW
<i>Platanus occidentalis</i>	41.6	-93.1	135	N	150	NE	184	NE	211	NE
<i>Populus balsamifera</i>	38.3	-86.9	131	SE	83	SW	279	SW	216	SW
<i>Populus deltoides</i>	40.7	-86.7	108	NE	170	NE	225	NE	280	NE
<i>Populus grandidentata</i>	37.6	-82.9	121	NE	170	NE	261	NE	264	N
<i>Populus tremuloides</i>	32.7	-88.8	85	E	87	NE	71	S	41	NW
<i>Prunus americana</i>	39.3	-90.5	60	SW	48	N	82	E	201	NE
<i>Prunus pennsylvanica</i>	34.1	-87.8	184	NE	205	N	345	NE	313	NE
<i>Prunus serotina</i>	33.6	-89.8	129	NW	115	NW	60	W	102	SW
<i>Prunus virginiana</i>	40.6	-76.0	165	NW	292	NW	654	NW	725	NW
<i>Quercus alba</i>	31.8	-82.7	139	NE	194	NE	232	NE	243	NE
<i>Quercus bicolor</i>	33.5	-90.3	112	NW	168	NW	383	N	421	N
<i>Quercus coccinea</i>	43.4	-94.2	270	NE	362	NE	462	NE	451	NE

<i>Quercus durandii</i>	35.6	-91.6	8	NE	8	NE	51	NE	109	E
<i>Quercus ellipsoidalis</i>	33.8	-86.4	77	NW	87	NW	243	SW	61	E
<i>Quercus falcata</i> var. <i>falcata</i>	38.0	-90.5	93	NE	126	NE	200	NE	269	NE
<i>Q. falcata</i> var. <i>pagodifolia</i>	32.5	-86.9	55	NE	93	NE	173	NE	200	NE
<i>Quercus ilicifolia</i>	33.5	-91.0	59	NW	61	NW	93	W	88	NW
<i>Quercus imbricaria</i>	39.6	-88.1	146	NE	229	NE	321	NE	375	NE
<i>Quercus laevis</i>	39.8	-89.9	56	SE	79	E	108	NW	83	NE
<i>Quercus laurifolia</i>	33.7	-88.5	6	SE	23	E	73	NE	77	NE
<i>Quercus lyrata</i>	37.9	-81.0	20	NW	51	N	117	N	149	N
<i>Quercus macrocarpa</i>	41.2	-85.4	26	NE	58	N	72	N	81	N
<i>Quercus marilandica</i>	34.3	-89.8	48	S	48	SE	166	SE	170	SE
<i>Quercus michauxii</i>	35.3	-91.8	205	NE	354	NE	570	NE	647	NE
<i>Quercus muehlenbergii</i>	38.7	-87.8	16	SW	41	W	98	NE	92	NE
<i>Quercus nigra</i>	28.9	-82.3	198	N	308	NE	505	NE	585	NE
<i>Quercus nuttallii</i>	38.9	-85.0	90	NE	128	N	249	N	307	N
<i>Quercus palustris</i>	46.5	-96.5	24	NE	35	E	160	E	237	NE
<i>Quercus phellos</i>	41.6	-90.8	105	N	185	NE	165	NE	244	NE
<i>Quercus prinus</i>	38.0	-84.9	68	NE	98	NE	130	NE	179	NE
<i>Quercus rubra</i>	44.9	-75.5	121	NE	143	NE	200	N	166	N
<i>Quercus shumardii</i>	43.4	-89.4	95	N	129	N	168	NE	181	NE
<i>Quercus stellata</i>	43.1	-89.1	111	NW	176	NE	403	NE	503	NE
<i>Q. stellata</i> var. <i>margaretta</i>	34.2	-91.9	260	E	380	E	528	NE	609	NE
<i>Quercus velutina</i>	40.8	-90.4	157	NE	233	NE	331	NE	372	NE
<i>Quercus virginiana</i>	32.9	-93.6	123	NW	273	NW	510	NW	588	NW
<i>Robinia pseudoacacia</i>	40.7	-89.8	221	NW	388	NW	571	NW	598	NW
<i>Salix amygdaloides</i>	31.5	-87.2	883	S	169	SW	352	S	145	S
<i>Salix nigra</i>	42.1	-83.0	94	NW	96	N	22	SE	90	E
<i>Sassafras albidum</i>	35.1	-93.3	123	NE	136	NE	153	NE	190	NE
<i>Sorbus americana</i>	40.7	-82.9	174	E	293	E	252	SE	252	SE
<i>Taxodium distichum</i>	28.7	-81.8	73	E	102	E	145	NE	159	NE
<i>T. distichum</i> var. <i>nutans</i>	46.2	-81.6	181	W	316	W	648	W	717	W
<i>Thuja occidentalis</i>	42.6	-76.5	45	NW	60	E	58	SE	75	SE
<i>Tilia americana</i>	37.8	-82.2	85	NW	112	NW	76	W	91	N

<i>Tsuga canadensis</i>	33.6	-86.2	66	N	78	N	26	NE	20	W
<i>Ulmus alata</i>	33.1	-88.6	301	NE	389	NE	543	NE	602	NE
<i>Ulmus americana</i>	35.5	-85.7	66	N	99	N	111	NE	141	NE
<i>Ulmus crassifolia</i>	44.0	-90.0	348	NE	540	NE	683	NE	815	NE
<i>Ulmus rubra</i>	31.0	-84.1	148	N	193	N	203	NE	222	NE
<i>Ulmus thomasii</i>	31.8	-85.1	137	NE	191	NE	161	E	149	E