

ESS 431 PRINCIPLES OF GLACIOLOGY
ESS 505 THE CRYOSPHERE

Lecture 04 – Snow: Formation in the atmosphere

Due Monday, October 9 2017, at start of class

McClung, D., and P. Schaerer, *The Avalanche Handbook*, 43–52.
Marshall, S., 2012. *The Cryosphere*. Chapter 4, p.65–72.

- 1) What are the two main atmospheric processes that drive cloud formation and precipitation?
- 2) What is the difference between rime and frost?
- 3) Is snowfall greater on the eastern or western slopes of the Cascade Mountains? Why?
- 4) (a) Sketch the shape and record the name of an ice crystal forming at -15°C and high humidity.
(b) Sketch the shape and record the name of an ice crystal forming at -35°C and 0.1g/m^3 supersaturation. (c) Sketch that same ice crystal after it passes into warmer air (-15°C) at the same supersaturation level.