

MCMLTER Met Station Measurement Summary

This table is provided to show the general types of data collection and specific devices used at various meteorology stations over time.

Valley Stations

Measurement	Beacon Valley Met (removed 2012)		L. Bonney Met	Bonney Riegel Met/Sensit		Bonney Riegel Soil/Theta	L. Brownworth	Explorer Cove Met/Sensit ³			
Air temperature @ 3 m	2000/01 - 2012	s	1993/94	a,s	-	-	1994/95	a, s	1997/98	a, s	
Air temp. difference 1-3 m	-	-	-	-	-	-	-	-	97/98 to 02/03-	b	
Air temperature @ 1m	-	-	2010/11	c	2001/02	c	-	-	-	-	
Air temperature @ Other	-	-	-	-	2010/11	c	-	-	-	-	
Relative humidity @ 3 m	2000/01 - 2012	t	1993/94	a,t	-	-	1994/95	a,t	1997/98	a, t	
Soil temperature @ 0 cm	2000/01 - 2012	c	1994/95	c	2001/02	c	2002/03	c	1997/98	c	
Soil temperature @ 5 cm	2000/01 - 2012	c	1994/95	c	-	-	1994/95	c	2002/03	c	
Soil temperature @ 10 cm	2000/01 - 2012	c	1994/95	c	-	-	1994/95	c	2002/03	c	
Soil temperature @ other	-	-	-	-	2010/11 (20 cm)	c	-	-	-	-	
Stream temperature	-	-	-	-	-	-	-	-	-	-	
IRT (surface temperature)	-	-	-	-	-	-	-	-	-	-	
Theta Probe	-	-	-	-	-	2002/03	ab	-	-	-	
Wind speed @ 3m	2000/01 - 2012	d	1993/94	d	2010/11	d	-	1994/95	d	1997/98	d
Wind direction @ 3m	2000/01 - 2012	d	1993/94	d	2010/11	d	-	1994/95	d	1997/98	d
Wind speed @ 1m	-	-	-	-	2006/07	d	-	-	-	-	
Wind direction @ 1m	-	-	-	-	2006/07	d	-	-	-	-	
Solar Flux (incoming)	2000/01 - 2012	h	1993/94	g/h	2010/11	h	-	1994/95	g/h	1997/98	g/h
Solar Flux (outgoing)	2000/01 - 2012	h	1994/95	g/h	-	-	-	1996/97	g/h	1997/98	g/h
Net radiation	-	-	-	-	-	-	-	1994/95 - 1996/97	j	-	
UVA	-	-	-	-	-	-	-	1994/95 - 1996/97	k	-	
UVB	-	-	-	-	-	-	-	1994/95 - 1996/97	l	-	
PAR	2000/01 - 2012	m	1993/94	m	-	-	-	1996/97	m	1997/98	m
PAR Soil	-	-	-	-	2001/02	m	-	-	-	-	
Longwave radiation (incoming)	-	-	1997/98	n	-	-	-	-	-	-	
Longwave radiation (outgoing)	-	-	1997/98	n	-	-	-	-	-	-	
Precipitation	-	-	1994/95	p	-	-	-	-	1995/96	p	
Surface Change (Snow Depth)	-	-	2002/03	u	2001/02	u	-	2003/04	u	-	
Barometric pressure	-	-	-	-	-	-	-	-	-	-	
Particle Count	-	-	2005/06	aa	2006/07	aa	-	-	2007/08 - 2012	aa	

