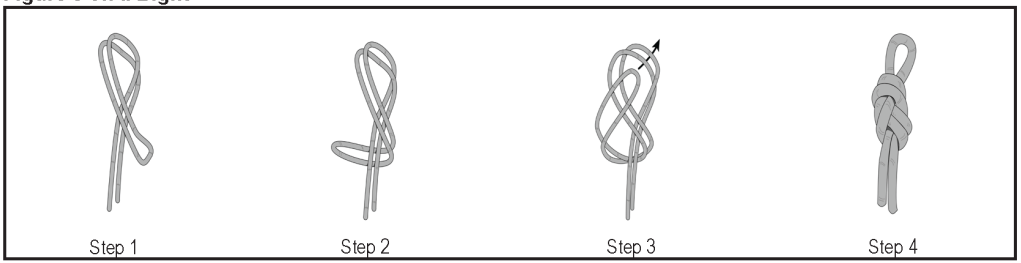
Continental Field Manual

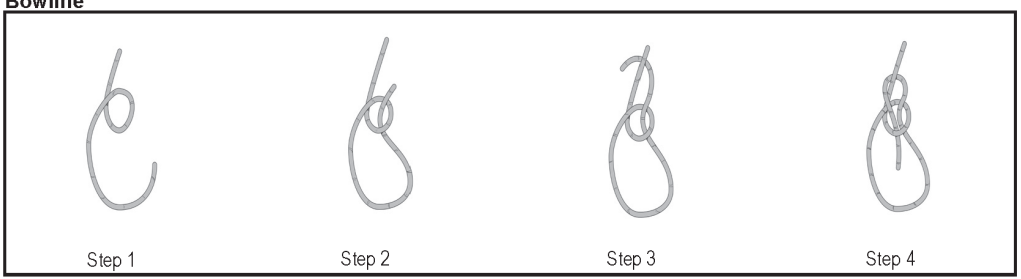
References

Knot Illustrations

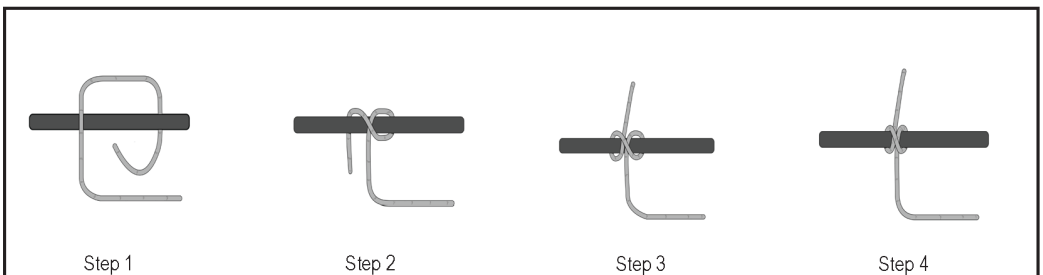
Figure 8 on a Bight



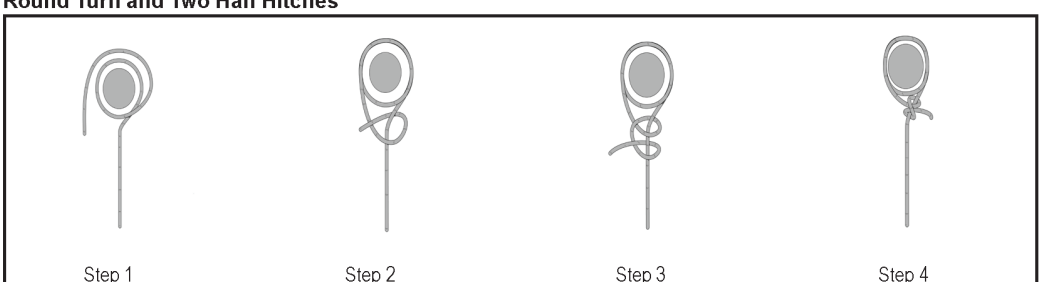
Bowline



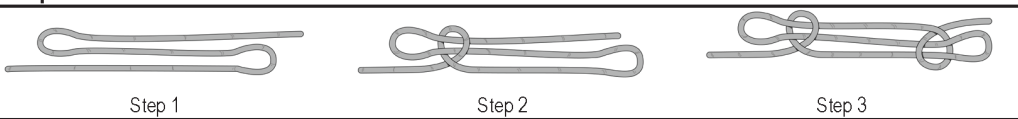
Clove Hitch (Double Hitch)



