



WEIGHTS & MEASURES



BASIC MEASUREMENT SYSTEMS

All measurement is derived from seven basic units and is described internationally as the **Système International d'Unités (SI)** or sometimes referred to as SI-metric. These basic units are:

Ampere	A	Electric Current
Candela	cd	Luminosity (intensity of light)
Kelvin	K	Thermodynamic Temperature
Kilogram	kg	Weight (mass)
Meter (Metre)	m	Length
Mole	mol	Substance (molecule)
Second	s	Time

LENGTH

<i>Unit</i>	<i>Abbr</i>	<i>SI/metric</i>	<i>Imperial</i>
Angstrom	Å	.0001μ (10 ⁻¹⁰)	.000,000,004 in
Cable	cb	219.456 m	120 fathoms/720 ft
Centimeter	cm	.01 m	.3937 in
Chain (Gunter's/surveyor's)	chG	20.1168 m	66 feet/4 rods
Chain (Ramden's/engineer's)	chR	30.48 m	100 ft
Decimeter	dm	.1 m	3.937 in
Dekameter	dam	10 m	32.8 ft
Fathom	fm	1.83 m	6 ft
Foot	ft	.3048 m	12 in
Furlong	fur	201.168 m	1/8 statute mi
Hand (horse's height)	–	10.16 cm	4 in
Inch	in	2.54 cm	–
Kilometer	km	1,000 m	.621 mi
League	–	4.8 km	3 statute mi
Link (Gunter's)	–	.201 m	7.92 in
Link (Ramden's)	–	.305 m	12 in
Meter	m	–	39.37 in
Micrometer (Micron)	μ	.001 mm	3.9370x10 ⁻⁵ in
Mile (statute/land)	mi	1.609 km	5,280 ft
Mile (nautical/sea)	nmi	1.85 km	6076.11549 ft
Millimeter	mm	.001 m	.03937 in
Mil	mil	.0254 mm	.001 in
Point (type size)	–	.353 mm	.0138 in
Pica (type size)	–	4 mm	12 points (.1668 in)
Rod	rd	5.029 m	16.5 ft
Yard	yd	.9144 m	3 ft

AREA

<i>Unit</i>	<i>Abbr</i>	<i>SI/metric</i>	<i>Imperial</i>
Acre	A	4,047 m ²	43,560 ft ²
Are	a	100 m ²	1076.39 ft ²
Hectare	ha	10,000 m ²	2.471 A
Square centimeter	cm ²	100 mm ²	.155 in ²
Square foot	ft ²	.0929 m ²	144 in ²
Square inch	in ²	6.4516 cm ²	–
Square kilometer	km ²	1,000,000 m ²	.386 mi ²
Square meter	m ²	10,000 cm ²	10.764 ft ²
Square mile	mi ²	2.59 km ²	640 A
Square millimeter	mm ²	–	.00155 in ²
Square rod	rd ²	25.293 m ²	272.25 ft ²
Square yard	yd ²	.836 m ²	9 ft ²

ENERGY

<i>Unit</i>	<i>Abbr</i>	<i>Equivalent</i>
British Thermal Unit	Btu	.0002929 Kw
Calorie (@15.5°c)	cal ₁₅	4.1858 J
Horsepower (mechanical)	HP	746 watts
Joule (absolute)	J	.7376 ft/lbs
Kilowatt	Kw	1.341 HP

VOLUME (LIQUID)

<i>Unit</i>	<i>Abbr</i>	<i>SI/Metric</i>	<i>Imperial</i>
Barrel (US) fluid	bbl	26.2 gal (UK)	31.5 gal*
Dram (US)	dr	3.697 ml	.125 oz
Gill (1/4 UK pint)	gi	.142 L	4.8038 oz
Gallon (UK)	gal	4.546 L	1.201 gal
Gallon (US)	gal	3.785 L	4 qt
Liter	L	.001 m ³	1.057 qt
Ounce, fluid (UK)	oz	.028 L	.96 oz
Ounce, fluid (US)	oz	.02957 L	2 tbs
Pint (UK)	pt	1.2 pt (US)	19.2 oz
Pint (US)	pt	.833 pt (UK)	16 oz
Quart	qt	.946 L	2 pt

*A barrel may be recognized by different liquid sizes in different states and for different substances. Sizes may be stated in gallons, cubic inches or weight. See notes on page 2.

