

Abstract Submitted
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Flow induced on a salt waterbody due to the impingement of a freshwater drop. ISLAM BENOUGUEF, EDISON AMAH, NAGA MUSUNURI, DENIS BLACKMORE, IAN FISCHER, PUSHPENDRA SINGH, New Jersey Inst of Tech — The particle image velocimetry (PIV) and planar laser-induced fluorescence (PLIF) techniques are used to study the flow induced on the surface of a salt waterbody when a drop impinges on the surface. The measurements show that the impingement of a fresh water drop causes a strong axisymmetric solutocapillary flow about the vertical line passing through the center of impact. The fluid directly below the center of impact rises upward, and near the surface it moves away from the center of impact. The flow, which develops within a fraction of second after the impact, persists for several seconds and the volume of water circulated is two orders of magnitude larger than the volume circulated when a freshwater drop falls on a freshwater body.

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