

عنوان مقاله:

Assessment of land sensitivity to desertification for Al Mussaib project using MEDALUS approach

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خلاصه مقاله:

This study was conducted to assess the sensitivity of the land of Al Mussaib project for desertification within the Babylon governorate in Mid Mesopotamian plain. A 35 surface soil sample sites were identified and were distributed over the 12 largest areas of soil series and various soil types covered the area. Standard and adjusted Mediterranean desertification and land use (MEDALUS) approaches were applied, and the environmental sensitivity area indices (ESAI) for 2021 were calculated to obtain desertification-sensitive land types. New parameters were added to the soil quality indicator (SQI) while irrigation water quality indicator (IWQI) was considered as a new one. The results indicated that the area of low soil quality was 31.83%, while that of moderate quality was 68.16%, and the vegetation quality indicator (VQI) was of the low class for the whole region. IWQI indicated that the area of moderate quality was 74.38%, while the low quality was 25.61%. The values of ESAI ranged from 1.356 to 1.541 indicating that ESAs to desertification were in two types according to adjusted MEDALUS approaches, critical at 94.47% and fragile at 5.52%, was arranged as subtypes (C2-C1-F3-C3) with a percentage of 64.58, 28.23, 5.52, and 1.66% respectively. On the other hand, the critical class was prevalent in all the regions according to the standard MEDALUS approaches, with two subtypes including C1 at 6.20% and C2 at 93.69%. Pearson's Correlation showed a significant positive correlation to ESAI values with the indices used in its evaluation, the highest was with IWQI, SQI and VQI by 0.901, 0.861 and 0.852 respectively.

کلمات کلیدی:

ESAI, MEDALUS, Sensitivity to Desertification. Soil Quality Indicator

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