VOLUME (DRY)

<i>Unit</i>	<i>Abbr</i>	<i>SI/Metric</i>	<i>Imperial</i>
Cubic centimeter	cm ³	1,000 mm ³	.061 in ³
Cubic foot	ft ³	.02832 m ³	1,728 in ³
Cubic inch	in ³	16.387 cm ³	–
Stere (cubic meter)	ST	1 m ³	1.3 yd ³
Cubic yard	yd ³	.7646 m ³	27 ft ³

WEIGHT

<i>Unit</i>	<i>Abbr</i>	<i>SI/Metric</i>	<i>Imperial</i>
Dram (avdp)	dr (avdp)	1.772 g	.0625 oz
Grain	gr	.0648 g	.00229 oz
Gram	g	.001 kg	.03527 oz
Kilogram	kg	1,000 g	2.2 lb
Milligram	mg	.001 g	.00003 oz
Ounce (avdp)	oz	.0280 kg	.0625 lb
Ounce (troy)	oz tr	.03 kg	1.0971 oz
Pennyweight	dwt	1.555 g	.05486 oz
Pound (avdp)	lb	.454 kg	16 oz
Stone	st	6.35 kg	14 lb
Ton (long or British)	lt	1,016 kg	2,240 lb
Tonne (metric)	mt	1,000 kg	2204.6 lb
Ton (short)	sh t	907.18 kg	2,000 lb

NUMERICAL PREFIXES

1/10	Deci
1/2	Semi, hemi, demi
1	Uni
2	Bi, di
3	Tri, ter
4	Tetra, tetr, quadri
5	Penta, quint
6	Sex, hex, hexa
7	Hept, sept, septo
8	Oct, octo
9	Non, ennea
10	Dec, deca, deka
11	Hendeca, undeca
12	Dodeca
15	Quindec

SI PREFIXES

<i>Factor</i>	<i>Prefix</i>	<i>Symbol</i>
10 ²⁴	yotta-	Y
10 ²¹	zetta-	Z
10 ¹⁸	exa-	E
10 ¹⁵	peta-	P
10 ¹²	tera-	T
10 ⁹	giga-	G
10 ⁶	mega-	M
10 ³	kilo-	k
10 ²	hecto-	h
10	deka-	da
10 ⁻¹	deci-	d
10 ⁻²	centi-	c
10 ⁻³	milli-	m
10 ⁻⁶	micro-	μ or r
10 ⁻⁹	nano-	n
10 ⁻¹²	pico-	p
10 ⁻¹⁵	femto-	f
10 ⁻¹⁸	atto-	a
10 ⁻²¹	zepto-	z
10 ⁻²⁴	yocto-	y

CONVERSION FORMULAS

LENGTH

Centimeters & Inches cm x .394 = in in x 2.54 = cm
Centimeters & Millimeters cm x 10 = mm mm x .1 = cm
Centimeters & Picas cm x 2.371 = picas picas x .4233 = cm
Centimeters & Points cm x 28.4528 = points points x .0351 = cm
Millimeters & Inches mm x .0394 = in in x 25.4 = mm
Millimeters & Micrometers (Microns) mm x 1,000 = μ μ x .001 = mm
Meters & Chains (G) m x .04971 = ch ch x 20.117 = m
Meters & Fathoms m x .547 = fm fm x 1.83 = m
Meters & Feet m x 3.281 = ft ft x .305 = m
Meters & Yards m x 1.094 = yd yd x .914 = m
Meters & Furlongs m x .005 = fur fur x 201.17 = m
Chains (G)* & Feet ch x 66 = ft ft x .015 = ch
Chains (G)* & Rods ch x 4 = rd rd x .25 = ch
Chains (G)* & Yards ch x 22 = yd yd x .455 = ch
Fathoms & Feet fa x 6 = ft ft x .167 = fa
Kilometers & Feet km x 3280.84 = ft ft x (3.048 x 10 ⁻⁴) = km
Kilometers & Yards km x 1093.6 = yd yd x .00091 = km
Kilometers & Statute Miles km x .621 = mi mi x 1.609 = km
Kilometers & Nautical Miles km x .540 = n mi n mi x 1.852 = km
Nautical Miles & Statute Miles n mi x 1.15 = s mi s mi x .869 = n mi
*(G) = Gunter's or surveyor's chain

