عنوان مقاله:

GSM based Water Salinity Monitoring System for Water Gate Management in Salt Farms

محل انتشار:

مجله نوآوری های مهندسی برق و کامپیوتر, دوره 11, شماره 2 (سال: 1402)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

kground and Objectives: Salt production is an ancient industry that still used primitive or traditional systems of evaporation. As technology continues to prosper in all aspects of life; the use of technology-based products is still a challenge in salt production. With the tedious activities and processes in salt farming; salt producers and salt farmers continue to look for alternatives to lessen the hard works. Salt farm activities initially started with the intrusion of saline water into the salt beds, but monitoring of the saline water is needed to ensure that only saline water can enter the salt farms to ensure the quantity and quality of salts.Methods: This study aims to present a GSM-based water salinity monitoring system to lessen the frequent and manual monitoring of water salinity. The system is equipped with a solar panel, solar charger control, ۱۲V battery, ۱۲V relay, Arduino Uno, and GSM Module. Results: The overall rating of ۳.۳۲ reflects that the developed system met the design functions; the materials are appropriate and the specifications meet the desired purpose; the system is efficient and consistent with its desired objectives of lessening the manual activities involved in the monitoring of water salinity. As the pH and conductivity sensors read the salinity value, it send signals to the Arduino Uno; when the salinity level reads ۳۴,۰۰۰-۳۵,۰۰۰ppm a signal trigger the GSM Module to send a message to the gate valve. The performance efficiency of the system implied that the reaction of the Arduino Uno in triggering the GSM Module is in real-time as the salinity readings are received.Conclusion: The real-time reaction of the Arduino Uno to send signals to the GSM Module proved the advantages of using the system and the automatic .salinity readings can lessen the frequent and laborious activity in water salinity monitoring

کلمات کلیدی:

Salt, Salinity, Arduino Uno, Solar Sheets, DC motor