

Reference Information

Wind Chill Chart

REFERENCE



Wind Chill Chart



		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	Calm	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	5	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	10	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	15	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	20	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	25	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	30	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	35	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	40	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	45	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
50	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
55	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98	
60																			

Frostbite Times 30 minutes 10 minutes 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T = Air Temperature (°F) V = Wind Speed (mph)

Conversion Table

	To Convert	To	Multiply By
Weight	Pounds	Kilograms	0.4536
	Kilograms	Pounds	2.2046
Distance	Inches	Millimeters	25.4
	Millimeters	Inches	0.0394
	Inches	Centimeters	2.54
	Centimeters	Inches	0.3937
	Meters	Feet	3.2808
	Feet	Meters	0.3048
	Meters	Yards	1.0936
	Yards	Meters	0.9144
	Kilometers	Miles	0.6214
	Miles	Kilometers	1.609
	Kilometers	Nautical Miles	0.5396
	Nautical Miles	Kilometers	1.853
	Statute Miles	Kilometers	1.6093
Kilometers	Statute Miles	0.6213	
Density	Cubic Feet	Cubic Meters	0.0283
	Cubic Meters	Cubic Feet	35.3145
	Cubic Yards	Cubic Meters	0.7646
	Cubic Meters	Cubic Yard	1.3079
Volume	Liters	Gallons	0.2642
	Gallons	Liters	3.7854
	Liters	Pint	2.1134
	Pint	Liters	0.4732

Chilean Standard Time (CLT) to Zulu Time Conversion Table

CLT	Zulu	CLT	Zulu
0000	0300	1200	1500
0030	0330	1230	1530
0100	0400	1300	1600
0130	0430	1330	1630
0200	0500	1400	1700
0230	0530	1430	1730
0300	0600	1500	1800
0330	0630	1530	1830
0400	0700	1600	1900
0430	0730	1630	1930
0500	0800	1700	2000
0530	0830	1730	2030
0600	0900	1800	2100
0630	0930	1830	2130
0700	1000	1900	2200
0730	1030	1930	2230
0800	1100	2000	2300
0830	1130	2030	2330
0900	1200	2100	0000
0930	1230	2130	0030
1000	1300	2200	0100
1030	1330	2230	0130
1100	1400	2300	0200
1130	1430	2330	0230

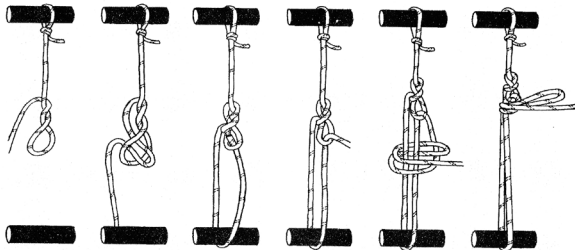
Weather observations are reported in Zulu Time. For example, the 8:00 am weather observation from a Peninsula field camp operating on Chilean time would call in the 1900 Zulu observation.

Temperature Conversions

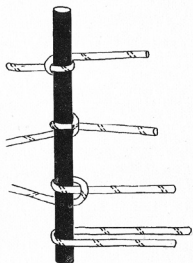
Fahrenheit	Celsius
40	4.44
35	1.67
32	0
30	-1.11
25	-3.88
20	-6.66
15	-9.44
10	-12.22
5	-15
0	-17.77
-5	-20.55
-10	-23.33
-15	-26.11
-20	-28.88
-25	-31.66
-30	-34.44
-35	-37.22
-40	-40.00
Fahrenheit to Celsius: (F degree-32) x (5/9)	
Celsius to Fahrenheit: (1.8 X C degree)+32	

Knots

TRUCKER'S HITCH



ITALIAN MÜNTER



WATER KNOT



CLOVE HITCH

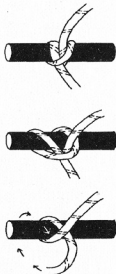


FIGURE 8

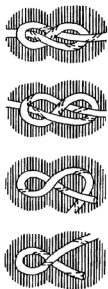
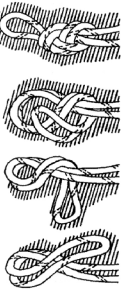
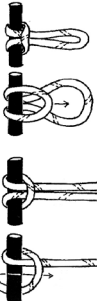


