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Spatial analysis of PMP over Iran

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Abstract
The possible maximum precipitation (PMP) is used in designing urban drainage and dam construction and other related activities. But there has not been a complete study about this parameter over Iran. As a result, this study has tried to calculate the possible maximum precipitation for all over Iran. For this purpose the daily rainfall values of 92 stations over Iran were selected. All of these stations have data records more than 20 years. Seven different computation methods were applied. But Hershfield method was selected and used for the final calculations. Spatial interpolation was carried out by Kriging method and spatial variations along latitude, longitude, and elevation was by regression models.
The results showed that the highest values are experienced over the southern and northern coastal lands. This means that although the annual precipitation of the south is very less than the northern coastal lands, but the highest daily rains are the same. Because the torrential rains of the south comes with the strongest systems which can take very huge amount of water vapour from the underlying seas. The mountains of Alborz and Zagros showed the normal values, whereas the central and eastern dry areas experienced the lowest values.
Key words: possible maximum precipitation, Iran, Hershfield PMP method, PMP and run off, spatial variation of PMP, PMP over Iran.