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A knowledge base model for evaluation of bio-physical tendency of dryland

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The present study aims the evaluation of bio-physical characteristics towards soil-water-vegetation stress and a rule is envisaged to assess the degree of temporal changes. The digital rule for assessment is initialized through the index of land Instability (ILI) where the variance indicates the temporal instability of the pixel i.e., smallest land unit. It is assumed that the biophysical characteristic of land is in command of land-dynamics where there is no change in Land Use/Land Cover (LU&LC). The intensity map on tendency of albedo (IALB) assesses the intensity of soil erosion and water stress whereas intensity map on tendency of NDVI (INDVI) appraises the stress on vegetation. The carry-out study covers a part of semiarid Western India. Primarily remote sensing technique, which carries the digital information of land temporally and spatially, is adopted in this paper. A part of the study area is represented using two sets of IRS 1A/1B LISS-I data of March with a decadal time domain (1989-1998) as a test area. It is assumed that the soil-water-vegetation stress is maximum during summer(March-April-May) in any tropical belt and decadal data will stretch the possibility of climate as well as man-made activity over the land.

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