

## Reading Guide for October 13

from Henson, *Rough Guide to Weather*

### Chapter 2: The wild stuff

p. 52. *Rain.*

pp. 52–53. “*The life of a raindrop.*” This describes how water vapor becomes a raindrop.

- How long, on average, does a water molecule stay in the atmosphere as vapor?
- What is the difference between a raindrop and a **cloud droplet**?
- How do raindrops form by the **warm rain process**?
- How do raindrops form by the **cold rain process**?

pp. 53–54. “*How fast and how much?*” This describes the range of intensity of rainstorms. Read it through once quickly.

pp. 54–56. “*Rain shadows and seasons.*” This describes some patterns of rainfall over the world, but does not explain the physics of how it works.

- Which side of a mountain tends to get the most rain?
- What is a **rain shadow**?
- During what season do most locations get the most precipitation?
- What is the seasonal pattern of rain in Mediterranean climates?
- What is the seasonal rainfall pattern for the Indian monsoon?

pp. 56–57. *Snow.* This is just a lyrical description of the effect snow has on people; there’s nothing you need to remember.

pp. 57–58. “*Shapes in the sky.*” This section mostly describes the forms of snow, though it also explains how snowflakes form.

- What is the most common type of particle to initiate deposition of a snowflake?
- Why is snow uncommon when it is very cold?

pp. 59–61. “*The geography of snow.*” You won’t be tested on any of this information, but it is good to read simply to get a feel for the extent of snowfall on Earth.

p. 61. *Freezing rain and sleet.* Although these forms of precipitation are rare in Wyoming, they are familiar headaches elsewhere.

pp. 61-62. “*Pelted by pellets.*”

- What is the form and appearance of **ice pellets**?
- How do ice pellets form?

pp. 62–63. “Freezing rain vs. freezing drizzle.”

- How does **freezing rain** form?
- What hazards does freezing rain bring?

pp. 63–65. “*Ground zero.*” This describes the geographic distribution of these forms of precipitation. From what you know about climate zones and the physics of weather, try to come up with a reasonable explanation for the patterns described.

p. 65. *Fog.*

pp. 65–66. “*Nature’s fog machine.*” This describes the types and general sources of **fog**, without going into specifics. Read this through once.

pp. 66–68. “*Where and when.*” This describes specific types of fogs, defined by the mechanisms by which they form. The important thing here is not so much the names, but to understand how they occur.

pp. 68–69. “*A clear demise.*” This short, entertaining section describes the physics by which fog dissipates. Make sure you understand the processes described, and that they make sense in light of the atmospheric physics you have already learned.