Fort Pulaski

	sq. km	sq. mi	FIA Plots
Area of Region	8,650.8	3,340.1	240

Species Information

The columns below provide breif summaries of the species associated with the region and described in the table on the next pages. Definitions are provided in the Excel file for this region.

Genus	Species				Model		Potential Change in Habitat Suitability			Capability to Cope or Persist			Migration Potential	
			Abundance		Reliability	Adaptability		Scenario RCP45	Scenario RCP85		Scenario RCP45	Scenario RCP85		SHIFT RCP45	SHIFT RCP85

Genus	Species	Abundance		Model Reliability	Adaptability	Potential Change in Habitat Suitability	RCP45	RCP85	Capability	RCP45	RCP85	Migration	RCP45	RCP85
Ash	1													
Hickory	5	Abundant	5	High	13 / 16	Increase	21	25	Very Good	8	11	Likely	3	3
Maple	1	Common	13	Medium	34 / 52	No Change	15	14	Good	13	13	Infill	7	13
Oak	13	Rare	38	Low	30 / 10	Decrease	18	15	Fair	8	7	Migrate	0	3
Pine	7	Absent	19	FIA	2	New	8	10	Poor	9	9		10	19
Other	29					Unknown	17	15	Very Poor	14	11			
	56		75		79 / 78		79	79	FIA Only	2	2			
									Unknown	15	13			
										69	66			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	66.5	68.0	69.8	69.8	
Average	CCSM85	66.5	68.2	70.4	72.9	
	GFDL45	66.5	69.5	71.0	71.8	
	GFDL85	66.5	69.0	72.0	75.5	
	HAD45	66.5	68.4	70.7	72.0	
	HAD85	66.5	68.7	71.7	75.1	
Growing	CCSM45	78.6	79.8	81.2	81.6	
Season	CCSM85	78.6	79.9	82.2	85.0	
May—Sep	GFDL45	78.6	81.5	82.9	84.1	
	GFDL85	78.6	81.2	84.2	88.0	
	HAD45	78.6	81.1	83.1	84.5	
	HAD85	78.6	81.1	85.1	88.3	
Coldest	CCSM45	48.2	50.5	51.3	51.1	
Month	CCSM85	48.2	50.2	51.3	52.5	
Average	GFDL45	48.2	51.0	51.3	51.9	
	GFDL85	48.2	50.3	51.4	52.1	
	HAD45	48.2	48.3	49.7	50.5	
	HAD85	48.2	49.2	50.2	51.7	
Warmest	CCSM45	82.5	83.8	84.7	84.8	
Month	CCSM85	82.5	83.9	85.3	86.9	
Average	GFDL45	82.5	84.4	85.2	86.0	
	GFDL85	82.5	84.7	86.2	88.2	
	HAD45	82.5	85.3	86.3	86.8	
	HAD85	82.5	85.5	87.8	89.2	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	47.5	50.8	53.0	53.6	
Total	CCSM85	47.5	49.9	53.6	55.6	
	GFDL45	47.5	54.7	56.7	58.8	
	GFDL85	47.5	53.2	59.3	59.0	
	HAD45	47.5	45.3	45.2	47.7	
	HAD85	47.5	47.0	44.1	44.5	
Growing	CCSM45	24.5	28.1	29.2	28.8	
Season	CCSM85	24.5	26.3	29.6	29.7	
May—Sep	GFDL45	24.5	31.3	32.5	33.5	
	GFDL85	24.5	30.1	35.2	35.5	
	HAD45	24.5	23.9	23.1	23.1	
	HAD85	24.5	24.1	20.4	19.7	

NOTE: For the six climate variables, four 30-year periods are used to indicate six potential future trajectories. The period ending in 2009 is based on modeled observations from the PRISM Climate Group and the three future periods were obtained from the NASA NEX-DCP30 dataset. Future climate projections from three models under two emission scenarios show estimates of each climate variable within the region. The three models are CCSM4, GFDL CM3, and HadGEM2-ES and the emission scenarios are the 4.5 and 8.5 RCP. The average value for the region is reported, even though locations within the region may vary substantially based on latitude, elevation, land-use, or other factors.

