TOM: Teaching flow over Mountains

Worksheet at the radar site

Exercise 1: Sign in

Names: Date:

ATOC Course: Time:

Deployment site:

Exercise 2: Scan strategy:

Which of the scan configuration(s) shown on the instruction sheet (LowresTALL, HighresLOW, HighresTALL) is/are currently running on the radar? Briefly describe the differences between the three configurations. What is the maximum range and maximum elevation angle for each of the current scan configuration(s)?

Strategy #1:

Maximum Range: Maximum Elevation:

Strategy #2:

Maximum Range: Maximum Elevation:

Strategy #3:

Maximum Range: Maximum Elevation:

Answer the following questions:

a) Look out of the window towards the west and estimate the distance between the closest part of the Foothills and the radar location. Write down the distance in kilometers:

b) Look at the radar screen, choose a low elevation angle (< 6 degree) and try to identify mountains or foothills: At what range do mountains to the west show up on the radar screen? Write down the elevation angle you chose, range from the radar, and the reflectivity range:

c) Assume that the mountains to the west are 1 km high and 5 km way from the radar site. What would be the first elevation angle that would not be blocked by mountains?

EXERCISE 3: Describe the weather during your stay at the radar.

Describe the weather conditions at the beginning and the end of your stay as well as any changes that occur in between.

EXERCISE 4: Monitor radar activities (complete every 15 minutes)

Time (MST/UTC)	Scan Strategy	Comments

EXERCISE 5: Monitor the weather (complete every 15 minutes)

Determine wind and reflectivity of weather signals. Make sure you are looking at weather and NOT the reflectivity caused by the foothills or mountains.

Time	Elevation angle / height of the radar beam	Scan Strategy	Range of wind velocity	Max wind velocity @ range	Mean wind direction	Range of Reflectivity	Max reflectivity @ range