

SLOPE CONDITION MONITORING SYSTEM AND METHOD

ABSTRACT

A slope condition monitoring method and system for monitoring a slope includes: acquiring volumetric water content from a plurality of sensors disposed on the slope; using the volumetric water content to determine a factor of safety of the slope based on a linear regression model obtained from simulated volumetric water content corresponding to wet weather conditions; and generating an alert in response to the factor of safety being below a safety threshold value, the alert being indicative of a possible slope failure. The system includes a controller configured to perform the method and sensors disposed on the selected slope and configured to provide volumetric water content. The sensors may include osmotic tensiometers disposed in a crest and a toe of the selected slope, and capacitance moisture sensors distributed at various elevations of the selected slope.

FIG. 1