Abstract Submitted
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Flushing of a polluted lagoon in Cancún, using a SIBEO wave-driven seawater pump[1] STEVEN CZITROM, Instituto de Ciencias del Mar y Limnologia, UNAM, NOEL CARBAJAL, Instituto Potosino de Investigacion Cientifica y Tecnologica — The coastal lagoon which adorns the seaside resort at Cancún, Mexico, is heavily polluted as a result of decades of intense tourist activity development and overwhelmed inadequate planning. The natural flushing time of the lagoon, estimated at 2 to 4 years, is insufficient to cope with the waste that is being dumped and a thick layer of organic matter has accumulated on the lagoon bed. Appropriate legal and sewage treatment measures are imperative to curb further dumping and thus attack the root cause of the problem. This aside, however, the existing situation requires additional technical solutions to restore the ecosystem to a less altered state. A wave and tide driven seawater pump, invented and developed at the National University of Mexico, has been proposed to flush the lagoon with an average 0.2 m^3/s of clean and oxygen rich seawater from the neighboring ocean. This flow would reduce the residence time of the lagoon to around 6 months, promoting long term recovery of the ecosystem. The effect and distribution of the pumped water is being studied using a wind and tide driven 3D numerical model of the lagoon hydrodynamics. Some results from this study are presented here.

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