AREA

Sq. Centimeters & Sq. In. cm ² x .155 = in ² in ² x 6.452 = cm ²
Sq. Meters & Sq. Chains (G)* m ² x .0025 = ch ² ch ² x 404.686 = m ²
Sq. Rods & Sq. Chains (G)* rd ² x 625 = ch ² (G) ch ² x 16 = rd ²
Sq. Chains & Acres ch ² (G) x .1 = A A x 10 = ch ² (G)
Sq. Chains (G)* & Sq. Feet ch ² (G) x 4,356 = ft ² ft ² x .00023 = ch ² (G)
Hectares & Sq. Miles ha x .0039 = mi ² mi ² x 258.999 = ha
Hectares & Acres ha x 2.471 = A A x .405 = ha
Acres & Sq. Miles A x .00156 = mi ² mi ² x 640 = A
Sq. Kilometers & Sq. Miles km ² x .386 = mi ² mi ² x 2.590 = km ²
Sq. Meters & Acres m ² x .000247 = A A x 4046.856 = m ²
Sq. Meters & Hectares m ² x .0001 = ha ha x 10,000 = m ²
Sq. Meters & Sq. Feet m ² x 10.764 = ft ² ft ² x .093 = m ²
Sq. Meters & Sq. Yards m ² x 1.196 = yd ² yd ² x .836 = m ²
Sq. Meters & Sq. Rods m ² x .03954 = rd ² rd ² x 25.293 = m ²
Sq. Yards & Sq. Feet yd ² x 9 = ft ² ft ² x .1111 = yd ²
*(G) = Gunter's or surveyor's chain

LIQUID CAPACITY

UK & US Gallons UK gal x 1.201 = US gal US gal x .833 = UK gal
UK & US Quarts UK qt x 1.201 = US qt US qt x .833 = UK qt
UK & US Pints UK pt x 1.201 = US pt US pt x .833 = UK pt
UK & US Ounces UK oz x .961 = US oz US oz x 1.041 = UK oz
UK Gallons & Liters UK gal x 4.546 = L L x .220 = UK gal
UK Quarts & Liters UK qt x 1.137 = L L x .880 = UK qt
UK Pints & Liters UK pt x .568 = L L x 1.760 = UK pt
UK Ounces & Milliliters UK oz x 28.413 = ml ml x .035 = UK oz
US Gallons & Liters US gal x 3.785 = L L x .264 = US gal
US Quarts & Liters US qt x .947 = L L x 1.056 = US qt
US Pints & Liters US pt x .473 = L L x 2.113 = US pt
US Ounces & Liters US oz x .03 = L Liter x 33.8 = US oz
US Ounces & Milliliters US oz x 29.572 = ml ml x .034 = US oz
Gills (US) & Ounces (US) gi x 4 = oz oz x .25 = gi
Gills (US) & Cubic Centimeters gi x 118.29 = cc cc x .00845 = gi
Gills (UK) & Cubic Centimeters gi x 142.065 = cc cc x .00704 = gi

DRY CAPACITY

Cubic Centimeters & Cubic Inches cm ³ x .061 = in ³ in ³ x 16.387 = cm ³
Cubic Inches & Cubic Feet in ³ x .000579 = ft ³ ft ³ x 1,728 = in ³
Cubic Feet & Cubic Yards ft ³ x .037 = yd ³ yd ³ x 27 = ft ³
Cubic Meters & Cubic Yards m ³ x 1.308 = yd ³ yd ³ x .765 = m ³
Cubic Meters & Cubic Feet m ³ x 35.315 = ft ³ ft ³ x .028 = m ³
Pints & Quarts pt x .5 = qt qt x 2 = pt
Quarts & Pecks qt x .125 = pk pk x 8 = qt
Pecks (US) & Bushels (US) pk x .25 = bu bu x 4 = pk
Bushels (US) & Barrels (US)* bu x .0305 = bbl bbl x 3.281 = bu
Bushels (UK) & Bushels (US) bu (US) x .969 = bu (UK) bu (UK) x 1.032 = bu (US)
* A barrel is not the same container as a steel drum, which typically holds 55 gallons (US). Barrels come in different sizes based on their contents, as defined by various statutes. Oil = 42 gal Beer = 31 gal (US) Beer = 50 liters (Europe) Dry Goods = 7,056 in ³ Cranberries = 5,826 in ³ Flour = 196 lbs. Cornmeal = 200 lbs. Cement = 376 lbs. Lime = 280 lbs.

