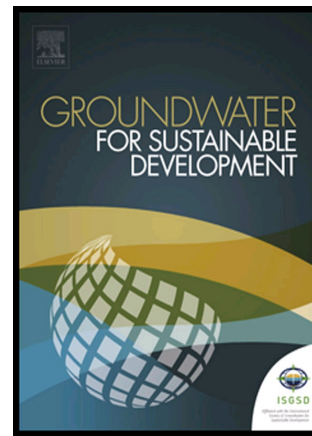


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Experimental investigation on the effect of water mass in triangular pyramid solar still integrated to inclined solar still

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Abstract

This research primarily concentrates on the use of integrating solar stills. Only few researchers have carried out experiments on still-still basis for improved yield. In the present novel system the yield of fresh water is improved by integrating inclined solar still with triangular pyramid solar still. Effect of water depth and flow rate on the yield of fresh water produced from stills was experimentally investigated. Various water depths such as 0.02m, 0.04m, 0.06m, 0.08m are maintained in the interior of the basin of pyramidal solar still in case of non-integration whereas 0.02m depth of water is maintained initially and outlet water of inclined solar still is fed to the triangular pyramidal solar still thereby the water temperature increases which enhances the yield of fresh water. The inclined solar still is maintained at constant flow rate of about 8.33kg/hr. Results show that the yield of solar still is improved by 79.05% in the case of inclined solar still incorporated to triangular pyramid solar still. Results also shows that higher water temperature is achieved in the case of inclined solar still integrated to triangular pyramid solar still at the minimum water depth of $d_w=0.02m$.

Keywords:- Still Integration; Inclined Solar still; pyramid solar still; Improved yield; Fouling effect.

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