HUC 121004 Central Texas Coastal

HUC 6 Watershed
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

	sq. km	sq. mi	FIA Plots
Area of Region	14,887	5,748.0	49

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
Ash	2
Hickory	2
Maple	1
Oak	5
Pine	0
Other	14
	24

Abundance	
Abundant	0
Common	3
Rare	21
Absent	10
	34

	Model Reliability	Adaptability
High	5	11
Medium	15	18
Low	14	6
FIA	1	
	35	**35**

Potential Change in Habitat Suitability	Scenario RCP45	Scenario RCP85
Increase	0	0
No Change	6	7
Decrease	17	16
New	1	1
Unknown	11	11
	35	**35**

Capability to Cope or Persist	Scenario RCP45	Scenario RCP85
Very Good	0	0
Good	0	0
Fair	4	4
Poor	9	9
Very Poor	10	10
FIA Only	1	1
Unknown	10	10
	34	**34**

Migration Potential	SHIFT RCP45	SHIFT RCP85
Likely	0	0
Infill	6	6
Migrate	0	0
	6	**6**

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	54.7	55.5	56.3	56.5
	CCSM85	54.7	55.6	56.9	58.1
	GFDL45	54.7	57.4	57.1	57.9
	GFDL85	54.7	56.2	58.0	59.9
	HAD45	54.7	55.8	57.2	57.8
	HAD85	54.7	56.0	57.7	59.5
Growing Season May—Sep	CCSM45	61.0	61.8	62.3	62.6
	CCSM85	61.0	61.8	63.0	64.3
	GFDL45	61.0	64.2	63.8	64.9
	GFDL85	61.0	62.9	64.8	67.1
	HAD45	61.0	62.1	63.2	63.7
	HAD85	61.0	62.3	64.0	65.6
Coldest Month Average	CCSM45	44.4	45.7	46.2	46.3
	CCSM85	44.4	45.7	46.3	47.1
	GFDL45	44.4	46.4	46.4	46.5
	GFDL85	44.4	45.1	45.9	46.3
	HAD45	44.4	45.0	45.9	46.3
	HAD85	44.4	46.3	47.1	48.0
Warmest Month Average	CCSM45	62.9	63.5	63.8	63.9
	CCSM85	62.9	63.7	64.1	64.8
	GFDL45	62.9	64.9	65.4	65.9
	GFDL85	62.9	65.1	66.0	67.3
	HAD45	62.9	64.1	64.5	64.8
	HAD85	62.9	64.2	65.1	65.7

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	21.2	23.3	24.4	22.8
	CCSM85	21.2	23.7	23.4	21.8
	GFDL45	21.2	21.4	25.1	19.2
	GFDL85	21.2	20.9	21.4	20.7
	HAD45	21.2	21.9	21.0	21.6
	HAD85	21.2	22.8	21.3	21.7
Growing Season May—Sep	CCSM45	10.6	12.1	12.5	11.4
	CCSM85	10.6	12.7	11.7	10.4
	GFDL45	10.6	11.0	14.4	10.0
	GFDL85	10.6	11.1	11.3	11.2
	HAD45	10.6	10.2	10.1	10.8
	HAD85	10.6	11.4	10.6	10.5

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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
live oak	Quercus virginiana	NDH	High	49	260.6	26.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	1
post oak	Quercus stellata	WDH	High	9.7	121.7	22.0	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	2
sugarberry	Celtis laevigata	NDH	Medium	29.4	98.1	12.6	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	3
hackberry	Celtis occidentalis	WDH	Medium	8.8	46.8	15.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	4
cedar elm	Ulmus crassifolia	NDH	Medium	18.4	38.8	8.3	No change	No change	Low	Rare	Very Poor	Very Poor			0	5
pecan	Carya illinoinensis	NSH	Low	5.3	22.1	12.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	6
water oak	Quercus nigra	WDH	High	6.4	15.0	11.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	7
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	15.6	12.8	3.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	8
green ash	Fraxinus pennsylvanica	WSH	Low	2.9	3.2	4.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	9
Osage-orange	Maclura pomifera	NDH	Medium	0.8	2.7	0.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	10
black willow	Salix nigra	NSH	Low	5	1.9	1.4	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	11
boxelder	Acer negundo	WSH	Low	3	1.8	2.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	12
white ash	Fraxinus americana	WDL	Medium	0.7	1.3	1.6	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	13
American elm	Ulmus americana	WDH	Medium	2.3	1.0	4.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	14
black cherry	Prunus serotina	WDL	Medium	2.4	0.9	3.6	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	15
red mulberry	Morus rubra	NSL	Low	1	0.7	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	16
sycamore	Platanus occidentalis	NSL	Low	0.7	0.7	0.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	17
blackjack oak	Quercus marilandica	NSL	Medium	2.9	0.6	0.3	No change	No change	High	Rare	Fair	Fair			0	18
black hickory	Carya texana	NDL	High	3.4	0.5	3.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	19
white oak	Quercus alba	WDH	Medium	2.3	0.5	2.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	20
honeylocust	Gleditsia triacanthos	NSH	Low	0.7	0.4	0.6	No change	No change	High	Rare	Fair	Fair			0	21
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0.9	0.4	0.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	22
eastern redcedar	Juniperus virginiana	WDH	Medium	1.2	0.1	0.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	23
waterlocust	Gleditsia aquatica	NSLX	FIA	1.2	0.1	0.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	24
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	25
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	26
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	27
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	28
mockernut hickory	Carya alba	WDL	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	29
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	30
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	31
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	32
swamp tupelo	Nyssa biflora	NDH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	33
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	34
black oak	Quercus velutina	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	35