



# April 2011 Tornadoes TIMBER DAMAGE REPORT

Final Report - May 18, 2011



Compiled By:

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# DAMAGE REPORT FOR APRIL 2011 TORNADES

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## Executive Synopsis

Two separate storm events on April 15, and April 27, 2011 impacted 39 Counties in Alabama. The tornadoes of April 15<sup>th</sup> caused damage in 13 Counties with most of the damage inflicted in rural areas. These tornadoes exhibited typical patterns where damage along the track was intermittent with touchdowns and liftoffs occurring sporadically. The tornadic events of April 27<sup>th</sup> were spawned from supercell activity and demonstrated behavior typical of storm events occurring in the Great Plains region with extremely powerful tornadoes tracking for long distances after touching down. These outbreaks caused damage in 33 Counties some of which were impacted by the April 15<sup>th</sup> tornadoes. Typical of tornado damage, the impact to the forests of Alabama was incurred along the tracks of the tornadoes with almost total devastation of the standing timber. Depending upon the strength of the tornado the damage path would span anywhere from 1/8<sup>th</sup> of a mile to a full mile in width.

Assessment of the damage was conducted by the Alabama Forestry Commission (AFC) commencing with aerial estimation of the damage areas for both events. Damage was either aerially sketch-mapped by AFC personnel or damage paths were identified for length and width with global positioning system (GPS) equipment for inclusion into the AFC geographic information system (GIS). Additional verification of damage paths was achieved through digitizing remotely sensed orthorectified imagery that was obtained through the collaborative efforts of the Statewide GIS task group created for storm response.

The AFC estimates that **26,733** acres of forest land were impacted by the April 15<sup>th</sup> tornadoes with an assessed value of **\$37,728,175.00**. The impacts from the April 27<sup>th</sup> tornadoes are estimated to be **177,857** acres with an assessed value of **\$228,360,576.00**. The total for impacts to the forest land in Alabama from the April storms are **204,590** acres with an assessed value of **\$266,088,751.00 (Table 1)**.

## Survey Procedures

The AFC began aerial operations to assess damages the day following both outbreaks. The initial aerial detection was based upon National Weather Service Data that identified the geospatial locations for radar signatures generated from tornado returns. These waypoints allowed the aircraft pilots to identify an initial point for observations to begin. AFC pilots and contract pilots were accompanied by two experienced observers per aircraft that identified the geographic extent of the damage along each path. These processes were completed within eight (8) days of each outbreak. The geographic data and ancillary observational information were incorporated into the AFC GIS.

**Acreage** values were derived using the GIS functions to create polygonal features that represented the length and width for each tornado damage path. These vector polygons were then overlaid on the

National Land Cover Data (NLCD) and land cover classifications were extracted for the impacted areas. The pixel classifications were then summarized by class to segregate forest land from non-forest land. The pixel frequencies were then multiplied by the appropriate conversion factor to compute the acres impacted by forest type (Pine, Mixed Pine-Hardwood, and Hardwood).

**Ownership** separation of public land and private land was achieved through the overlay process within the AFC GIS. Federal, State, and Non-Governmental Organization Lands are stored as a vector layer within the GIS. All land that was previously identified as forested acreage was then overlaid with the public land ownership layer and common areas identified and denoted.

**Timber Volumes** were imputed from US Forest Service – Forest Inventory and Analysis (US-FIA) per acre volumes for each county impacted. The FIA volumes were developed on a per acre basis utilizing merchantable timber in combination with broad forest type and non-reserved timber acres as the population to calculate the per acre volumes. This procedure provides a conservative realistic estimate of volume per acre that represents the typical management regimes applied to the acreage impacted.

**Timber Values** were determined using the quarterly average stumpage prices from Timber Mart South for calendar year 2011. Timber Mart South prices are divided by zones for north and south Alabama with the appropriate zonal price applied to the volume estimates derived for impacted acres. The price for hardwood sawtimber represents the average for red oak and mixed hardwood sawtimber whereas the other product species combinations were applied directly.

## Results

**Table 1. Summary Statistics for Damages from April 2011, Tornadoes**

Storm Date	Total Damaged Acres	Forested Damaged Acres	Total Timber Volume	Damaged Total Value
15-Apr-11	32,590	26,733	1,761,876	\$ 37,728,174.93
27-Apr-11	287,391	177,857	10,809,981	\$ 228,360,575.75
<b>Total</b>	<b>319,981</b>	<b>204,590</b>	<b>12,571,857</b>	<b>\$ 266,088,750.68</b>

Storm Date	NIPF Damaged Acres	NIPF Forested Damaged Acres	NIPF Total Timber Volume	NIPF Damaged Total Value
15-Apr-11	32,531	26,684	1,759,468	\$ 37,683,066.76
27-Apr-11	281,969	172,804	10,466,652	\$220,941,245.81
<b>Total</b>	<b>314,500</b>	<b>199,488</b>	<b>12,226,120</b>	<b>\$258,624,312.57</b>

Storm Date	Ownership	Total Damaged Acres	Forested Damaged Acres
15-Apr-11	State	59	49
27-Apr-11	Federal	5,394	5,044
27-Apr-11	State	27	9
	<b>Total</b>	<b>5,480</b>	<b>5,102</b>

Tables 2-5 present details of total acres damaged **319,981**, forested acres damaged **204,590**, and stumpage value for damaged timber **\$266,088,751** along with volumes for each of the species product combinations (pine pulpwood **1,602,248 tons**, hardwood pulpwood **2,591,454 tons**, pine sawtimber **3,538,192 tons**, and hardwood sawtimber **4,839,962 tons**) with all information presented by County and date for the two storm events. Tables 6 summarizes the impact to public lands that impacted three Federal ownerships (US Fish & Wildlife Service, US Forest Service, and Tennessee Valley Authority). State lands ownerships impacted include State Fish and Game and State Parks & Recreation. Combined all public land impacts account for 5,480 acres. Tables 7-10 present the information in the same format as tables 2-5 however the calculations have been adjusted to reflect exclusion of the public land ownerships. Summarizing, total acres damaged **314,500**, forested acres damaged **199,488**, and stumpage value for damaged timber **\$258,624,313** along with volumes for each of the species product combinations (pine pulpwood **1,565,948 tons**, hardwood pulpwood **2,520,055 tons**, pine sawtimber **3,450,889 tons**, and hardwood sawtimber **4,689,228 tons**). Figure 1 depicts the acreage damaged with 4 classification intervals. Of the 39 Counties eight experienced damages of less than 1,000 acres; five Counties (Calhoun, Marion, St. Clair, Sumter, and Tuscaloosa) suffered damages that exceeded 10,000 acres. Figure 2 shows the volume damage suffered with five classification intervals. Ten Counties suffered volume losses that were categorized as less than 100,000 total tons. St. Clair and Tuscaloosa Counties suffered volume losses that exceeded 750,000 tons and Tuscaloosa County's loss exceeded 1,000,000 tons.

