
Section 6

Geography and Environment

This section presents a variety of information on the physical environment of the United States, starting with basic area measurement data and ending with climatic data for selected weather stations around the country. The subjects covered between those points are mostly concerned with environmental trends but include related subjects such as land use, water consumption, air pollutant emissions, toxic releases, oil spills, hazardous waste sites, municipal waste and recycling, threatened and endangered wildlife, and the environmental industry.

The information in this section is selected from a wide range of federal agencies that compile the data for various administrative or regulatory purposes, such as the Environmental Protection Agency (EPA), U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), Natural Resources Conservation Service (NRCS), and National Atlas® of the United States. New data on 11 coastline counties most frequently hit by hurricanes may be found in Table 362.

Area—2008 Area measurements are the latest available. These measurements were calculated by computer based on the information contained in a single, consistent geographic database, the Topologically Integrated Geographic Encoding & Referencing system (TIGER®) database. The 2008 area measurements may be found in Table 358.

Geography—The USGS conducts investigations, surveys, and research in the fields of geography, geology, topography, geographic information systems, mineralogy, hydrology, and geothermal energy resources as well as natural hazards. The USGS provides United States cartographic data through the Earth Sciences Information Center, water resources data through the *Water Resources of the United States* at <<http://water.usgs.gov/pubs/>>. In a joint project with the U.S. Census Bureau, during the 1980s, the USGS provided the basic information on geographic features

for input into a national geographic and cartographic database prepared by the Census Bureau, called TIGER® database. Since then, using a variety of sources, the Census Bureau has updated these features and their related attributes (names, descriptions, etc.) and inserted current information on the boundaries, names, and codes of legal and statistical geographic entities. The 2008 area measures, land and water, including their classifications, reflect base feature updates made in the Master Address File (MAF)/TIGER database through May 1, 2008. The boundaries of the states and equivalent areas are as of January 1, 2008. Maps prepared by the Census Bureau using the TIGER® database show the names and boundaries of entities and are available on a current basis.

An inventory of the nation's land resources by type of use/cover was conducted by the National Resources Inventory Conservation Services (NRCS) every 5 years beginning in 1977 through 2003. The most recent survey results, which were published for the year 2003, covered all nonfederal land for the contiguous 48 states.

Environment —The principal federal agency responsible for pollution abatement and control activities is the Environmental Protection Agency (EPA). It is responsible for establishing and monitoring national air quality standards, water quality activities, solid and hazardous waste disposal, and control of toxic substances. Many of these series now appear in the Envirofacts portion of the EPA Web site at <<http://www.epa.gov/enviro/>>.

The Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. **Primary standards**

set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. **Secondary standards** set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops vegetation, and buildings. See <<http://www.epa.gov/air/criteria.html>>. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called “criteria” pollutants. These pollutants are: Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter (PM2.5 and 10), Ozone, and Sulfur Dioxide. NAAQS are periodically reviewed and revised to include any additional or new health or welfare data. Table 372 gives some of the health-related standards for the six air pollutants having NAAQS. Data gathered from state networks are periodically submitted to EPA’s National Aerometric Information Retrieval System (AIRS) for summarization in annual reports on the nationwide status and trends in air quality. For details, see “Air Trends” on the EPA Web site at <<http://www.epa.gov/airtrends/index.html>>.

The Toxics Release Inventory (TRI), published by the EPA, is a valuable source of information on approximately 650 chemicals that are being used, manufactured, treated, transported, or released into the environment. Sections 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and 6607 of the Pollution Prevention Act (PPA), mandate that a publicly-accessible

toxic chemical database be developed and maintained by EPA. This database, known as the TRI, contains information concerning waste management activities and the release of toxic chemicals by facilities that manufacture, process, or otherwise use said materials. Data on the release of these chemicals are collected from about 21,000 facilities and facilities added in 1998 that have the equivalent of 10 or more full time employees and meet the established thresholds for manufacturing, processing, or “other use” of listed chemicals. Facilities must report their releases and other waste management quantities. Since 1994 federal facilities have been required to report their data regardless of industry classification. In May 1997, EPA added seven new industry sectors that reported to the TRI for the first time in July 1999 for the 1998 reporting year. More current information on this program can be found at <<http://www.epa.gov/tri>>.

Climate—NOAA, through the National Weather Service and the National Environmental Satellite, Data, and Information Service, is responsible for climate data. NOAA maintains about 11,600 weather stations, of which over 3,000 produce autographic precipitation records, about 600 take hourly readings of a series of weather elements, and the remainder record data once a day. These data are reported monthly in the Climatological Data and Storm Data, published monthly and annually in the Local Climatological Data (published by location for major cities). Data can be found in tables 388 and 391–396.

Table 358. Land and Water Area of States and Other Entities: 2008

[One square mile = 2.59 square kilometers. The area measurements were derived from the Census Bureau's Master Address File/ Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) geographic database. The boundaries of the states and equivalent areas are as of January 1, 2008. The land and water areas, including their classifications, reflect base feature updates made in the MAF/TIGER database through May 1, 2008. These updates show increases in total water area and decrease in land area for nearly every state. For more details, see <<http://www.census.gov/geo/www/tiger/tgrshp2008/tgrshp2008.html>>]

State and other areas	Total area		Land area		Water area					
	Sq. mi.	Sq. km.	Sq. mi.	Sq. km.	Total		Inland (sq. mi.)	Coastal (sq. mi.)	Great Lakes (sq. mi.)	Territorial (sq. mi.)
					Sq. mi.	Sq. km.				
Total	3,805,142	9,855,318	3,535,826	9,157,841	269,296	697,477	86,478	43,201	59,959	76,392
United States	3,795,951	9,831,513	3,531,842	9,147,420	264,129	684,094	86,409	43,185	59,959	74,575
Alabama	52,420	135,768	50,644	131,168	1,776	4,600	1,057	518	(X)	201
Alaska	664,988	1,722,319	570,665	1,478,022	94,323	244,297	20,028	28,162	(X)	46,133
Arizona	113,990	295,235	113,595	294,211	396	1,026	396	—	(X)	—
Arkansas	53,178	137,732	52,030	134,758	1,149	2,976	1,149	—	(X)	—
California	163,694	423,967	155,766	403,434	7,928	20,534	2,842	222	(X)	4,864
Colorado	104,094	269,604	103,641	268,430	454	1,176	454	—	(X)	—
Connecticut	5,544	14,358	4,840	12,536	703	1,821	164	539	(X)	—
Delaware	2,489	6,445	1,949	5,048	539	1,396	74	372	(X)	93
District of Columbia	68	177	61	158	7	18	7	—	(X)	—
Florida	65,758	170,312	53,603	138,832	12,154	31,479	5,373	1,128	(X)	5,653
Georgia	59,425	153,911	57,501	148,928	1,924	4,983	1,420	49	(X)	455
Hawaii	10,926	28,300	6,428	16,649	4,499	11,652	40	—	(X)	4,459
Idaho	83,568	216,442	82,643	214,045	9,226	2,398	926	—	(X)	—
Illinois	57,916	150,002	55,518	143,792	2,398	6,211	836	—	1,562	—
Indiana	36,417	94,321	35,823	92,782	594	1,538	361	—	233	—
Iowa	56,273	145,746	55,858	144,672	415	1,075	415	—	(X)	—
Kansas	82,278	213,101	81,762	211,764	516	1,336	516	—	(X)	—
Kentucky	40,411	104,665	39,492	102,284	919	2,380	919	—	(X)	—
Louisiana	51,988	134,649	43,199	111,885	8,789	22,764	4,433	1,951	(X)	2,405
Maine	35,384	91,644	30,841	79,878	4,543	11,766	2,282	613	(X)	1,647
Maryland	12,406	32,131	9,705	25,136	2,700	6,993	736	1,854	(X)	1,111
Massachusetts	10,554	27,336	7,801	20,205	2,754	7,133	461	977	(X)	1,316
Michigan	96,713	250,486	56,528	146,408	40,185	104,079	2,164	—	38,021	—
Minnesota	86,935	225,163	79,607	206,182	7,328	18,980	4,782	—	2,546	—
Mississippi	48,432	125,438	46,920	121,523	1,512	3,916	772	591	(X)	149
Missouri	69,702	180,529	68,716	177,974	987	2,556	987	—	(X)	—
Montana	147,039	380,831	145,541	376,951	1,498	3,880	1,498	—	(X)	—
Nebraska	77,349	200,334	76,825	198,977	524	1,357	524	—	(X)	—
Nevada	110,572	286,382	109,780	284,330	792	2,051	792	—	(X)	—
New Hampshire	9,348	24,210	8,952	23,186	396	1,026	328	—	(X)	68
New Jersey	8,723	22,592	7,354	19,047	1,369	3,546	458	402	(X)	509
New Mexico	121,590	314,919	121,297	314,159	293	759	293	—	(X)	—
New York	54,555	141,298	47,126	122,056	7,429	19,241	1,979	977	3,990	482
North Carolina	53,819	139,391	48,619	125,923	5,200	13,468	4,044	—	(X)	1,157
North Dakota	70,698	183,109	69,001	178,713	1,697	4,395	1,697	—	(X)	—
Ohio	44,825	116,097	40,858	105,822	3,967	10,275	467	—	3,500	—
Oklahoma	69,899	181,038	68,603	177,682	1,296	3,357	1,296	—	(X)	—
Oregon	98,379	254,801	95,985	248,601	2,394	6,200	1,063	74	(X)	1,256
Pennsylvania	46,055	119,281	44,739	115,874	1,316	3,408	567	—	749	—
Rhode Island	1,545	4,001	1,034	2,678	511	1,323	187	9	(X)	315
South Carolina	32,021	82,934	30,070	77,881	1,951	5,053	1,044	74	(X)	832
South Dakota	77,116	199,730	75,811	196,350	1,305	3,380	1,305	—	(X)	—
Tennessee	42,144	109,154	41,235	106,799	910	2,357	910	—	(X)	—
Texas	268,597	695,666	261,226	676,575	7,371	19,091	5,607	406	(X)	1,358
Utah	84,897	219,883	82,191	212,875	2,706	7,009	2,706	—	(X)	—
Vermont	9,616	24,906	9,217	23,872	400	1,036	400	—	(X)	—
Virginia	42,775	110,787	39,493	102,287	3,282	8,500	1,106	1,729	(X)	447
Washington	71,298	184,661	66,449	172,103	4,849	12,559	1,646	2,537	(X)	666
West Virginia	24,230	62,755	24,038	62,258	192	497	192	—	(X)	—
Wisconsin	65,496	169,636	54,154	140,259	11,342	29,376	1,984	—	9,358	—
Wyoming	97,812	253,334	97,088	251,458	724	1,875	724	—	(X)	—
Puerto Rico	5,325	13,791	3,424	8,868	1,901	4,924	68	16	(X)	1,817
Island Areas:	3,866	10,013	600	1,554	3,266	8,459	(NA)	(NA)	(X)	(NA)
American Samoa	583	1,510	77	199	506	1,311	(NA)	(NA)	(X)	(NA)
Guam	571	1,479	210	544	361	935	(NA)	(NA)	(X)	(NA)
No. Mariana Islands	1,975	5,115	179	464	1,796	4,652	(NA)	(NA)	(X)	(NA)
U.S. Virgin Islands	738	1,911	134	347	604	1,564	(NA)	(NA)	(X)	(NA)

— Represents or rounds to zero. NA Not available. X Not applicable.
Source: U.S. Census Bureau, unpublished data from the Census TIGER "R" database.

Table 359. Great Lakes Profile

[The Great Lakes contain the largest supply of freshwater in the world, holding about 18% of the world's total freshwater and about 90% of the United States' total freshwater. The Lakes are a series of five interconnecting large lakes, one small lake, four connecting channels, and the St. Lawrence Seaway. Combined, the lakes cover an area of over 94,000 square miles (245,000 square kilometers) and contain over 5,400 cubic miles (23,000 cubic kilometers) of water]

Characteristics	Unit	Lake Superior	Lake Michigan	Lake Huron	Lake Erie	Lake Ontario
Length	Miles	350	307	206	241	193
Breadth	Miles	160	118	183	57	53
Depth						
Average	Feet	489	279	159	62	283
Maximum	Feet	1,333	923	750	210	802
Volume	Cubic miles	2,935	1,180	849	116	393
Water Surface Area ¹	Square miles	31,700	22,300	23,000	9,910	7,340
Surface area in U.S.	Square miles	20,598	22,300	9,111	4,977	3,560
Retention/Replacement Time ²	Years	191	99	22	3	6

¹ Includes surface area in both U.S. and Canada. ² The amount of time it takes for lakes to get rid of pollutants.

Source: Department of Commerce, National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory, "About Our Great Lakes, Lake by Lake Profiles," June 2004, <<http://www.glerl.noaa.gov/pr/ourlakes/intro.html>>.

Table 360. Great Lakes Length of Shoreline in Separate Basin

[In statute miles]

	Total	Canada	U.S.	MI	MN	WI	IL	IN	OH	PA	NY
Total	10,368	5,127	5,241	3,288	189	820	63	45	312	51	473
Lake Superior	2,980	1,549	1,431	917	189	325	-	-	-	-	-
St. Marys River	297	206	91	91	-	-	-	-	-	-	-
Lake Michigan	1,661	-	1,661	1,058	-	495	63	45	-	-	-
Lake Huron	3,350	2,416	934	934	-	-	-	-	-	-	-
St. Clair River	128	47	81	81	-	-	-	-	-	-	-
Lake St. Clair	160	71	89	89	-	-	-	-	-	-	-
Detroit River	107	43	64	64	-	-	-	-	-	-	-
Lake Erie	860	366	494	54	-	-	-	312	51	77	-
Niagara River	99	34	65	-	-	-	-	-	-	-	65
Lake Ontario	726	395	331	-	-	-	-	-	-	-	331

- Represents zero.

Source: State of Michigan, Department of Environment Quality, "Great Lakes, Shorelines of the Great Lakes," <http://www.michigan.gov/deq/0,1607,7-135-3313_3677--,00.html>.

Table 361. Largest Lakes in the United States

[The list of lakes include manmade lakes and those that are only partially within the United States]

Lake	Location	Area in sq. mi.	Lake	Location	Area in sq. mi.
Lake Superior	MI-MN-WI-Ontario	31,700	Lake Pontchartrain	Louisiana	631
Lake Huron	MI-Ontario	23,000	Lake Sakakawea ¹	North Dakota	520
Lake Michigan	IL-IN-MI-WI	22,300	Lake Champlain	NY-VT-Quebec	490
Lake Erie	MI-NY-OH-PA-Ontario	9,910	Becharof Lake	Alaska	453
Lake Ontario	NY-Ontario	7,340	Lake St. Clair	MI-Ontario	430
Great Salt Lake	Utah	2,117	Red Lake	Minnesota	427
Lake of the Woods	MN-Manitoba-Ontario	1,485	Selawik Lake	Alaska	404
Iliamna Lake	Alaska	1,014	Fort Peck Lake ¹	Montana	393
Lake Oahe ¹	ND-SD	685	Salton Sea	California	347
Lake Okeechobee	Florida	662	Rainy Lake	MN-Ontario	345

¹ Manmade lakes.

Source: U.S. Geological Survey, 2003, and National Oceanic and Atmospheric Administration, "Great Lakes, 2002" and The National Atlas of the United States of America, *Lakes*, <http://nationalatlas.gov/articles/mapping/a_general.html>.

Table 362. Coastline Counties Most Frequently Hit by Hurricanes: 1960 to 2008

[Hurricane is a type of tropical cyclone, an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 miles per hour or higher]

County and State	Coastline region	Number of hurricanes	Percent change in population		Percent change in housing units	
			1960 to 2008	2000 to 2008	1960 to 2008	2000 to 2008
Monroe County, FL	Gulf of Mexico	15	50.8	-9.2	221.8	4.3
Lafourche Parish, LA	Gulf of Mexico	14	67.2	2.9	151.5	8.9
Carteret County, NC	Atlantic	14	104.3	6.4	366.4	12.4
Dare County, NC	Atlantic	13	465.9	12.1	709.6	22.8
Hyde County, NC	Atlantic	13	-10.1	-11.1	83.7	5.8
Jefferson Parish, LA	Gulf of Mexico	12	108.9	-4.2	201.4	-3.5
Palm Beach County, FL	Atlantic	12	454.7	11.9	616.9	15.2
Miami-Dade County, FL	Atlantic	11	156.5	6.4	180.6	14.9
St. Bernard Parish, LA	Gulf of Mexico	11	17.2	-43.9	-2.6	-67.9
Cameron Parish, LA	Gulf of Mexico	11	4.8	-27.6	87.7	-8.1
Terrebonne Parish, LA	Gulf of Mexico	11	78.7	3.9	179.4	11.0

Source: National Oceanic and Atmospheric Administration (NOAA), Coastal Services Center, Historical Hurricane Tracks: 1851 to 2008, U.S. Census Bureau, Current Population Reports, P25-1139, Population Estimates and Projections, "Coastline Population Trends in the United States: 1960 to 2008," Issued May 2010.

