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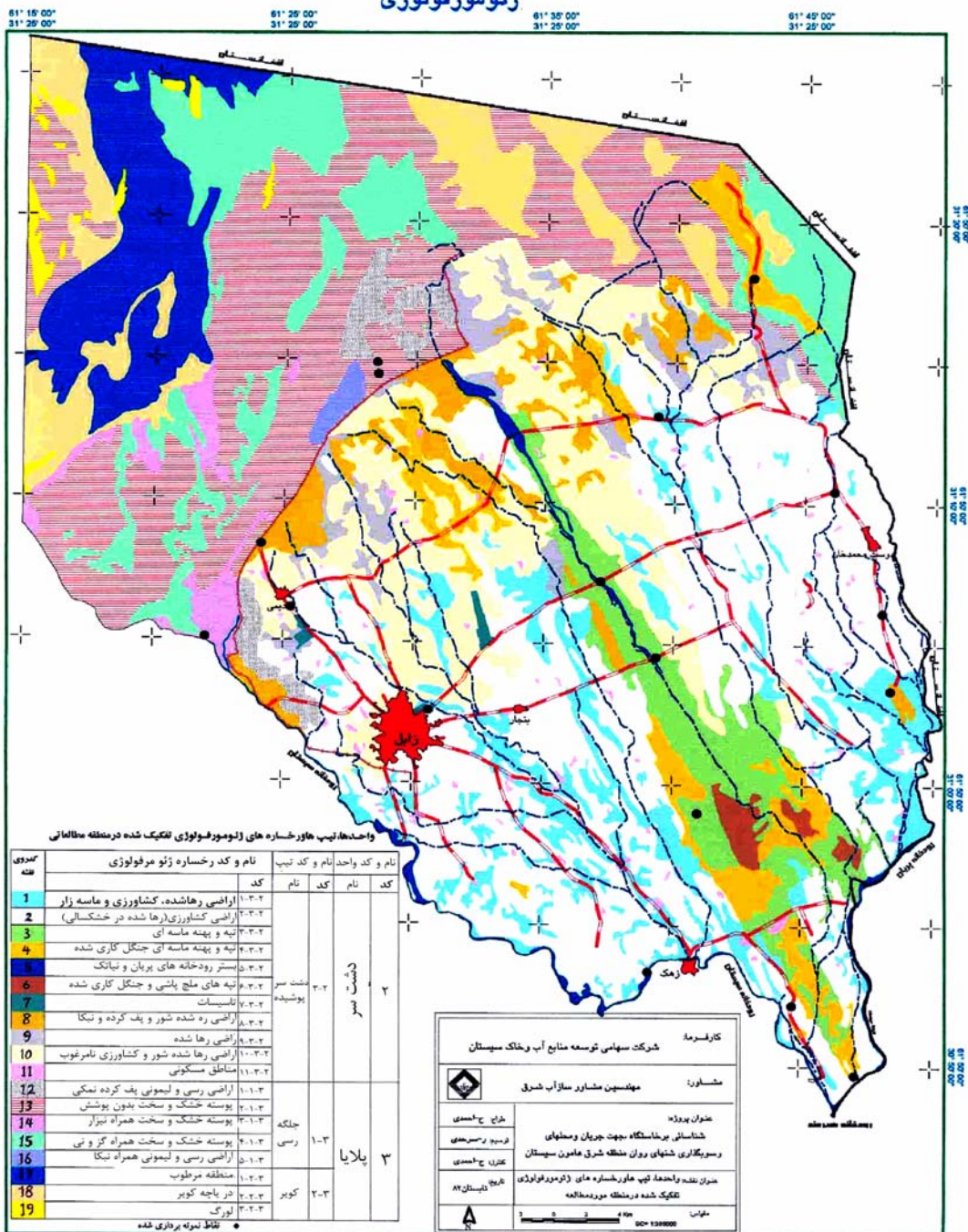
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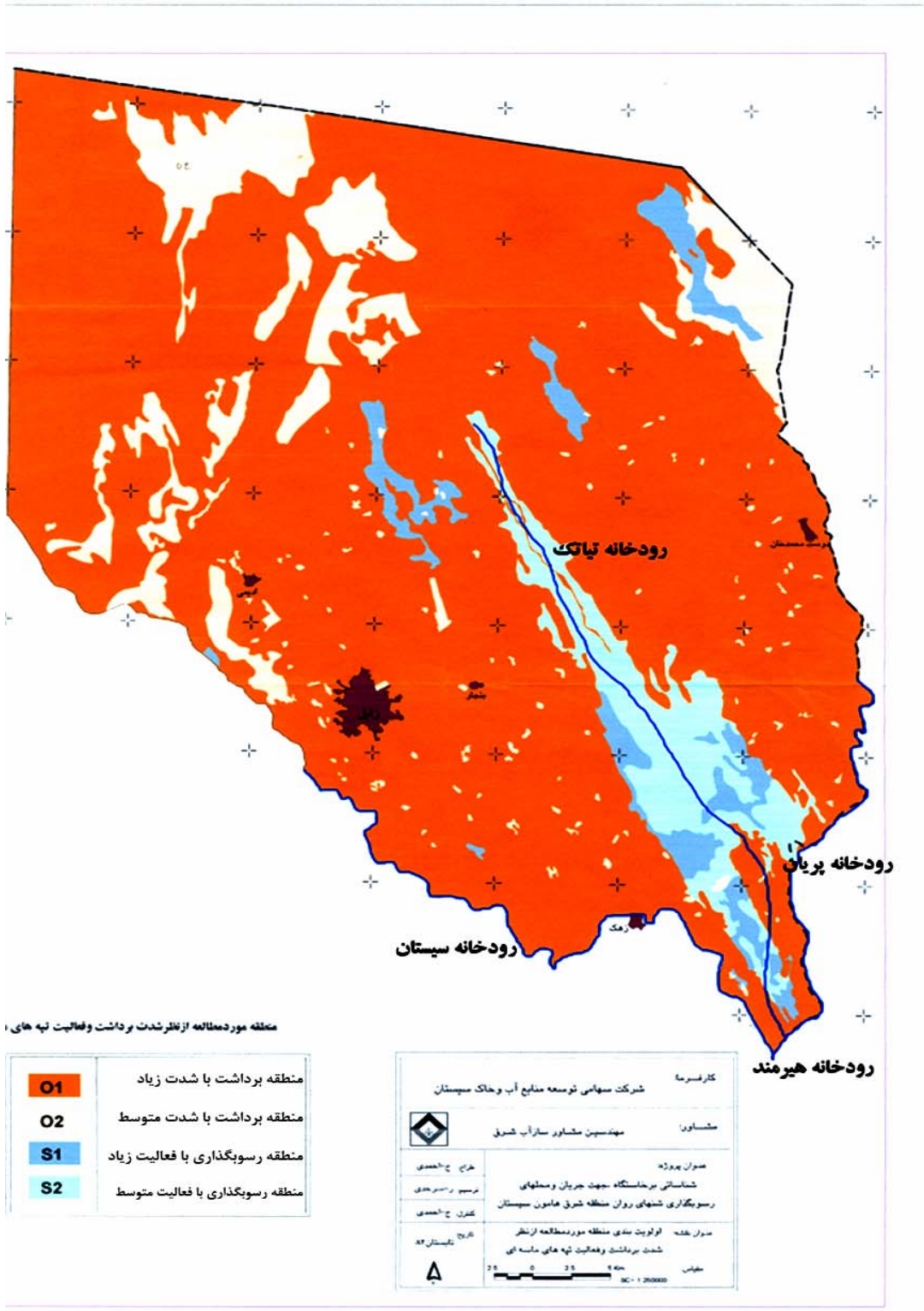
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An Investigation of Source Areas of Wind Erosion in Sistan Plain During Drought Years(1997-2003)