Figures 3-5 illustrate the individual tornado damage paths as they impacted the state with land cover, urban centers, and public lands as focus of interest respectively. GIS analysis identified 14 urban centers with a population greater than 10,000 as impacted by the tornadoes. Additionally, 55 urban centers with populations less than 10,000 were identified as being impacted. This analysis is restricted to incorporated cities only.

Table 11 demonstrates a comparison between the damage impacts using assessed value for the damage with harvest revenue from the same quarter for calendar year 2010. Overall, the damage incurred from the tornadoes during the month of April represents a 3,125% increase in the removal of timber from the market base.

### **AFC Mitigation Efforts**

The AFC recognizes the need to dedicate all available resources to harvest damaged timber and help landowners recover from these traumatic storms. Currently, the AFC is working directly with landowners to help them assess their timber damage and inform them about the options that will be available to rehabilitate their forest land. Additionally, the AFC is engaged with the Forest Recovery Task Force recently established by Governor Bentley.

Immediate needs are for salvage operations to provide compensation to forest landowners; educate landowners to the benefits of reforestation; seek funding assistance to offset reforestation and

rehabilitation costs for landowners; and, inform the general public regarding the increased risks from forest insects and wildfire associated with the damages.

The AFC has produced County maps detailing where the damage paths are located. Landowners and salvage operators can use these maps to prioritize locating operations. AFC is using these maps to identify and assist landowners whose timber has been damaged. These maps are included as Figures 6-45.

The AFC is working with the Alabama Congressional delegation to obtain financial reforestation assistance for landowners. AFC is also evaluating resource requirements to direct shifting personnel and resources to address mitigation efforts related to wildfire and forest health issues.

More information and resources for the forest landowner can be found on the AFC website at [http://www.forestry.alabama.gov/Tornado\\_Damage\\_and\\_Recover\\_Information.aspx](http://www.forestry.alabama.gov/Tornado_Damage_and_Recover_Information.aspx). Or you may contact your local AFC County Office.

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Table 2. Estimated Timber Values Damaged by April 15, 2011 Tornadoes

County	Storm Date	Total Damaged Acres	Forested Damaged Acres	Composite Value Per Acre	Damaged Total Value
Autauga	15-Apr-11	1,227	1,079	\$ 920.58	\$ 993,300.43
Choctaw	15-Apr-11	2,778	2,571	\$ 1,675.03	\$ 4,306,492.69
Conecuh	15-Apr-11	530	462	\$ 1,331.34	\$ 615,079.56
Coosa	15-Apr-11	20	14	\$ 1,009.47	\$ 14,132.62
Elmore	15-Apr-11	1,007	872	\$ 1,079.85	\$ 941,628.60
Escambia	15-Apr-11	1,851	1,544	\$ 1,345.71	\$ 2,077,777.86
Greene	15-Apr-11	517	293	\$ 1,399.12	\$ 409,943.13
Hale	15-Apr-11	2,200	2,021	\$ 1,310.23	\$ 2,647,979.81
Marengo	15-Apr-11	5,605	5,085	\$ 1,621.68	\$ 8,246,247.67
Monroe	15-Apr-11	180	180	\$ 1,466.67	\$ 264,001.15
Sumter	15-Apr-11	12,527	9,066	\$ 1,407.94	\$ 12,764,358.76
Tuscaloosa	15-Apr-11	4,129	3,544	\$ 1,254.11	\$ 4,444,575.40
Washington	15-Apr-11	20	2	\$ 1,328.62	\$ 2,657.25
Totals		32,590	26,733.00		\$ 37,728,174.93

Table 3. Estimated Timber Values Damaged by April 27, 2011 Tornadoes

County	Storm Date	Total Damaged Acres	Forested Damaged Acres	Composite Value Per Acre	Damaged Total Value
Bibb	27-Apr-11	4,569	4,018	\$ 1,696.90	\$ 6,818,144.92
Blount	27-Apr-11	14,675	8,553	\$ 1,178.21	\$ 10,077,199.85
Calhoun	27-Apr-11	15,023	10,311	\$ 1,329.53	\$ 13,708,768.25
Chambers	27-Apr-11	2,388	1,752	\$ 1,206.71	\$ 2,114,155.71
Cherokee	27-Apr-11	10,492	8,042	\$ 1,045.63	\$ 8,408,968.56
Chilton	27-Apr-11	19	16	\$ 877.62	\$ 14,041.86
Choctaw	27-Apr-11	4,342	3,935	\$ 1,675.03	\$ 6,591,228.60
Cullman	27-Apr-11	11,275	4,623	\$ 1,215.09	\$ 5,617,351.79
Dekalb	27-Apr-11	11,505	3,861	\$ 1,160.09	\$ 4,479,091.96
Elmore	27-Apr-11	11,159	7,828	\$ 1,079.85	\$ 8,453,060.39
Etowah	27-Apr-11	1,871	1,615	\$ 1,352.91	\$ 2,184,947.11
Fayette	27-Apr-11	3,353	3,062	\$ 1,241.07	\$ 3,800,151.26
Franklin	27-Apr-11	6,801	4,438	\$ 984.18	\$ 4,367,811.54
Greene	27-Apr-11	5,299	3,750	\$ 1,399.12	\$ 5,246,712.40
Hale	27-Apr-11	8,850	7,964	\$ 1,310.23	\$ 10,434,691.36
Jackson	27-Apr-11	7,730	5,553	\$ 1,411.74	\$ 7,839,379.07
Jefferson	27-Apr-11	20,534	8,815	\$ 1,375.07	\$ 12,121,275.19
Lawrence	27-Apr-11	10,814	3,199	\$ 1,373.40	\$ 4,393,500.07
Limestone	27-Apr-11	8,980	2,068	\$ 1,628.14	\$ 3,366,993.29
Madison	27-Apr-11	14,041	7,674	\$ 1,755.78	\$ 13,473,818.38
Marengo	27-Apr-11	4,760	2,664	\$ 1,621.68	\$ 4,320,158.07
Marion	27-Apr-11	16,120	12,121	\$ 929.91	\$ 11,271,391.46
Marshall	27-Apr-11	5,052	4,514	\$ 1,637.45	\$ 7,391,441.77
Morgan	27-Apr-11	2,777	916	\$ 1,681.70	\$ 1,540,441.48
Perry	27-Apr-11	1,422	742	\$ 1,139.49	\$ 845,498.13
Pickens	27-Apr-11	5,906	4,843	\$ 1,267.59	\$ 6,138,955.65
StClair	27-Apr-11	18,544	14,030	\$ 1,337.79	\$ 18,769,249.55
Sumter	27-Apr-11	1,460	953	\$ 1,407.94	\$ 1,341,764.16
Talladega	27-Apr-11	167	98	\$ 1,080.76	\$ 105,914.66
Tallapoosa	27-Apr-11	13,104	9,671	\$ 1,145.63	\$ 11,079,413.56
Tuscaloosa	27-Apr-11	32,154	16,537	\$ 1,254.11	\$ 20,739,261.68
Walker	27-Apr-11	8,358	6,810	\$ 1,066.84	\$ 7,265,175.52
Winston	27-Apr-11	3,845	2,881	\$ 1,402.51	\$ 4,040,618.49
Totals		287,391	177,857		\$ 228,360,575.75

	Total Damaged Acres	Forested Damaged Acres	Composite Value Per Acre	Damaged Total Value
Grand Totals	319,981	204,590		\$ 266,088,750.68

Grand Totals include Totals for both events.