WEIGHT

Grains (gr) & Grams (g) gr x .065 = g g x 15.432 = gr
Drams (avdp)* & Ounces (avdp) dr (avdp) x .062 = oz (avdp) oz (avdp) x 16 = dr (avdp)
Pennyweight & Grams dwt x 1.5552 = g g x .643 = dwt
Grams & Ounces (US) g x .035 = oz oz x 28.349 = g
Ounces (troy) & Grains oz tr x 480 = gr gr x .00208 = oz tr
Ounces (troy) & Grams oz tr x 31.103 = g g x .032 = oz tr
Ounces (troy) & Ounces (avdp) oz tr x 1.097 = oz (avdp) oz (avdp) x .911 = oz tr
Ounces (avdp) & Pounds (avdp) oz (avdp) x .0625 = lb (avdp) lb (avdp) x 16 = oz (avdp)
Milligrams & Grains mg x .015 = gr gr x 64.799 = mg
Grains & Carats gr x .32399 = c c x 3.0865 = gr
Grams & Carats (metric) g x 5 = c (metric) c (metric) x .2 = g
Milligrams & Carats (metric) mg x .005 = c (metric) c (metric) x 200 = mg
Pounds & Kilograms lb x .454 = kg kg x 2.205 = lb
Tons (long) & Pounds (avdp) lt x 2,240 = lbs (avdp) lbs (avdp) x .0004464 = lt
Tons (short) & Pounds (avdp) sht x 2,000 = lbs (avdp) lbs (avdp) x .0005 = sht
Tonnes (metric) & Pounds (avdp) t x 2204.62 = lbs (avdp) lbs (avdp) x .0004536 = t
*avdp = avoirdupois (from French), meaning "goods of weight"

KITCHEN LIQUID MEASURES

1 gal	4 qt	8 pt	16 cups	128 fl oz	3.79L		
½ gal	2 qt	4 pt	8 cups	64 fl oz	1.89L		
¼ gal	1 qt	2 pt	4 cups	32 fl oz	.95L		
	½ qt	1 pt	2 cups	16 fl oz	.47L		
	¼ qt	½ pt	1 cup	8 fl oz	.24L		
		½ cup	4 fl oz	.12L	8 Tbs	24 tsp	
		¼ cup	2 fl oz	.06L	4 Tbs	12 tsp	
		⅓ cup	1 fl oz	.03L	2 Tbs	6 tsp	
		½ fl oz	.015L	1 Tbs	3 tsp		

KITCHEN DRY MEASURES

1 cup	8 fl oz	16 Tbs	48 tsp	237 ml
¾ cup	6 fl oz	12 Tbs	36 tsp	177 ml
⅔ cup	5⅓ fl oz	10⅓ Tbs	32 tsp	158 ml
½ cup	4 fl oz	8 Tbs	24 tsp	118 ml
⅓ cup	2⅔ fl oz	5⅓ Tbs	16 tsp	79 ml
¼ cup	2 fl oz	4 Tbs	12 tsp	59 ml
⅙ cup	1 fl oz	2 Tbs	6 tsp	30 ml
⅛ cup	½ fl oz	1 Tbs	3 tsp	15 ml
¼ cup	½ fl oz	⅓ Tbs	1 tsp	5 ml