Table 363. U.S.–Canada and U.S.–Mexico Border Lengths

[In statute miles. Each statute mile equals one mile. For 2010, there were over 56 million personal vehicle passengers entering the United States from Canada, and almost 125 million personal vehicle passengers entering the United States from Mexico]

State	Length of international border	State	Length of international border
United States–Canada total	5,525	Ohio	146
Alaska	1,538	Pennsylvania	42
Idaho	45	Vermont	90
Maine	611	Washington	427
Michigan	721		
Minnesota	547	United States–Mexico total	1,933
Montana	545	Arizona	373
New Hampshire	58	California	140
New York	445	New Mexico	180
North Dakota	310	Texas	1,241

Source: U.S.–Canada lengths: International Boundary Commission, 2003; U.S. Mexico lengths: U.S. Geological Survey; and The National Atlas of the United States, 1976, *Borders*, <http://nationalatlas.gov/articles/mapping/a_general.html>.

Table 364. Coastline and Shoreline of the United States by State

[In statute miles. Each statute mile equals one mile. The term **coastline** is used to describe the general outline of the seacoast. For the table below, United States coastline measurements were made from small-scale maps, and the coastline was generalized. The coastlines of large sounds and bays were included. Measurements were made in 1948. **Shoreline** is the term used to describe a more detailed measure of the seacoast. The tidal shoreline figures in the table below were obtained in 1939–1940 from the largest-scale charts and maps then available. Shoreline of the outer coast, offshore islands, sounds, and bays was included, as well as the tidal portion of rivers and creeks. Only states with coastline or shoreline are included in the following table]

State	General coastline	Tidal shoreline	State	General coastline	Tidal shoreline
United States	12,383	88,633	Mississippi	44	359
Alabama	53	607	New Hampshire	13	131
Alaska	6,640	33,904	New Jersey	130	1,792
California	840	3,427	New York	127	1,850
Connecticut	–	618	North Carolina	301	3,375
Delaware	28	381	Oregon	296	1,410
Florida	1,350	8,426	Pennsylvania	–	89
Georgia	100	2,344	Rhode Island	40	384
Hawaii	750	1,052	South Carolina	187	2,876
Louisiana	397	7,721	Texas	367	3,359
Maine	228	3,478	Virginia	112	3,315
Maryland	31	3,190	Washington	157	3,026
Massachusetts	192	1,519			

– Represents zero.

Source: National Oceanic Atmospheric Administration, 1975 and The National Atlas of the United States, *Coastline and Shoreline*, <http://nationalatlas.gov/articles/mapping/a_general.html>.

Table 365. Flows of Largest U.S. Rivers—Length, Discharge, and Drainage Area

River	Location of mouth	Source stream (name and location)	Average discharge at mouth		Drainage area (1,000 sq. miles)
			Length (miles) ¹	(1,000 cubic feet per second)	
Missouri	Missouri	Red Rock Creek, MT	³ 2,540	76.2	² 529
Mississippi	Louisiana	Mississippi River, MN	2,340	⁴ 593	^{2, 5} 1,150
Yukon	Alaska	McNeil River, Canada	1,980	225	² 328
St. Lawrence	Canada	North River, MN	1,900	348	² 396
Rio Grande	Mexico-Texas	Rio Grande, CO	1,900	(?)	336
Arkansas	Arkansas	East Fork Arkansas River, CO	1,460	41	161
Colorado	Mexico	Colorado River, CO	1,450	(?)	246
Atchafalaya ⁶	Louisiana	Tierra Blanca Creek, NM	1,420	58	95.1
Ohio	Illinois-Kentucky	Allegheny River, PA	1,310	281	203
Red ⁶	Louisiana	Tierra Blanca Creek, NM	1,290	56	93.2
Brazos	Texas	Blackwater Draw, NM	1,280	(?)	45.6
Columbia	Oregon-Washington	Columbia River, Canada	1,240	265	² 258
Snake	Washington	Snake River, WY	1,040	56.9	108
Platte	Nebraska	Grizzly Creek, CO	990	(?)	84.9
Pecos	Texas	Pecos River, NM	926	(?)	44.3
Canadian	Oklahoma	Canadian River, CO	906	(?)	46.9
Tennessee	Kentucky	Courthouse Creek, NC	886	68	40.9

¹ From source to mouth. ² Drainage area includes both the United States and Canada. ³ The length from the source of the Missouri River to the Mississippi River and thence to the Gulf of Mexico is about 3,710 miles. ⁴ Includes about 167,000 cubic feet per second diverted from the Mississippi into the Atchafalaya River but excludes the flow of the Red River. ⁵ Excludes the drainage areas of the Red and Atchafalaya Rivers. ⁶ In east-central Louisiana, the Red River flows into the Atchafalaya River, a distributary of the Mississippi River. Data on average discharge, length, and drainage area include the Red River, but exclude all water diverted into the Atchafalaya from the Mississippi River. ⁷ Less than 15,000 cubic feet per second.

Source: U.S. Geological Survey, *Largest Rivers in the United States*, September 2005, <<http://pubs.usgs.gov/of/1987/ofr87-242/>>.

Table 366. Extreme and Mean Elevations by State and Other Areas

[One foot = .305 meter. There are 2,130 square miles of the United States below sea level (Death Valley is the lowest point). There are 20,230 square miles above 10,000 feet (Mount McKinley is the highest point in the United States). Minus sign (-) indicates below sea level]

State and other areas	Highest point			Lowest point			Approximate mean elevation	
	Name	Elevation		Name	Elevation		Feet	Meters
		Feet	Meters		Feet	Meters		
U.S.	Mt. McKinley (AK)	20,320	6,198	Death Valley (CA)	-282	-86	2,500	763
AL	Cheaha Mountain	2,407	734	Gulf of Mexico	(¹)	(¹)	500	153
AK	Mount McKinley	20,320	6,198	Pacific Ocean	(¹)	(¹)	1,900	580
AZ	Humphreys Peak	12,633	3,853	Colorado River	70	21	4,100	1,251
AR	Magazine Mountain	2,753	840	Ouachita River	55	17	650	198
CA	Mount Whitney	14,494	4,419	Death Valley	-282	-86	2,900	885
CO	Mt. Elbert	14,433	4,402	Arikaree River	3,315	1,011	6,800	2,074
CT	Mt. Frissell on south slope	2,380	726	Long Island Sound	(¹)	(¹)	500	153
DE ²	Ebright Road ²	448	137	Atlantic Ocean	(¹)	(¹)	60	18
DC	Tenleytown at Reno Reservoir	410	125	Potomac River	1	(Z)	150	46
FL	Britton Hill	345	105	Atlantic Ocean	(¹)	(¹)	100	31
GA	Brasstown Bald	4,784	1,459	Atlantic Ocean	(¹)	(¹)	600	183
HI	Pu'u Wekiu, Mauna Kea	13,796	4,208	Pacific Ocean	(¹)	(¹)	3,030	924
ID	Borah Peak	12,662	3,862	Snake River	710	217	5,000	1,525
IL	Charles Mound	1,235	377	Mississippi River	279	85	600	183
IN	Hoosier Hill	1,257	383	Ohio River	320	98	700	214
IA	Hawkeye Point	1,670	509	Mississippi River	480	146	1,100	336
KS	Mount Sunflower	4,039	1,232	Verdigris River	679	207	2,000	610
KY	Black Mountain	4,145	1,264	Mississippi River	257	78	750	229
LA	Driskill Mountain	535	163	New Orleans	-8	-2	100	31
ME	Mount Katahdin	5,268	1,607	Atlantic Ocean	(¹)	(¹)	600	183
MD	Hoye Crest	3,360	1,025	Atlantic Ocean	(¹)	(¹)	350	107
MA	Mount Greylock	3,491	1,065	Atlantic Ocean	(¹)	(¹)	500	153
MI	Mount Arvon	1,979	604	Lake Erie	571	174	900	275
MN	Eagle Mountain	2,301	702	Lake Superior	601	183	1,200	366
MS	Woodall Mountain	806	246	Gulf of Mexico	(¹)	(¹)	300	92
MO	Taum Sauk Mountain	1,772	540	St. Francis River	230	70	800	244
MT	Granite Peak	12,799	3,904	Kootenai River	1,800	549	3,400	1,037
NE	Panorama Point	5,424	1,654	Missouri River	840	256	2,600	793
NV	Boundary Peak	13,140	4,007	Colorado River	479	146	5,500	1,678
NH	Mount Washington	6,288	1,918	Atlantic Ocean	(¹)	(¹)	1,000	305
NJ	High Point	1,803	550	Atlantic Ocean	(¹)	(¹)	250	76
NM	Wheeler Peak	13,161	4,014	Red Bluff Reservoir	2,842	867	5,700	1,739
NY	Mount Marcy	5,344	1,630	Atlantic Ocean	(¹)	(¹)	1,000	305
NC	Mount Mitchell	6,684	2,039	Atlantic Ocean	(¹)	(¹)	700	214
ND	White Butte	3,506	1,069	Red River of the North	750	229	1,900	580
OH	Campbell Hill	1,550	473	Ohio River	455	139	850	259
OK	Black Mesa	4,973	1,517	Little River	289	88	1,300	397
OR	Mount Hood	11,239	3,428	Pacific Ocean	(¹)	(¹)	3,300	1,007
PA	Mount Davis	3,213	980	Delaware River	(¹)	(¹)	1,100	336
RI	Jerimoth Hill	812	248	Atlantic Ocean	(¹)	(¹)	200	61
SC	Sassafras Mountain	3,560	1,086	Atlantic Ocean	(¹)	(¹)	350	107
SD	Harney Peak	7,242	2,209	Big Stone Lake	966	295	2,200	671
TN	Clingmans Dome	6,643	2,026	Mississippi River	178	54	900	275
TX	Guadalupe Peak	8,749	2,668	Gulf of Mexico	(¹)	(¹)	1,700	519
UT	Kings Peak	13,528	4,126	Beaverdam Wash	2,000	610	6,100	1,861
VT	Mount Mansfield	4,393	1,340	Lake Champlain	95	29	1,000	305
VA	Mount Rogers	5,729	1,747	Atlantic Ocean	(¹)	(¹)	950	290
WA	Mount Rainier	14,411	4,395	Pacific Ocean	(¹)	(¹)	1,700	519
WV	Spruce Knob	4,863	1,483	Potomac River	240	73	1,500	458
WI	Timms Hill	1,951	595	Lake Michigan	579	177	1,050	320
WY	Gannett Peak	13,804	4,210	Belle Fourche River	3,099	945	6,700	2,044
Other areas:								
Puerto Rico	Cerro de Punta	4,390	1,339	Atlantic Ocean	(¹)	(¹)	1,800	549
American Samoa	Lata Mountain	3,160	964	Pacific Ocean	(¹)	(¹)	1,300	397
Guam	Mount Lamlam	1,332	406	Pacific Ocean	(¹)	(¹)	330	101
U.S. Virgin Islands	Crown Mountain	1,556	475	Atlantic Ocean	(¹)	(¹)	750	229

Z Less than .5 meter. ¹ Sea level. ² At DE-PA state line.

Source: For highest and lowest points, see U.S. Geological Survey, "Elevations and Distances in the United States,"

<<http://egsc.usgs.gov/isb/pubs/booklets/elvadist/elvadist.html>>, released April 2005. For mean elevations, see *Elevations and Distances in the United States*, 1983 edition.

Table 367. Land Cover/Use by Type: 1982 to 2003

[In millions of acres (1,937.7 represents 1,937,700,000), except percent. Excludes Alaska, Hawaii, and District of Columbia. For inventory-specific glossary of key terms, see <http://www.nrcs.usda.gov/technical/NRI/glossaries.html>]

Year	Total surface area	Nonfederal rural land						Other rural land	Developed land	Water areas	Federal land
		Rural land total ¹	Crop-land	Pasture-land	Range-land	Forest land					
Land											
1982.....	1,937.7	1,417.2	420.4	131.4	414.5	402.6	48.3	72.8	48.6	399.1	
1992.....	1,937.6	1,400.2	381.2	125.1	406.6	404.0	49.3	86.5	49.4	401.5	
2001.....	1,937.7	1,379.3	369.6	116.9	404.7	404.9	51.4	106.3	50.3	401.8	
2002.....	1,937.7	1,378.1	368.4	117.3	405.3	404.9	50.6	107.3	50.4	401.9	
2003.....	1,937.7	1,377.3	367.9	117.0	405.1	405.6	50.2	108.1	50.4	401.9	
Percent of total land											
1982.....	100.0	73.1	21.7	6.8	21.4	20.8	2.5	3.8	2.5	20.6	
1992.....	100.0	72.3	19.7	6.5	21.0	20.9	2.5	4.5	2.5	20.7	
2001.....	100.0	71.2	19.1	6.0	20.9	20.9	2.7	5.5	2.6	20.7	
2002.....	100.0	71.1	19.0	6.1	20.9	20.9	2.6	5.5	2.6	20.7	
2003.....	100.0	71.1	19.0	6.0	20.9	20.9	2.6	5.6	2.6	20.7	

¹ Includes Conservation Reserve Program (CRP) land not shown separately. CRP is a federal program established under the Food Security Act of 1985 to assist private landowners to convert highly erodible cropland to vegetative cover for 10 years.

Source: U.S. Department of Agriculture, Natural Resources and Conservation Service, *2003 Annual National Resources Inventory*. See also <http://www.nrcs.usda.gov/technical/NRI/>.

Table 368. Wetlands on Nonfederal Land and Water Areas by Land Cover/Use and Farm Production Region: 2003

[In thousands of acres (110,760 represents 110,760,000). Represents palustrine and estuarine wetlands; see source]

Farm production region ¹	Total	Cropland ²	Forest land	Range-land	Other rural land	Developed land	Water area
Wetlands, total.....	110,760	16,730	65,440	7,740	15,800	1,590	3,460
Lake states.....	22,460	2,710	15,480	—	3,880	160	230
Southeast.....	22,360	940	16,010	970	3,460	420	560
Delta states.....	17,950	3,240	11,020	270	2,730	190	500
Northeast.....	14,150	1,250	10,890	—	1,550	240	220
Northern plains.....	7,640	3,020	210	2,870	1,090	80	370
Appalachian.....	7,460	400	6,080	—	570	110	300
Southern plains.....	5,590	970	2,350	970	520	230	550
Mountain.....	4,780	1,570	220	2,010	820	30	130
Corn belt.....	4,690	1,300	2,440	—	380	100	440
Pacific.....	3,680	1,300	740	650	800	30	160

— Represents or rounds to zero. ¹ Ten regions established by USDA, Economic Research Service, that group states according to differences in soils, slope of land, climate, distance to market, and storage and marketing facilities. ² Includes pastureland and Conservation Reserve Program (CRP) lands.

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, *2003 Annual National Resources Inventory*. See also <http://www.nrcs.usda.gov/technical/NRI/>.

Table 369. Land Cover/Use by State: 2003

[In thousands of acres (1,937,664 represents 1,937,664,000), except percent. Excludes Alaska, District of Columbia, Hawaii, and Island Areas]

State	Total surface area	Selected nonfederal rural land, percent of total			State	Total surface area	Selected nonfederal rural land, percent of total		
		Crop-land	Range-land	Forest land			Crop-land	Range-land	Forest land
United States.....	1,937,664	19.0	20.9	20.9					
Alabama.....	33,424	7.5	0.2	64.4	Nebraska.....	49,510	39.5	46.6	1.6
Arizona.....	72,964	1.3	44.2	5.7	Nevada.....	70,763	0.9	11.7	0.4
Arkansas.....	34,037	22.1	0.1	44.1	New Hampshire.....	5,941	2.1	—	65.6
California.....	101,510	9.3	17.5	13.7	New Jersey.....	5,216	10.1	—	30.8
Colorado.....	66,625	12.5	37.2	4.9	New Mexico.....	77,823	2.0	51.3	7.0
Connecticut.....	3,195	5.4	—	53.4	New York.....	31,361	17.1	—	56.1
Delaware.....	1,534	29.8	—	22.2	North Carolina.....	33,709	16.4	—	45.9
Florida.....	37,534	7.7	7.2	33.9	North Dakota.....	45,251	53.6	24.5	1.0
Georgia.....	37,741	11.0	—	58.0	Ohio.....	26,445	42.5	—	27.3
Idaho.....	53,488	10.2	12.0	7.5	Oklahoma.....	44,738	20.1	31.6	16.5
Illinois.....	36,059	66.5	—	11.0	Oregon.....	62,161	6.0	15.1	20.5
Indiana.....	23,158	57.5	—	16.5	Pennsylvania.....	28,995	17.7	—	53.9
Iowa.....	36,017	70.8	—	6.4	Rhode Island.....	813	2.5	—	45.9
Kansas.....	52,661	50.3	30.1	2.9	South Carolina.....	19,939	11.9	—	56.0
Kentucky.....	25,863	21.2	—	40.6	South Dakota.....	49,358	34.6	44.7	1.0
Louisiana.....	31,377	17.3	0.9	42.5	Tennessee.....	26,974	17.6	—	44.3
Maine.....	20,966	1.8	—	84.0	Texas.....	171,052	14.9	56.2	6.2
Maryland.....	7,870	19.3	—	30.1	Utah.....	54,339	3.1	19.6	3.5
Massachusetts.....	5,339	4.7	—	49.9	Vermont.....	6,154	9.5	—	67.1
Michigan.....	37,349	21.7	—	44.7	Virginia.....	27,087	10.6	—	48.7
Minnesota.....	54,010	39.1	—	30.3	Washington.....	44,035	14.7	13.3	28.9
Mississippi.....	30,527	16.3	—	54.9	West Virginia.....	15,508	5.3	—	68.1
Missouri.....	44,614	30.7	0.2	28.1	Wisconsin.....	35,920	28.7	—	40.4
Montana.....	94,110	15.4	39.0	5.7	Wyoming.....	62,603	3.5	44.0	1.5

— Represents zero.