Table 4. Estimated Timber Volumes Damaged by April 15, 2011 Tornadoes

County	Storm Date	Forested Damaged Acres	Pine Pulpwood Vol	HDWD Pulpwood Vol	Pine Sawtimber Vol	HDWD Sawtimber Vol	Total Timber Volume
Autauga	15-Apr-11	1,079	14,437	10,565	12,114	15,916	53,033
Choctaw	15-Apr-11	2,571	33,230	31,868	88,401	49,118	202,617
Conecuh	15-Apr-11	462	4,476	6,208	12,079	7,079	29,842
Coosa	15-Apr-11	14	156	130	258	167	712
Elmore	15-Apr-11	872	8,823	10,778	13,653	14,408	47,662
Escambia	15-Apr-11	1,544	22,492	12,480	49,571	15,764	100,306
Greene	15-Apr-11	293	1,840	4,063	4,491	8,577	18,971
Hale	15-Apr-11	2,021	20,959	25,852	36,654	45,024	128,489
Marengo	15-Apr-11	5,085	35,902	61,280	117,194	153,838	368,213
Monroe	15-Apr-11	180	2,009	2,342	5,375	2,933	12,658
Sumter	15-Apr-11	9,066	73,063	108,868	202,439	207,063	591,434
Tuscaloosa	15-Apr-11	3,544	25,649	40,859	63,624	77,671	207,803
Washington	15-Apr-11	2	24	32	55	25	135
Totals		26,733.00	243,061	315,324	605,908	597,583	1,761,876

Volumes are expressed in tons.

Table 5. Estimated Timber Volumes Damaged by April 27, 2011 Tornadoes

County	Storm Date	Forested Damaged Acres	Pine Pulpwood Vol	HDWD Pulpwood Vol	Pine Sawtimber Vol	HDWD Sawtimber Vol	Total Timber Volume
Bibb	27-Apr-11	4,018	32,534	47,483	116,297	108,538	304,852
Blount	27-Apr-11	8,553	63,872	84,745	137,975	182,864	469,457
Calhoun	27-Apr-11	10,311	60,076	152,111	191,886	241,541	645,614
Chambers	27-Apr-11	1,752	13,477	17,306	42,477	25,420	98,679
Cherokee	27-Apr-11	8,042	62,286	90,923	108,302	149,302	410,813
Chilton	27-Apr-11	16	104	179	164	256	703
Choctaw	27-Apr-11	3,935	50,859	48,775	135,301	75,176	310,111
Cullman	27-Apr-11	4,623	25,602	71,229	48,419	124,838	270,087
Dekalb	27-Apr-11	3,861	20,942	52,752	47,373	92,249	213,317
Elmore	27-Apr-11	7,828	79,205	96,753	122,563	129,343	427,864
Etowah	27-Apr-11	1,615	9,783	22,957	17,647	51,362	101,750
Fayette	27-Apr-11	3,062	28,173	40,841	62,405	54,536	185,955
Franklin	27-Apr-11	4,438	36,012	62,162	38,838	88,099	225,111
Greene	27-Apr-11	3,750	23,555	52,002	57,476	109,772	242,805
Hale	27-Apr-11	7,964	82,591	101,872	144,441	177,421	506,326
Jackson	27-Apr-11	5,553	12,989	100,927	15,132	232,211	361,259
Jefferson	27-Apr-11	8,815	68,008	90,111	200,691	193,403	552,213
Lawrence	27-Apr-11	3,199	11,175	50,025	59,093	82,084	202,376
Limestone	27-Apr-11	2,068	852	38,515	5,035	104,401	148,803
Madison	27-Apr-11	7,674	15,538	128,710	92,868	351,886	589,002
Marengo	27-Apr-11	2,664	18,809	32,104	61,397	80,595	192,905
Marion	27-Apr-11	12,121	142,563	138,580	158,247	161,545	600,935
Marshall	27-Apr-11	4,514	10,161	51,208	49,243	200,649	311,262
Morgan	27-Apr-11	916	719	16,245	12,372	38,383	67,720
Perry	27-Apr-11	742	9,542	8,743	14,554	10,477	43,315
Pickens	27-Apr-11	4,843	43,671	55,598	96,852	96,056	292,176
StClair	27-Apr-11	14,030	108,418	187,772	255,717	335,370	887,277
Sumter	27-Apr-11	953	7,680	11,444	21,280	21,766	62,170
Talladega	27-Apr-11	98	1,297	1,064	1,860	1,252	5,473
Tallapoosa	27-Apr-11	9,671	124,578	117,854	164,297	161,874	568,602
Tuscaloosa	27-Apr-11	16,537	119,683	190,657	296,882	362,427	969,649
Walker	27-Apr-11	6,810	50,836	76,564	99,397	125,058	351,854
Winston	27-Apr-11	2,881	23,598	37,921	55,803	72,224	189,546
Totals		177,857	1,359,188	2,276,130	2,932,284	4,242,379	10,809,981
<b>Grand Totals</b>		<b>204,590</b>	<b>1,602,248</b>	<b>2,591,454</b>	<b>3,538,192</b>	<b>4,839,962</b>	<b>12,571,857</b>

Volumes are expressed in tons. Grand Totals include Totals for both events.

Table 6. Estimated Timber Acreage Damaged on Public Land by April, 2011 Tornadoes

Ownership Class	Individual Ownership	Total Damaged Acres	Subtotal by Ownership Class
Federal			5,226
	Fish and Wildlife Service (FWS)	107	
	Forest Service (USFS)	3,623	
	Tennessee Valley Authority (TVA)	1,497	
State			254
	State Fish and Game	227	
	State Park & Recreation	27	
Private			314,500
		314,500	
	<b>Total</b>	<b>319,981</b>	

