FOR532
Lab 1
Introduction to MTCLIM

Objective

Compute the microclimate for different slopes and aspects at Snowbowl ski resort using observations from the weather station at the Missoula Airport.

Simulations

To complete this objective, we will perform four simple simulations using the MTCLIM-XL program. The simulations are as follows:

1. Estimate radiation and humidity at the airport to supplement comparisons of temperature and precipitation between the base and site. (Hint: This simulation is performed just like any other simulation with the exception that you set the site elevation, latitude and isohyet equal to base elevation, latitude and isohyet.)
2. Estimate the radiation at Snowbowl for south-facing and north-facing 35° slopes.
3. Estimate the radiation at Snowbowl for a flat slope.

	South-facing	North-facing	Flat
SLOPE	35	35	0
ASPECT	180	0	0
SITE_ELEVATION	2300	2300	2300
SITE_ISOHYET	50.8	50.8	50.8

Assume for this purpose that differences in site latitude are negligible.

Results

Graph daily radiation for the three slope and aspects at Snowbowl as well as the radiation estimated for the airport. Compare estimates of air temperatures, humidity and precipitation at the airport to those of the flat slope simulations at Snowbowl.