Valley Stations

Measurement	F6 Met/Sensit		F6 Soil/Theta	Mt. Fleming		Friis Hills		L. Fryxell		Garwood Valley Met	
Air temperature @ 3 m	-	-	-	2007/08	ad	2006/07	-	1993/94	a, s	2008/09 - 2011/12	s
Air temp. difference 1-3 m	-	-	-	-	-	-	-	1993/94 - 1995/96	b	-	-
Air temperature @ 1m	2001/02	c	-	-	-	-	-	-	-	-	-
Air temperature @ Other	2010/11 (30 cm)	c	-	2007/08 (1.3m)	t	-	-	-	-	-	-
Relative humidity @ 3 m	-	-	-	2007/08	t	2006/07	-	1993/94	a,t	2009/10 - 2011/12	t
Soil temperature @ 0 cm	2001/02	c	2002/03	c	-	-	-	1994/95	c	2008/09 - 2011/12	c
Soil temperature @ 5 cm	-	-	-	-	-	-	-	1994/95	c	-	-
Soil temperature @ 10 cm	-	-	-	-	-	-	-	1994/95	c	2008/09 - 2011/12	c
Soil temperature @ other	2010/11	c	-	-	-	-	-	-	-	-	-
Stream temperature	-	-	-	-	-	-	-	-	-	-	-
IRT (surface temperature)	-	-	-	-	-	-	-	-	-	-	-
Theta/TDR Probe	-	-	2002/03	ab	-	-	-	-	-	-	-
Wind speed @ 3m	2010/11	d	-	2007/08	d	2006/07	d	1993/94	d	2008/09 - 2011/12	d
Wind direction @ 3m	2010/11	d	-	2007/08	d	2006/07	d	1993/94	d	2008/09 - 2011/12	d
Wind speed @ 1m	2006/07	d	-	-	-	-	-	-	-	-	-
Wind direction @ 1m	2006/07	d	-	-	-	-	-	-	-	-	-
Solar Flux (incoming)	2010/11	h	-	-	-	-	-	1993/94	g/h	2009/10 - 2011/12	h
Solar Flux (outgoing)	-	-	-	-	-	-	-	1993/94	g/h	2009/10 - 2011/12	h
Net radiation	-	-	-	-	-	2006/07	-	-	-	-	-
UVA	-	-	-	-	-	-	-	-	-	-	-
UVB	-	-	-	-	-	-	-	-	-	-	-
PAR	-	-	-	-	-	-	-	1993/94	m	2008/09 - 2011/12	m

PAR Soil	2001/02	m	-	-						
Longwave radiation (incoming)	-	-	-	-						
Longwave radiation (outgoing)	-	-	-	-						
Precipitation	-	-	-	-						
Surface Change (Snow Depth)	2001/02	u	-	-			2002/03	u	2008/09 - 2011/12	u
Barometric pressure					2007/08	ae	2006/07	q		
Particle Count	2006/07	aa	-	-					2006/07 - 2010/11	aa

Valley Stations

Measurement	L. Miers	L. Hoare ⁵	L. Hoare TDR	SS L. Hoare Theta/Soil	L. Vanda	L. Vida
Air temperature @ 3 m	2011/12	s	1993/94	a, s	1994/95	a, s
Air temp. difference 1-3 m			1995/96	b	-	1995/96
Air temperature @ 1m			2007/08	s	-	-
Air temperature @ Other				-	-	-
Relative humidity @ 3 m	2011/12	t	1993/94	a, t	1994/95	a, t
Soil temperature @ 0 cm	2011/12	c	1993/94-1995/96	5, c	2002/03	1994/95
			2002/03	c	-	1995/96
			1993/94-1995/96	5, c	1994/95-1995/96	c
Soil temperature @ 5 cm			2002/03	c	2003/04	1995/96
Soil temperature @ 10 cm	2011/12	c	1993/94-1995/96	5, c	1994/95	c
Soil temperature @ other			2002/03	c	-	-
			2007/08	c	1995/96-2003/04 (onyx stream)	-
Stream temperature		-	-	-	-	-
IRT (surface temperature)		-	-	-	-	-
Theta/TDR Probe			2007/08	2002/03		
Wind speed @ 3m	2011/12	d	1993/94	d	1994/95	1995/96
Wind direction @ 3m	2011/12	d	1993/94	d	1994/95	1994/95
Wind speed @ 1m				-	-	-
Wind direction @ 1m				-	-	-
Solar Flux (incoming)	2011/12	h	1993/94	g/h	1994/95	g/h
Solar Flux (outgoing)	2011/12	h	1993/94	g/h	1994/95	g/h
Net radiation				-	-	-
UVA				-	-	-
UVB				-	-	-
PAR	2011/12	m	1993/94	m	1994/95	1995/96
PAR Soil				-	-	-
Longwave radiation (incoming)				-	-	-
Longwave radiation (outgoing)				-	-	-
			1994/95-2001/02	p	-	-
Precipitation			2001/02-2009/10	v	-	-
			2010/11	ac	-	-
Surface Change (Snow Depth)	2011/12	u	2007/08	u	2003/04	2003/04
Barometric pressure			1994/95	q	-	-
Particle Count			2006/07-2010/11	aa	-	-