Source: U.S. Department of Agriculture, Natural Resources and Conservation Service, *Summary Report, 2003 Annual National Resources Inventory*. See also <http://www.nrcs.usda.gov/technical/NRI/>.

Table 370. U.S. Wetland Resources and Deepwater Habitats by Type: 1998 to 2004

[In thousands of acres (148,618.8 represents 148,618,800). Wetlands and deepwater habitats are defined separately because the term wetland does not include permanent water bodies. Deepwater habitats are permanently flooded land lying below the deepwater boundary of wetlands. Deepwater habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live, whether or not they are attached to the substrate. As in wetlands, the dominant plants are hydrophytes; however, the substrates are considered nonsoil because the water is too deep to support emergent vegetation. In general terms, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. The single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water. Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For more information on wetlands, see the "Classification of Wetlands and Deepwater Habitats of the United States" at <http://www.fws.gov/wetlands/_documents/gNSDI/ClassificationWetlandsDeepwaterHabitatsUS.pdf>]

Wetland or deepwater category	Estimated area, 1998	Estimated area, 2004	Change, 1998 to 2004
All wetlands and deepwater habitats, total	148,618.8	149,058.5	439.7
All deepwater habitats, total	41,046.6	41,304.5	247.9
Lacustrine ¹	16,610.5	16,773.4	162.9
Riverine ²	6,765.5	6,813.3	47.7
Estuarine Subtidal ³	17,680.5	17,717.8	37.3
All wetlands, total.	107,562.3	107,754.0	191.8
Intertidal wetlands ⁴	5,328.7	5,300.3	-28.4
Marine intertidal	130.4	128.6	-1.9
Estuarine intertidal nonvegetated	594.1	600.0	5.9
Estuarine intertidal vegetated	4,604.2	4,571.7	-32.4
Freshwater wetlands	102,233.6	102,453.8	220.2
Freshwater nonvegetated	5,918.7	6,633.9	715.3
Freshwater vegetated	96,414.9	95,819.8	-495.1
Freshwater emergent ⁵	26,289.6	26,147.0	-142.6
Freshwater forested ⁶	51,483.1	52,031.4	548.2
Freshwater shrub ⁷	18,542.2	17,641.4	-900.8

¹ The lacustrine system includes deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent coverage; and (3) total area exceeds 20 acres (8 hectares). ² The riverine system includes deepwater habitats contained within a channel, with the exception of habitats with water containing ocean derived salts in excess of 0.5 parts per thousand. ³ The estuarine system consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. Subtidal is where the substrate is continuously submerged by marine or estuarine waters. ⁴ Intertidal is where the substrate is exposed and flooded by tides. Intertidal includes the splash zone of coastal waters. ⁵ Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. ⁶ Forested wetlands are characterized by woody vegetation that is 20 feet tall or taller. ⁷ Shrub wetlands include areas dominated by woody vegetation less than 20 feet tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.

Source: U.S. Fish and Wildlife Service, *Status and Trends of Wetlands in the Conterminous United States, 1998 to 2004*, December 2005. See also <http://www.fws.gov/wetlands/_documents/gSandT/NationalReports/StatusTrendsWetlandsConterminousUS1998to2004.pdf>.

Table 371. U.S. Water Withdrawals Per Day by End Use: 1950 to 2005

[(180 represents 180,000,000,000). Includes the District of Columbia, Puerto Rico and U.S. Virgin Islands. Withdrawal signifies water physically withdrawn from a source. Includes fresh and saline water; excludes water used for hydroelectric power. For information on "Changes for the 2005 report," see "Trends in Estimated Water Use in the United States, Table 14"]

Year	Total withdrawals	Public supply	Rural domestic and livestock		Irrigation	Thermo electric power	Other			
			Self supplied domestic	Live-stock			Self supplied domestic	Mining	Com-mercial	Aqua-culture
1950 ¹	180	14	2.1	1.5	89	40	37	(⁵)	(⁵)	(⁵)
1955 ²	240	17	2.1	1.5	110	72	39	(⁵)	(⁵)	(⁵)
1960 ³	270	21	2.0	1.6	110	100	38	(⁵)	(⁵)	(⁵)
1965 ⁴	310	24	2.3	1.7	120	130	46	(⁵)	(⁵)	(⁵)
1970 ⁴	370	27	2.6	1.9	130	170	47	(⁵)	(⁵)	(⁵)
1975 ³	420	29	2.8	2.1	140	200	45	(⁵)	(⁵)	(⁵)
1980 ³	430	33	3.4	2.2	150	210	45	(⁵)	(⁵)	(⁵)
1985 ³	397	36.4	3.32	2.23	135	187	25.9	3.44	1.23	2.24
1990 ³	404	38.8	3.39	2.25	134	194	22.6	4.93	2.39	2.25
1995 ³	399	40.2	3.39	2.28	130	190	22.4	3.72	2.89	3.22
2000 ³	413	43.2	3.58	2.38	139	195	19.7	4.50	(NA)	5.77
2005 ³	410	44.2	3.83	2.14	128	201	18.2	4.02	(NA)	8.78

NA Not available. ¹ Population covered: 48 states, District of Columbia, and Hawaii. ² Population covered: 48 states, ³ Population covered: 50 states, District of Columbia, Puerto Rico, and the Virgin Islands. ⁴ Population covered: 50 states, District of Columbia, and Puerto Rico. ⁵ Included in "Self-Supplied Industrial."

Source: 1940-1960, U.S. Bureau of Domestic Business Development, based principally on committee prints, *Water Resources Activities in the United States*, for the Senate Committee on National Water Resources, U.S. Senate, thereafter, U.S. Geological Survey, *Estimated Use of Water in the United States in 2005*, circular 1344. See also <http://pubs.usgs.gov/circ/1344/> (October 2009).

Table 372. National Ambient Air Pollutant Concentrations by Type of Pollutant: 2003 to 2009

[Data represent annual composite averages of pollutant based on daily 24-hour averages of monitoring stations, except carbon monoxide which is based on the second-highest, nonoverlapping, 8-hour average; ozone, the fourth-highest maximum 8-hour value; and lead, the maximum quarterly average of ambient lead levels. Based on data from the Air Quality System. $\mu\text{g}/\text{m}^3$ = micrograms of pollutant per cubic meter of air; ppm = parts per million]

Pollutant	Unit	Monitoring stations, number	Air quality standard ¹	2003	2004	2005	2006	2007	2008	2009
				Carbon monoxide	ppm	300	² 9	2.7	2.5	2.3
Ozone	ppm	1,011	³ 0.075	0.080	0.074	0.079	0.077	0.077	0.073	0.069
Sulfur dioxide	ppm	384	⁴ 0.03	0.0043	0.0041	0.0041	0.0037	0.0035	0.0032	0.0027
Particulates (PM-10)	$\mu\text{g}/\text{m}^3$	722	⁵ 150	90.5	70.4	69.4	76.0	69.4	67.3	59.7
Fine particulates (PM2.5) annual average	$\mu\text{g}/\text{m}^3$	741	⁶ 15	12.3	11.9	12.8	11.6	11.9	10.9	9.9
Fine particulates (PM2.5) daily average	$\mu\text{g}/\text{m}^3$	741	⁷ 35	31.1	31.0	33.6	28.8	31.3	27.1	24.9
Nitrogen dioxide	ppm	311	⁸ 0.053	0.014	0.013	0.013	0.013	0.012	0.011	0.011
Lead	$\mu\text{g}/\text{m}^3$	109	⁹ 0.15	0.16	0.20	0.15	0.14	0.15	0.19	0.11

¹ Refers to the primary National Ambient Air Quality Standard. ² Based on 8-hour standard of 9 ppm. ³ Based on 8-hour standard of 0.075 ppm. On March 12, 2008, EPA revised the level of the primary and secondary 8-hour ozone standards to 0.075 ppm. ⁴ Based on annual standard of 0.03 ppm. ⁵ Based on 24-hour (daily) standard of 150 $\mu\text{g}/\text{m}^3$. The particulates (PM-10) standard replaced the previous standard for total suspended particulates in 1987. In 2006, EPA revoked the annual PM-10 standard. ⁶ Based on annual standard of 15 $\mu\text{g}/\text{m}^3$. The PM-2.5 national monitoring network was deployed in 1999. National trend data prior to that time is not available. ⁷ Based on daily standard of 35 $\mu\text{g}/\text{m}^3$. The PM-2.5 national monitoring network was deployed in 1999. National trend data prior to that time is not available. ⁸ Based on annual standard of 0.053 ppm. ⁹ Based on 3-month standard of 1.5 $\mu\text{g}/\text{m}^3$. On October 15, 2008, EPA revised the form of the primary and secondary lead standards and revised the level to 0.15 $\mu\text{g}/\text{m}^3$.

Source: U.S. Environmental Protection Agency, *Latest Findings on National Air Quality—Status and Trends through 2009*, <<http://www.epa.gov/air/airtrends/2010/index.html>>.

Table 373. Selected National Air Pollutant Emissions: 1970 to 2008

[In thousands of tons (4,320 represents 4,320,000), except as indicated. The methodology used to estimate emission data for 1970 thru 1984 and for 1985 thru the current year is different. Beginning with 1985, the methodology for more recent years is described in the document available at <<http://www.epa.gov/ttn/chief/net/2005inventory.html>>]

Year	Carbon monoxide		Nitrogen oxide		PM-10 ¹		PM-2.5 ²		Sulfur dioxide		V.O.C. ³
	Ammonia										
1970	(NA)	204,042	26,882	13,022	13,022	(NA)	(NA)	(NA)	31,218	34,659	
1980	(NA)	185,408	27,080	7,013	7,013	(NA)	(NA)	(NA)	25,926	31,107	
1990	4,320	154,188	25,527	27,753	27,753	7,560	7,560	23,077	24,108	24,108	
2000	4,907	114,465	22,599	23,748	22,962	7,287	6,503	16,348	17,511	17,511	
2004	4,138	99,041	19,793	21,211	18,321	5,497	3,044	14,820	19,789	19,789	
2005	4,143	93,034	19,122	21,153	18,266	5,457	3,013	14,844	18,422	18,422	
2006	4,135	87,915	18,110	19,037	16,150	5,269	2,862	13,656	17,590	17,590	
2007	4,131	82,801	17,321	16,921	14,034	5,080	2,639	13,006	16,759	16,759	
2008	4,043	77,685	16,339	14,805	11,918	4,892	2,449	11,429	15,927	15,927	

NA Not available. ¹ PM=Particulate Matter; PM-10 is equal to or less than ten microns in diameter; PM-2.5 to or less than 2.5 microns effective diameter. ² Without condensibles. ³ Volatile organic compound.

Source: U.S. Environmental Protection Agency, *National Emissions Inventory (NEI) Air Pollutant Emissions Trends Data, 1970–2008 Average annual emissions, all criteria pollutants*, <<http://www.epa.gov/ttn/chief/trends/index.html#tables>>.

Table 374. Selected Air Pollutant Emissions by Pollutant and Source: 2008

[In thousands of tons, except as indicated (4,043 represents 4,043,000). See headnote, Table 373]

Source	Carbon monoxide		Nitrogen oxide		PM-10 ¹		PM-2.5 ¹		Sulfur dioxide		V.O.C. ²
	Ammonia										
Total emissions	4,043	77,685	16,339	14,805	11,918	4,892	2,449	11,429	15,927	15,927	
Fuel combustion, stationary sources	68	5,283	5,597	1,330	1,006	9,872	1,450				
Electric utilities	34	699	3,007	534	410	7,552	50				
Industrial	16	1,216	1,838	330	175	1,670	130				
Other fuel combustion	18	3,369	727	466	421	578	1,269				
Industrial processes	206	3,767	1,047	1,461	751	1,025	7,142				
Chemical and allied product manufacturing	22	265	67	39	29	255	228				
Metals processing	3	947	68	76	52	203	46				
Petroleum and related industries	3	355	350	24	17	206	561				
Other	151	500	418	967	355	329	404				
Solvent utilization	–	2	6	8	7	–	4,226				
Storage and transport	1	115	18	57	22	4	1,303				
Waste disposal and recycling	26	1,584	120	288	267	27	374				
Highway vehicles	308	38,866	5,206	171	110	64	3,418				
Off highway ³	3	18,036	4,255	304	283	456	2,586				
Miscellaneous ⁴	3,457	11,731	260	11,540	2,742	85	1,332				

– Rounds to zero. ¹ See footnote 1, Table 373. ² Volatile organic compound. ³ Includes emissions from farm tractors and other farm machinery, construction equipment, industrial machinery, recreational marine vessels, and small general utility engines such as lawn mowers. ⁴ Includes emissions such as from forest fires and other kinds of burning, various agricultural activities, fugitive dust from paved and unpaved roads, and other construction and mining activities, and natural sources.

Source: U.S. Environmental Protection Agency, *National Emissions Inventory (NEI) Air Pollutant Emissions Trends Data, 1970–2008 Average annual emissions, all criteria pollutants*, <<http://www.epa.gov/ttn/chief/trends/index.html#tables>>.

Table 375. Emissions of Greenhouse Gases by Type and Source: 1990 to 2009

[In millions of metric tons (6,133.2 represents 6,133,200,000). Metric ton = 2,204.6 lbs. Emission estimates were mandated by Congress through Section 1605(a) of the Energy Policy Act of 1992 (Title XVI). Data shown below, by type and source, are measured in terms of their carbon dioxide equivalent]

Type and source	1990	2000	2004	2005	2006	2007	2008	2009 ¹
Total emissions	6,133.2	6,935.3	7,071.9	7,109.4	7,027.4	7,150.4	6,983.1	6,575.5
Carbon dioxide, total	5,040.9	5,900.3	6,031.3	6,055.2	5,961.6	6,059.5	5,865.5	5,446.8
From energy use by sector								
Residential	963.4	1,185.1	1,227.8	1,261.5	1,192.0	1,242.0	1,229.0	1,162.2
Commercial	792.6	1,022.0	1,053.5	1,069.0	1,043.4	1,078.6	1,073.5	1,003.6
Industrial	1,695.1	1,788.1	1,731.1	1,675.2	1,661.1	1,661.6	1,597.6	1,405.4
Transportation	1,587.7	1,872.0	1,962.3	1,990.7	2,021.9	2,039.6	1,937.9	1,854.5
Adjustments to energy ²	-82.9	-64.7	-45.3	-44.6	-62.7	-67.5	-76.1	-66.0
Adjusted energy subtotal	4,955.9	5,802.6	5,929.3	5,951.8	5,855.7	5,954.2	5,761.9	5,359.6
Other sources	85.1	97.8	102.0	103.5	105.9	105.3	103.6	87.3
Methane	768.8	663.1	661.6	669.2	678.5	690.9	724.2	730.9
Energy sources	293.1	281.7	280.0	277.0	279.8	285.8	299.3	303.0
Agricultural sources	190.6	201.2	204.0	209.9	211.8	212.3	219.7	215.9
Waste management	280.6	174.6	172.0	177.3	181.9	187.6	200.6	207.9
Industrial processes	4.5	5.6	5.6	5.0	5.1	5.1	4.6	4.2
Nitrous oxide	221.4	217.8	222.0	223.6	223.7	228.6	223.5	219.6
Agricultural sources	148.7	144.3	154.1	156.9	157.8	162.1	161.1	161.0
Energy use	40.2	52.1	49.7	48.2	47.2	47.3	45.1	42.5
Industrial processes	28.5	16.7	13.3	13.6	13.6	14.1	12.1	10.8
Waste management	4.0	4.7	4.9	5.0	5.1	5.2	5.2	5.3
High-GWP gases ³	102.1	154.0	157.0	161.3	163.6	171.4	169.9	178.2

¹ 2009 preliminary data. ² Carbon dioxide emissions from U.S. Territories are added to the U.S. total, and carbon dioxide emissions from fuels used for international transport (both ocean-going vessels and airplanes) are subtracted to derive total U.S. greenhouse gas emissions. ³ High global warming potential gases: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).

Source: U.S. Energy Information Administration, Environment, *Greenhouse Gas Emissions in the United States, 2009*, Series DOE/EIA-0573 (2009), annual. See also <http://www.eia.gov/environment/emissions/ghg_report/>.

