THE RECORD BREAKING PRECIPITATION IN 2010 AT BROOKINGS, SOUTH DAKOTA COOP (CO-OPERATIVE OBSERVER PROGRAM) WEATHER SITE COMPARED TO THE ENTIRE PRECIPITATION CLIMATE RECORD AND THE 2010 WATER TABLE DEPTHS

Joanne Puetz Anderson¹ and Bruce O. Kunze²
¹South Dakota State University
Brookings, SD 57007
²Natural Resources Conservation Service (NRCS)
Brookings, SD 57007
Corresponding author’s email: Joanne.anderson@sdstate.edu

ABSTRACT

On a near daily basis from April to October 2010 we measured the depth to of the water table and the daily amount of precipitation at the Automated Weather Data Network/ Cooperative Observer Program Station in Brookings, SD. At this station, the amount of precipitation was the highest recorded since such data have been kept from 1894 to 2010. That excessive amount led to a high water table in 2011. We then compared the 2010 daily precipitation amounts to the near daily water table depth data and found that the water table responded within hours of the rain event and that without daily water table measurements most of the details of this interaction would not be seen. Finally, we suggest that water table measurements be made daily because the interactive dynamics that occur between rainfall events, snow melting, and water table depths may otherwise be lost. We also suggest that the readings be made daily at a few other stations that take water table and precipitation measurements to assure that Brookings is not unique in this dynamic relationship.