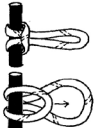
FIGURE 8 ON A BIGHT



GIRTH $\frac{1}{2}$ STRAND



GIRTH $\frac{1}{4}$ A LOOP



PRUSSIK



REFERENCE

Glossary of Nautical Terms

Abaft	In or behind the stern of a ship (adverb); nearer the stern than; behind (preposition)
Abeam	A direction at right angles to the ship's length; on the beam
Aboard	On or in the vessel; close aboard means close to another ship or obstruction
Abreast	Alongside of; on the beam
Aft	Toward the stern; in or on the stern
Aloft	Above the decks (e.g., on the mast or in rigging)
Amidships	Midway between bow and stern, in the line of the keel
Astern	Toward the rear of the vessel; behind the vessel
Athwartship	At right angles to the fore and aft line
Beam	The greatest width of the vessel
Belay	1) To make a line secure by winding it around a belaying pin, cleat, or piton; to hold fast; 2) to hold, stop, or cancel (as in "belay that order")
Below	Downward, under the deck
Bend	To fasten one line to another or to a spar
Berth	1) Bed or bunk; 2) the position where a ship ties up or anchors; 3) a position of employment aboard a ship; 4) a margin of safety in the distance from which another vessel or object is passed, as in "giving wide berth"
Bight	A doubled or looped part of a line; a cove or indentation along a coastline
Bitter end	The end of the line or cable opposite from the end that is performing work

Block	A mechanical contrivance of one or more grooved pulleys (sheaves) through which turns of line (falls) are threaded for the purpose of gaining mechanical advantage or changing the direction of motion
Boat	Generally speaking, a vessel of less than 65 feet in length
Boathook	A long, sturdy pole fitted with a blunt hook at one end
Boatswain	Top-ranking seaman who oversees deck crew and maintenance/upkeep of the ship, except for the engine room and the galley areas; pronounced "bos'n"
Bow	The forward end of a vessel
Bridge	An enclosed, elevated platform from which the ship is navigated and steered
Bulkhead	Wall (ashore)
Bulwark	Fence-like guard along edge of a deck
Bunk	Bed; berth
Buoy	A float, usually moored, used as navigation aids, markers for moorings or underwater objects, or to support test or scientific gear; comes in a variety of designs and shapes
Cable	1) A bundle of insulated wires that provides both strength and signal/power transmission; 2) A unit of maritime measure equal to one tenth of a nautical mile
Cast off	To let go a line; to leave a dock or anchorage
Chafing gear	Canvas, rope, or other material used as wrappings to prevent wear from abrasion, usually on mooring lines
Chart	Map (ashore)
Cleat	1) A double-horned piece of wood or metal around which lines are made fast; 2) belay

Course	The compass direction in which a vessel is being steered
Deck	Floor (ashore)
Dog	Heavy latch by which doors, hatches, and portholes are secured; verb: to latch. A hatch can be “dogged open” or “dogged closed” (i.e., secured)
Draft	The distance from a vessel’s waterline to the deepest part of the hull; the depth of water necessary to float a vessel
Ease off	To slack off or release tension slowly and smoothly
EM cable	Electromechanical cable; a hybrid cable composed of outer armor wires for strength and inner copper or fiber conductors to carry power and/or signal
Eye	A loop or hole spliced or tied to end of a line
Fairlead	A chock, hole, block, or sheave through which a line may be run, without danger of chafing or jamming, so as to provide a smooth run or change of direction
Fantail	After part of main deck from which most scientific work involving heavy gear is done
Fasten	To make secure
Fathom	Six feet; 1.85 meters
Fore	Toward the bow
Foredeck	The exposed deck forward of the ship’s superstructure
Foul	The opposite of clear, as in tangled line or chain, or bad weather
Galley	Kitchen; also used for eating area (mess)
Gear	Equipment, instruments, riggings; any apparatus used aboard ship; clothing and other personal items taken aboard ship