Table 376. Carbon Dioxide Emissions by Sector and Source: 1990 to 2009

[In million metric tons (5,040.9 represents 5,040,900,000), except as noted. Data below measured in terms of carbon dioxide equivalent. Data have been revised for years shown]

Sector	1990	2000	2004	2005	2006	2007	2008	2009 ¹
Total ²	5,040.9	5,900.3	6,031.3	6,055.2	5,961.6	6,059.5	5,865.5	5,446.8
Total ³	5,038.7	5,867.2	5,974.7	5,996.4	5,918.3	6,021.8	5,838.0	5,425.6
Petroleum	2,186.6	2,460.6	2,608.6	2,627.6	2,602.5	2,603.2	2,443.5	2,318.8
Coal	1,821.4	2,155.5	2,160.2	2,181.9	2,146.9	2,172.2	2,139.4	1,876.8
Natural gas	1,024.8	1,240.6	1,194.4	1,175.2	1,157.0	1,234.7	1,243.0	1,218.0
Residential	963.4	1,185.1	1,227.8	1,261.5	1,192.0	1,242.0	1,229.0	1,162.2
Petroleum	98.4	108.0	106.0	100.9	85.0	86.8	84.9	82.9
Coal	3.0	1.1	1.1	0.8	0.6	0.7	0.7	0.6
Natural gas	238.3	270.8	264.3	262.4	237.5	257.3	265.8	259.1
Electricity ⁴	623.7	805.2	856.4	897.3	868.9	897.2	877.5	819.5
Commercial	792.6	1,022.0	1,053.5	1,069.0	1,043.4	1,078.6	1,073.5	1,003.6
Petroleum ⁵	72.5	57.9	58.3	54.9	47.6	46.6	46.1	43.6
Coal	12.0	8.8	9.8	9.3	6.2	6.7	6.5	5.8
Natural gas	142.3	172.5	169.8	163.1	154.0	164.2	171.3	169.1
Electricity ⁴	565.9	782.8	815.6	841.8	835.6	861.1	849.5	785.1
Industrial ⁶	1,695.1	1,788.1	1,731.1	1,675.2	1,661.1	1,661.6	1,597.6	1,405.4
Petroleum	365.5	370.4	418.6	416.8	430.4	415.4	376.2	343.1
Coal	258.4	210.8	190.5	182.9	179.4	174.6	168.2	130.9
Natural gas	432.4	480.8	431.5	397.5	394.2	406.3	406.9	383.1
Electricity ⁴	638.3	718.6	674.7	672.8	650.2	662.3	641.8	551
Transportation ⁶	1,587.7	1,872.0	1,962.3	1,990.7	2,021.9	2,039.6	1,937.9	1,854.5
Petroleum	1,548.4	1,832.8	1,925.6	1,952.7	1,984.0	1,999.0	1,896.3	1,815.7
Natural gas	36.1	35.7	31.9	33.1	33.2	35.3	36.7	34.1
Electricity ⁴	3.2	3.6	4.8	5.0	4.7	5.3	4.9	4.7
Electric power sector ⁷	1,831.0	2,310.2	2,351.5	2,416.9	2,359.5	2,425.9	2,373.7	2,160.3
Petroleum	101.8	91.5	100.1	102.3	55.6	55.3	40.0	33.6
Coal	1,547.6	1,927.4	1,943.1	1,983.8	1,953.7	1,987.3	1,959.4	1,742.2
Natural gas	175.5	280.9	296.8	319.1	338.2	371.7	362.3	372.6

¹ Preliminary. ² Emissions from nonfuel uses, adjustments to energy, and other sources are included. ³ Emissions from renewables are included in total. ⁴ Share of total electric power sector carbon dioxide emissions weighted by sales to this sector. ⁵ Includes small amounts of petroleum coke. ⁶ Includes emissions from nonfuel uses of fossil fuels. ⁷ Emissions from the electric power sector are apportioned to each end-use sector according to their share of electricity sales.

Source: U.S. Energy Information Administration, Environment, *Greenhouse Gas Emissions in the United States, 2009*, Series DOE/EIA-0573 (2009), annual. See also <http://www.eia.gov/environment/emissions/ghg_report/>.

Table 377. Municipal Solid Waste Generation, Materials Recovery, Combustion With Energy Recovery, and Discards: 1980 to 2009

[In millions of tons (151.6 represents 151,600,000), except as indicated. Covers post-consumer residential and commercial solid wastes which comprise the major portion of typical municipal collections. Excludes mining, agricultural and industrial processing, demolition and construction wastes, sewage sludge and junked autos and obsolete equipment wastes. Based on material-flows estimating procedure and wet weight as generated]

Item and material	1980	1990	2000	2005	2007	2008	2009
Waste generated	151.6	208.3	242.5	252.4	255.0	251.0	243.0
Per person per day (lb.)	3.7	4.6	4.7	4.7	4.6	4.5	4.3
Total materials recovery	14.5	33.2	69.5	79.9	84.8	83.9	82.0
Per person per day (lb.)	0.4	0.7	1.4	1.5	1.5	1.5	1.5
Recovery for recycling	14.5	29.0	53.0	59.3	63.1	61.8	61.3
Per person per day (pounds)	0.35	0.6	1.0	1.1	1.2	1.1	1.1
Recovery for composting ¹	(Z)	4.2	16.5	20.6	21.7	22.1	20.8
Per person per day (pounds)	(Z)	0.1	0.3	0.4	0.4	0.4	0.4
Combustion with energy recovery	2.7	29.7	33.7	31.6	32.0	31.6	29.0
Per person per day (lb.)	0.07	0.7	0.7	0.6	0.6	0.6	0.5
Discards to landfill, other disposal	134.4	145.3	139.4	140.9	138.2	135.6	131.9
Per person per day (lb.)	3.2	3.2	2.7	2.6	2.5	2.4	2.4
PERCENT DISTRIBUTION OF GENERATION							
Percent of total generation	71.8	70.3	73.7	73.2	72.9	72.1	70.6
Paper and paperboard	36.4	34.9	36.2	33.6	32.4	30.8	28.2
Glass	10.0	6.3	5.3	5.0	4.9	4.8	4.8
Metals	10.2	7.9	7.8	8.0	8.2	8.4	8.6
Plastics	4.5	8.2	10.5	11.6	12.1	12.0	12.3
Rubber and leather	2.8	2.8	2.8	2.9	3.0	3.0	3.1
Textiles	1.7	2.8	3.9	4.5	4.7	5.0	5.2
Wood	4.6	5.9	5.6	5.9	6.0	6.2	6.5
Other	1.7	1.5	1.6	1.7	1.8	1.9	1.9
Total other waste	28.2	29.7	26.3	26.8	27.1	27.9	29.4
Food scraps	8.6	11.5	12.3	12.7	12.8	13.3	14.1
Yard trimmings	18.1	16.8	12.6	12.7	12.8	13.1	13.7
Miscellaneous organic wastes	1.5	1.4	1.4	1.5	1.5	1.5	1.6

Z Less than 5,000 tons or 0.05 percent. ¹ Composting of yard trimmings, food scraps, and other municipal solid waste organic material. Does not include backyard composting.
 Source: Franklin Associates, a Division of ERG, Prairie Village, KS, *Municipal Solid Waste in the United States: 2009 Facts and Figures*. Prepared for the U.S. Environmental Protection Agency. See also <www.epa.gov/osw/nonhaz/municipal/msw99.htm>.

Table 378. Generation and Recovery of Selected Materials in Municipal Solid Waste: 1980 to 2009

[In millions of tons (151.6 represents 151,600,000), except as indicated. Covers post-consumer residential and commercial solid wastes which comprise the major portion of typical municipal collections. Excludes mining, agricultural and industrial processing, demolition and construction wastes, sewage sludge, and junked autos and obsolete equipment wastes. Based on material-flows estimating procedure and wet weight as generated]

Item and material	1980	1990	2000	2005	2007	2008	2009
Waste generated, total ¹	151.6	205.2	242.6	252.4	255.0	251.0	243.0
Paper and paperboard	55.2	72.7	87.7	84.8	82.5	77.4	68.4
Glass	15.1	13.1	12.8	12.5	12.5	12.2	11.8
Metals: Ferrous	12.6	12.6	14.1	15.0	15.6	15.7	15.6
Aluminum	1.7	2.8	3.2	3.3	3.4	3.4	3.4
Other nonferrous	1.2	1.1	1.6	1.9	1.9	2.0	1.9
Plastics	6.8	17.1	25.5	29.3	30.8	30.1	29.8
Food scraps	13.0	20.8	26.8	32.0	32.6	33.3	34.3
Yard trimmings	27.5	35.0	30.5	32.1	32.6	32.9	33.2
Materials recovered, total ¹	14.5	33.2	69.4	79.9	84.8	83.9	82.0
Paper and paperboard	11.7	20.2	37.6	42.0	44.5	42.9	42.5
Glass	0.8	2.6	2.9	2.6	2.9	2.8	3.0
Metals: Ferrous	0.4	2.2	4.7	5.0	5.3	5.3	5.2
Aluminum	0.3	1.0	0.9	0.7	0.7	0.7	0.7
Other nonferrous	0.5	0.7	1.1	1.3	1.3	1.4	1.3
Plastics	0.2	0.4	1.5	1.8	2.1	2.1	2.1
Food scraps	(Z)	(Z)	0.7	0.7	0.8	0.8	0.9
Yard trimmings	(Z)	4.2	15.8	19.9	20.9	21.3	19.9
Percent of generation recovered, total ¹	9.6	16.2	29.7	31.6	33.3	33.4	33.8
Paper and paperboard	21.3	27.8	42.8	49.5	53.9	55.5	62.1
Glass	5.0	20.1	22.6	20.7	23.0	23.1	25.5
Metals: Ferrous	2.9	17.6	33.2	33.6	33.8	33.8	33.5
Aluminum	17.9	35.9	26.9	20.7	21.7	21.1	20.3
Other nonferrous	46.6	66.4	66.3	68.8	69.1	69.4	68.8
Plastics	0.3	2.2	5.8	6.0	6.8	7.1	7.1
Food scraps	(Z)	(Z)	2.5	2.2	2.5	2.4	2.5
Yard trimmings	(Z)	12.0	51.7	61.9	64.1	64.7	59.9

Z Less than 5,000 tons or 0.05 percent. ¹ Includes products not shown separately.
 Source: Franklin Associates, a Division of ERG, Prairie Village, KS, *Municipal Solid Waste in the United States: 2009 Facts and Figures*. Prepared for the U.S. Environmental Protection Agency. See also <www.epa.gov/osw/nonhaz/municipal/msw99.htm>.

Table 379. Municipal Solid Waste—Generation, Recovery, and Discards by Selected Type of Product: 2009

[See headnote, Table 378]

Type of product	Generation (1,000 tons)	Recovery		Discards (1,000 tons)
		Products recovered (1,000 tons)	Percent of generation	
Paper and paperboard products ¹	68,420	42,500	62.1	25,920
Nondurable goods	33,480	17,430	52.1	16,050
Newsprint	5,060	4,490	88.7	570
Groundwood inserts	2,700	2,350	87.0	350
Magazines	1,450	780	53.8	670
Office-type papers	5,380	3,990	74.2	1,390
Standard mail	4,650	2,950	63.4	1,700
Other commercial printing	3,490	2,310	66.2	1,180
Containers and packaging	34,940	25,070	71.8	9,870
Corrugated boxes	27,190	22,100	81.3	5,090
Folding cartons	4,980	2,490	50.0	2,490
Glass products ¹	11,780	3,000	25.5	8,780
Containers and packaging	9,660	3,000	31.1	6,660
Beer and soft drink bottles	6,000	2,340	39.0	3,660
Wine and liquor bottles	1,710	310	18.1	1,400
Food and other bottles and jars	1,950	350	17.9	1,600
Metal products ^{1,2}	20,910	7,220	34.5	13,690
Ferrous	13,340	3,720	27.9	9,620
Aluminum	1,350	(Z)	(Z)	1,350
Other nonferrous	540	(Z)	(Z)	540
Plastics ¹	29,830	2,120	7.1	27,710
Plastics in durable goods	10,650	400	3.8	10,250
Plastics in nondurable goods	6,650	(Z)	(Z)	6,650
Plastics in containers and packaging	12,530	1,720	13.7	10,810
Rubber and leather ¹	7,490	1,070	14.3	6,420
Rubber in tires	3,040	1,070	35.2	1,970

Z Less than 5,000 tons or 0.05 percent. ¹ Includes products not shown separately. ² Metals in durable goods only.

Source: Franklin Associates, a Division of ERG, Prairie Village, KS, *Municipal Solid Waste in the United States: 2009 Facts and Figures*. Prepared for the U.S. Environmental Protection Agency. See also <www.epa.gov/osw/nonhaz/municipal/msw99.htm>.

Table 380. Environmental Industry—Revenues and Employment by Industry Segment: 2000 to 2010

[211.2 represents \$211,200,000,000. Covers approximately 30,000 private and public companies engaged in revenue-generating environmental activities]

Industry segment	Revenue (bil. dol.)				Employment			
	2000	2005	2009	2010	2000	2005	2009	2010
Industry total	211.2	255.0	304.6	316.3	1,371,600	1,469,600	1,621,300	1,657,300
Analytical services ¹	1.8	1.8	1.9	1.8	20,200	20,000	19,600	19,200
Wastewater treatment works ²	28.7	35.6	44.1	46.9	118,800	141,100	169,000	178,900
Solid waste management ³	39.4	47.8	51.1	52.4	221,400	256,500	265,300	271,200
Hazardous waste management ⁴	8.2	8.7	8.6	8.7	44,800	45,000	42,100	42,000
Remediation/industrial services	10.1	11.0	11.9	12.2	100,200	96,600	99,600	101,000
Consulting and engineering	17.4	22.4	25.7	26.2	184,000	220,800	240,500	242,900
Water equipment and chemicals	19.8	24.8	26.6	27.2	130,500	153,000	157,300	159,300
Instrument manufacturing	3.8	4.7	5.2	5.5	30,200	34,600	36,100	37,500
Air pollution control equipment ⁵	19.0	18.8	15.8	14.9	129,600	123,400	101,800	95,600
Waste management equipment ⁶	10.0	10.1	11.0	11.1	75,500	72,900	73,800	73,700
Process and prevention technology	1.2	1.5	1.8	1.9	29,000	28,100	26,500	26,400
Water utilities ⁷	29.9	35.1	40.6	42.1	130,000	145,200	162,000	167,200
Resource recovery ⁸	16.0	21.0	24.5	25.2	127,000	78,900	88,200	91,500
Clean energy systems and power ⁹	5.9	11.9	35.8	40.1	30,400	53,500	139,500	150,900

¹ Covers environmental laboratory testing and services. ² Mostly revenues collected by municipal entities for sewage or wastewater plants. ³ Covers such activities as collection, transportation, transfer stations, disposal, landfill ownership and management for solid waste and recyclables. ⁴ Transportation and disposal of hazardous, medical, and nuclear waste. ⁵ Includes stationary and mobile sources. ⁶ Includes vehicles, containers, liners, processing, and remediation equipment. ⁷ Revenues generated from the sale of water, majority in public sector. ⁸ Revenues generated from the sale of recovered metals, paper, plastic, etc. ⁹ Revenues generated from the sale of equipment and systems and electricity.

Source: Environmental Business International, Inc., San Diego, CA, *Environmental Business Journal*, monthly (copyright). See also <<http://www.ebiusa.com/>>.

Table 381. Toxic Chemical Releases and Transfers by Media: 2004 to 2009

[In millions of pounds (4,253.6 represents 4,253,600,000), except as indicated. Based on reports filed as required by Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), or Title III of the Superfund Amendments and Reauthorization Act of 1986), Public Law 99-499. The Pollution Prevention Act (PPA) of 1990 mandates collection of data on toxic chemicals that are treated on-site, recycled, and combusted for energy recovery. Owners and operators of facilities that are classified within North American Industrial Classification Code groups 31 through 33, 2121, 2122, 2211, 4246, 4247 and 562; have 10 or more full-time employees, and that manufacture, process, or otherwise use any listed toxic chemical in quantities greater than the established threshold in the course of a calendar year are covered and required to report. Includes all Persistent, Toxic (PBT) chemicals and vanadium and vanadium compounds. Does not include off-site disposal or other releases transferred to other TRI facilities that reported the amounts as on-site disposal or other releases]

Media	2004	2005	2006	2007	2008 ¹	2009
Total facilities reporting	24,428	24,140	23,543	22,775	22,319	21,020
Total on- and off-site disposal or other releases	4,253.6	4,364.7	4,322.7	4,118.7	3,872.5	3,386.4
On-site releases	3,738.1	3,829.5	3,784.6	3,559.8	3,383.8	3,015.3
Air emissions ²	1,544.1	1,516.4	1,413.5	1,319.8	1,151.2	915.3
Surface water discharges	253.3	256.7	250.0	238.7	249.3	204.8
Underground injection class I	210.3	211.5	199.8	184.1	174.1	153.2
Underground injection class II-V	27.7	20.2	20.1	21.5	18.2	26.3
RCRA subtitle C landfills ³	151.9	155.2	151.8	150.6	123.9	71.7
Other landfills	267.8	266.9	263.1	267.2	282.1	280.4
Land treatment/application farming	21.5	23.7	26.8	22.0	24.9	17.1
Surface impoundments	719.3	782.0	822.2	764.9	738.6	746.8
Other land disposal	542.1	596.9	637.3	590.9	621.6	599.7
Off-site releases	515.5	535.2	538.1	558.8	488.6	371.1
Total transfers offsite for further waste management	4,006.4	3,944.6	3,989.0	3,885.1	3,511.4	2,842.4
Transfers to recycling	2,085.0	2,095.8	2,181.6	2,142.3	1,970.4	1,628.9
Transfers to energy recovery	650.4	609.0	555.3	525.4	450.9	365.0
Transfers to treatment	326.6	335.4	328.1	286.5	257.4	229.1
Transfers to POTWs (non metals) ⁴	259.9	264.6	260.1	252.5	256.7	216.4
Transfers to POTWs metal and metal compounds ⁴	1.7	1.8	1.8	2.0	1.2	3.3
Other off-site transfers	71.5	0.4	0.5	0.2	0.2	(Z)
Transfers off-site for disposal or other releases	611.3	637.6	661.5	676.3	574.5	399.8
Total production-related waste management	25,863.8	24,863.3	24,305.5	24,377.3	22,990.2	20,390.7
Recycled on-site	7,135.9	6,719.6	6,822.9	6,878.2	6,807.9	6,035.9
Recycled off-site	2,085.3	2,100.7	2,185.2	2,121.5	1,968.9	1,615.1
Energy recovery on-site	2,617.1	2,462.9	2,392.7	2,286.9	2,269.4	1,871.7
Energy recovery off-site	649.5	608.9	554.6	523.3	449.7	367.0
Treated on-site	8,447.8	7,918.0	7,314.6	7,755.4	7,050.5	6,644.4
Treated off-site	566.2	574.9	555.7	515.1	484.1	423.2
Quantity disposed or otherwise release of on- and off-site	4,362.1	4,478.3	4,479.9	4,296.9	3,959.8	3,433.5
Non-production-related waste management	19.3	24.1	18.1	14.3	34.0	11.5

¹ Data have been revised. ² Air emissions include both fugitive and point source. ³ RCRA=Resource Conservation and Recovery Act. ⁴ POTW (Publicly Owned Treatment Work) is a wastewater treatment facility that is owned by a state or municipality. Source: U.S. Environmental Protection Agency, Toxic Release Inventory (TRI) Program, *2009 TRI National Analysis*. See also <http://www.epa.gov/tri/tridata/tri09/national_analysis/index.htm>, 2009 data as of April 18, 2011.