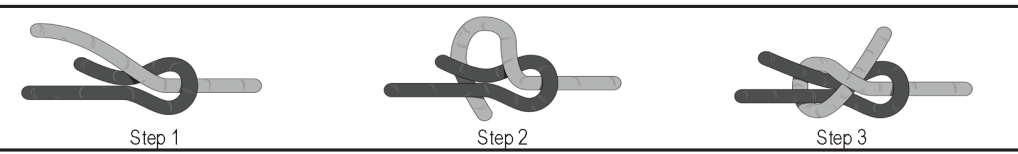
Round Turn and Two Half Hitches



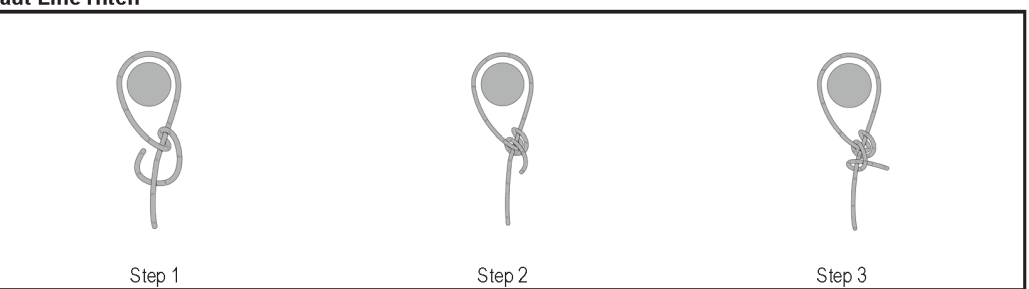
Sheepshank Knot



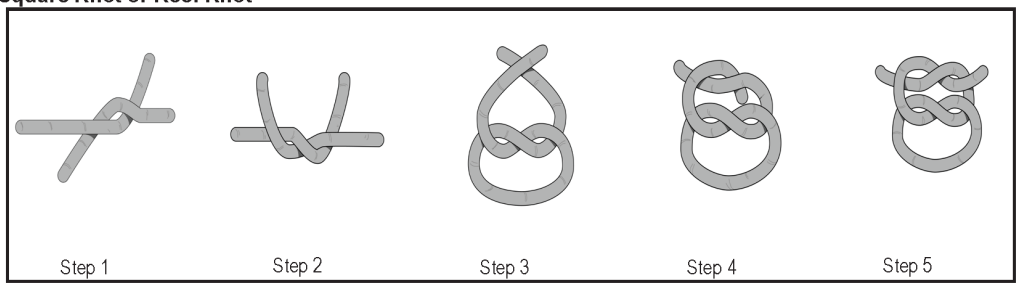
Sheetbend



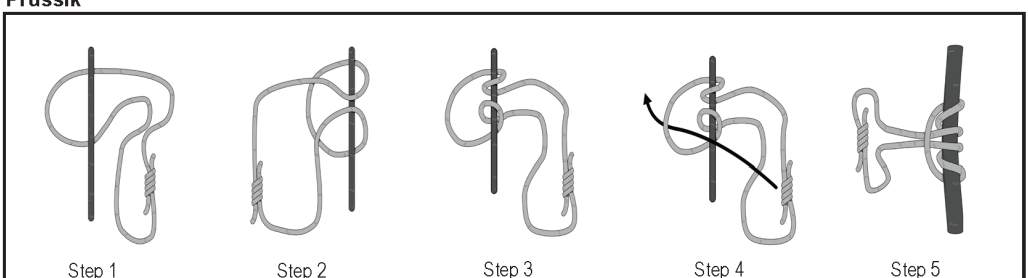
Taut Line Hitch



Square Knot or Reef Knot

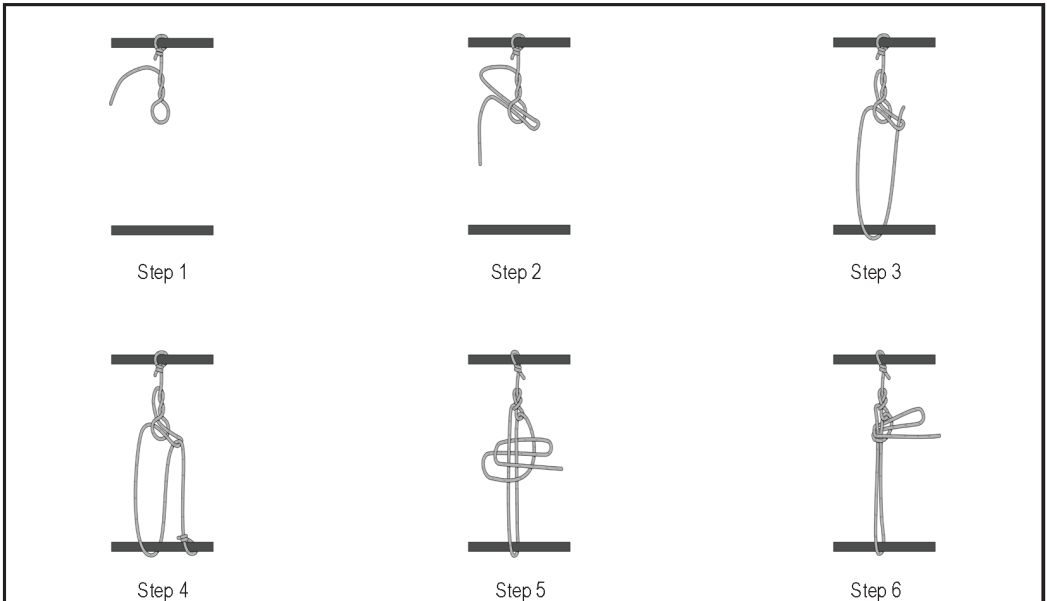


Prussik

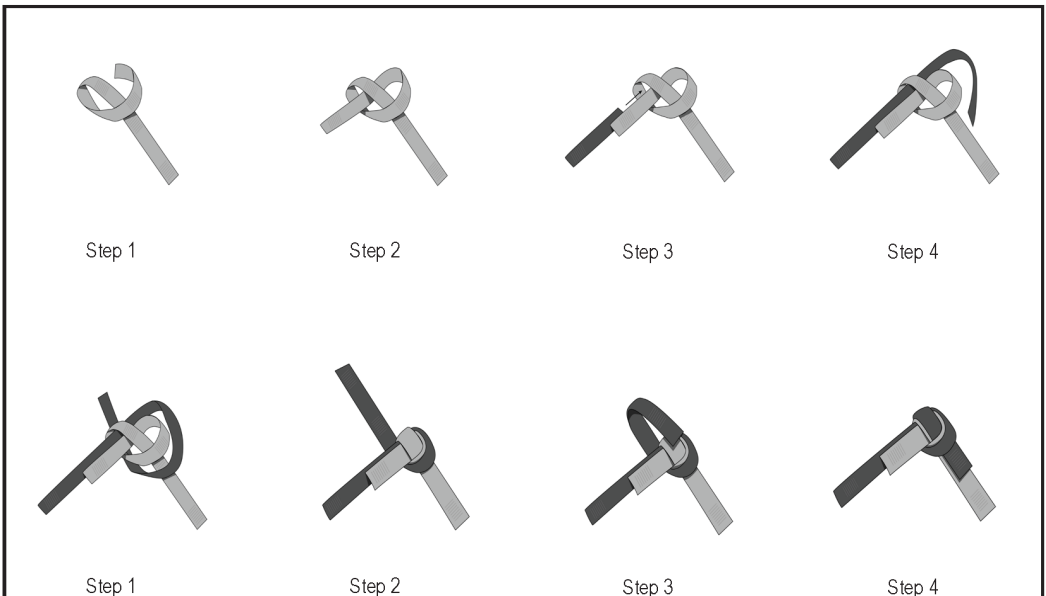


References

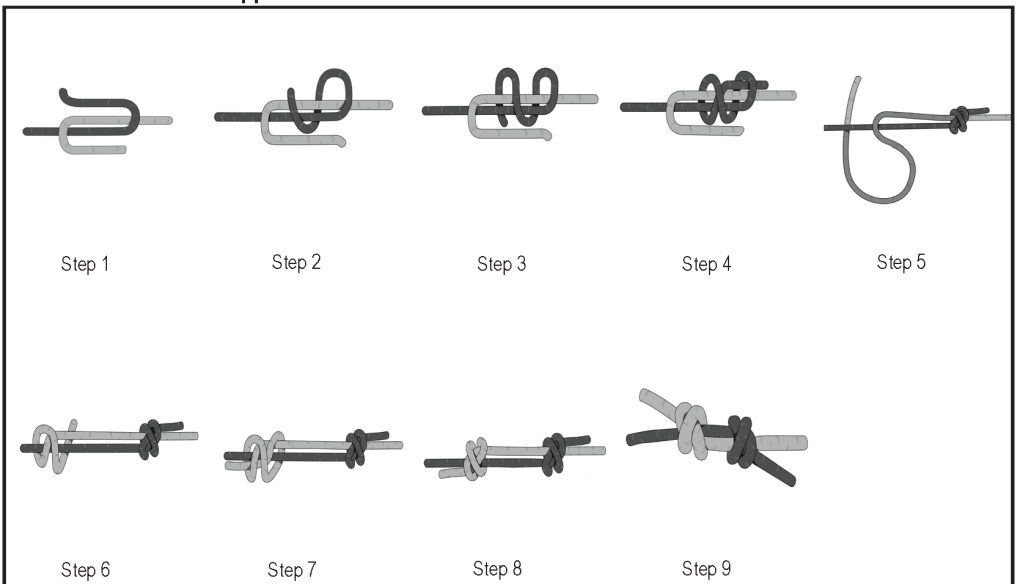
Trucker's Hitch



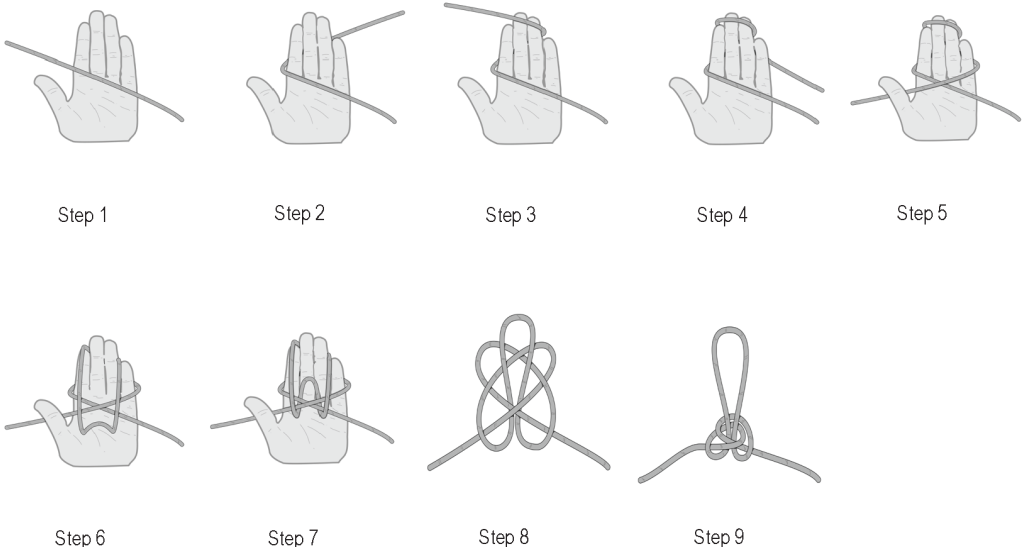
Water Knot



Double Fisherman's Stopper



Alpine Butterfly Loop



Knots are essential for camping and life in the field. This section contains illustrations showing how to tie thirteen useful knots. Below are descriptions of these knots, as well as suggestions regarding when each one might be most useful.

Knot Terminology

Knot – Ties a rope to itself.

Hitch – Ties a rope to another object (post, stake, or eye-ring grommet).

Bend – Ties two different pieces of rope together.

Bight – A curved or slack section of rope between two ends.

Useful Knots

Figure 8 on a Bight

Forms a secure, non-slip loop at the end of the rope. Use the tail end to make a stopper knot. Difficult to untie after a heavy load.

Examples of when to use in the field:

- Climbing and mountaineering.
- Creating a loop for a carabiner to attach sleds to snowmobiles.

Bowline

A loop knot that creates a closed, fixed circle at the end of a line. This is a secure knot that doesn't slip when loaded and is easy to untie. Learn to tie it with one hand for fun or rescue situations. Make a small loop, then the rabbit comes out of the hole, around the tree, and back down the hole. Use a stopper knot.