**Table 7. Non-Industrial Private Estimated Timber Values Damaged by April 15, 2011 Tornadoes**

<b>County</b>	<b>Storm Date</b>	<b>Total Damaged Acres</b>	<b>Forested Damaged Acres</b>	<b>Composite Value Per Acre</b>	<b>Damaged Total Value</b>
Autauga	15-Apr-11	1,168	1,030	\$ 920.58	\$ 948,192.26
Choctaw	15-Apr-11	2,778	2,571	\$ 1,675.03	\$ 4,306,492.69
Conecuh	15-Apr-11	530	462	\$ 1,331.34	\$ 615,079.56
Coosa	15-Apr-11	20	14	\$ 1,009.47	\$ 14,132.62
Elmore	15-Apr-11	1,007	872	\$ 1,079.85	\$ 941,628.60
Escambia	15-Apr-11	1,851	1,544	\$ 1,345.71	\$ 2,077,777.86
Greene	15-Apr-11	517	293	\$ 1,399.12	\$ 409,943.13
Hale	15-Apr-11	2,200	2,021	\$ 1,310.23	\$ 2,647,979.81
Marengo	15-Apr-11	5,605	5,085	\$ 1,621.68	\$ 8,246,247.67
Monroe	15-Apr-11	180	180	\$ 1,466.67	\$ 264,001.15
Sumter	15-Apr-11	12,527	9,066	\$ 1,407.94	\$ 12,764,358.76
Tuscaloosa	15-Apr-11	4,129	3,544	\$ 1,254.11	\$ 4,444,575.40
Washington	15-Apr-11	20	2	\$ 1,328.62	\$ 2,657.25
<b>Totals</b>		<b>32,531</b>	<b>26,684</b>		<b>\$ 37,683,066.76</b>

Table 8. Non-Industrial Private Estimated Timber Values Damaged by April 27, 2011 Tornadoes

County	Storm Date	Total Damaged Acres	Forested Damaged Acres	Composite Value Per Acre	Damaged Total Value
Bibb	27-Apr-11	3,312	2,761	\$ 1,696.90	\$ 4,685,141.40
Blount	27-Apr-11	14675	8553	\$ 1,178.21	\$ 10,077,199.85
Calhoun	27-Apr-11	15023	10311	\$ 1,329.53	\$ 13,708,768.25
Chambers	27-Apr-11	2388	1752	\$ 1,206.71	\$ 2,114,155.71
Cherokee	27-Apr-11	10492	8042	\$ 1,045.63	\$ 8,408,968.56
Chilton	27-Apr-11	19	16	\$ 877.62	\$ 14,041.86
Choctaw	27-Apr-11	4,342	3,935	\$ 1,675.03	\$ 6,591,228.60
Cullman	27-Apr-11	11,275	4,623	\$ 1,215.09	\$ 5,617,351.79
Dekalb	27-Apr-11	11505	3861	\$ 1,160.09	\$ 4,479,091.96
Elmore	27-Apr-11	11,159	7,828	\$ 1,079.85	\$ 8,453,060.39
Etowah	27-Apr-11	1,871.04	1,615.00	\$ 1,352.91	\$ 2,184,947.11
Fayette	27-Apr-11	3,353	3,062	\$ 1,241.07	\$ 3,800,151.26
Franklin	27-Apr-11	6,676.31	4,313.00	\$ 984.18	\$ 4,244,788.46
Greene	27-Apr-11	5,299	3,750	\$ 1,399.12	\$ 5,246,712.40
Hale	27-Apr-11	7,559	6,685	\$ 1,310.23	\$ 8,758,904.04
Jackson	27-Apr-11	6,996	4,819	\$ 1,411.74	\$ 6,803,163.65
Jefferson	27-Apr-11	20,532	8,813	\$ 1,375.07	\$ 12,118,525.04
Lawrence	27-Apr-11	10,813	3,199	\$ 1,373.40	\$ 4,393,500.07
Limestone	27-Apr-11	8,298	1,622	\$ 1,628.14	\$ 2,640,842.90
Madison	27-Apr-11	14,041	7,674	\$ 1,755.78	\$ 13,473,818.38
Marengo	27-Apr-11	4,735	2,657	\$ 1,621.68	\$ 4,308,806.30
Marion	27-Apr-11	16,120	12,121	\$ 929.91	\$ 11,271,391.46
Marshall	27-Apr-11	5,036	4,510	\$ 1,637.45	\$ 7,384,891.98
Morgan	27-Apr-11	2,607	834	\$ 1,681.70	\$ 1,402,541.70
Perry	27-Apr-11	1,422	742	\$ 1,139.49	\$ 845,498.13
Pickens	27-Apr-11	5,906	4,843	\$ 1,267.59	\$ 6,138,955.65
StClair	27-Apr-11	18,544	14,030	\$ 1,337.79	\$ 18,769,249.55
Sumter	27-Apr-11	1,460	953	\$ 1,407.94	\$ 1,341,764.16
Talladega	27-Apr-11	166	98	\$ 1,080.76	\$ 105,914.66
Tallapoosa	27-Apr-11	13,104	9,671	\$ 1,145.63	\$ 11,079,413.56
Tuscaloosa	27-Apr-11	32,154	16,537	\$ 1,254.11	\$ 20,739,261.68
Walker	27-Apr-11	8,358	6,810	\$ 1,066.84	\$ 7,265,175.52
Winston	27-Apr-11	2,727	1,764	\$ 1,402.51	\$ 2,474,019.79
Totals		281,969	172,804		\$ 220,941,245.81

	Total Damaged Acres	Forested Damaged Acres	Composite Value Per Acre	Damaged Total Value
Grand Totals	314,500	199,488		\$ 258,624,312.57

Grand Totals include Totals for both events.

Table 9. Non-Industrial Private Estimated Timber Volumes Damaged by April 15, 2011 Tornadoes

County	Storm Date	Forested Damaged Acres	Pine Pulpwood Vol	HDWD Pulpwood Vol	Pine Sawtimber Vol	HDWD Sawtimber Vol	Total Timber Volume
Autauga	15-Apr-11	1,030	13,782	10,085	11,564	15,193	50,625
Choctaw	15-Apr-11	2,571	33,230	31,868	88,401	49,118	202,617
Conecuh	15-Apr-11	462	4,476	6,208	12,079	7,079	29,842
Coosa	15-Apr-11	14	156	130	258	167	712
Elmore	15-Apr-11	872	8,823	10,778	13,653	14,408	47,662
Escambia	15-Apr-11	1,544	22,492	12,480	49,571	15,764	100,306
Greene	15-Apr-11	293	1,840	4,063	4,491	8,577	18,971
Hale	15-Apr-11	2,021	20,959	25,852	36,654	45,024	128,489
Marengo	15-Apr-11	5,085	35,902	61,280	117,194	153,838	368,213
Monroe	15-Apr-11	180	2,009	2,342	5,375	2,933	12,658
Sumter	15-Apr-11	9,066	73,063	108,868	202,439	207,063	591,434
Tuscaloosa	15-Apr-11	3,544	25,649	40,859	63,624	77,671	207,803
Washington	15-Apr-11	2	24	32	55	25	135
Totals		26,684	242,405	314,844	605,358	596,860	1,759,468

Volumes are expressed in tons.