Table 382. Toxic Chemical Releases by Industry: 2009

[In millions of pounds (3,386.4 represents 3,386,400,000), except as indicated. See headnote, Table 381]

Industry	2002 NAICS ¹ code	Total on- and off-site releases	On-site releases		Off-site releases/transfers to disposal ²
			Total	Air emissions	
Total³	(X)	3,386.4	3,015.3	915.3	371.1
Coal mining	2121	11.3	11.3	0.4	1.8 (Z)
Metal mining	2122	1,137.0	1,135.5	3.1	563.7 1.5
Electric utilities	2211	797.0	730.1	386.4	128.0 66.9
Food/beverages/tobacco	311/312	142.5	134.8	40.7	0.1 7.7
Textiles	313/314	1.8	1.3	1.2	0.1 0.4
Apparel	315	(Z)	(Z)	(Z)	– (Z)
Leather	316	0.6	0.2	0.2	– 0.4
Wood products	321	8.6	8.0	7.9	(Z) 0.6
Paper	322	175.0	167.6	128.8	3.8 7.4
Printing and publishing	323/51	9.9	9.7	9.7	– 0.2
Petroleum	324	63.9	58.7	35.2	(Z) 5.2
Chemicals	325	420.3	377.5	157.5	15.8 42.8
Plastics and rubber	326	39.9	32.0	31.4	(Z) 7.8
Stone/clay/glass	327	23.2	20.8	15.0	0.1 2.4
Cement	32731	5.4	5.3	4.2	(Z) 0.1
Primary metals	331	305.9	148.6	31.2	29.2 157.3
Fabricated metals	332	44.3	22.8	21.2	(Z) 21.5
Machinery	333	5.6	3.5	3.5	– 2.1
Computers/electronic products	334	5.2	3.0	1.4	– 2.2
Electrical equipment	335	5.1	1.8	1.8	(Z) 3.3
Transportation equipment	336	30.3	21.5	21.1	(Z) 8.7
Furniture	337	4.4	4.3	4.3	– 0.1
Miscellaneous Manufacturing	339	4.7	2.8	2.8	– 1.9
Chemical wholesalers	4246	1.3	1.2	1.1	– 0.1
Petroleum bulk terminals	4247	3.2	3.1	3.1	(Z) 0.1
Hazardous waste	562	108.3	79.8	0.5	1.2 28.4
No codes ³	(X)	32.0	30.1	1.7	1.0 1.9

– Represents zero. X Not applicable. Z less than 50,000 lbs. ¹ North American Industry Classification System, see text, Section 12. ² Includes off-site disposal to underground injection for Class I wells, Class II to V wells, other surface impoundments, land releases, and other releases, not shown separately. ³ Includes industries with no specific industry identified.

Source: U.S. Environmental Protection Agency, *2009 TRI National Analysis*. See also <http://www.epa.gov/tri/tridata/tri09/national_analysis/index.htm>. Data as of April 18, 2011.

Table 383. Toxic Chemical Releases by State and Outlying Area: 2009

[In millions of pounds (3,386.4 represents 3,386,400,000). Based on reports filed as required by Section 313 of the EPCRA. See headnote, Table 381]

State and outlying areas	Total on-and off-site releases	On-site Releases or other Disposal			Off-site releases/transfers to disposal	State and outlying areas	Total on-and off-site releases	On-site Releases or other Disposal			Off-site releases/transfers to disposal
		Total ¹	Air emissions	Other surface im-pound-ments				Total ¹	Air emissions	Other surface im-pound-ments	
Total	3,386.4	3,015.3	915.3	744.8	371.1	MO	76.1	74.0	15.4	42.6	2.1
U.S. total	3,379.1	3,009.3	909.7	744.8	369.7	MT	41.2	39.8	2.3	7.6	1.3
AL	91.1	77.5	34.7	14.1	13.6	NE	29.6	26.8	5.5	(Z)	2.7
AK	699.1	698.8	0.5	279.3	0.3	NV	183.4	181.2	1.7	114.0	2.2
AZ	60.9	60.0	2.7	9.2	0.9	NH	2.9	2.7	2.7	-	0.2
AR	34.0	30.2	14.4	2.1	3.8	NJ	13.1	10.7	4.5	-	2.4
CA	36.7	32.6	9.5	(Z)	4.1	NM	15.3	15.1	1.1	1.0	0.2
CO	20.2	17.1	2.2	2.4	3.1	NY	23.3	18.3	8.9	(Z)	5.0
CT	3.3	2.2	1.9	(Z)	1.1	NC	62.7	56.3	34.2	2.8	6.3
DE	8.1	5.3	3.2	(Z)	2.8	ND	21.2	13.3	3.6	5.2	8.0
DC	0.0	0.0	(Z)	(Z)	(Z)	OH	158.7	130.2	75.1	10.2	28.4
FL	85.0	80.4	52.6	0.8	4.6	OK	29.6	28.2	14.8	0.8	1.4
GA	80.2	78.3	50.4	13.0	1.9	OR	17.3	12.2	6.1	(Z)	5.0
HI	2.9	2.6	2.2	-	0.3	PA	123.3	74.3	54.1	1.2	48.9
ID	47.9	45.5	3.2	15.6	2.4	RI	0.4	0.2	0.2	-	0.2
IL	95.1	92.6	29.3	8.3	42.5	SC	49.4	43.7	32.6	3.1	5.7
IN	132.5	51.5	45.2	8.4	41.0	SD	4.6	4.3	1.4	(Z)	0.3
IA	43.3	30.3	18.2	0.5	13.1	TN	89.2	79.1	32.0	26.4	10.0
KS	21.1	18.2	8.0	0.3	2.9	TX	196.4	171.4	62.6	6.4	25.1
KY	142.6	133.1	45.6	33.8	9.6	UT	147.4	145.1	6.9	103.6	2.3
LA	119.5	112.5	45.6	4.7	7.0	VT	0.3	0.2	(Z)	-	0.1
ME	8.5	7.7	3.9	-	0.8	VA	56.0	50.9	28.4	1.5	5.1
MD	35.9	33.0	30.2	(Z)	2.9	WA	15.7	13.9	7.0	3.4	1.8
MA	5.4	3.3	3.3	(Z)	2.1	WV	43.0	37.8	27.0	2.2	5.2
MI	71.4	54.1	33.2	6.0	17.2	WI	32.9	19.5	14.6	(Z)	13.4
MN	22.2	19.7	8.5	2.0	2.5	WY	25.0	23.6	2.1	1.9	1.3
MS	54.3	50.0	16.4	10.3	4.4	PR	6.5	5.1	5.1	-	1.3

- Represents zero. Z Less than 50,000 lbs. ¹ Includes other types of release, not shown separately.

Source: U.S. Environmental Protection Agency, Toxic Release Inventory (TRI) Program, 2009 TRI National Analysis. See also <http://www.epa.gov/tri/tridata/tri09/national_analysis/index.htm>. Data as of April 18, 2011.

Table 384. Hazardous Waste Sites on the National Priority List by State and Outlying Area: 2008

[As of December 31. Includes both proposed and final sites listed on the National Priorities List for the Superfund program as authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986. For information on CERCLA and SARA, see also <<http://www.epa.gov/superfund/policy/cercla.htm>>]

State and outlying areas	Total sites		Percent distribution	Federal	Non-federal	State and outlying areas	Total sites		Percent distribution	Federal	Non-federal
	Total sites	Rank					Total sites	Rank			
Total	1,318	(X)	(X)	163	1,155	Missouri	29	16	2.3	3	26
United States	1,301	(X)	(X)	161	1,140	Nebraska	13	32	1.0	1	12
Alabama	15	26	1.2	3	12	Nevada	1	49	0.1	-	1
Alaska	5	45	0.4	5	-	New Hampshire	21	19	1.7	1	20
Arizona	9	39	0.7	2	7	New Jersey	116	1	9.3	8	108
Arkansas	9	40	0.7	-	9	New Mexico	14	29	1.1	1	13
California	97	2	7.8	24	73	New York	86	4	6.9	4	82
Colorado	20	20	1.6	3	17	North Carolina	32	13	2.6	2	30
Connecticut	15	24	1.2	1	14	North Dakota	-	50	-	-	-
Delaware	14	27	1.1	1	13	Ohio	40	10	3.2	5	35
District of Columbia	1	(X)	0.1	1	-	Oklahoma	9	42	0.7	1	8
Florida	52	6	4.2	6	46	Oregon	12	36	1.0	2	10
Georgia	16	23	1.3	2	14	Pennsylvania	96	3	7.7	6	90
Hawaii	3	46	0.2	2	1	Rhode Island	12	37	1.0	2	10
Idaho	9	41	0.7	2	7	South Carolina	26	17	2.1	2	24
Illinois	49	7	3.9	5	44	South Dakota	2	47	0.2	1	1
Indiana	31	14	2.5	-	31	Tennessee	14	30	1.1	4	10
Iowa	12	33	1.0	1	11	Texas	49	8	3.9	4	45
Kansas	12	34	1.0	1	11	Utah	19	22	1.5	4	15
Kentucky	14	28	1.1	1	13	Vermont	11	38	0.9	0	11
Louisiana	13	31	1.0	1	12	Virginia	30	15	2.4	11	19
Maine	12	35	1.0	3	9	Washington	48	9	3.8	13	35
Maryland	19	21	1.5	10	9	West Virginia	9	43	0.7	2	7
Massachusetts	32	12	2.6	6	26	Wisconsin	38	11	3.0	-	38
Michigan	67	5	5.4	1	66	Wyoming	2	48	0.2	1	1
Minnesota	25	18	2.0	2	23						
Mississippi	6	44	0.5	-	6	Puerto Rico	13	(X)	(X)	1	12

- Represents zero. X Not applicable.

Source: U.S. Environmental Protection Agency, Supplementary Materials: CERCLIS3/WasteLan Database, published July 2009. See also <<http://www.epa.gov/osw/infosources/data/biennialreport/>>.

Table 385. Hazardous Waste Generated, Shipped, and Received by State and Other Areas: 2009

[In thousands of tons (35,331.4 represents 35,331,400). Covers hazardous waste regulated under the Resource Conservation and Recovery Act (RCRA) of 1976 as amended. The data have been revised. See source for exclusions of data from the 2009 National Biennial RCRA Hazardous Waste Report]

State and other areas	Hazardous waste quantity (1,000) tons			State and other areas	Hazardous waste quantity (1,000) tons		
	Generated	Shipped	Received		Generated	Shipped	Received
Total	35,331.4	6,144.7	7,282.7	Nebraska	28.2	31.2	32.8
United States	35,285.3	6,098.0	7,281.0	Nevada	11.1	17.2	62.7
Alabama	2,063.6	166.6	220.0	New Hampshire	4.5	4.5	—
Alaska	1.9	1.3	—	New Jersey	555.8	546.5	349.7
Arizona	21.1	18.0	16.2	New Mexico	1,078.7	6.2	5.0
Arkansas	273.2	235.3	289.1	New York	1,032.6	218.8	185.9
California	699.6	828.5	1,143.4	North Carolina	71.8	72.7	10.7
Colorado	41.5	31.6	38.8	North Dakota	530.5	1.3	0.3
Connecticut	21.1	27.2	13.2	Ohio	1,300.8	463.1	583.1
Delaware	19.8	19.5	0.1	Oklahoma	41.9	26.0	82.8
District of Columbia	0.9	0.9	—	Oregon	61.9	51.5	88.4
Florida	168.9	31.3	9.4	Pennsylvania	290.8	210.2	442.5
Georgia	4,024.5	90.2	5.0	Rhode Island	4.5	9.2	6.6
Hawaii	1.0	1.0	0.2	South Carolina	102.0	106.7	128.6
Idaho	4.8	8.3	334.0	South Dakota	1.2	1.3	0.1
Illinois	1,045.4	182.7	472.9	Tennessee	78.6	49.3	1.3
Indiana	778.5	313.1	367.7	Texas	13,461.9	581.4	637.9
Iowa	40.3	40.1	0.7	Utah	59.4	79.3	111.5
Kansas	222.8	111.1	195.0	Vermont	1.5	2.1	1.3
Kentucky	132.7	162.3	70.2	Virginia	51.0	50.4	3.6
Louisiana	3,878.8	527.7	475.9	Washington	317.2	97.6	33.6
Maine	3.7	3.7	0.2	West Virginia	92.4	68.7	9.3
Maryland	33.7	42.0	34.6	Wisconsin	223.4	152.7	45.8
Massachusetts	32.5	41.5	11.8	Wyoming	3.5	3.5	—
Michigan	284.3	189.1	341.8	Guam	0.4	0.4	0.1
Minnesota	106.8	34.5	249.6	Navajo Nation	—	—	—
Mississippi	1,702.4	63.4	24.4	Puerto Rico	43.0	43.2	1.6
Missouri	238.2	69.5	143.4	Virgin Islands	2.6	3.0	—
Montana	37.8	6.3	—				

— Represents or rounds to zero.

Source: U.S. Environmental Protection Agency, *The National Biennial RCRA Hazardous Waste Report (Based on 2009 data)*, Series EPA530-R-10-014a, November 2010. See also <<http://www.epa.gov/epawaste/infocenters/data/biennialreport/index.htm>>.

Table 386. Oil Spills in U.S. Water—Number and Volume: 2000 to 2009

[These summary statistics are based on reported discharges of oil and petroleum based products into U.S. navigable waters, including territorial waters (extending 3 to 12 miles from the coastline), tributaries, the contiguous zone, onto shoreline, or into other waters that threaten the marine environment. Spills associated with Hurricanes Katrina and Rita have been excluded]

Spill characteristic	Number of spills				Spill volume (millions)			
	2000	2005	2008	2009	2000	2005	2008	2009
Total	8,354	4,073	3,633	3,492	1,431,370	2,364,169	777,039	195,189
Size of spill (gallons):								
1 to 100	8,058	3,857	3,474	3,351	39,355	33,041	25,335	24,428
101 to 1,000	219	166	130	123	78,779	62,357	50,486	46,062
1,001 to 3,000	37	26	12	9	67,529	46,019	22,130	20,907
3,001 to 5,000	12	9	8	2	45,512	36,803	30,396	6,872
5,001 to 10,000	16	7	3	3	112,415	58,453	21,800	21,400
10,001 to 50,000	6	5	3	4	108,400	106,870	73,600	75,520
50,001 to 100,000	4	1	1	—	266,380	84,000	82,274	—
100,001 to 1,000,000	2	1	2	—	713,000	110,000	471,018	—
1,000,000 and over	—	1	—	—	—	1,826,626	—	—
Source:								
Tankship	111	40	36	34	608,176	2,975	1,338	14,415
Tankbarge	229	130	184	166	133,540	2,006,774	288,029	5,678
All other vessels	5,220	1,789	1,577	1,585	291,927	115,906	263,632	92,388
Facilities	1,054	996	1,048	963	311,604	92,399	170,299	38,299
Pipelines	25	20	18	17	17,021	111,253	14,494	1,739
All other nonvessels	566	264	297	312	45,136	13,422	29,056	27,557
Unknown	1,149	834	473	415	23,966	21,440	10,191	15,113

— Represents zero.

Source: U.S. Coast Guard, *Pollution Incidents In and Around U.S. Waters, A Spill/Release Compendium: 1969–2004, and 2004–2009: U.S. Coast Guard Marine Information for Safety and Law Enforcement (MISLE)*. Data are unpublished. See <<http://homeport.uscg.mil/mycg/portal/ep/home.do>>.