Examples of when to use in the field:

- Tying around a tent loop to use as a guyline.
- Tying down cargo.

Clove Hitch (Double Hitch)

Great all-purpose hitch to secure a rope when pulled from a post in two directions. It consists of two half hitches around an object then passes under itself, making it a good binding knot. It's easy to untie but needs tension or it will come undone. It can be tied from the middle of the rope.

Examples of when to use in the field:

- Starting or ending lashing.
- Attaching a rope to a carabiner, eye ring grommet, stake or post.

Round Turn and Two Half Hitches

A hitch ties a rope to an object, such as a post or ring. This is a great all-purpose hitch to secure a rope when pulled from a post in one direction. It is strong, doesn't slip, and is easy to untie.

Examples of when to use in the field:

- Lowering survival bags from deck of ship to small boat below.
- Securing survival bags to a bamboo or metal stake so they don't blow away.

Sheepshank Knot

A shank knot is used to shorten a rope or take up slack. It requires tension.

Example of when to use in the field:

- When you need a short length of rope, but don't want to cut the line.

Sheet Bend

A bend knot that joins together two ropes of different sizes or thicknesses. Use the thicker or more slippery rope as the bight, with the thinner rope going around it.

Examples of when to use in the field:

- Lengthening a guyline.
- Fixing a boot lace with paracord or string.
- Using scraps of line to make one of useful length.

Taut Line Hitch

An adjustable loop knot that can slide back and forth along a line. The loop easily adjusts under tension but remains secure once the knot is pulled tight. It is secure, as long as there is tension.

Note: The taut line hitch is a combination of the clove hitch and the round turn hitch.

Examples of when to use in the field:

- Replacing a tent guyline.
- Adjusting the tension on a guyline to achieve optional line tension.

Square Knot/Reef Knot

A binding knot used to tie two ends of a single rope together: right over left, left over right.

Examples of when to use in the field:

- Lengthening a rope by tying two lines together.
- Tying up a bundle of bamboo poles.

- Tying bandages.

Prussik

Friction hitch used to attach a loop of 5mm cord around a rope.

Examples of when to use in the field:

- Climbing and mountaineering.
- Tying items to a guyline so they don't blow away.

Trucker's Hitch

Stretches a rope between two anchor points. It's essentially a block and tackle knot that uses mechanical advantage and friction. Form the loop with the slack part of the line so it does not tension on itself and can quickly be undone and re-tensioned. This knot can be tightened with more force than the Taut Line.

Examples of when to use in the field:

- Tensioning guylines between deadman anchors and the tent.
- Tying and secure sled loads.

Water Knot

Joins two lengths of webbing or straps.

Examples of when to use in the field:

- Lengthening two pieces of webbing.
- Joining two cargo or cam straps together.

Double Fisherman's Stopper Knot

Joins two lengths of rope and is very easy to tie. It is two overhand knots.

Examples of when to use in the field:

- Making slings in climbing.
- Making adjustable necklaces and bracelets.
- Camping crafts on bad weather days.

Alpine Butterfly

Forms a fixed loop in the middle of a rope without needing access to either end. Shortens a long climbing rope or creates a bight in the middle of a rope.

Example of when to use in the field:

- Connecting members of a roped-up mountaineering team See the following pages for descriptive illustrations.

Wind Chill Chart

References

Weights and Cubes of Common Items

	Convert From	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 Yards	35.3145
	Cubic Yards	Cubic Meters	0.7646
	Cubic Meters	Cubic Yards	1.3079
Volume	Liters	Gallons	0.2642
	Gallons	Liters	3.7854
	Liters	Pint (Liquid)	2.1134
	Pint (Liquid)	Liters	0.4732

NZDT - Zulu Time Conversion

Weather observations are reported in Zulu Time. For example, the 8:00 a.m. weather observation from a McMurdo-based field camp operating on New Zealand time would call in the 1900 Zulu observation.

New Zealand Daylight Savings (NZDT) time is generally September to April. NZDT to Zulu is GMT+13 hours.