FAHRENHEIT-TO-CELSIUS CONVERSION

°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
-50	-45.6	-26	-32.2	-2	-18.9	22	-5.5	46	7.8	70	21.1	94	34.4	118	47.8	142	61.1	166	74.4	190	87.8
-49	-45.0	-25	-31.7	-1	-18.3	23	-5.0	47	8.3	71	21.7	95	35.0	119	48.3	143	61.7	167	75.0	191	88.3
-48	-44.4	-24	-31.1	0	-17.8	24	-4.4	48	8.9	72	22.2	96	35.5	120	48.9	144	62.2	168	75.5	192	88.9
-47	-43.9	-23	-30.6	1	-17.2	25	-3.9	49	9.4	73	22.8	97	36.1	121	49.4	145	62.8	169	76.1	193	89.4
-46	-43.3	-22	-30.0	2	-16.7	26	-3.3	50	10.0	74	23.3	98	36.7	122	50.0	146	63.3	170	76.7	194	90.0
-45	-42.8	-21	-29.4	3	-16.1	27	-2.8	51	10.5	75	23.9	99	37.2	123	50.5	147	63.9	171	77.2	195	90.5
-44	-42.2	-20	-28.9	4	-15.5	28	-2.2	52	11.1	76	24.4	100	37.8	124	51.1	148	64.4	172	77.8	196	91.1
-43	-41.7	-19	-28.3	5	-15.0	29	-1.7	53	11.7	77	25.0	101	38.3	125	51.7	149	65.0	173	78.3	197	91.7
-42	-41.1	-18	-27.8	6	-14.4	30	-1.1	54	12.2	78	25.5	102	38.9	126	52.2	150	65.5	174	78.9	198	92.2
-41	-40.6	-17	-27.2	7	-13.9	31	-0.5	55	12.8	79	26.1	103	39.4	127	52.8	151	66.1	175	79.4	199	92.8
-40	-40.0	-16	-26.7	8	-13.3	32	0.0	56	13.3	80	26.7	104	40.0	128	53.3	152	66.7	176	80.0	200	93.3
-39	-39.4	-15	-26.1	9	-12.8	33	0.5	57	13.9	81	27.2	105	40.5	129	53.9	153	67.2	177	80.5	201	93.9
-38	-38.9	-14	-25.6	10	-12.2	34	1.1	58	14.4	82	27.8	106	41.1	130	54.4	154	67.8	178	81.1	202	94.4
-37	-38.3	-13	-25.0	11	-11.6	35	1.7	59	15.0	83	28.3	107	41.7	131	55.0	155	68.3	179	81.7	203	95.0
-36	-37.8	-12	-24.4	12	-11.1	36	2.2	60	15.5	84	28.9	108	42.2	132	55.5	156	68.9	180	82.2	204	95.5
-35	-37.2	-11	-23.9	13	-10.5	37	2.8	61	16.1	85	29.4	109	42.8	133	56.1	157	69.4	181	82.8	205	96.1
-34	-36.7	-10	-23.3	14	-10.0	38	3.3	62	16.7	86	30.0	110	43.3	134	56.7	158	70.0	182	83.3	206	96.7
-33	-36.1	-9	-22.8	15	-9.4	39	3.9	63	17.2	87	30.5	111	43.9	135	57.2	159	70.5	183	83.9	207	97.2
-32	-35.6	-8	-22.2	16	-8.9	40	4.4	64	17.8	88	31.1	112	44.4	136	57.8	160	71.1	184	84.4	208	97.8
-31	-35.0	-7	-21.7	17	-8.3	41	5.0	65	18.3	89	31.7	113	45.0	137	58.3	161	71.7	185	85.0	209	98.3
-30	-34.4	-6	-21.1	18	-7.8	42	5.5	66	18.9	90	32.2	114	45.5	138	58.9	162	72.2	186	85.5	210	98.9
-29	-33.9	-5	-20.6	19	-7.2	43	6.1	67	19.4	91	32.8	115	46.1	139	59.4	163	72.8	187	86.1	211	99.4
-28	-33.3	-4	-20.0	20	-6.7	44	6.7	68	20.0	92	33.3	116	46.7	140	60.0	164	73.3	188	86.7	212	100.0
-27	-32.8	-3	-19.4	21	-6.1	45	7.2	69	20.5	93	33.9	117	47.2	141	60.5	165	73.9	189	87.2		

$(T_F - 32) / 1.8 = T_C$ $T_C \times 1.8 + 32 = T_F$

WIND CHILL INDEX (°F) REVISED 2001

0 mph	40°	35°	30°	25°	20°	15°	10°	5°	0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°	-45°
5 mph	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10 mph	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15 mph	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20 mph	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25 mph	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30 mph	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35 mph	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40 mph	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45 mph	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50 mph	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95

WINDCHILL (°F) = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16}) V = WIND SPEED (mph) T (°F) = AIR TEMP.