Table 10. Non-Industrial Private Estimated Timber Volumes Damaged by April 27, 2011 Tornadoes

County	Storm Date	Forested Damaged Acres	Pine Pulpwood Vol	HDWD Pulpwood Vol	Pine Sawtimber Vol	HDWD Sawtimber Vol	Total Timber Volume
Bibb	27-Apr-11	2,761	22,356	32,628	79,915	74,583	209,481
Blount	27-Apr-11	8553	63,872	84,745	137,975	182,864	469,457
Calhoun	27-Apr-11	10311	60,076	152,111	191,886	241,541	645,614
Chambers	27-Apr-11	1752	13,477	17,306	42,477	25,420	98,679
Cherokee	27-Apr-11	8042	62,286	90,923	108,302	149,302	410,813
Chilton	27-Apr-11	16	104	179	164	256	703
Choctaw	27-Apr-11	3,935	50,859	48,775	135,301	75,176	310,111
Cullman	27-Apr-11	4,623	25,602	71,229	48,419	124,838	270,087
Dekalb	27-Apr-11	3861	20,942	52,752	47,373	92,249	213,317
Elmore	27-Apr-11	7,828	79,205	96,753	122,563	129,343	427,864
Etowah	27-Apr-11	1,615.00	9,783	22,957	17,647	51,362	101,750
Fayette	27-Apr-11	3,062	28,173	40,841	62,405	54,536	185,955
Franklin	27-Apr-11	4,313.00	34,998	60,411	37,744	85,618	218,771
Greene	27-Apr-11	3,750	23,555	52,002	57,476	109,772	242,805
Hale	27-Apr-11	6,685	69,327	85,512	121,244	148,928	425,011
Jackson	27-Apr-11	4,819	11,272	87,586	13,132	201,517	313,507
Jefferson	27-Apr-11	8,813	67,992	90,090	200,645	193,360	552,088
Lawrence	27-Apr-11	3,199	11,175	50,025	59,093	82,084	202,376
Limestone	27-Apr-11	1,622	668	30,208	3,949	81,885	116,711
Madison	27-Apr-11	7,674	15,538	128,710	92,868	351,886	589,002
Marengo	27-Apr-11	2,657	18,759	32,020	61,236	80,383	192,398
Marion	27-Apr-11	12,121	142,563	138,580	158,247	161,545	600,935
Marshall	27-Apr-11	4,510	10,152	51,163	49,200	200,471	310,986
Morgan	27-Apr-11	834	654	14,791	11,265	34,947	61,657
Perry	11-Jan-00	742	9,542	8,743	14,554	10,477	43,315
Pickens	27-Apr-11	4,843	43,671	55,598	96,852	96,056	292,176
StClair	27-Apr-11	14,030	108,418	187,772	255,717	335,370	887,277
Sumter	27-Apr-11	953	7,680	11,444	21,280	21,766	62,170
Talladega	27-Apr-11	98	1,297	1,064	1,860	1,252	5,473
Tallapoosa	27-Apr-11	9,671	124,578	117,854	164,297	161,874	568,602
Tuscaloosa	27-Apr-11	16,537	119,683	190,657	296,882	362,427	969,649
Walker	27-Apr-11	6,810	50,836	76,564	99,397	125,058	351,854
Winston	27-Apr-11	1,764	14,449	23,219	34,168	44,222	116,057
<b>Totals</b>		<b>172,804</b>	<b>1,323,543</b>	<b>2,205,210</b>	<b>2,845,531</b>	<b>4,092,368</b>	<b>10,466,652</b>
		<b>Forested Damaged Acres</b>	<b>Pine Pulpwood Vol</b>	<b>HDWD Pulpwood Vol</b>	<b>Pine Sawtimber Vol</b>	<b>HDWD Sawtimber Vol</b>	<b>Total Timber Volume</b>
<b>Grand Totals</b>		<b>199,488</b>	<b>1,565,948</b>	<b>2,520,055</b>	<b>3,450,889</b>	<b>4,689,228</b>	<b>12,226,120</b>

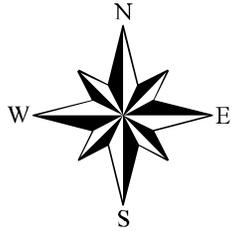
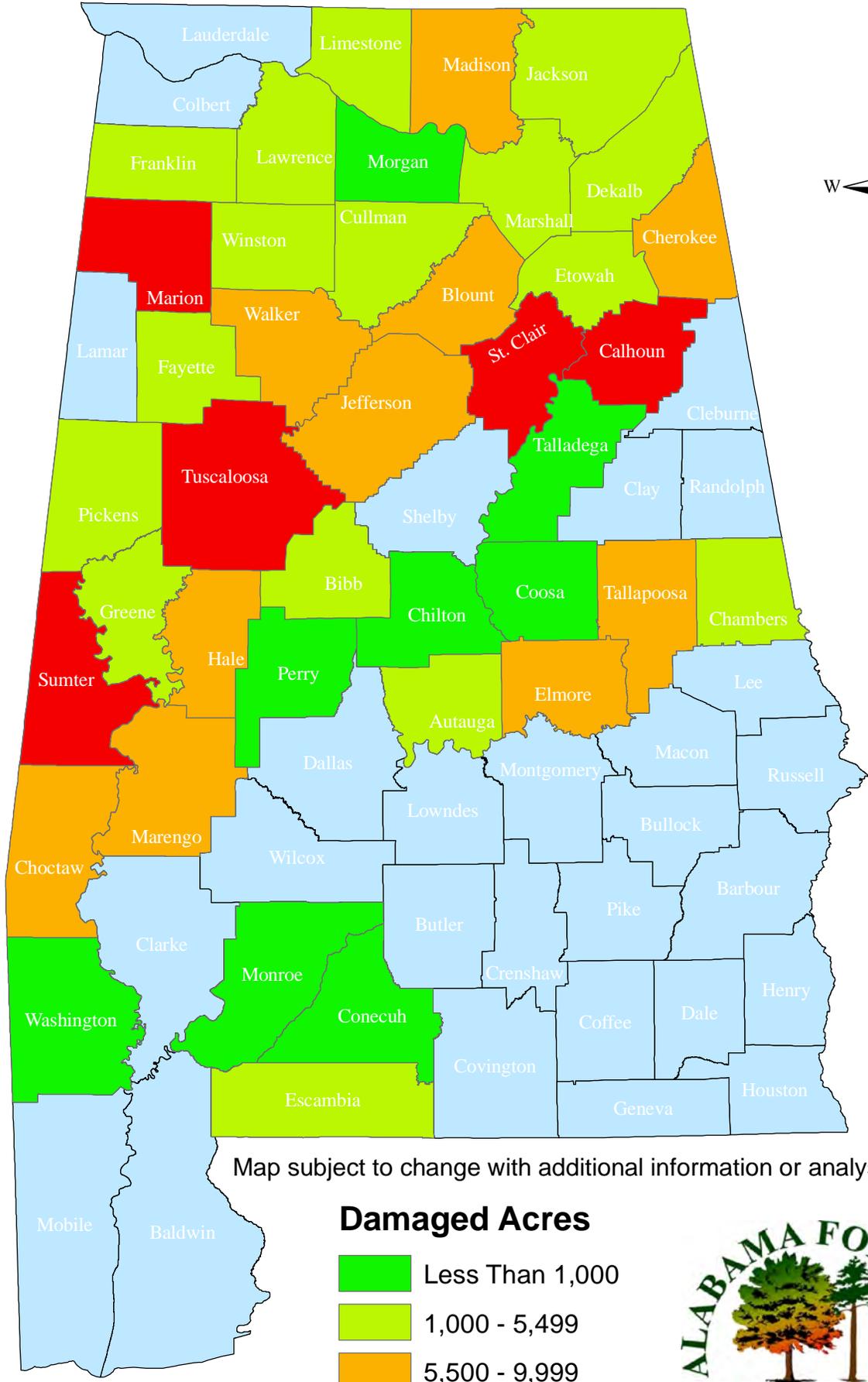
Volumes are expressed in tons. Grand Totals include Totals for both events.

