

PROFESSIONAL LEVEL 1 WORKBOOK



Weather Observations for Professionals

From Snow, Weather, and Avalanche Guidelines for the US (SWAG)

MANUAL WEATHER OBSERVATIONS

Study Plot

- Observations recorded at a standard interval
- Recorded on a data sheet and tracked via database
- In the field

Observations recorded in a notebook

- Used to track trends

Weather Plot Observations

Below are short hand symbols and abbreviations that will be used at the weather station.

Sky Conditions

TYPE	SYMBOL
Clear <1/8 covered	○
Few <1/4 covered	⊖
Scattered <1/2 covered	⊕
Broken >1/2 covered	⊗
Overcast (fully covered)	⊕
Obscured	⊗
Valley Fog	VF

Precipitation

TYPE	SHORTHAND
No Precipitation	NO
Rain	RA
Snow	SN
Mixed Rain and Snow	RS
Graupel and Hail	GR
Freezing Rain	ZR

SNOWFALL RATE	SHORTHAND
None	NO
HN24<1 cm	T
Snowfall <1cm/hr	S-1
Snowfall = 1cm/hr	S1
Snowfall = 2 cm/hr	S2
Snowfall = 5 cm/hr	S5
Snowfall = 10 cm/hr	S10
V.light Rain/mist	RV
Light rain <2.5mm/hr	RL
Moderate rain 2.5-7.5mm/hr	RM
Heavy rain>7.5mm/hr	RH

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Temperature

TYPE	SHORTHAND
Present Temp. – 1.5 m above the snow surface	T _{air}
Maximum Temp.	T _{max}
Minimum Temp.	T _{min}
Snow Surface Temp. (shaded)	T _s or T ₀
Snow Temp. 20 cm below the surface (shaded)	T ₂₀

Snow

CLASS	SHORTHAND
Height of new snow in 24 hrs	HN24
Water weight of HN24	HN24W
Density of new snow HN24W(mm)/HN24(cm) x 10 <i>or</i> HN24W(in)/HN24(in) x 100	
Height of snow	HS
Foot Penetration	PF
Ski Penetration	PS
Available Snow for Transport	AST (not in SWAG)

Wind

CLASS	SHORTHAND
Calm (0 mi/hr)	C
Light (1-16 mi/hr)	L
Moderate (17-25 mi/hr)	M
Strong (26-38 mi/hr)	S
Extreme (>38 mi/hr)	X

**Note direction in shorthand or degrees, as well.

EXTENT OF BLOWING SNOW	SHORTHAND
No snow transport	None
No snow transport at the time, but transport has occurred since lasts obs.	Prev
Light snow transport	L
Moderate snow transport	M
Intense snow transport	I
Unknown as observation isn't possible	U

Automated weather data

Displays may vary. Always check the time and date before using the data.