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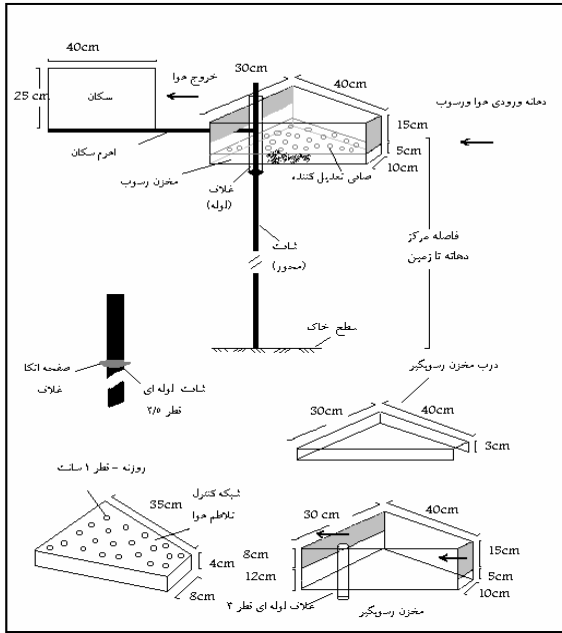
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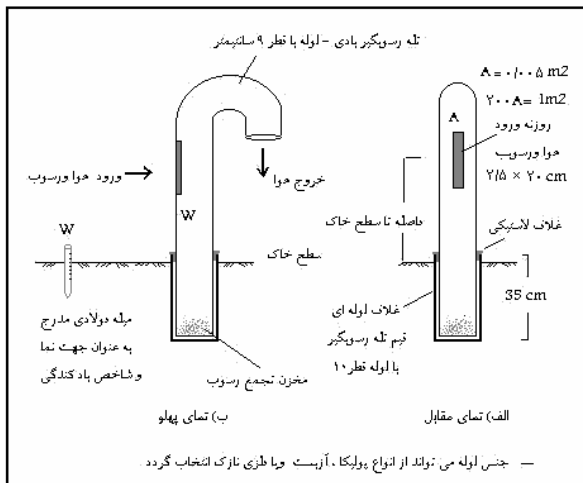
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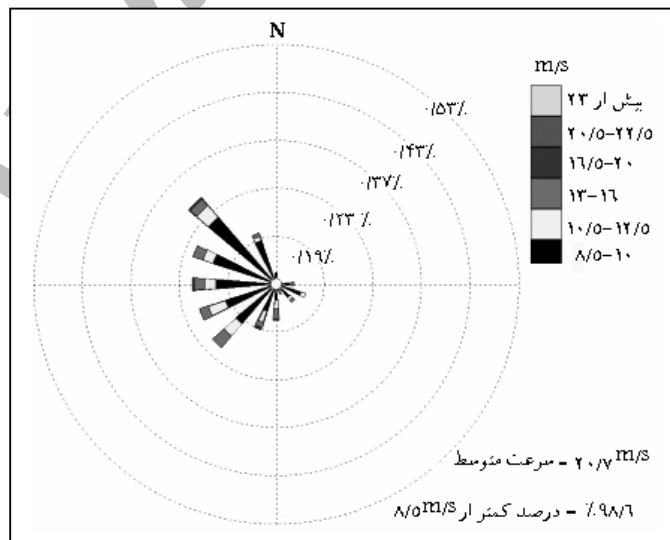
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Ordinary Kriging
ILWIS3.1

Modified Big Spring Number Eight (BSNE) sand
sampler-Ekhtesasi 2002
Siphon sand sampler, Ekhtesasi 2003
Wind Rose Plot (WRPLOT)
Saba Wind
Typhoon Rose Plot (TRP)
Surfer.8