Table 387. Threatened and Endangered Wildlife and Plant Species: 2011

[As of April. Endangered species: One in danger of becoming extinct throughout all or a significant part of its natural range. Threatened species: One likely to become endangered in the foreseeable future]

Item	Mammals	Birds	Reptiles	Amphibians	Fishes	Snails	Clams	Crustaceans	Insects	Arachnids	Plants
Total listings	359	300	119	33	151	37	75	22	64	12	795
Endangered species, total	325	271	79	22	83	26	67	19	54	12	645
United States	70	77	13	14	72	25	65	19	50	12	644
Foreign	255	194	66	8	11	1	2	—	4	—	1
Threatened species, total	34	29	40	11	68	11	8	3	10	0	150
United States	14	16	24	10	67	11	8	3	10	0	148
Foreign	20	13	16	1	1	—	—	—	—	—	2

— Represents zero.

Source: U.S. Fish and Wildlife Service, *Endangered Species Bulletin*, bimonthly. See also <http://ecos.fws.gov/tess_public/pub/listedanimals.jsp>, accessed May 2011.

Table 388. Tornadoes, Floods, Tropical Storms, and Lightning: 2000 to 2010

Weather type	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010
Tornadoes: ¹										
Number	1,071	941	1,376	1,819	1,264	1,106	1,098	1,691	1,156	1,282
Lives lost	41	55	54	35	38	67	81	126	21	45
Injuries	882	968	1,087	396	537	990	659	1,714	351	699
Property loss (mil. dol.)	424	801	1,263	537	422	752	1,408	1,844	566	1,107
Floods and flash floods:										
Lives lost	38	49	85	82	43	76	70	82	56	113
Injuries	47	88	65	128	38	23	51	46	27	310
Property loss (mil. dol.)	1,255	655	2,541	1,696	1,538	3,768	1,278	3,406	1,050	3,927
North Atlantic tropical cyclones and hurricanes: ²										
Hurricanes	15	12	21	16	27	9	17	17	11	21
—	8	4	7	9	15	5	6	8	3	12
Lives lost	—	51	14	34	1,016	—	1	12	2	(NA)
Property loss (bil. dol.)	8.1	1.1	1.9	18.9	93.0	2.4	38.8	7.6	0.9	(NA)
Lightning:										
Deaths	51	51	44	32	38	48	45	27	34	29
Injuries	364	256	237	280	309	246	138	216	201	182

— Represents zero. NA Not available. ¹ Source: U.S. National Weather Service, <<http://www.spc.noaa.gov/climo/torn/monthlytornstats.html>>. A violent, rotating column of air descending from a cumulonimbus cloud in the form of a tubular- or funnel-shaped cloud, usually characterized by movements along a narrow path and wind speeds from 100 to over 300 miles per hour. Also known as a "twister" or "waterspout."² Tropical cyclones include depressions, storms and hurricanes. For data on individual hurricanes, see National Hurricane Center (NHC) at <<http://www.nhc.noaa.gov/>>.

² Source: Except as noted, U.S. National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), *Office of Climate, Water, and Weather Services, Natural Hazard Statistics*, monthly. See also <<http://www.nws.noaa.gov/om/hazstats.shtml>>.

Table 389. Number of Earthquakes in the United States: 2000 to 2010

[The United States Geological Survey (USGS) detects but does not generally locate mine blasts (explosions) throughout the United States on any given business day. For more information, see "Routine United States Mining Seismicity." For information on "Top Earthquake States," see <http://earthquake.usgs.gov/earthquakes/states/top_states.php>]

Magnitude	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010 ¹	Top earthquake states	1974–2003 ²
	Total	2,342	3,876	2,946	3,550	3,685	2,783	2,791	3,618	4,264	8,444	Total
8.0 to 9.9	—	—	—	—	—	—	—	—	—	—	AK	³ 12,053
7.0 to 7.9	—	1	2	—	1	—	1	—	—	—	CA	4,895
6.0 to 6.9	6	4	7	2	4	7	9	9	4	8	HI	1,533
5.0 to 5.9	63	63	54	25	47	51	72	85	58	71	NE	778
4.0 to 4.9	281	536	541	284	345	346	366	432	289	648	WA	424
3.0 to 3.9	917	1,535	1,303	1,362	1,475	1,213	1,137	1,486	1,492	3,581	ID	404
2.0 to 2.9	660	1,228	704	1,336	1,738	1,145	1,173	1,573	2,380	4,087	WY	217
1.0 to 1.9	—	2	2	1	2	7	11	13	26	37	MT	186
0.1 to 0.9	—	—	—	—	—	—	1	—	—	—	UT	139
No magnitude	415	507	333	540	73	13	22	20	14	11	OR	73

— Represents zero. ¹ Data are as of March 3, 2011. ² The total number represents earthquakes of a magnitude range of 3.5 and greater. ³ The number of earthquakes is underreported. Events in the magnitude range of 3.5 to 4.0 in the Aleutian Islands are not recorded on enough seismograph stations to be located.

Source: U.S. Geological Survey, *Earthquake Facts and Statistics*. See <<http://earthquake.usgs.gov/earthquakes/eqarchives>>.

Table 390. Wildland Fires, Number, and Acres: 1970 to 2010

[In thousands (3,279 represents 3,279,000), except as indicated. As of December 31. There are three distinct types of wildland fires: wildfire, wildland fire use, and prescribed fire. Wildland fire is any nonstructure fire that occurs in the wildland]

Year	Total ¹		Year	Total ¹		State	Top states ranked by wildland acres burned for 2010			
	Fires (number)	Acres (1,000)		Fires (number)	Acres (1,000)		Wildland ¹		Prescribed ²	
							Fires	Acres	Fires	Acres
1970.....	121,736	3,279	2000.....	92,250	7,393	Total.....	71,971	3,422,724	16,882	2,423,862
1975.....	134,872	1,791	2001.....	84,079	3,571	AK.....	689	1,125,419	6	505
1980.....	234,892	5,261	2002.....	73,457	7,185	ID.....	984	642,997	223	36,652
1985.....	62,591	2,896	2003.....	63,629	3,961	NM.....	998	233,056	63	61,403
1990.....	66,481	4,622	2004 ³	65,461	8,098	TX.....	6,748	210,320	144	166,006
1994.....	79,107	4,074	2005.....	66,753	8,689	CA.....	6,554	109,529	970	725,565
1995.....	82,234	1,841	2006.....	96,385	9,874	OR.....	1,315	93,731	836	114,716
1996.....	96,363	6,066	2007.....	85,705	9,328	OK.....	1,735	85,770	21	10,064
1997.....	66,196	2,857	2008.....	78,979	5,292	WY.....	533	80,382	58	27,013
1998.....	81,043	1,330	2009.....	78,792	5,922	AZ.....	1,601	76,318	255	86,826
1999.....	92,487	5,626	2010.....	71,971	3,423	UT.....	1,050	64,781	124	22,657

¹ Data are for wildland fires only. The data do not include wildland fire use and prescribed fires. ² Prescribed fire is any fire which are ignited by management action under certain predetermined conditions to meet specific objectives related to hazardous fuels or habitat improvement. ³ 2004 fires and acres do not include state lands for North Carolina.

Source: National Interagency Coordination Center, Fire Information, Statistics, 2010 Statistics and Summary, Fires and acres. See also <http://www.predictiveservices.nifc.gov/intelligence/2010_statsummi/2010Stats&Summ.html>, accessed June 3, 2011.

Table 391. Highest and Lowest Temperatures by State Through 2010

State	Highest temperatures			Lowest temperatures		
	Station	Temperature (F)	Date	Station	Temperature (F)	Date
AL.....	Centerville.....	112	Sep. 5, 1925	New Market.....	-27	Jan. 30, 1966
AK.....	Fort Yukon.....	100	¹ Jun. 27, 1915	Prospect Creek Camp.....	-80	Jan. 23, 1971
AZ.....	Lake Havasu City.....	128	Jun. 29, 1994	Hawley Lake.....	-40	Jan. 7, 1971
AR.....	Ozark.....	120	Aug. 10, 1936	Pond.....	-29	Feb. 13, 1905
CA.....	Greenland Ranch.....	134	Jul. 10, 1913	Boca.....	-45	Jan. 20, 1937
CO.....	Sedgwick.....	114	¹ Jul. 11, 1954	Maybell.....	-61	Feb. 1, 1985
CT.....	Danbury.....	106	¹ Jul. 15, 1995	Coventry.....	-32	¹ Jan. 22, 1961
DE.....	Millsboro.....	110	Jul. 21, 1930	Millsboro.....	-17	Jan. 17, 1893
FL.....	Monticello.....	109	Jun. 29, 1931	Tallahassee.....	-2	Feb. 13, 1899
GA.....	Greenville 2 NNW.....	112	¹ Aug. 20, 1983	CCC Camp F-16.....	-17	¹ Jan. 27, 1940
HI.....	Pahala.....	100	Apr. 27, 1931	Mauna Kea Obs. 111.2.....	12	May 17, 1979
ID.....	Orofino.....	118	Jul. 28, 1934	Island Park Dam.....	-60	Jan. 18, 1943
IL.....	East St. Louis.....	117	Jul. 14, 1954	Congerville.....	-36	Jan. 5, 1999
IN.....	Collegeville.....	116	Jul. 14, 1936	New Whiteland.....	-36	Jan. 19, 1994
IA.....	Keokuk.....	118	Jul. 20, 1934	Elkader.....	-47	¹ Feb. 3, 1996
KS.....	Alton.....	121	Jul. 24, 1936	Lebanon.....	-40	Feb. 13, 1905
KY.....	Greensburg.....	114	Jul. 28, 1930	Shelbyville.....	-37	Jan. 19, 1994
LA.....	Plain Dealing.....	114	Aug. 10, 1936	Minden.....	-16	Feb. 13, 1899
ME.....	North Bridgton.....	105	Jul. 10, 1911	Van Buren.....	-48	Jan. 16, 2009
MD.....	Cumberland & Frederick.....	109	¹ Jul. 10, 1936	Oakland.....	-40	Jan. 13, 1912
MA.....	New Bedford & Chester.....	107	¹ Aug. 2, 1975	Chester.....	-35	¹ Jan. 12, 1981
MI.....	Mio.....	112	Jul. 13, 1936	Vanderbilt.....	-51	Feb. 9, 1934
MN.....	Moorhead.....	115	Jul. 29, 1917	Tower.....	-60	Feb. 2, 1996
MS.....	Holly Springs.....	115	Jul. 29, 1930	Corinth.....	-19	Jan. 30, 1966
MO.....	Warsaw & Union.....	118	¹ Jul. 14, 1954	Warsaw.....	-40	Feb. 13, 1905
MT.....	Medicine Lake.....	117	¹ Jul. 5, 1937	Rogers Pass.....	-70	Jan. 20, 1954
NE.....	Minden.....	118	¹ Jul. 24, 1936	Oshkosh.....	-47	¹ Dec. 22, 1989
NV.....	Laughlin.....	125	Jun. 29, 1994	San Jacinto.....	-50	Jan. 8, 1937
NH.....	Nashua.....	106	Jul. 4, 1911	Mt. Washington.....	-47	Jan. 22, 1885
NJ.....	Runyon.....	110	Jul. 10, 1936	River Vale.....	-34	Jan. 5, 1904
NM.....	Waste Isolat Pilot Plt.....	122	Jun. 27, 1994	Gavilan.....	-50	Feb. 1, 1951
NY.....	Troy.....	108	Jul. 22, 1926	Old Forge.....	-52	Feb. 18, 1979
NC.....	Fayetteville.....	110	Aug. 21, 1983	Mt. Mitchell.....	-34	Jan. 21, 1985
ND.....	Steele.....	121	Jul. 6, 1936	Parshall.....	-60	Feb. 15, 1936
OH.....	Gallipolis (near).....	113	Jul. 21, 1934	Milligan.....	-39	Feb. 10, 1899
OR.....	Tipton.....	120	¹ Jun. 27, 1994	Watts.....	-27	¹ Jan. 4, 1947
OK.....	Pendleton.....	119	¹ Aug. 10, 1898	Seneca.....	-54	¹ Feb. 10, 1933
PA.....	Phoenixville.....	111	Jul. 10, 1936	Smethport.....	-42	¹ Jan. 5, 1904
RI.....	Providence.....	104	Aug. 2, 1975	Greene.....	-25	Jan. 11, 1942
SC.....	Camden.....	111	¹ Jun. 28, 1954	Caesars Head.....	-19	Jan. 21, 1985
SD.....	Fort Pierre.....	120	¹ Jul. 15, 2006	McIntosh.....	-58	Feb. 17, 1936
TN.....	Perryville.....	113	Aug. 9, 1930	Mountain City.....	-32	Dec. 30, 1917
TX.....	Monahans.....	120	Jun. 28, 1994	Seminole.....	-23	Feb. 8, 1933
UT.....	Saint George.....	117	Jul. 5, 1985	Peter's Sink.....	-69	Jan. 5, 1913
VT.....	Vernon.....	107	Jul. 7, 1912	Bloomfield.....	-50	Dec. 30, 1933
VA.....	Balcony Falls.....	110	¹ Jul. 15, 1954	Mtn. Lake Bio. Stn.....	-30	Jan. 22, 1985
WA.....	Ice Harbor Dam.....	118	¹ Aug. 5, 1961	Mazama & Winthrop.....	-48	¹ Dec. 30, 1968
WV.....	Martinsburg.....	112	¹ Jul. 10, 1936	Lewisburg.....	-37	Dec. 30, 1917
WI.....	Wisconsin Dells.....	114	Jul. 13, 1936	Couderay.....	-55	Feb. 4, 1996
WY.....	Diversion Dam.....	115	¹ Mar. 5 1998	Riverside R.S.....	-66	Feb. 9, 1933

¹ Also on earlier dates at the same or other places.

Source: U.S. National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Services (NESDIS), National Climatic Data Center (NCDC), *Temperature Extremes and Drought*, <<http://www.ncdc.noaa.gov/Extremes/sccc/searchreos.php>>.

Table 392. Major U.S. Weather Disasters: 2008 to 2010

[3.0 represents \$3,000,000,000. Covers only weather-related disasters costing \$1 billion or more]

Event	Description	Time period	Estimated cost ¹ (bil. dol.)	Deaths (number)
2010 Midwest Tornadoes and Severe Weather	An outbreak of tornadoes, hail, and severe thunderstorms occurred across OK, KS, and TX. Oklahoma was hardest hit with over 1.5 billion in damages.	May, 2010	Over 3.0	3
Mid-South Flooding and Severe Weather	Flooding, hail, tornadoes, and severe thunderstorms occurred across TN, AR, AL, KY, MS, and GA. Flooding in the Nashville, TN area alone contributed over 1.0 billion in damages. Western and Middle Tennessee were hardest hit with local rainfall amounts of 18–20 inches to the south and west of Greater Nashville.	April–May 2010	Over 2.3	32
Northeast Flooding	Heavy rainfall over portions of the Northeast in late March caused extensive flooding across RI, CT, MA, NJ, NY, and PA. The event caused the worst flooding in Rhode Island's history.	March, 2010	Over 1.5	11
2009 Southwest/Great Plains drought	Drought conditions occurred during much of the year causing agricultural losses in TX, OK, KS, CA, NM, and AZ. The largest losses occurred in TX and CA.	Entire year 2009	Over 5.0	–
Western wildfires	Residual and sustained drought conditions across western and south-central states resulted in thousands of fires. Most affected states include CA, AZ, NM, TX, OK, and UT.	Summer–Fall 2009	Over 1.0	10
Midwest, South, and Eastern Severe weather	Sustained outbreak of thunderstorms and high winds in TX, OK, MO, NE, KS, AR, AL, MS, TN, NC, SC, KY, and PA.	June, 2009	Over 1.1	–
South/Southeast Tornadoes/Severe weather	Outbreak of tornadoes, hail and severe thunderstorms in AL, AR, GA, KY, MO, SC, TN; with 85 tornadoes confirmed.	April, 2009	Over 1.2	6
Midwest/Southeast Tornadoes	Outbreak of tornadoes in NE, KS, OK, IA, TX, LA, MS, AL, GA, TN, KY; with 56 tornadoes confirmed.	March, 2009	Over 1.0	–
Southeast/Ohio Valley Severe weather	Complex of severe thunderstorms and high winds in TN, KY, OK, VA, WV, and PA. The majority of the damage occurred in OK and OH.	February, 2009	Over 1.4	10
2008 Widespread drought	Severe drought and heat caused agricultural losses in areas of the south and west. Record low lake levels. Includes states of CA, GA, NC, SC, TN, and TX.	Entire year 2008	Over 2.0	–
Hurricane Ike	Category 2 hurricane made landfall in Texas as the largest(in size) Atlantic hurricane on record, causing wind and considerable surge in coastal and significant flooding damage in AR, IL, IN, KY, LA, MO, OH, PA, and TX.	September 2008	Over 27.0	82
Hurricane Gustav	Category 2 hurricane made landfall in Louisiana causing significant wind, storm surge and flood damage in AL, AR, LA, and MS.	September 2008	5.0	43
Hurricane Dolly	Category 2 hurricane made landfall in southern Texas causing considerable wind and flooding damage in TX and NM.	July, 2008	Over 1.2	3
U.S. wildfires	Drought conditions across numerous western, central and southeastern states(15) resulted in thousands of wildfires, national acreage burned exceeding 5.2 million acres (mainly in the west).	Summer–Fall 2008	Over 2.0	16
Midwest flood	Heavy rainfall and flooding caused significant agricultural loss and property damage in seven states with Iowa being hardest hit with widespread rainfall totals ranging from 4 to 16 inches.	June, 2008	Over 15.0	24
Midwest/Mid-Atlantic storms	An outbreak of tornadoes and thunderstorms over the states of IA, IL, IN, KS, NE, MD, MI, MN, MO, OK, VA, WI, WV.	June, 2008	Over 1.1	18
Midwest/Ohio Valley storms	Outbreak of tornadoes over the Midwest/Ohio Valley over the region (IL, IN, IA, KS, MN, NE, OK, WV, and CO), with 235 tornadoes confirmed.	May, 2008	Over 2.4	13
Southeast/Midwest tornadoes	Series of tornadoes and severe thunderstorms across the Southeast and Midwest states (AL, AR, IN, KY, MS, OH, TN, TX) with 87 tornadoes confirmed.	February, 2008	Over 1.0	57

– Represents zero. ¹ Represents actual dollar costs at the time of event and is not adjusted for inflation.