Table 11. Comparison of Assessed Damage Value Compared to CY2010 Harvest Revenue.

<b>COUNTY</b>	<b>2010 Revenue</b>	<b>2011 Damage</b>
Autauga	\$ 1,211.48	\$ 10,085.23
Bibb	\$ 2,833.15	\$ 32,628.05
Blount	\$ 927.18	\$ 84,745.40
Calhoun	\$ 593.06	\$ 152,111.09
Chambers	\$ 2,403.30	\$ 17,305.68
Cherokee	\$ 232.26	\$ 90,922.51
Chilton	\$ 1,801.33	\$ 178.92
Choctaw	\$ 6,558.68	\$ 80,642.40
Conecuh	\$ 4,178.91	\$ 6,207.97
Coosa	\$ 2,342.23	\$ 130.14
Cullman	\$ 537.18	\$ 71,229.00
DeKalb	\$ 720.82	\$ 52,752.44
Elmore	\$ 954.84	\$ 107,530.95
Escambia	\$ 3,550.80	\$ 12,479.64
Etowah	\$ 541.76	\$ 22,957.38
Fayette	\$ 2,254.95	\$ 40,841.37
Franklin	\$ 1,123.54	\$ 60,410.86
Greene	\$ 1,796.71	\$ 56,065.35
Jackson	\$ 992.84	\$ 87,586.10
Jefferson	\$ 699.02	\$ 90,090.35
Lawrence	\$ 179.91	\$ 50,025.22
Limestone	\$ 94.71	\$ 30,208.33
Madison	\$ 194.27	\$ 128,709.73
Marengo	\$ 5,961.01	\$ 93,299.73
Marion	\$ 2,362.66	\$ 138,579.68
Marshall	\$ 264.23	\$ 51,162.78
Monroe	\$ 5,278.83	\$ 2,341.71
Morgan	\$ 292.51	\$ 14,791.06
Perry	\$ 4,299.67	\$ 8,742.85
Pickens	\$ 2,253.99	\$ 55,597.55
St. Clair	\$ 785.28	\$ 187,771.85
Sumter	\$ 2,820.39	\$ 120,312.05
Talladega	\$ 766.99	\$ 1,063.65
Tallapoosa	\$ 2,988.44	\$ 117,853.58
Tuscaloosa	\$ 2,781.09	\$ 231,516.31
Walker	\$ 1,792.64	\$ 76,563.68
Washington	\$ 4,200.26	\$ 32.10
Winston	\$ 1,122.38	\$ 23,218.51
<b>Total</b>	<b>\$ 74,693.29</b>	<b>\$ 2,408,691.18</b>

Harvest revenue derived from severance tax reports.

# Classified County Acreage Damage



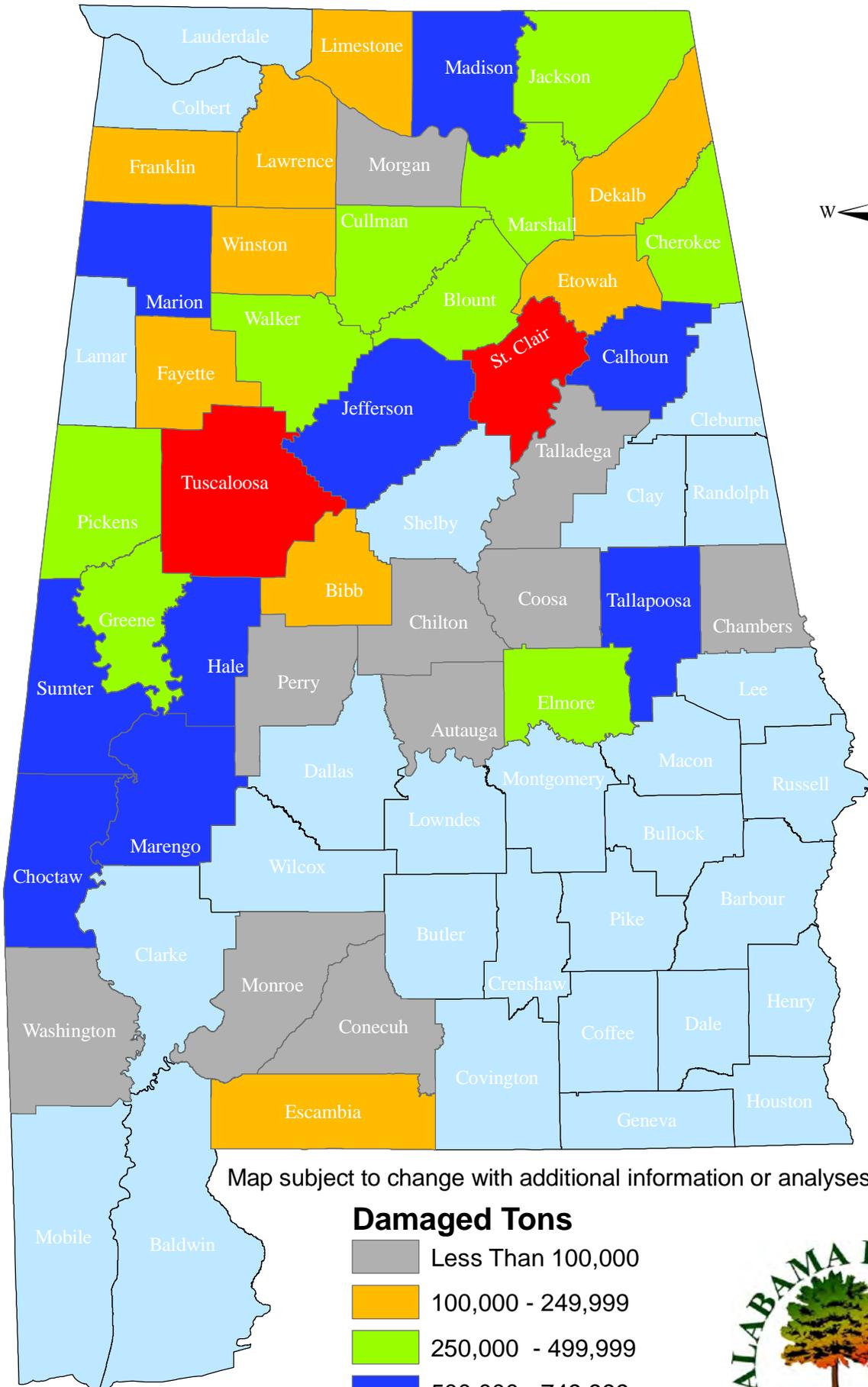
Map subject to change with additional information or analyses.