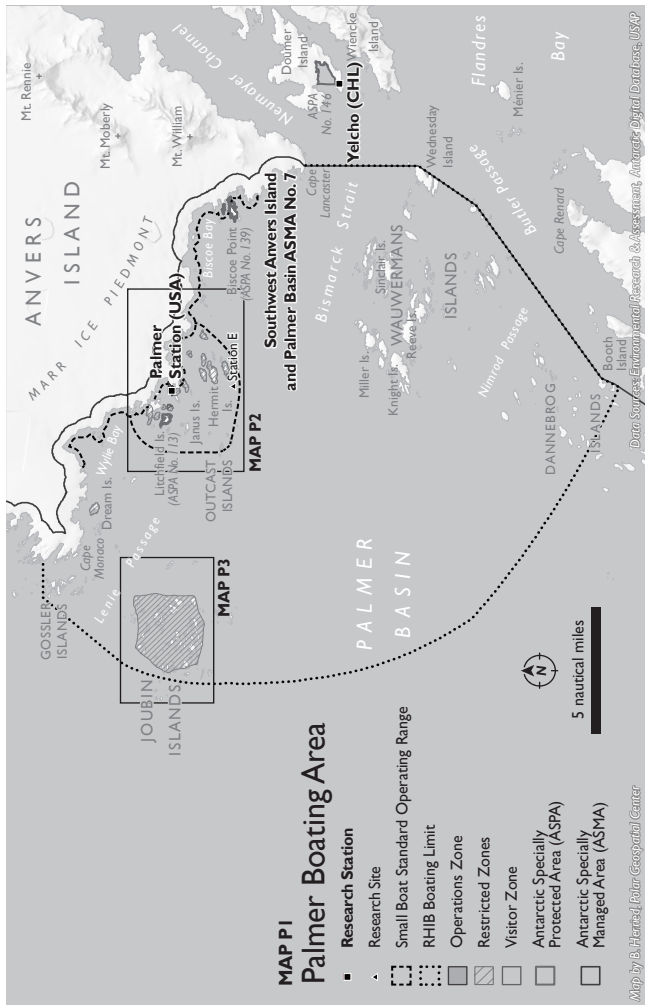
Guy	A supporting or steadying line or wire
Hatch	Opening between spaces or in ship's deck for access to space below (hold)
Heave to	Come to a stop
Haul	To pull
Head	The compartment containing a toilet; the toilet itself
Heading	The compass direction in which the ship is pointed
Hold	Storage area below decks
Hydro wire	A torque balanced mechanical wire rope used to support over-the-side sampling equipment, such as Niskin bottles, which are clamped to the wire rope and tripped with a mechanical messenger
Inshore	Near or toward the shore
Keel	The backbone of a vessel, running fore and aft along the center line of the bottom of the hull
Knots	Speed expressed as nautical miles per hour; it is incorrect to say "knots per hour"
Ladder	Stairway between decks
Lash down	Tie down; secure
Lee	The side of a ship, or shore location, sheltered from the wind or weather; opposite of windward
Leeward	Toward the lee; away from the wind
Line	A piece of rope is called a line once it leaves the rope reel and is put into use
Locker	A closet or chest-like storage space
Make fast	Tie with a line; make secure
Master	The captain of a vessel
Messdeck	Where meals are eaten

Midrats	Midnight rations; same as “night lunch”
Nautical mile	Equals 1.15 statute or land miles, 1852 meters, 6,080 feet, and one minute of latitude
On the beam	The direction at right angles to a ship’s heading or the line of her keel
On the bow	A direction of 45 degrees or less from the bow
On the quarter	Direction of 45 degrees or less from the stern
Overboard	Over the side of the vessel
Overhead	Ceiling (ashore)
Painter	The line at the bow of a boat for towing or making fast
Part	Break; e.g., the line parted under strain
Pay out	To let out chain, line, or wire
Pitch	The vertical motion of the bow and stern
Port	The left side of the vessel when facing forward
Porthole	Circular opening in a ship’s hull for ventilation and light
Quarter	The part of a vessel forward of the stern and abaft of the beam
Rail	Top edge of bulwarks
Reeve	To pass a line through a block
Roll	The side-to-side, up and down motion of the ship’s beam
Running lights	The usual navigation lights carried when a vessel is under way
Secure	To fasten; tie down; make safe and shipshape
Seize	To bind with cord or wire to prevent accidental opening or unraveling
Shackle	A U-shaped fitting with a pin across the open ends; the pin is sometimes threaded on one end and sometimes held in place with a cotter pin