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Fort Pulaski

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
loblolly pine	Pinus taeda	WDH	High	86.2	2916.5	36.0	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
sweetgum	Liquidambar styraciflua	WDH	High	83.3	825.7	10.5	No change	No change	Medium	Abundant	Good	Good			1	2
slash pine	Pinus elliottii	NDH	High	48.5	788.8	18.5	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
water oak	Quercus nigra	WDH	High	69.4	574.2	8.2	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
red maple	Acer rubrum	WDH	High	67.1	544.9	8.3	No change	No change	High	Abundant	Very Good	Very Good			1	5
swamp tupelo	Nyssa biflora	NDH	Medium	58.6	412.4	6.9	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	6
laurel oak	Quercus laurifolia	NDH	Medium	57.2	323.4	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
longleaf pine	Pinus palustris	NSH	Medium	28.9	237.7	9.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	8
live oak	Quercus virginiana	NDH	High	44.9	233.9	6.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	9
pond pine	Pinus serotina	NSH	Medium	20.5	152.6	8.5	No change	No change	Low	Common	Poor	Poor			0	10
willow oak	Quercus phellos	NSL	Low	24.1	125.2	5.1	No change	Sm. inc.	Medium	Common	Fair	Good			1	11
redbay	Persea borbonia	NSL	Low	37.1	95.7	2.6	No change	No change	High	Common	Good	Good			1	12
pond cypress	Taxodium ascendens	NSH	Medium	16.1	94.7	5.7	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	13
cabbage palmetto	Sabal palmetto	NDH	Medium	10.2	79.7	23.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			0	14
bald cypress	Taxodium distichum	NSH	Medium	11.6	72.4	6.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	15
blackgum	Nyssa sylvatica	WDL	Medium	26.3	63.3	2.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	16
sweetbay	Magnolia virginiana	NSL	Medium	23.1	61.4	2.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	17
southern red oak	Quercus falcata	WDL	Medium	13.4	60.1	5.2	No change	Lg. inc.	High	Common	Good	Very Good			1	18
black willow	Salix nigra	NSH	Low	9.5	46.3	4.2	No change	No change	Low	Rare	Very Poor	Very Poor			0	19
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	11.3	42.4	3.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	20
green ash	Fraxinus pennsylvanica	WSH	Low	14.9	36.1	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	21
loblolly-bay	Gordonia lasianthus	NSH	Medium	11.4	33.2	2.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	22
water tupelo	Nyssa aquatica	NSH	Medium	6.9	30.6	4.4	No change	No change	Low	Rare	Very Poor	Very Poor			2	23
southern magnolia	Magnolia grandiflora	NSL	Low	9.4	28.6	4.1	No change	No change	Medium	Rare	Poor	Poor			1	24
yellow-poplar	Liriodendron tulipifera	WDH	High	10.4	28.0	2.7	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	1	25
common persimmon	Diospyros virginiana	NSL	Low	10.7	26.5	2.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	26
American elm	Ulmus americana	WDH	Medium	10.3	20.7	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	27
black cherry	Prunus serotina	WDL	Medium	13.9	20.7	1.8	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	28
American holly	Ilex opaca	NSL	Medium	14.9	16.8	1.1	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	29
swamp chestnut oak	Quercus michauxii	NSL	Low	6.9	15.8	2.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	30
eastern redcedar	Juniperus virginiana	WDH	Medium	9.6	15.7	4.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	31
mockernut hickory	Carya alba	WDL	Medium	5.4	10.9	1.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	32
turkey oak	Quercus laevis	NSH	Medium	2.3	10.4	4.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	33
white oak	Quercus alba	WDH	Medium	6.8	9.0	1.3	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	2	34
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	8.1	8.2	1.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	35
post oak	Quercus stellata	WDH	High	6.9	7.5	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	36
water hickory	Carya aquatica	NSL	Medium	3.5	6.2	1.8	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	37
pecan	Carya illinoinensis	NSH	Low	4.1	5.7	3.3	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	38
sugarberry	Celtis laevigata	NDH	Medium	3.4	5.5	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	39
overcup oak	Quercus lyrata	NSL	Medium	2.3	5.4	2.3	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	40
pignut hickory	Carya glabra	WDL	Medium	4.6	5.2	1.1	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	41
sassafras	Sassafras albidum	WSL	Low	8.7	5.1	0.8	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	42
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	3.5	5.0	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	43
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	1.2	3.8	3.3	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	44
slippery elm	Ulmus rubra	WSL	Low	3.5	3.6	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	45
spruce pine	Pinus glabra	NSL	Low	2.3	3.1	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	46
shortleaf pine	Pinus echinata	WDH	High	2.3	3.0	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good		Infill ++	2	47

Fort Pulaski

National Park
Climate Change Atlas Tree Species
Current and Potential Future Habitat, Capability, and Migration

USDA Forest Service
Northern Research Station
Landscape Change Research Group
Iverson, Peters, Prasad, Matthews

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
red mulberry	Morus rubra	NSL	Low	4.1	2.7	2.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	48
flowering dogwood	Cornus florida	WDL	Medium	3.5	2.6	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	49
eastern cottonwood	Populus deltoides	NSH	Low	1.2	1.6	1.4	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	50
sand hickory	Carya pallida	NSL	FIA	1	1.2	0.9	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	51
black oak	Quercus velutina	WDH	High	2.3	1.2	0.5	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	52
American beech	Fagus grandifolia	WDH	High	1.2	1.1	0.9	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	53
winged elm	Ulmus alata	WDL	Medium	1.2	0.8	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	54
bluejack oak	Quercus incana	NSL	Low	1.2	0.7	0.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	55
Virginia pine	Pinus virginiana	NDH	High	1.2	0.4	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	56
boxelder	Acer negundo	WSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Migrate +	3	57
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	58
river birch	Betula nigra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	59
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	60
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	61
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	62
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	63
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	64
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	65
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	66
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	67
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	68
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	69
water elm	Planera aquatica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	70
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	71
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	72
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	73
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	74
Nuttall oak	Quercus texana	NSH	Medium	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	75
northern red oak	Quercus rubra	WDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	76
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	77
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	78
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	79