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The Investigation of Synoptic Patterns of Torrential Rains in Lorestan Province

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Abstract

The study of synoptic rainfall has been an important parameter in the study of torrential rainfall. Every year rain induces floods which cause a lot of financial and economic losses in Lorestan province. These flood producing rains are the result of some special synoptic situations. From the meteorological maps of NCEP, the synoptic analyses of 24 major floods were studied. The results of the study showed that on the ground and at the level of 500 hp, heavy rainfalls in Lorestan have originated four patterns. the first pattern: The movement of Siberian high pressure to west and its combination with Azure high pressure, cold advection form east north to Iran, cold advection from Europe to north Africa all cause the transmition of moisture into Iran and the production of Sudan system, warm advection from Persian Gulf by

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Arabian subtropical high pressure to Lorestan province. The second pattern: This pattern shows that Siberian high pressure is very strong moving to Iran and warm water in south Iran causes warm and humid advection to Iran and Sudan system and combination whit Sudan and Mediterraneasn system with Iceland system. The patterns include: Cold advection from high latitude by Island system and combination with low latitude systems, the fourth pattern, the combination of Azure high pressure with European air movement, the existence of a blocking system on the North of Europe which hinders the movement of the waves to the East and diverts the systems to lower latitudes, The existence of Arabian high altitude on the Oman Sea and Persian Gulf which causes the transmission of hot and humid weather into Iran.

Keywords: Synoptic Pattern, Torrential Rain, Lorestan.

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