NZDT	Zulu	NZDT	Zulu
0:00	11:00	12:00	23:00
0:30	11:30	12:30	23:30
1:00	12:00	13:00	0:00
1:30	12:30	13:30	0:30
2:00	13:00	14:00	1:00
2:30	13:30	14:30	1:30
3:00	14:00	15:00	2:00
3:30	14:30	15:30	2:30
4:00	15:00	16:00	3:00
4:30	15:30	16:30	3:30
5:00	16:00	17:00	4:00
5:30	16:30	17:30	4:30
6:00	17:00	18:00	5:00
6:30	17:30	18:30	5:30
7:00	18:00	19:00	6:00
7:30	18:30	19:30	6:30
8:00	19:00	20:00	7:00
8:30	19:30	20:30	7:30
9:00	20:00	21:00	8:00
9:30	20:30	21:30	8:30
10:00	21:00	22:00	9:00
10:30	21:30	22:30	9:30
11:00	22:00	23:00	10:00
11:30	22:30	23:30	10:30

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
Fahrenheit to Celsius: (Fahrenheit-32)x(5/9)	
Celsius to Fahrenheit: (1.8xCelsius)+32	

Emergency Incident Worksheet

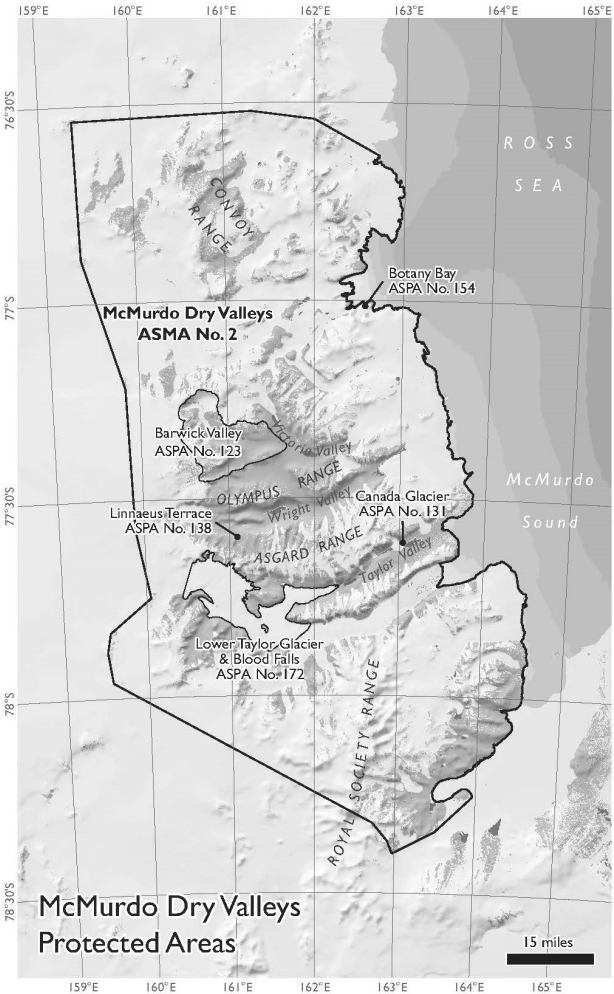
INITIAL INFORMATION				
Time:	**Freq/Phone:**	**Caller Name:**		
Location:				
Situation:				
INJURY OR ILLNESS				
Patient Info – Name, Gender, Age:				
Conscious?		**Yes / No**	**Yes / No**	**Yes / No**
Symptoms or Type of Injury – Area of Body, Bleeding, Deformity				
Mechanism of Injury - Possible Back/Spine, Neck, or Head Injury?				
Pain Level (1-10) - 10 is Highest Level of Pain				
Highest Level of Caregiver's Training				
SPILL				
Active Spill? Yes / No	**Fluid Type (e.g., Fuel, Glycol)**			
Related Injuries?		**(Use Injury/Illness Section)**		
Fire or Risk of Fire?				
Volume of Spill (Gallons)				
Dimensions of Spill Area				
LOSS OF SHELTER OR INFRASTRUCTURE				
Shelter(s) Available – Type and Quantity				
Already Set Up?				
Fire?				
Related Injuries?		**(Use Injury/Illness Section)**		
Food Available? (Estimate Person-Days)				
Fuel Available? (Cooking and Heating – Estimate Days)				
Comms, Power, Batteries?				
AIRCRAFT MISHAP				
Aircraft Type and Call Sign				
Related Injuries?		**(Use Injury/Illness Section)**		
Crew Status?				
Aircraft Engine/Prop/Rotor Still Running?				
Fire or Risk of Fire?				
Spill?		**(Use Spill Section)**		
VEHICLE ACCIDENT				
Vehicle Type and ID				
Related Injuries?		**(Use Injury/Illness Section)**		
Vehicle Still Running or Moving? Stable?				
Fire or Risk of Fire?				