Glacier Stations

Measurement	Canada ²	Common-wealth	Taylor	Howard
Air temperature @ 3 m	2010/11	s	1993/94	a, s
Air temperature @ 2 m	1994/95-	a, s	-	-
Air temperature @ 1 m	-	2011/2012	s	1995/96
Relative humidity @ 3 m	2010/11	t	1993/94	a, t
Relative humidity @ 2 m	1994/95-	a, t	-	-
Relative humidity @ 1 m		1995/96	1995/96	a, t
Ice temperature @ 20 cm	1995/96 - 2002/03	c	1993/94 - 2002/03	c
Ice temperature @ 50 cm	2002/03-	w	2002/03 - 2011/12	w
Ice temperature @ 1 m	1995/96 - 2002/03	c	1993/94 - 2002/03	c
	2002/03-	w	2002/03	w
Wind speed @ 3m	1995/96	d	1993/94	d
Wind direction @ 3m	1995/96	d	1993/94	d

Solar Flux (incoming)	1995/96	g/h	1993/94	i	1994/95	6	1993/94	i
Solar Flux (outgoing)	1995/96	g/h	1993/94	i	1994/95	6	1993/94	i
Net radiation	1995/96 - 1999/00	j	-	-	-	-	-	-
Longwave radiation (incoming)	-	-	1995/96	n	95/96 to 97/98 n	n	1993/94 - 1994/95	n
Longwave radiation (outgoing)	-	-	1995/96	n	-	-	-	-
Ice surface thermal infrared	1995/96-	7, o	1995/96-	7, o	1995/96	7, o	-	-
			2003/04-	y	2003/04 - 2007/08	y	-	-
	2007/08	z	2009	z	2007/08	z	-	-
Ice Surface Changes			2002/03	u	2002/03	u	2003/04	u
Barometric pressure	1994/95 - 2002/03	q	-	-	-	-	-	-
Eddy correlation	1994/95 - 1995/96	7, r	-	-	-	-	-	-

Notes

- 1 New Stations built to replace older ones at same site. The old Lake Fryxell station was not operating.
- 2 Summer only eddy correlation station built in 94/95. Permanent station to be built 95/96.
- 3 LTER took over the operation of USGS meteorological station at Explorer's Cove in 1997/98. Installed new sensors.
- 4 95/96 equipment not installed at time of publication.
- 5 Lake Hoare soil temperature at 5 cm depth discontinued in 94/95 to make room for a pressure sensor and soil
- 6 LI-COR(h) used in 94/95. Eppley(i) to be installed 95/96.
- 7 Summer-only measurements and only for a limited period.
- 8 Mean vapor pressure measured at 2 and 1 m during 1995/96
- a Campbell Scientific 207 temp/rh probe.
- b Chromel-constantan thermocouple wire.
- c Campbell Scientific 107B temperature probe.
- d R.M. Young model 05103 wind monitor.
- e Vector Instruments model A 101M anemometer.
- f Vector Instruments model W200P wind vane.
- g LI-COR model LI200S silicon pyranometer.
- h LI-COR model LI200X silicon pyranometer.
- i Eppley precision spectral pyranometer.
- j REBS net radiometer.
- k Macam SDI04A-Cos UV-A sensor.
- l Macam SDI04B-Cos UV-B sensor.
- m LI-COR model 190SB quantum sensor.
- n Eppley precision infrared radiometer (pyrgeometer).
- o Everest model 4000 4GL infrared temperature transducer.
- p Belfort precipitation gage with BEL natural binary shaft encoder. Custom-made nipher shields provided by Canada's Atmospheric Environment Service.
- q Vaisala model PTA427 Barometric pressure sensor.
- r Campbell Scientific model CA27 sonic anemometer and model KH20 krypton hygrometer.
- s Campbell Scientific 107 temp probe installed to replace the 207 temp/rh probe during 1999/00 and 2000/01 season.
- t Vaisala HMP45C RH probe installed to replace the 207 temp/rh probe during 1999/00 and 2000/01 season.
- u Campbell Scientific Inc. SR50 Ultrasonic Distance Sensor
- v Campbell Scientific Inc. TE525MM Tipping Bucket Rain Gage
- w Fenwall Thermistors (192-102DEW-A01) and Caddock Tetrinox® (TF050N) hi precision resistor (10Kohm) with ±5ppm/celcius and 0.01% Resistor
- y Everest Interscience MODEL 3600ZH Micro-Miniature Infrared Thermometer System
- z Apogee Infrared Radiometer Precision Temperature Sensor (IRR-P)
- aa DPC Model H11-LIN Sensit wind eroding mass flux sensor
- ab Delta-T Devices Ltd Theta Probe
- ac Pluvio
- ad Campbell Scientific Inc. 43347 RTD temperature sensor
- ae Campbell Scientific Inc CS105