## Damaged Acres

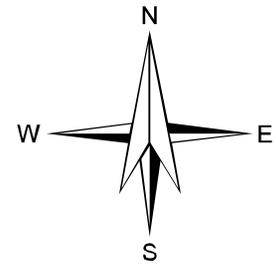
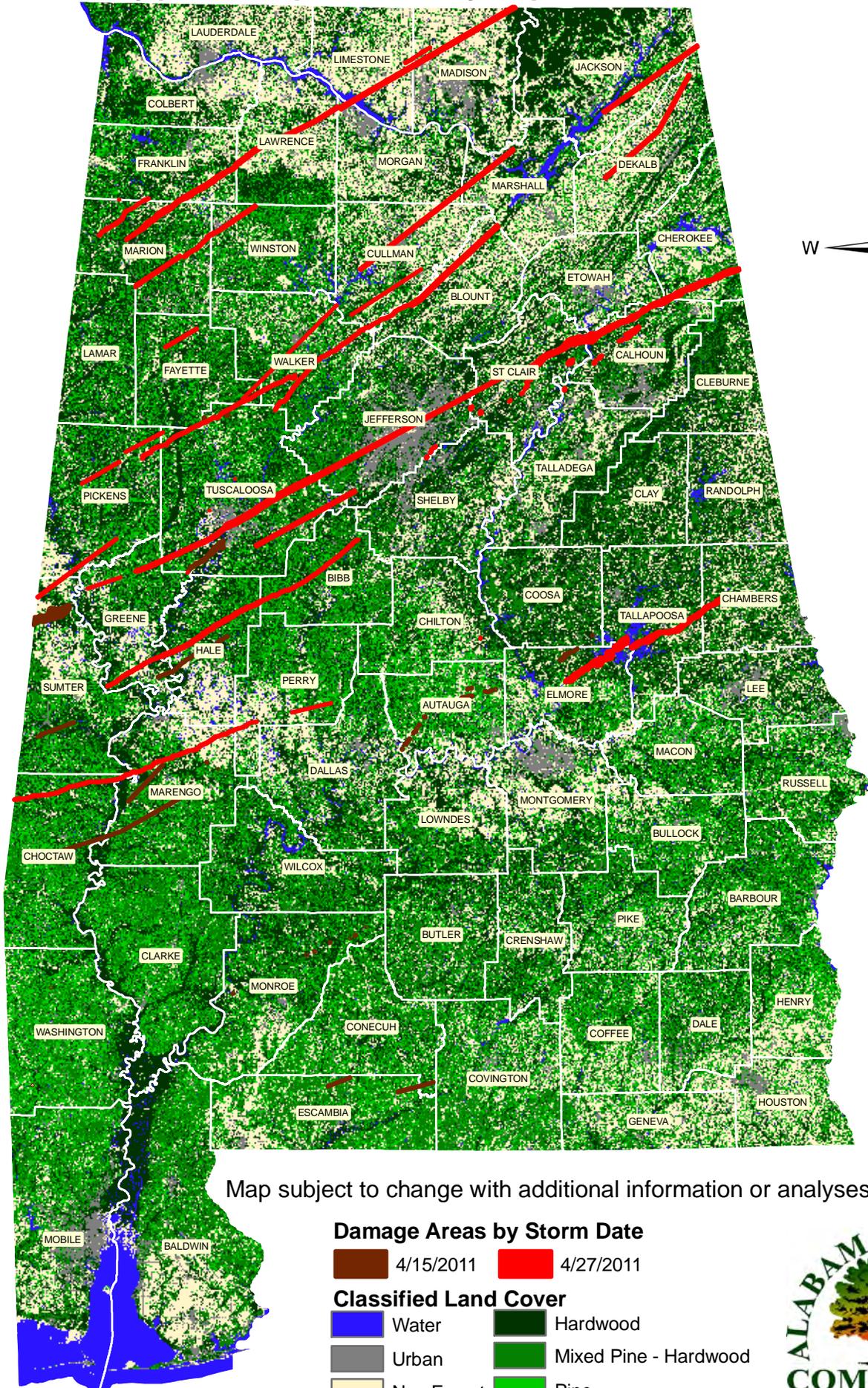
- Less Than 1,000
- 1,000 - 5,499
- 5,500 - 9,999
- 10,000 or Greater



# Classified County Volume Damage



# Forest Types Impacted by April, 2011 Tornadoes



Map subject to change with additional information or analyses.

### Damage Areas by Storm Date

4/15/2011      4/27/2011

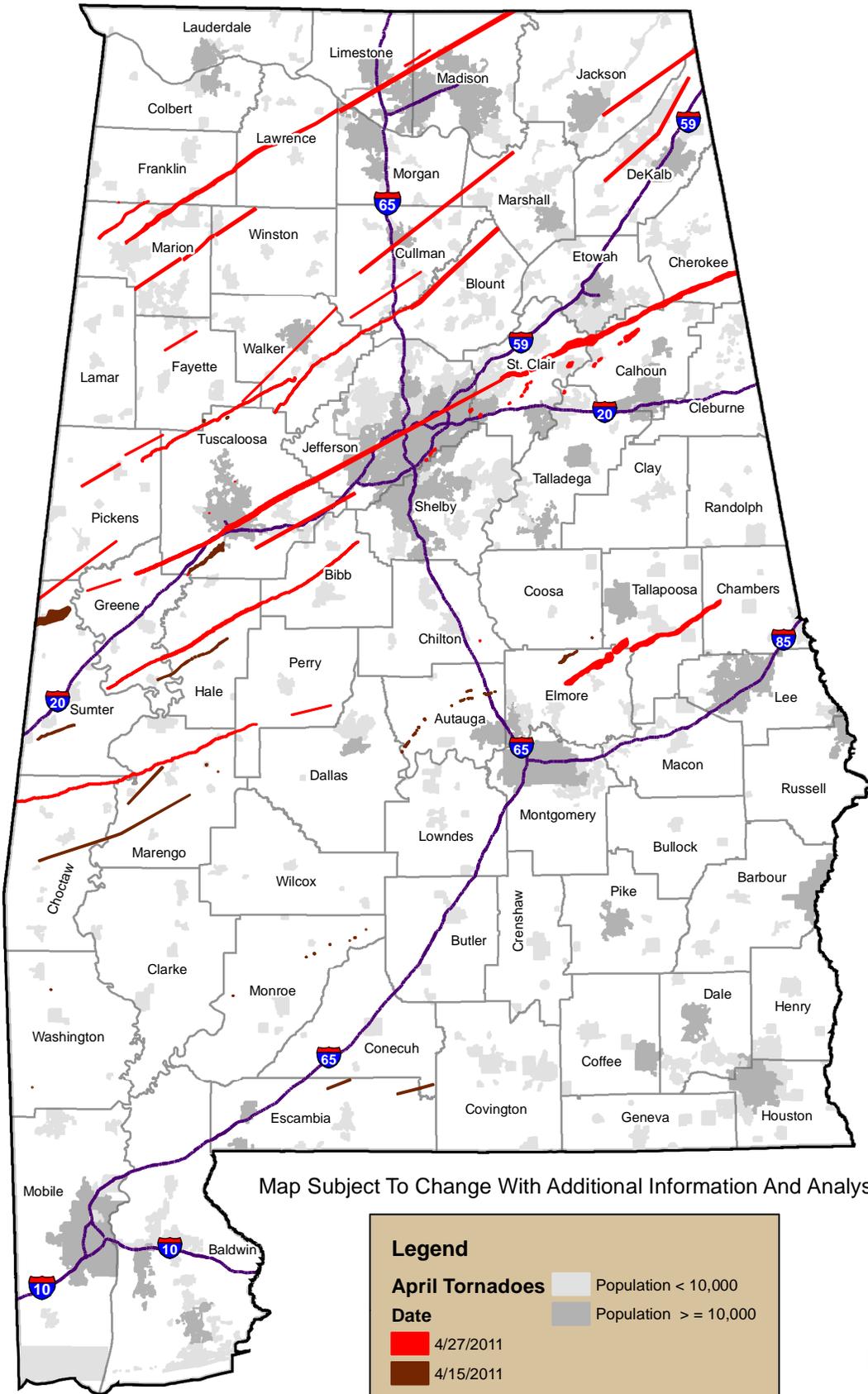
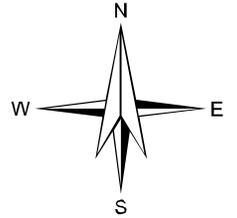
### Classified Land Cover