HEAT INDEX

		CURRENT TEMPERATURE °F							
RELATIVE HUMIDITY	0°	70°	75°	80°	85°	90°	95°	100°	
	0%	64	69	73	78	83	87	91	
	10%	65	70	75	80	85	90	95	
	20%	66	72	77	82	87	93	99	
	30%	67	73	78	84	90	96	104	
	40%	68	74	79	86	93	101	110	
	50%	69	75	81	88	96	107	120	
	60%	70	76	82	90	100	114	132	
	70%	70	77	85	93	106	124	144	
	80%	71	78	86	97	113	136	157	
90%	71	79	88	102	122	150	170		
100%	72	80	91	108	133	166	184		

SAFFIR-SIMPSON HURRICANE SCALE

CAT.	IN. MERCURY	MILLIBARS	WIND/KPH	WIND/MPH	WIND/KNOTS	SURGE/FT	DAMAGE LIKELY
1	> 28.94	> 980	119-153	74-95	64-82	4-5	Minimal. Broken trees, shrubs and street signs. In-water boat and mobile home damage.
2	28.50-28.91	965-979	154-177	96-110	83-95	6-8	Moderate. Overturned mobile homes, downed trees, shingles blown off and some signs down.
3	27.91-28.47	945-964	178-209	111-130	96-113	9-12	Extensive. Large trees down; signs, awnings and windows broken. Mobile homes destroyed.
4	27.17-27.88	920-944	210-249	131-155	114-135	13-18	Extreme. Roofs blown off, building walls collapsed. Storm surge near beach flooding homes.
5	< 27.17	< 920	> 249	> 155	> 135	> 18	Catastrophic. Concrete structures damaged. Small structures and cars overturned and blown away.

BEAUFORT WIND SCALE

WIND SPEED				
KPH	MPH	KNOTS	#	DESCRIPTION
0	0	0	0	calm
1 - 5	1 - 3	1 - 3	1	light air
6 - 11	4 - 7	4 - 6	2	light breeze
12 - 19	8 - 12	7 - 10	3	gentle breeze
20 - 28	13 - 18	11 - 16	4	moderate breeze
29 - 38	19 - 24	17 - 21	5	fresh breeze
39 - 49	25 - 31	22 - 27	6	strong breeze
50 - 61	32 - 38	28 - 33	7	near gale
62 - 74	39 - 46	34 - 40	8	gale
75 - 88	47 - 54	41 - 47	9	strong gale
89 - 102	55 - 63	48 - 55	10	storm
103 - 117	64 - 72	56 - 63	11	violent storm
> 118	> 73	> 64	12	hurricane

SMALL CRAFT ADVISORY (6-7), GALE WARNING (8-9), STORM WARNING (10-11), TROPICAL STORM WARNING (11-12), HURRICANE WARNING (12)

SUN TANNING INDEX SKIN PROTECTION FACTOR # TO USE

TYPE SKIN REACTION	EXAMPLES	SPF#
1	Tans little or not at all, always burns easily & severely, then peels	20-30
2	Usually burns easily & severely; tans minimally & lightly, also peels	12-20
3	Burns moderately, gains average tan	8-10
4	Burns minimally, tans easily & above average with each exposure	5-8
5	Rarely burns, tans easily & substantially	4
6	Tans profusely & never burns	2

FUJITA-PEARSON TORNADO SCALE REVISED 2007

CLASS	KPH	MPH	DAMAGE LIKELY
F 0	64 - 116	40 - 72	light
F 1	117 - 180	73 - 112	moderate
F 2	181 - 253	113 - 157	considerable
F 3	254 - 332	158 - 207	severe
F 4	333 - 419	208 - 260	devastating
F 5	420 - 512	261 - 318	incredible

ULTRAVIOLET INDEX

VALUE	EXPOSURE
0 - 2	Minimal
3 - 4	Low
5 - 6	Moderate
7 - 9	High
> 10	Very High



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