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Separating regional vs. local climatic effects:Example with the Dead-Sea evaporation

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It was found that the pan evaporation in the Dead Sea, Sdom, has recently increased by 20-25%. In this paper we explore the reasons for this increase. It is found that both large-scale and local climatic changes have contributed to the evaporation increase in the Dead Sea Valley. The large-scale (global) change potentially associated with the global warming, resulted in changes of the frequencies of some synoptic systems in the region. The local change is a result of the recent Dead-Sea drying, which reduced the local Dead-Sea breeze while intensifying the Mediterranean-Sea breeze penetrating the Dead Sea Valley. It is suggested that while the local effect was the dominant climatic change factor in the Dead-Sea Valley in the 1970-1990, the global effect becomes the dominant one in the more recent evaporation increase in the Dead-Sea.