

Environmental Hydrology and Hydraulics: A Comprehensive Guide for Water Resource Management

Water is essential for life on Earth. It makes up about 70% of the Earth's surface and is found in all living things. Water is used for drinking, irrigation, transportation, and power generation. It is also essential for the maintenance of ecosystems and the health of the environment.



Environmental Hydrology and Hydraulics: Eco-technological Practices for Sustainable Development

by S N Ghosh

★★★★★ 5 out of 5

Language : English

File size : 15404 KB

X-Ray for textbooks : Enabled

Print length : 426 pages



However, water resources are facing increasing pressure from population growth, climate change, and pollution. As a result, it is more important than ever to understand the principles of hydrology and hydraulics in Free Download to manage water resources sustainably.

Environmental Hydrology and Hydraulics provides a comprehensive overview of the fundamentals of hydrology and hydraulics, with a focus on the application of these principles to water resource management. The book covers the entire water cycle, from precipitation to runoff, groundwater

movement, and evaporation. It also discusses the physical, chemical, and biological processes that affect water quality and quantity.

The book is written in a clear and concise style, with numerous examples and case studies to illustrate the concepts. It is an essential resource for students, practitioners, and anyone else who wants to learn more about the science and management of water resources.

Table of Contents

- Chapter 1: to Hydrology and Hydraulics
- Chapter 2: The Water Cycle
- Chapter 3: Precipitation
- Chapter 4: Runoff
- Chapter 5: Groundwater Movement
- Chapter 6: Evaporation
- Chapter 7: Water Quality
- Chapter 8: Water Quantity
- Chapter 9: Water Resource Management

Chapter 1: to Hydrology and Hydraulics

This chapter provides an overview of the field of hydrology and hydraulics. It discusses the importance of water resources and the need for sound water management. It also introduces the basic concepts of hydrology and hydraulics, such as the water cycle, the water budget, and the principles of fluid mechanics.

Chapter 2: The Water Cycle

This chapter describes the water cycle, which is the continuous movement of water between the Earth's atmosphere, land, and oceans. It discusses the different processes involved in the water cycle, such as evaporation, condensation, precipitation, runoff, and infiltration. It also discusses the factors that affect the water cycle, such as climate, topography, and land use.

Chapter 3: Precipitation

This chapter discusses precipitation, which is the process by which water falls from the atmosphere to the Earth's surface. It describes the different types of precipitation, such as rain, snow, sleet, and hail. It also discusses the factors that affect precipitation, such as temperature, atmospheric pressure, and wind.

Chapter 4: Runoff

This chapter discusses runoff, which is the process by which water flows over the Earth's surface. It describes the different types of runoff, such as overland flow, channel flow, and subsurface flow. It also discusses the factors that affect runoff, such as rainfall intensity, slope, and land cover.

Chapter 5: Groundwater Movement

This chapter discusses groundwater movement, which is the process by which water flows through the ground. It describes the different types of groundwater aquifers, such as unconfined aquifers and confined aquifers. It also discusses the factors that affect groundwater movement, such as hydraulic conductivity, porosity, and groundwater recharge.

Chapter 6: Evaporation

This chapter discusses evaporation, which is the process by which water changes from a liquid to a gas. It describes the different factors that affect evaporation, such as temperature, humidity, and wind speed. It also discusses the role of evaporation in the water cycle.

Chapter 7: Water Quality

This chapter discusses water quality, which is the physical, chemical, and biological characteristics of water. It describes the different types of water quality parameters, such as pH, dissolved oxygen, and turbidity. It also discusses the factors that affect water quality, such as pollution, land use, and climate change.

Chapter 8: Water Quantity

This chapter discusses water quantity, which is the amount of water available in a given area. It describes the different factors that affect water quantity, such as precipitation, runoff, and groundwater recharge. It also discusses the challenges associated with water scarcity and the importance of water conservation.

Chapter 9: Water Resource Management

This chapter discusses water resource management, which is the process of planning, developing, and managing water resources to meet the needs of society. It describes the different types of water resource management strategies, such as water conservation,

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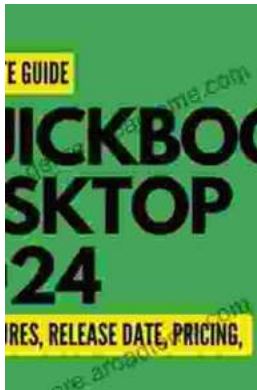
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