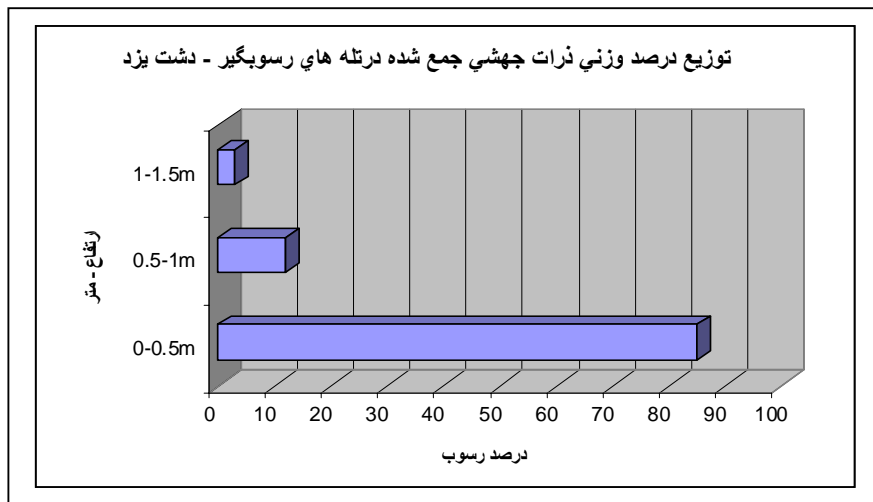


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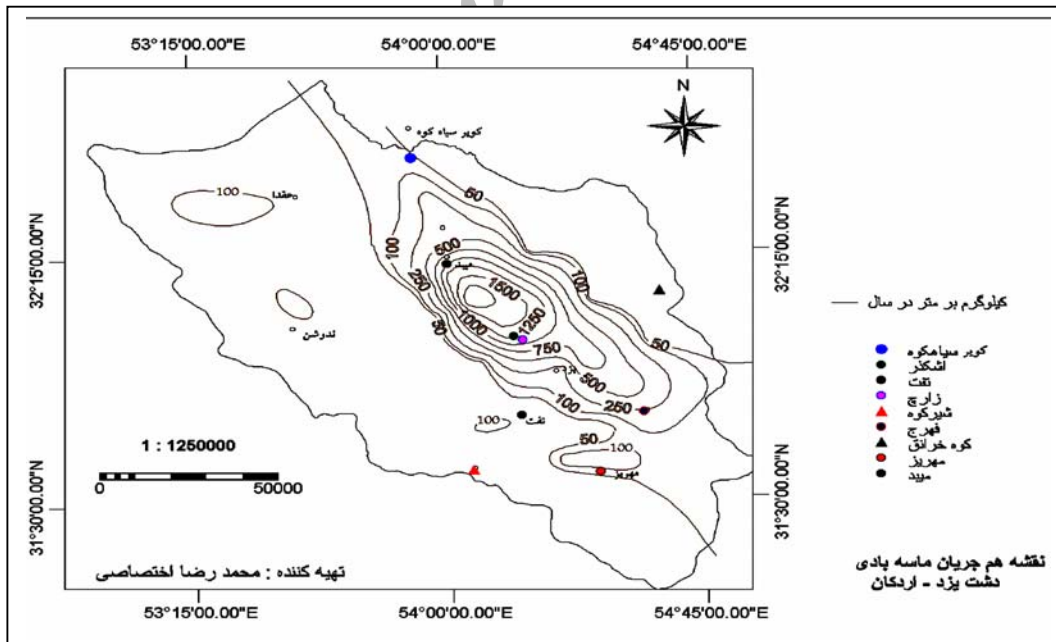
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Surfer 8

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Measurement and Mapping of Aeolian Sand Flowthrough Sediment Trap Method (Case Study: Yazd-Ardakan Plain)

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Abstract

Yazd – Ardakan plain is stormy and one of the sensitive areas to wind erosion in Iran. Since 1988 wind sediment discharge has been being measured in this plain. In 2002 for the first time national project of constructing stations to measure wind erosion sediment was performed in Yazd plain. In order to measure sediment discharge, two permanent and five temporary stations were established in Yazd plain. Samples were taken. Ten-day intervals or after severe storms. In order to analyze and interpolate sediment discharge and determine Iso sand flow map, ordinary Criging method was used by Surfer.8 software. To combine obtained data and mapping, ILWIS software was employed. Results showed that in some parts of Yazd plain, especially near sand dunes, discharge of transported sediment was more than in the other parts and increased to more than 1750 kg in width of one meter per year. Amount of sediment yield decreased to less than 50 kg /yr, per unit of width from a fine-grained plain (flood plain) coarse-grained plain (pediment). Also results indicated that the main direction of transported sediment was from west- southwest, while the prevailing winds and some storms came from northwest-west. There for, the orientation of the Iso sand flow is from NW to SE. Maximum sediment yield was transported towards the end of spring and beginning of summer, especially April to mid June. Analysis of altitudinal distribution of saltation sediments showed that 85% of sediment were transported in a height of less than 50 cm, 12% between the 50-100cm and less than 5% at above 100cm heights.

Keywords: Wind erosion, Aeolian sand flow, Sand traps, Sand flow map, Yazd,Iran