Source: U.S. National Oceanic and Atmospheric Administration, National Climatic Data Center, "Billion Dollar U.S. Weather Disasters, 1980–2010" (released January 2011). See also <http://www.ncdc.noaa.gov/oa/reports/billionz.html>.

Table 393. Highest Temperature of Record—Selected Cities

[In Fahrenheit degrees. Airport data, except as noted. For period of record through 2009]

State	Station	Length of record (years)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual ¹	
AL	Mobile	68	84	82	90	94	100	102	104	105	99	93	87	81	105	
AK	Juneau	65	57	57	61	74	82	86	90	84	73	61	56	54	90	
AZ	Phoenix	72	88	92	100	105	113	122	121	116	118	107	96	88	122	
AK	Little Rock	68	83	85	91	95	98	105	112	109	106	97	86	80	112	
CA	Los Angeles	74	91	92	95	102	97	104	97	98	110	106	101	94	110	
	Sacramento	59	74	76	88	95	105	115	114	110	108	104	87	72	115	
	San Diego	69	88	90	93	98	96	101	99	98	111	107	97	88	111	
	San Francisco	82	72	78	85	92	97	106	105	100	103	99	85	75	106	
CO	Denver	67	73	77	84	90	96	104	105	104	97	89	80	75	105	
CT	Hartford	55	72	73	89	96	99	100	102	102	99	91	81	76	102	
DE	Wilmington	62	75	78	86	94	96	100	102	101	100	91	85	75	102	
DC	Washington	68	79	82	89	95	99	101	104	105	101	94	86	79	105	
FL	Jacksonville	68	85	88	91	95	100	103	105	102	100	96	88	84	105	
	Miami	67	88	89	93	96	96	98	98	98	97	95	91	89	98	
GA	Atlanta	61	79	80	89	93	95	101	105	104	98	95	84	79	105	
HI	Honolulu	40	88	88	88	91	93	92	94	93	95	94	93	89	95	
ID	Boise	70	63	71	81	91	92	99	109	111	110	102	94	78	65	111
IL	Chicago	51	65	72	88	91	93	104	104	101	99	91	78	71	104	
	Peoria	70	70	72	86	92	94	105	104	103	100	93	81	71	105	
IN	Indianapolis	70	71	76	85	89	93	102	104	102	100	91	81	74	104	
IA	Des Moines	70	67	73	91	93	98	103	105	108	101	95	81	69	108	
KS	Wichita	57	75	87	89	96	100	110	113	110	108	97	86	83	113	
KY	Louisville	62	77	77	86	91	95	102	106	105	104	93	84	76	106	
LA	New Orleans	63	83	85	89	92	96	101	101	102	101	94	87	84	102	
ME	Portland	69	67	64	88	92	94	98	99	103	95	88	74	71	103	
MD	Baltimore	59	75	79	89	94	98	101	104	105	100	94	83	77	105	
MA	Boston	58	69	70	89	94	95	100	102	102	100	90	79	76	102	
MI	Detroit	51	64	70	81	89	93	104	102	100	98	91	77	69	104	
	Sault Ste. Marie	69	45	49	75	85	89	93	97	98	95	81	68	62	98	
MN	Duluth	68	52	55	78	88	90	94	97	97	95	86	71	55	97	
	Minneapolis-St. Paul	71	58	61	83	95	97	102	105	102	98	90	77	68	105	
MS	Jackson	46	83	85	89	94	99	105	106	107	104	95	88	84	107	
MO	Kansas City	37	71	78	86	93	95	105	107	109	106	95	82	74	109	
	St. Louis	52	76	85	89	93	94	102	107	107	104	94	85	76	107	
MT	Great Falls	72	67	70	78	89	93	101	105	106	98	91	76	69	106	
NE	Omaha	73	69	78	89	97	99	105	114	110	104	96	83	72	114	
NV	Reno	68	71	75	83	89	97	103	108	105	101	91	77	70	108	
NH	Concord	68	69	67	89	95	97	98	102	101	98	90	80	73	102	
NJ	Atlantic City	66	78	75	87	94	99	106	104	103	99	90	84	77	106	
NM	Albuquerque	70	69	76	85	89	98	107	105	101	100	91	77	72	107	
NY	Albany	63	71	68	89	92	94	99	100	99	100	89	82	71	100	
	Buffalo	66	72	71	81	94	91	96	97	99	98	87	80	74	99	
	New York ²	141	72	75	86	96	99	101	106	104	102	94	84	75	106	
NC	Charlotte	70	79	81	90	93	100	103	103	104	104	98	85	80	104	
	Raleigh	65	80	84	92	95	97	104	105	105	104	98	88	81	105	
ND	Bismarck	70	63	69	81	93	98	111	112	109	105	95	79	65	112	
OH	Cincinnati	48	73	75	84	89	93	102	103	102	98	91	81	75	103	
	Cleveland	68	74	74	83	88	92	104	103	102	101	90	82	77	104	
	Columbus	70	74	75	85	89	94	102	100	101	100	91	80	76	102	
OK	Oklahoma City	56	80	92	93	100	104	105	110	110	108	96	87	86	110	
OR	Portland	69	66	71	80	90	100	102	107	107	105	92	73	65	107	
PA	Philadelphia	68	74	74	87	95	97	100	104	101	100	96	81	73	104	
	Pittsburgh	57	72	76	82	89	91	98	103	100	97	87	82	74	103	
RI	Providence	56	69	72	85	98	95	97	102	104	100	86	78	77	104	
SC	Columbia	62	84	84	91	94	101	107	107	107	101	101	90	83	107	
SD	Sioux Falls	64	66	70	87	94	100	110	108	108	104	94	81	63	110	
TN	Memphis	68	79	81	86	94	99	104	108	107	103	95	86	81	108	
	Nashville	70	78	84	86	91	97	106	107	106	105	94	84	79	107	
TX	Dallas-Fort Worth	56	88	95	96	101	103	113	110	109	111	102	89	89	113	
	El Paso	70	80	83	89	98	105	114	112	108	104	96	87	80	114	
	Houston	40	84	91	91	95	99	104	104	107	109	96	89	85	109	
UT	Salt Lake City	81	63	69	78	89	99	104	107	106	100	89	75	69	107	
VT	Burlington	66	66	62	84	91	93	100	100	101	98	85	75	67	101	
VA	Norfolk	61	80	82	88	97	100	101	103	104	99	95	86	80	104	
	Richmond	80	81	83	93	96	100	104	105	104	103	99	86	81	105	
WA	Seattle-Tacoma	65	64	70	78	85	93	96	103	99	98	89	74	64	100	
	Spokane	62	59	63	71	90	96	101	103	108	98	86	67	56	108	
WV	Charleston	62	79	79	89	94	93	98	104	104	102	93	85	80	104	
WI	Milwaukee	69	63	68	82	91	93	101	103	103	98	89	77	68	103	
WY	Cheyenne	74	66	71	74	83	91	100	100	98	95	83	75	69	100	
PR	San Juan	55	92	96	96	97	96	97	95	97	97	98	96	94	98	

¹ Represents the highest observed temperature in any month. ² City office data.

Source: U.S. National Oceanic and Atmospheric Administration, *Comparative Climatic Data*. See also <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/hghtmp.txt>>.

Table 394. Lowest Temperature of Record—Selected Cities

[In Fahrenheit degrees. Airport data, except as noted. For period of record through 2009]

State	Station	Length of record (years)	Length of record (years)												Annual ¹
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
AL	Mobile	68	3	11	21	32	43	49	60	59	42	30	22	8	3
AK	Juneau	65	-22	-22	-15	6	25	31	36	27	23	11	-5	-21	-22
AZ	Phoenix	72	17	22	25	32	40	50	61	60	47	34	25	22	17
AR	Little Rock	68	-4	-5	11	28	40	46	54	52	37	29	17	-1	-5
CA	Los Angeles	74	23	32	34	39	43	48	49	51	47	41	34	32	23
	Sacramento	59	21	23	26	31	36	41	48	49	42	36	26	18	18
	San Diego	69	29	36	39	41	48	51	55	57	51	43	38	34	29
CO	San Francisco	82	24	25	30	31	36	41	43	42	38	34	25	20	20
	Denver	67	-25	-30	-11	-2	21	30	43	41	17	3	-8	-25	-30
CT	Hartford	55	-26	-21	-6	9	28	35	44	36	30	17	1	-14	-26
DE	Wilmington	62	-14	-6	2	18	30	41	48	43	36	24	14	-7	-14
DC	Washington	68	-5	4	11	24	34	47	54	49	39	29	16	1	-5
FL	Jacksonville	68	7	19	23	31	45	47	61	59	48	33	21	11	7
	Miami	67	30	32	32	43	53	60	69	68	68	51	39	30	30
GA	Atlanta	61	-8	5	10	26	37	46	53	55	36	28	3	0	-8
HI	Honolulu	40	53	53	55	57	60	65	66	65	66	61	57	54	53
ID	Boise	70	-17	-15	6	19	22	31	35	34	23	11	-3	-25	-25
IL	Chicago	51	-27	-19	-8	7	24	36	40	41	28	17	1	-25	-27
	Peoria	70	-25	-19	-10	14	25	39	47	41	26	19	-2	-23	-25
IN	Indianapolis	70	-27	-21	-7	16	28	37	44	41	28	17	-2	-23	-27
IA	Des Moines	70	-24	-26	-22	9	30	38	47	40	26	14	-4	-22	-26
KS	Wichita	57	-12	-21	-2	15	31	43	51	48	31	18	1	-16	-21
KY	Louisville	62	-22	-19	-1	22	31	42	50	46	33	23	-1	-15	-22
LA	New Orleans	63	14	16	25	32	41	50	60	60	42	35	24	11	11
ME	Portland	69	-26	-39	-21	8	23	33	40	33	23	15	3	-21	-39
MD	Baltimore	59	-7	-3	6	20	32	40	50	45	35	25	13	0	-7
MA	Boston	58	-12	-4	5	16	34	45	50	47	38	28	15	-7	-12
MI	Detroit	51	-21	-15	-4	10	25	36	41	38	29	17	9	-10	-21
MN	Sault Ste. Marie	69	-36	-35	-24	-2	18	26	36	29	25	16	-10	-31	-36
	Duluth	69	-39	-39	-29	-5	17	27	35	32	22	8	-23	-34	-39
MS	Minneapolis-St. Paul	71	-34	-32	-32	2	18	34	43	39	26	13	-17	-29	-34
	Jackson	46	2	10	15	27	38	47	51	54	35	26	17	4	2
MO	Kansas City	37	-17	-19	-10	12	30	42	51	43	31	17	1	-23	-23
	St. Louis	52	-18	-12	-5	22	31	43	51	47	36	23	1	-16	-18
MT	Great Falls	72	-37	-35	-29	-8	12	31	36	30	16	-11	-25	-43	-43
NE	Omaha	73	-23	-21	-16	5	27	38	44	43	25	13	-9	-23	-23
NV	Reno	68	-16	-16	-2	13	18	21	33	24	20	8	1	-16	-16
NH	Concord	68	-33	-37	-16	8	21	30	35	29	21	10	-5	-22	-37
NJ	Atlantic City	66	-10	-11	3	12	25	37	42	40	32	20	10	-7	-11
NM	Albuquerque	70	-17	-5	8	19	16	40	52	50	37	21	-7	-7	-17
NY	Albany	63	-28	-21	-21	10	26	36	40	34	24	16	5	-22	-28
	Buffalo	66	-16	-20	-7	12	26	35	43	38	32	20	9	-10	-20
	New York ²	141	-6	-15	3	12	32	44	52	50	39	28	5	-13	-15
NC	Charlotte	70	-5	5	4	21	32	45	53	50	39	24	11	2	-5
	Raleigh	65	-9	0	11	23	31	38	48	46	37	19	11	4	-9
ND	Bismarck	70	-44	-43	-31	-12	15	30	35	33	11	-10	-30	-43	-44
OH	Cincinnati	48	-25	-11	-11	15	27	39	47	43	31	16	1	-20	-25
	Cleveland	68	-20	-15	-5	10	25	31	41	38	32	19	3	-15	-20
	Columbus	70	-22	-13	-6	14	25	35	43	39	31	20	5	-17	-22
OK	Oklahoma City	56	-4	-3	3	20	37	47	53	51	36	16	11	-8	-8
OR	Portland	69	-2	-3	19	29	29	39	43	44	34	26	13	6	-3
PA	Philadelphia	68	-7	-4	7	19	28	44	51	44	35	25	15	1	-7
RI	Pittsburgh	57	-22	-12	-1	14	26	34	42	39	31	16	-1	-12	-22
SC	Providence	56	-13	-7	1	14	29	41	48	10	33	20	6	-10	-13
SD	Columbia	62	-1	5	4	26	34	44	54	53	40	23	12	4	-1
SD	Sioux Falls	64	-36	-31	-23	5	17	33	38	34	22	9	-17	-28	-36
TN	Memphis	68	-4	-11	12	28	38	48	52	48	36	25	9	-13	-13
	Nashville	70	-17	-13	2	23	34	42	51	47	36	26	-1	-10	-17
TX	Dallas-Fort Worth	56	4	7	15	29	41	51	59	56	43	29	20	-1	-1
	El Paso	70	-8	8	14	23	31	46	57	56	41	25	1	5	-8
	Houston	40	12	3	22	31	44	52	62	60	48	29	19	7	3
UT	Salt Lake City	81	-22	-30	2	14	25	35	40	37	27	16	-14	-21	-30
VT	Burlington	66	-30	-30	-20	2	24	33	39	35	25	15	-2	-26	-30
VA	Norfolk	61	-3	8	18	28	36	45	54	49	45	27	20	7	-3
WA	Richmond	60	-12	-10	10	23	31	40	51	46	35	21	0	-1	-12
	Seattle-Tacoma	65	0	1	11	29	28	38	43	44	35	28	6	6	0
WA	Spokane	62	-22	-24	-7	17	24	33	37	35	22	7	-21	-25	-25
WV	Charleston	62	-16	-12	0	19	26	33	46	41	34	17	6	-12	-16
WI	Milwaukee	69	-26	-26	-10	12	21	33	40	44	28	18	-5	-20	-26
WY	Cheyenne	74	-29	-34	-21	-8	16	25	38	36	8	-1	-16	-28	-34
PR	San Juan	55	61	62	60	64	66	69	69	70	69	46	66	59	46

¹ Represents the lowest observed temperature in any month. ² City office data.

Source: U.S. National Oceanic and Atmospheric Administration, *Comparative Climatic Data*. See also <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/lowtmp.txt>>.