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<span style="display: inline-block; width: 15px; height: 10px; background-color: grey; border: 1px solid black;"></span> Urban	<span style="display: inline-block; width: 15px; height: 10px; background-color: mediumgreen; border: 1px solid black;"></span> Mixed Pine - Hardwood
<span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> Non Forest	<span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid black;"></span> Pine



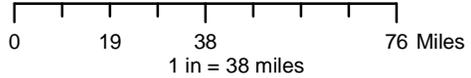
# URBAN IMPACT FROM APRIL 2011 TORNADOES

Date: 5/19/2011



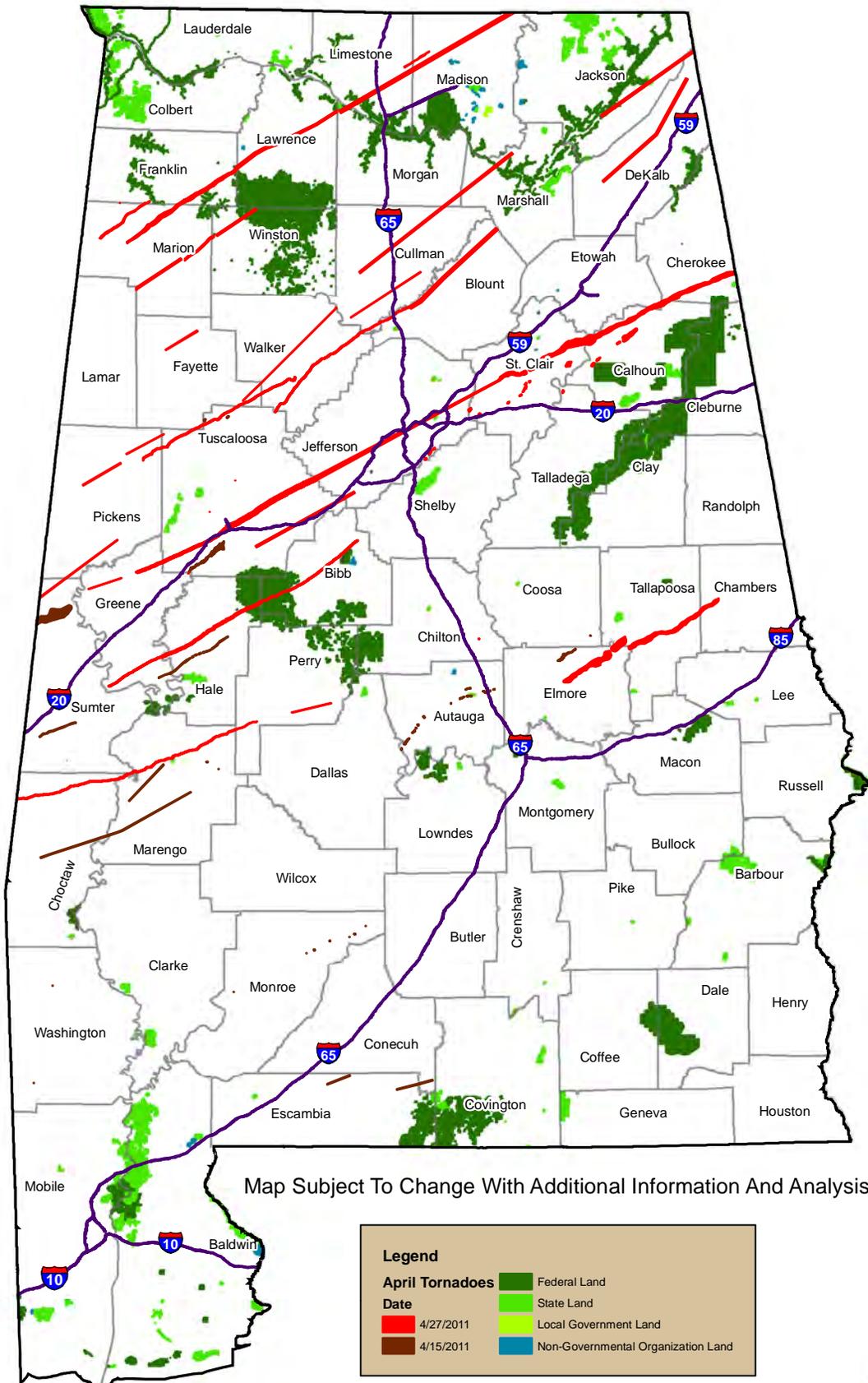
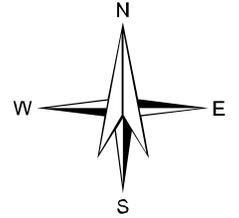
Map Subject To Change With Additional Information And Analysis

Legend	
<b>April Tornadoes</b>	Population < 10,000
<b>Date</b>	Population >= 10,000
<span style="color: red;">█</span> 4/27/2011	
<span style="color: brown;">█</span> 4/15/2011	



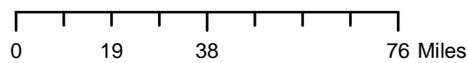
# PUBLIC LAND IMPACT FROM APRIL 2011 TORNADES

Date: 5/19/2011



Map Subject To Change With Additional Information And Analysis

Legend	
April Tornadoes	Federal Land
Date	State Land
4/27/2011	Local Government Land
4/15/2011	Non-Governmental Organization Land



1 in = 38 miles