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Abstract

In order to determine the source and critical areas of wind Erosion, Sistan Plain, IRIFR-E.A method was applied. According to geomorphologicals investigations, the studied area consists of the following two main units namely: Pediment with 1 type and 11 geomorphological facies and playa with 2 types that includes & geomorphological facies. On the basis of sediment facies in piedmont were divided into 2 groups. Seven Facies (1-3-2, 3-3-2, 5-3-2, 8-3-2, 9-3-2, and 2-3-10) with sediment delivery of 6000-15000 tons/km²/y catagorized in first group while second group consisting of 4 facies(2-3-4,2-3-6,7-3-2,2-3-11) with 500-1500 tons/km²/y sediment delivery. According to calculations the mean sediment delivery of piedmont (fine grain size) is about 12500-48000 ton/km²/y. In playa unit, four facies (1-1-3,2-1-3,2-2-3 and 3-2-3) bear 1500-6000 tons/km²/y sediment load and the other facies carry 500-1500 tons/km²/y, total sediment load consisting 8000-30000 tons/km²/y. Using the relationship between sediment grain diameter (D) and transport distansce in 18 cases, it was shown that in 2 samples transport distance is 5-50 km while in the other samples 20 to 50 km. Therefore the source of sediment is far from the sedimentation area, most sediments having been transported from Afganestan. Dominant and erosive winds in the study area are from North and NW (345-360 N). Also, it becomes evident that during the 6-year period of drought (1997-2003), the erosive winds have carried a consi derable amount of sand especially during the summer and spring seasons.The results of the research show the existence of a close relationship between source areas and deposition regions.

Keywords: Drought, Finding source areas, IRIFR-E.A method, Wind sediment

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