Table 395. Snow, Hail, Ice Pellets, and Sleet—Selected Cities

[In inches. Airport data, except as noted. For period of record through 2009. T denotes trace. Stations may show snowfall (hail) during the warm months]

State	Station	Length of record (years)	Length of record (years)												Annual		
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			
AL	Mobile	67	0.1	0.1	0.1	T	T	-	T	-	-	-	T	0.1	0.4		
AK	Juneau	65	26.7	18.9	15.5	3.5	T	T	-	-	-	T	1.1	12.4	21.2	98.2	
AZ	Phoenix	62	T	-	T	T	T	-	-	-	-	-	T	-	T	-	
AR	Little Rock	58	2.4	1.5	0.5	T	T	T	-	-	-	-	T	0.2	0.6	5.2	
CA	Los Angeles	62	T	T	T	-	-	-	-	-	-	-	-	-	T	-	
	Sacramento	50	T	T	T	-	T	-	-	-	-	-	-	-	T	-	
	San Diego	60	T	-	T	T	-	-	-	-	-	-	-	-	T	T	
CO	San Francisco	69	-	T	T	-	-	-	-	-	-	-	-	-	-	-	
	Denver	65	8.0	7.4	12.2	8.6	1.6	-	T	T	1.6	4.0	8.8	7.9	59.9		
CT	Hartford	52	13.2	12.3	10.0	1.5	-	T	-	-	-	0.1	2.1	10.9	50.3		
DE	Wilmington	59	6.6	6.5	3.3	0.2	T	T	T	-	-	0.1	0.9	3.7	21.1		
DC	Washington	66	5.2	5.4	2.3	2.3	T	T	T	T	-	-	0.8	3.2	19.2		
FL	Jacksonville	60	T	-	-	T	-	T	T	-	-	-	-	-	-	-	
GA	Miami	59	-	-	-	-	-	T	-	-	-	-	-	-	-	-	
	Atlanta	70	1.0	0.5	0.5	T	-	-	-	T	-	-	T	0.2	2.1	-	
HI	Honolulu	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ID	Boise	70	6.4	3.7	1.7	0.6	0.1	T	T	T	T	0.1	2.3	5.9	20.7		
IL	Chicago	50	11.4	8.1	6.5	1.6	0.1	T	T	T	T	0.4	2.1	8.8	38.8		
IN	Peoria	66	6.6	5.3	4.2	0.8	T	T	T	-	T	0.1	2.1	6.4	25.3		
	Indianapolis	78	7.0	5.7	3.5	0.5	T	T	-	T	-	0.2	1.9	5.5	24.2		
IA	Des Moines	66	8.4	7.5	6.0	1.9	T	T	T	-	T	0.3	3.1	7.0	33.9		
KS	Wichita	56	4.0	4.1	2.8	0.2	T	T	T	T	T	-	1.4	3.6	16.0		
KY	Louisville	62	5.2	4.2	3.2	0.1	T	T	T	T	-	0.1	1.0	2.5	16.2		
LA	New Orleans	51	T	0.1	T	T	T	-	-	-	-	-	T	0.1	0.2	-	
ME	Portland	69	19.1	16.6	13.3	3.1	0.2	-	T	-	T	0.2	3.3	15.1	70.8		
MD	Baltimore	59	6.0	7.0	3.6	0.1	T	T	T	-	-	T	1.0	3.6	21.2		
MA	Boston	72	12.9	11.9	8.1	0.9	-	T	T	T	-	-	1.3	8.3	43.2		
MI	Detroit	51	11.3	9.4	7.0	2.0	T	-	-	-	-	T	0.2	2.5	10.2	42.3	
MN	Sault Ste. Marie	62	29.2	18.8	14.4	5.9	0.5	T	T	T	T	0.1	2.4	15.6	31.2	118.4	
	Duluth	66	17.6	12.2	14.0	6.8	0.7	T	T	T	T	0.1	1.6	12.3	16.2	81.7	
	Minneapolis-St. Paul	67	10.4	8.1	10.6	2.8	0.1	T	T	T	T	0.5	7.6	9.8	49.8		
MS	Jackson	38	0.5	0.2	0.2	T	-	-	-	T	-	-	T	0.1	1.0	-	
MO	Kansas City	75	5.3	4.5	3.4	0.8	T	T	T	T	T	0.1	1.3	4.6	20.0	-	
	St. Louis	73	5.3	4.5	3.8	0.5	T	T	T	-	-	-	1.4	4.1	19.7	-	
MT	Great Falls	72	9.3	8.6	10.6	7.6	1.9	0.4	T	0.1	1.5	3.5	7.4	8.4	58.9		
NE	Omaha	74	7.6	6.9	6.2	1.1	0.1	T	T	T	T	0.3	2.6	6.0	30.5		
NV	Reno	60	6.0	5.1	4.2	1.2	0.8	-	-	-	-	0.3	2.5	4.8	24.9		
NH	Concord	68	18.1	14.4	11.6	2.8	0.1	T	-	-	-	0.1	3.8	14.5	65.1		
NJ	Atlantic City	60	5.0	5.6	2.6	0.3	T	T	T	-	-	T	0.4	2.6	16.2		
NM	Albuquerque	70	2.5	2.1	1.8	0.6	T	T	T	T	T	0.1	1.2	3.0	11.3		
NY	Albany	63	16.9	13.4	11.5	2.8	0.1	T	T	-	T	0.2	3.9	14.9	64.0		
	Buffalo	66	24.3	17.9	12.5	3.2	0.2	T	T	T	T	0.7	10.9	24.4	94.3		
	New York ¹	141	7.7	8.7	5.1	0.9	T	T	-	-	-	T	0.9	5.6	28.9		
NC	Charlotte	70	2.2	1.8	1.2	T	T	T	-	-	-	T	0.1	0.5	5.8	-	
	Raleigh	65	2.8	2.6	1.3	T	T	T	T	-	-	-	0.1	0.8	7.6	-	
ND	Bismarck	70	7.7	6.9	8.6	3.9	0.9	T	T	T	0.2	1.9	6.8	7.6	44.0		
OH	Cincinnati	62	7.2	5.6	4.2	0.5	-	T	T	T	-	0.3	2.0	3.8	23.5	-	
	Cleveland	68	14.7	12.7	11.0	2.9	0.1	T	T	-	T	0.6	5.0	12.5	59.3	-	
	Columbus	62	8.9	6.2	4.8	1.0	T	T	T	-	-	0.1	2.2	5.4	28.4	-	
OK	Oklahoma City	70	3.2	2.4	1.5	T	T	T	T	T	T	0.6	2.1	9.6	-	-	
OR	Portland	55	3.2	1.1	0.4	T	-	-	T	T	-	T	0.4	1.4	6.5	-	
PA	Philadelphia	67	6.0	7.0	3.5	0.3	T	T	-	-	-	T	0.7	3.7	20.8	-	
	Pittsburgh	57	12.0	9.5	8.1	1.8	0.1	T	T	T	-	0.4	3.4	8.3	43.5	-	
RI	Providence	56	9.7	9.7	7.4	0.7	0.2	-	-	-	-	0.1	1.3	7.6	36.3	-	
SC	Columbia	61	0.6	0.8	0.2	T	T	-	T	T	-	-	T	0.3	1.9	-	
SD	Sioux Falls	64	6.9	7.9	9.3	3.3	T	T	T	T	T	0.9	6.0	7.4	41.5	-	
TN	Memphis	52	2.2	1.4	0.9	T	T	T	-	-	-	T	0.1	0.6	5.2	-	
	Nashville	63	3.6	3.0	1.5	-	-	Nashville	-	-	T	-	0	0.4	1.4	10.0	
TX	Dallas-Fort Worth	51	1.1	1.0	0.2	T	T	-	-	-	-	-	T	0.1	0.3	2.6	-
	El Paso	60	1.3	0.8	0.4	0.3	T	T	T	-	T	-	1.0	1.7	5.4	-	
	Houston	75	0.2	0.2	T	T	T	T	-	-	-	-	-	T	-	0.4	-
UT	Salt Lake City	81	13.4	10.0	9.0	4.9	0.6	T	T	T	T	0.1	1.3	6.8	12.3	58.3	
VT	Burlington	66	19.4	16.9	13.8	4.0	0.2	-	T	T	T	0.2	6.6	19.0	80.3	-	
VA	Norfolk	59	3.0	2.9	1.0	-	T	T	-	T	-	-	-	1.0	7.9	-	
	Richmond	70	4.9	3.8	2.5	0.1	T	-	T	-	-	T	0.4	2.1	13.6	-	
WA	Seattle-Tacoma	53	4.9	1.6	1.3	0.1	T	-	T	-	-	T	1.1	2.4	11.4	-	
	Spokane	62	15.5	7.3	4.1	0.8	0.1	T	-	-	T	0.4	6.2	14.8	49.2	-	
WV	Charleston	55	10.7	8.6	5.3	0.9	-	T	T	T	T	0.2	2.4	5.4	33.2	-	
WI	Milwaukee	69	13.9	9.7	8.6	2.0	0.1	T	T	T	T	0.2	3.0	11.1	48.5	-	
WY	Cheyenne	74	6.1	6.4	11.8	9.5	3.4	0.2	T	T	1.1	4.1	7.2	6.8	55.8	-	
PR	San Juan	54	-	-	-	-	-	-	-	-	-	T	-	-	-	-	

- Represents zero. ¹ City office data.

Source: U.S. National Oceanic and Atmospheric Administration, *Comparative Climatic Data*, annual. See also <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgsnf.txt>>.

Table 396. Cloudiness, Average Wind Speed, Heating and Cooling Degree Days, and Average Relative Humidity—Selected Cities

[Airport data, except as noted. For period of record through 2009, except as noted. M=morning. A=afternoon]

State	Station	Cloudiness-average percentage of days ¹		Average wind speed (miles per hour, m.p.h.)				Heating degree days	Cooling degree days	Average relative humidity (percent)						
		Length of record (yr.)	Annual	Length of record (yr.)	Annual	Jan.	July			Length of record (yr.)	Annual		Jan.		July	
											M	A	M	A	M	A
AL	Mobile	47	72.1	61	8.8	10.1	6.9	1,681	2,539	47	86	66	81	67	89	68
AK	Juneau	47	87.9	64	8.2	8.0	7.5	8,574	-	43	80	70	78	75	79	67
AZ	Phoenix	57	42.3	64	6.2	5.3	7.1	1,027	4,364	49	49	22	63	61	42	19
AR	Little Rock	35	67.5	67	7.7	8.4	6.7	3,084	2,086	45	82	63	78	66	84	62
CA	Los Angeles	60	59.8	61	7.5	6.7	7.9	1,274	679	50	79	66	71	61	86	68
	Sacramento	49	48.5	59	7.8	6.8	8.9	2,666	1,248	23	83	46	90	69	77	29
	San Diego	55	60.0	69	7.0	6.0	7.5	1,063	866	49	77	63	71	58	82	66
	San Francisco	68	56.2	82	10.6	7.2	13.6	2,862	142	50	84	63	86	68	86	60
CO	Denver	61	68.5	53	8.7	8.7	8.3	6,128	696	41	67	41	62	49	67	33
CT	Hartford	41	77.5	55	8.4	8.9	7.3	6,104	759	50	77	53	72	56	78	51
DC	Washington	47	73.4	61	9.0	9.8	7.8	4,888	1,125	62	78	55	75	59	79	54
DE	Wilmington	48	73.8	61	9.4	10.0	8.3	4,055	1,531	49	74	53	70	55	75	53
FL	Jacksonville	47	74.2	60	7.8	8.1	7.0	1,354	2,627	73	89	56	87	57	88	58
	Miami	46	79.7	60	9.2	9.5	7.9	149	4,361	45	83	61	83	59	82	63
GA	Atlanta	61	69.9	71	9.1	10.4	7.7	2,827	1,810	49	82	56	78	58	87	58
HI	Honolulu	47	75.3	60	11.2	9.4	13.1	-	4,561	40	71	56	79	61	67	51
ID	Boise	56	67.1	70	8.7	7.9	8.4	5,727	807	70	69	43	80	70	53	20
IL	Chicago	37	77.0	51	10.3	11.6	8.4	6,498	830	51	79	65	77	70	80	62
	Peoria	52	73.9	66	9.8	10.9	7.8	6,097	998	50	82	67	79	72	85	66
IN	Indianapolis	64	76.0	61	9.6	10.9	7.5	5,521	1,042	50	83	61	81	70	85	69
IA	Des Moines	46	71.3	60	10.7	11.4	8.9	6,436	1,052	48	79	66	76	70	82	64
KS	Wichita	39	64.9	56	12.2	11.9	11.2	4,765	1,658	56	79	61	78	66	78	56
KY	Louisville	47	74.6	62	8.3	9.5	6.8	4,352	1,443	49	81	58	77	64	83	57
LA	New Orleans	47	72.3	61	8.2	9.3	6.1	1,417	2,773	61	86	67	83	69	90	70
ME	Portland	54	72.3	69	8.7	9.0	7.6	7,318	347	69	78	59	75	60	79	59
MD	Baltimore	45	71.2	59	8.7	9.1	7.5	4,720	1,147	56	77	53	72	56	79	52
MA	Boston	60	73.2	52	12.3	13.7	11.0	5,630	777	45	72	58	68	57	73	57
MI	Detroit	37	79.5	51	10.2	11.7	8.5	6,422	736	51	81	59	79	69	82	53
	Sault Ste. Marie	54	81.9	68	9.2	9.5	7.8	9,224	145	68	85	66	80	73	87	61
MN	Duluth	47	79.0	60	11.0	11.6	9.4	9,724	189	48	80	68	77	73	84	66
	Minneapolis-St. Paul	57	74.0	71	10.5	10.5	9.4	7,876	699	50	77	65	75	70	79	61
MS	Jackson	30	69.6	46	6.9	8.1	5.2	2,401	2,264	46	89	66	84	69	92	67
MO	Kansas City	23	67.1	37	10.6	11.1	9.1	5,249	1,325	37	80	67	76	69	83	67
	St. Louis	47	72.4	60	9.6	10.6	8.0	4,758	1,561	49	80	65	79	69	81	62
MT	Great Falls	57	78.4	68	12.5	14.8	10.0	7,828	288	48	68	46	66	60	67	30
NE	Omaha	49	69.6	73	10.5	10.9	8.8	6,311	1,095	45	80	66	78	69	83	66
NV	Reno	53	56.7	67	6.6	5.6	7.2	5,600	493	46	67	31	79	50	57	16
NH	Concord	54	75.3	67	6.7	7.2	5.7	7,478	442	44	81	53	76	58	82	51
NJ	Atlantic City	37	74.2	51	9.8	10.6	8.3	5,113	935	45	81	56	77	58	82	56
NM	Albuquerque	56	54.2	70	8.9	8.0	8.9	4,281	1,290	49	58	29	66	38	58	27
NY	Albany	57	81.1	71	8.9	9.8	7.5	6,860	544	44	79	57	77	63	80	55
	Buffalo	52	85.2	70	11.8	13.9	10.2	6,692	548	49	79	63	79	72	78	55
	New York	42	70.8	72	9.1	10.4	7.5	4,754	1,151	75	72	56	67	59	74	55
NC	Charlotte	49	70.2	60	7.4	7.8	6.6	3,162	1,681	49	82	53	77	54	85	55
	Raleigh	47	69.7	60	7.5	8.2	6.7	3,465	1,521	45	84	53	77	54	87	57
ND	Bismarck	56	74.5	70	10.2	10.0	9.2	8,802	471	50	80	63	76	72	82	56
OH	Cincinnati	44	77.8	62	9.0	10.4	7.2	5,148	1,064	47	82	60	79	68	85	57
	Cleveland	54	81.9	68	10.5	12.2	8.6	6,121	702	49	79	62	78	70	80	56
	Columbus	46	80.3	60	8.3	9.8	6.5	5,492	951	50	80	58	77	67	83	55
OK	Oklahoma City	44	61.9	61	12.2	12.5	10.8	3,663	1,907	44	78	62	76	64	78	58
OR	Portland	47	81.3	61	7.9	9.9	7.6	4,400	390	69	85	59	85	75	81	44
PA	Philadelphia	55	74.5	69	9.5	10.3	8.2	4,759	1,235	50	76	54	72	58	77	53
	Pittsburgh	43	83.8	57	9.0	10.4	7.3	5,829	726	49	79	58	77	66	82	54
RI	Providence	42	73.2	56	10.4	10.9	9.4	5,754	714	46	75	55	71	56	76	56
SC	Columbia	48	68.5	61	6.8	7.2	6.3	2,594	2,074	43	85	51	81	53	87	53
SD	Sioux Falls	50	71.2	61	11.0	10.9	9.8	7,812	747	46	81	67	78	72	83	63
TN	Memphis	43	67.7	61	8.8	10.0	7.5	3,041	2,187	70	79	61	77	65	82	62
	Nashville	54	72.0	68	8.0	9.1	6.5	3,677	1,652	44	82	64	77	67	86	64
TX	Dallas-Fort Worth	42	63.0	56	10.7	11.0	9.7	2,370	2,568	46	79	62	77	65	76	56
	El Paso	53	47.1	67	8.8	8.3	8.3	2,543	2,254	49	55	27	63	33	60	29
	Houston	26	75.3	40	7.6	8.1	6.6	1,525	2,893	40	88	69	84	70	90	67
UT	Salt Lake City	69	65.8	80	8.8	7.5	9.5	5,631	1,066	49	67	43	79	69	50	21
VT	Burlington	52	84.1	66	9.0	9.7	8.0	7,665	489	44	77	58	73	64	78	53
VA	Norfolk	47	71.0	61	10.5	11.4	8.9	3,368	1,612	61	78	58	74	58	81	59
	Richmond	50	72.7	61	7.7	8.1	6.9	3,919	1,435	75	82	53	79	56	84	55
WA	Seattle-Tacoma	51	84.2	61	8.8	9.5	8.1	4,797	173	50	84	62	82	75	81	48
	Spokane	48	76.4	62	8.9	8.7	8.6	6,820	394	50	78	52	86	80	64	26
WV	Charleston	47	82.2	62	5.8	6.9	4.8	4,644	978	62	84	56	78	63	90	59
WI	Milwaukee	55	75.3	69	11.5	12.6	9.7	7,087	616	49	79	68	75	70	80	66
WY	Cheyenne	60	71.0	52	12.9	15.1	10.4	7,388	273	50	65	45	57	50	68	37
PR	San Juan	40	80.0	54	8.3	8.3	9.6	-	5,426	54	79	65	81	65	78	67

— Represents zero. ¹ Percent of days that are either partly cloudy or cloudy. ² Airport data for sunshine.

Source: U.S. National Oceanic and Atmospheric Administration, *Comparative Climatic Data*, annual. See also

<<http://www.ncdc.noaa.gov/oa/climate/online/ccd/clpcdy.txt>>; <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/wndspd.txt>>; <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmhdd.txt>>; <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmcdd.txt>>; <<http://www.ncdc.noaa.gov/oa/climate/online/ccd/reihum.txt>>.