Dry Valley and Ross Island Science Logistics

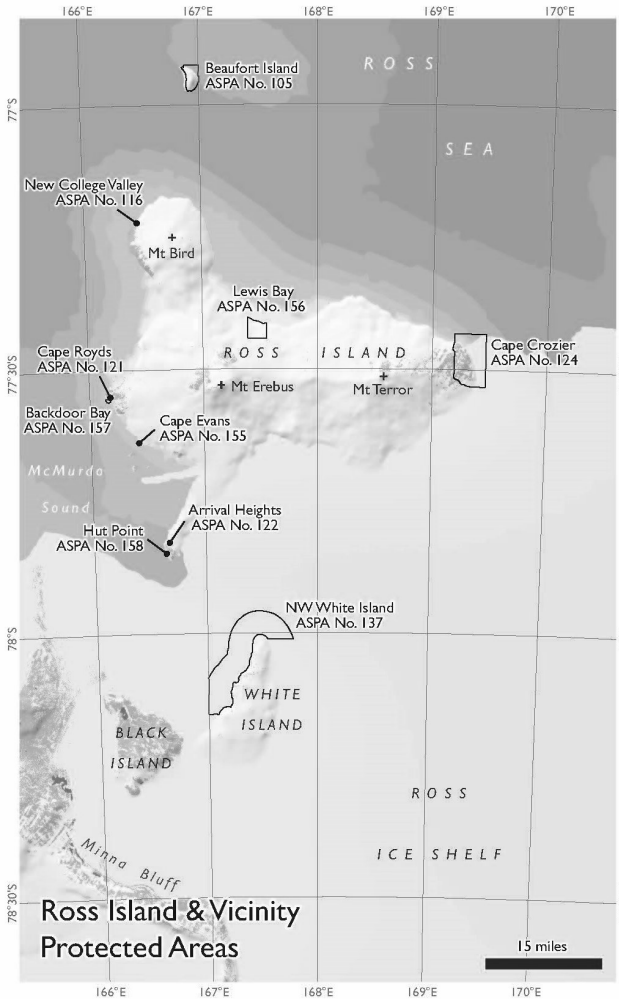
Taylor Valley Camps

References

Dry Valley ASMA

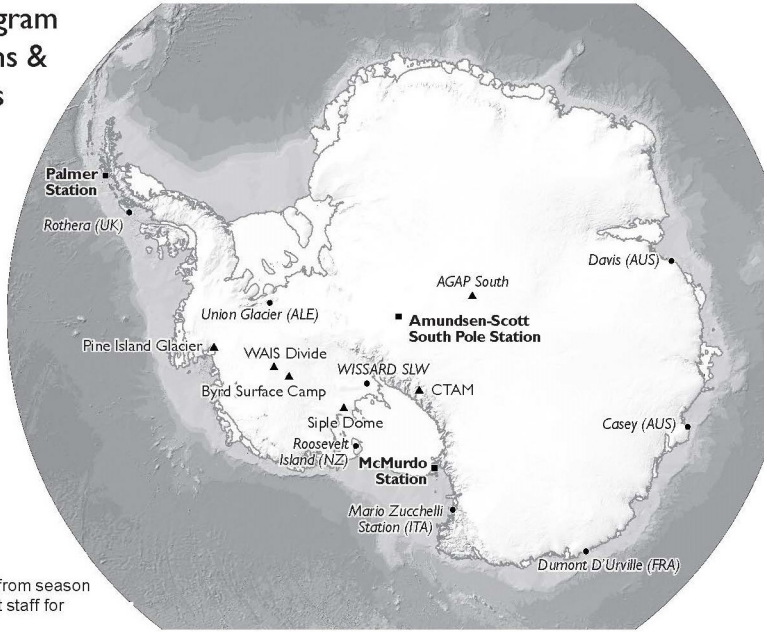


Ross Island ASMAs



References

U.S. Antarctic Program Permanent Stations & Deep Field Camps



Note: Deep-field camps change from season to season. Contact Field Support staff for current locations.