READING GUIDE*

Soil Interpretations

Soil Survey Division Staff (1993), Chapter 3, p. 80-114 (p. 17-45)

OBJECTIVE: *To understand erosion and soil water interpretations employed when describing soils, and to recognize the significance of these properties.*

Erosion

1. What is *erosion*? What is the difference between *natural erosion* and *accelerated erosion*? What observable features may be seen as evidence of past erosion?
2. What natural processes cause erosion? What human activities promote accelerated erosion? **Explain.**
3. What is *landslip erosion*? How do *slides* and *flows* differ?
4. What are the four kinds of accelerated water erosion? Describe each, particularly the processes and consequences of each.
5. What is the significance of V-shaped gullies? Of U-shaped gullies? **If left unchecked, how do rill and gully patterns change over time?**
6. Where does sediment deposition often occur? What factor controls when and where sediment is deposited?
7. Why is it important to estimate the degree of erosion? How is the degree of erosion estimated? What are some of the difficulties with this method?
8. What are the specifications of, and the evidence of, each of the four classes of accelerated erosion?

Soil Water

9. What is *inundation*? What is the difference between *flooding* and *ponding*? What are the classes of frequency and duration of inundation, and the criteria for each?
10. What is meant by the term *satiated*? **How does it differ from *saturation*?**
11. What are the three internal soil water classes? Describe each, particular how they are evaluated.
12. What are the *natural drainage classes*? What morphological properties may be used to determine drainage?
13. What is meant by *internal free water*? What is meant by *perched*? What are the classes of thickness, depth, and duration of internal free water, and the criteria for each?
14. What factors control water movement through soil? What soil properties influence resistance to water movement in saturated soil? How does this relate the highly variable nature of hydraulic conductivity?
15. What is *saturated hydraulic conductivity* (K_{sat})? How does it differ from unsaturated hydraulic conductivity? What are the classes of K_{sat}, and the criteria for each? How are K_{sat} values determined?
16. What is *infiltration*? What factors influence infiltration? Explain the three stages of infiltration.
17. **What is the purpose of *hydrologic soil groups*?** What are the criteria of each?
18. What is *surface runoff*? What factors control the generation of surface runoff? What are the class of surface runoff and the criteria of each?

SYNTHESIS:

19. Where are eroded soils most likely to occur in West Virginia? Explain your answers.
20. Where are poorly drained soils most likely to occur in West Virginia? Explain your answers.

* *Questions in plain type represent basic facts and concepts. Questions in **bold** type are those that are answered in the text but require more careful consideration. The Synthesis questions at the end help you apply the facts and concepts to a relevant issue.*