Factors affecting evapotranspiration pdf

Work off campus? Learn about our options for remote access Some soil and cultural factors, by changing the microclimate or transpiration behavior of crops, change evapotranspiration. According to the authors, the greatest for practical control of direct evaporation from the soil is given by physical and chemical changes of the area of water storage in the soil profile. The place of evaporation within the land unit and the form of contact of the immediate surface layer, in the early stages of plant growth, when evapotranspiration from the soil contributes to a large part of water use, the drainage of the shallow soil reduces the risk of water loss, and salt can also contribute to faster vegetation growth. In these early stages, methods that reduce the salt content in the soil can reduce evaporation and also reduce transpiration, while the partial cover of the salt barer increases the temperature of the soil and can increase evaporation. Volume 584, May 2020, 124688Global evapotranspirationView full text Evapotranspiration Process Units Factors influencing Evapotranspiration Soil Evaporation Concept Definition of Evapotranspiration This chapter explains the concepts and differences between the reference crop of evapotranspiration (ETc) and evapotranspiration of crops in standard conditions (ETc) and different environmental management conditions (ETc). The chapter also explains the factors that influence evapotranspiration, the units in which it is usually expressed and how it can be defined. Evapotranspiration of the evapotranspiration process Transpiration (ET) is a combination of two separate processes in which water is lost, the first from the soil surface as evaporation, and the second from the crop by transpiration called evapotranspiration. Evapotranspiration vaporizes the water vapor in the process by which liquid water is converted to water vapor (evaporation) and removed from the soil surface. Evapotranspiration of crops is an important process in the water balance, and it has a significant impact on the sustainability of the environment. The main factors that affect evapotranspiration are the water balance, temperature, humidity, and wind speed. The interaction of these factors is a complex process that depends on the climate, the type of vegetation, and the management practices used. The chapter also includes equations and formulas for calculating evapotranspiration, as well as tables and graphs to illustrate the relationships between the factors and the evapotranspiration rates. The chapter concludes with a discussion of the practical implications of the evapotranspiration process for water management and conservation. For more information, please contact the authors.
Evapotranspiration can be calculated based on the mass transfer of water vapor and energy from the surface to the atmosphere. The need for irrigation water is also an important factor that affects crop water requirements. The Penman-Monteith method is a widely used approach for estimating crop evapotranspiration, particularly in agricultural settings. This method takes into account factors such as solar radiation, air temperature, wind speed, and relative humidity. Other methods, such as the FAO-56 method, are also used depending on the specific conditions and requirements of the study.