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Electronic data records (EDRs); 2.10 Cartography; Assignments; Chapter 3 Planetary morphologic processes; 3.1 Introduction; 3.2 Tectonism; 3.3 Volcanic processes; 3.3.1 Volcanic eruptions; 3.3.2 Volcanic morphology; 3.3.3 Volcanic craters; 3.3.4 Intrusive structures; 3.4 Impact cratering; 3.4.1 Impact cratering mechanics; 3.4.2 Impact craters on Earth

3.4.3 Impact craters and planetary environments

3.5 Gradation; 3.5.1 Weathering; 3.5.2 Mass wasting; 3.5.3 Processes associated with the hydrologic cycle; 3.5.4 Aeolian processes; 3.5.5 Periglacial processes; 3.6 Summary; Assignments; Chapter 4 Earth's Moon; 4.1 Introduction; 4.2 Lunar exploration; 4.2.1 Pre-Apollo studies; 4.2.2 The Apollo era; 4.2.3 Post-Apollo exploration; 4.3 Interior characteristics; 4.4 Surface composition; 4.5 Geomorphology; 4.5.1 Impact craters and basins; 4.5.2 Highland plains; 4.5.3 Mare terrains; 4.5.4 Sinuous rilles; 4.5.5 Volcanic constructs

4.5.6 Tectonic features

4.5.7 Gradational features; 4.6 Geologic history of the Moon; Assignments; Chapter 5 Mercury; 5.1 Introduction; 5.2 Mercury exploration; 5.3 Interior characteristics; 5.4 Surface composition; 5.5 Geomorphology; 5.5.1 General physiography; 5.5.2 Impact craters; 5.5.3 Multi-ring basins; 5.5.4 Volcanic features; 5.5.5 Tectonic features; 5.5.6 Gradation features; 5.6 Geologic history; Assignments; Chapter 6 Venus; 6.1 Introduction; 6.2 Venus exploration; 6.3 Interior characteristics; 6.4 Surface compositions; 6.5 Geomorphology; 6.5.1 General physiography

6.5.2 Impact craters

6.5.3 Volcanic features; 6.5.4 Tectonic features; 6.5.5 Gradation features; 6.6 Geologic history; Assignments; Chapter 7 Mars; 7.1 Introduction; 7.2 Exploration; 7.3 Interior; 7.4 Surface composition; 7.5 Geomorphology; 7.5.1 Physiography; 7.5.2 Impact craters; 7.5.3 Volcanic features; 7.5.4 Tectonic features; 7.5.5 Gradation features; 7.6 Geologic history; Assignments; Chapter 8 The Jupiter system; 8.1 Introduction; 8.2 Exploration; 8.3 Jupiter; 8.4 Io; 8.4.1 Impact features (none!); 8.4.2 Volcanic features; 8.4.3 Tectonic features; 8.4.4 Gradation features

8.4.5 Io summary

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## Sommario/riassunto

Nearly all major planets and moons in our Solar System have been visited by spacecraft and the data they have returned has revealed the incredible diversity of planetary surfaces. Featuring a wealth of images, this textbook explores the geological evolution of the planets and moons. Introductory chapters discuss how information gathered from spacecraft is used to unravel the geological complexities of our Solar System. Subsequent chapters focus on current understandings of planetary systems. The textbook shows how planetary images and remote sensing data are analyzed through the application of fundamental geological principles. It draws on results from spacecraft sent throughout the Solar System by NASA and other space agencies. Aimed at undergraduate students in planetary geology, geoscience, astronomy and solar system science, it highlights the differences and similarities of the surfaces at a level that can be readily understood by non-specialists.

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