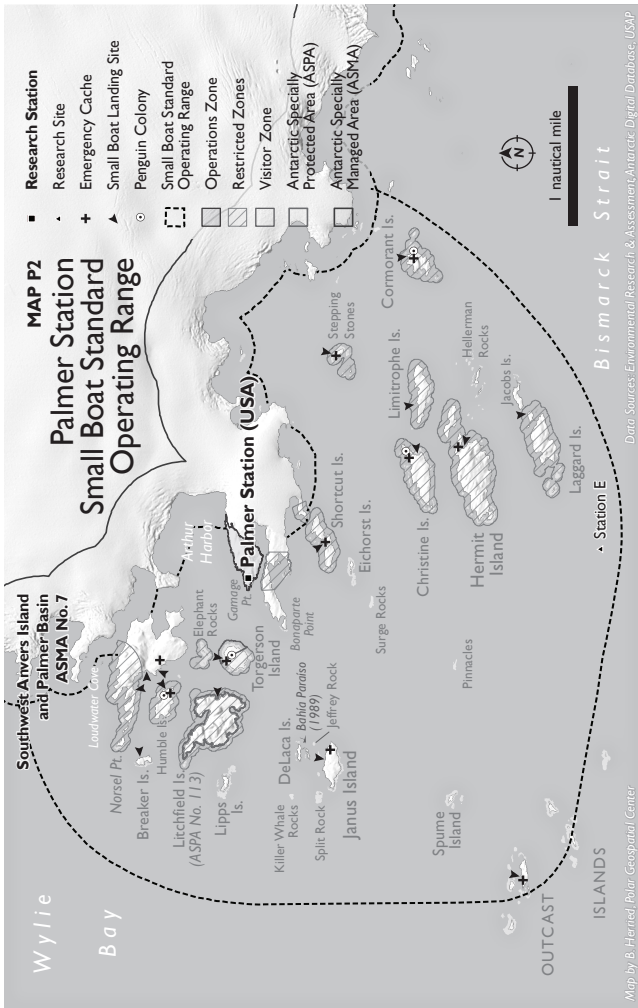
Ship	A vessel over 65 feet in length
Ship's port agent	A firm that provides services to organizations that operate vessels; services include loading; shipping; dealing with local maritime, customs, and immigration authorities; and referral to reputable repair facilities; mail is addressed in care of the agent for the next port of call
Shot	Maritime unit of measure equal to 15 fathoms or 90 feet; anchor chain is measured in shots for a given water depth and bottom composition
Skiff	A shallow, flat-bottomed, open boat
Sound	To measure water depth or the depth of liquid in a tank
Sounding	Depth measured; the number indicating depth on a chart; the process of measuring fuel or water in ship's tanks
Splice	To join two lines by interweaving and tucking together individual strands in a prescribed pattern
Starboard	The right side of a vessel when facing forward
Stateroom	Cabin; sleeping compartment
Station	A position along a ship's course where the vessel is hove to for the purpose of scientific or other work
Steerage	The minimum amount of speed required to maintain control of the ship with the rudder
Stern	The aft part of a vessel
Stow	To put things away in preparation for getting under way; to put gear in its proper place
Superstructure	The part of a ship above the main deck
Thimble	A pear-shaped, grooved, metal fitting around which an eye splice is made
Topside	On or above the main deck

Trawl wire	A torque balanced mechanical wire rope used to tow nets or other gear
Two-block	To reach the end; to bring one object hard up against another, as when an instrument on the end of the wire is hauled hard up against the block through which the wire runs; may occur slowly and intentionally or suddenly and unintentionally
Underway	When the anchor has been weighed or the lines cast off; strictly speaking, a vessel can still be underway even though stopped, as long as it is not connected to land
Unreeve	To haul a line out of a block, fairlead, etc.
Vessel	A general term for a floating craft used in navigation
Watch	To work a period generally four hours long; also refers to those standing watch as an individual, pair, or group
Way	A vessel's movement through water
Weather	Toward the point from which the wind blows, as in "weather side of the ship"; the side from which the wind is blowing; opposite of lee
Winch	Motor-driven drum onto which line or wire is wound; verb: to winch onto the drum
Windward	The direction from which the wind is blowing; weather side of the ship; opposite of leeward
Wire rope	A rope made of intertwisted strands of wire and designed for mechanical strength; usually torque balanced

Palmer Station Boating Area



Palmer Station Small Boat Operating Range



Data Sources: Environmental Research & Assessment, Antarctic Digital Database, USAP

Map by B. Herniel, Polar Geospatial Center

REFERENCE

Joubin Islands

